

Liebert® IntelliSlot® Modbus 485, Modbus IP and BACnet IP Reference Guide

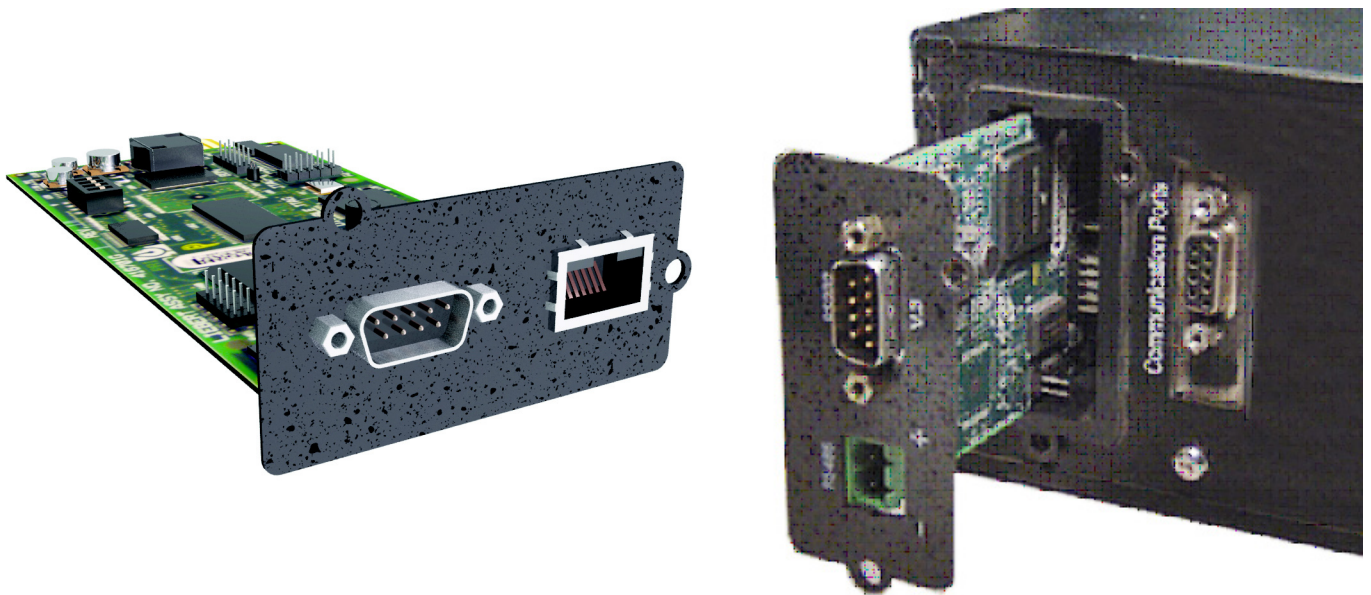


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1.0 LIEBERT EQUIPMENT COMPATIBILITY

1.1 Connectivity to Liebert IntelliSlot Using Modbus 485, Modbus IP or BACnet IP

This publication describes the Modbus and BACnet communications protocols available for communication with Emerson Network Power equipment. Included are the Liebert IntelliSlot Modbus 485, Modbus IP and the BACnet IP communications cards.

- The Modbus information includes implementation basics, supported types, frame format, function code support and similar subjects.
- The BACnet information includes the BACnet service listing, object types, device objects, analog objects, binary objects, multistate objects and BACnet engineering units.

1.2 Compatibility with Liebert Equipment

Table 1 shows the type of Liebert IntelliSlot Modbus 485, Modbus IP or BACnet IP card required for selected Liebert products.

Table 1 Liebert Equipment and Compatible Liebert IntelliSlot Cards

Product Supported	Refer to Tables :	Controller / Protocol	Compatible Card Part Number		
			Liebert IntelliSlot Modbus 485 Card	Liebert IntelliSlot Web / Modbus 485 Card	Modbus IP / BACnet IP
MODBUS 485 & MODBUS IP PROTOCOLS					
• Precision Cooling Products					
Liebert Challenger 3000	6-8	Liebert iCOM® v4	IS-485L	—	IS-IPBML
Liebert Challenger ITR	6-8				
Liebert CRV	9-11				
Liebert CW	6-8				
Liebert Deluxe System/3	6-8				
Liebert DS	6-8				
Liebert HPC (Chiller)	12-14				
Liebert HPM	6-8				
Liebert XDC	15-16				
Liebert XDP	18-20				
Liebert XDWP (XDP-W)	21-22				
Liebert PeX	6-8				
Liebert DS	23-24	Liebert iCOM v3	OC485-LBDS	—	—
Liebert PeX	23-24				
Liebert XDF	25-26				
Liebert Challenger 3000	27	LAM	OC485-ADPT	IS-WEBADPT	—
Liebert Deluxe System/3	27				
Liebert Himod	27				
Liebert ICS	27				
Liebert DataMate	28	L0B	OC485-ADPT	IS-WEBADPT	—
Liebert Mini-Mate Plus	28				
Liebert Mini-Mate2	28				
Liebert DataMate	29	MM2	OC485-ADPT	IS-WEBADPT	—
Liebert Mini-Mate2	29				
Liebert Mini-Mate2 8 Ton	30	L8T	OC485-ADPT	IS-WEBADPT	—
Liebert Atlas Air	31	C10 2-step	OC485-ADPT	IS-WEBADPT	—
Liebert Atlas PEC	31				
Liebert LECS 15	31				
Liebert Atlas Air	32	C100 4-step	OC485-ADPT	IS-WEBADPT	—
Liebert Atlas PEC	32				
Liebert CEMS 100	32				

Table 1 Liebert Equipment and Compatible Liebert IntelliSlot Cards (continued)

Product Supported	Refer to Tables :	Controller / Protocol	Compatible Card Part Number		
			Liebert IntelliSlot Modbus 485 Card	Liebert IntelliSlot Web / Modbus 485 Card	Modbus IP / BACnet IP
MODBUS 485 & MODBUS IP PROTOCOLS (continued)					
• Power Distribution & Power Conditioning Products					
Liebert Datawave	33	PMP, PM2 for Liebert FPC & Liebert PPC	OC485-ADPT	IS-WEBADPT	—
Liebert FPC	33				
Liebert PPC	33				
Liebert FPC, Liebert RDC, Liebert FDC, Liebert RX	35-37	v4	IS-485S	—	IS-IPBMS (Modbus IP only)
Liebert Datawave	34	PMP for Liebert FPC & Liebert PPC	OC485-ADPT	IS-WEBADPT	—
Liebert FPC	34				
Liebert PPC	34				
Liebert STS / Liebert STS/PDU	38	STS	OC485-ADPT	IS-WEBADPT	—
Liebert STS2 / Liebert STS2/PDU	39	STS2	OC485-ADPT	IS-WEBADPT	—
• UPS Systems					
Liebert APM	40-42	—	IS-485L	—	IS-IPBML
Liebert GXT2	43-44	—	OC-485	—	—
Liebert GXT3	43-44	—	OC-485	—	—
Liebert HiNet	45-46	—	OC-485	—	—
Liebert Nfinity	47-48	—	OC-485	—	—
Liebert NX	49-50	—	OC-485	—	—
Liebert NXL (SA, SR, SN, MM, CD)	51-53	—	IS-485X	—	IS-IPBMX
Liebert PowerSure Interactive	54-55	—	OC-485	—	—
Liebert PowerSure Interactive 2	56-57	—	OC-485	—	—
Liebert Series 300 UPS	58-59	—	OC485-ADPT	IS-WEBADPT	—
Liebert Series 600 UPS	60-61	—	OC485-ADPT	IS-WEBADPT	—
Liebert Series 610 SCC UPS	62-63	—	OC485-ADPT	IS-WEBADPT	—
Liebert HiPulse	64	SMM/SSM	OC485-ADPT	IS-WEBADPT	—
Liebert SICE 7200	64				
Liebert SICE 7200	65	SSC	OC485-ADPT	IS-WEBADPT	—
Liebert NPower	66	IMP	OC485-ADPT	IS-WEBADPT	—
• Battery Monitoring Products					
Liebert BDSU	67-68	—	IS-485X	—	IS-IPBMX (Modbus IP only)
BACNET IP PROTOCOL					
• Precision Cooling Products					
Liebert Challenger 3000	69-72	Liebert iCOM v4	IS-485L	—	IS-IPBML
Liebert Challenger ITR	69-72				
Liebert CRV	73-76				
Liebert CW	69-72				
Liebert Deluxe System/3	69-72				
Liebert DS	69-72				
Liebert HPC	77-80				
Liebert HPM	69-72				
Liebert PeX	69-72				
Liebert XDP	81-84				
Liebert XDWP (XDP-W)	81-84				
Liebert DataMate	85	MM2	—	—	IS-WEBADPT (BACnet IP only)
Liebert Mini-Mate2	85				
Liebert Mini-Mate2 8 Ton	86	L8T	—	—	
• Precision Cooling Products					
Liebert APM	87-90	—	—	IS-485L	IS-IPBML

2.0 MODBUS COMMUNICATIONS

2.1 Implementation Basics

Modbus protocol provides control and data acquisition, through query and response, between master and slave devices. This protocol comprises the rules for communication, controlling the message format between devices, how master and slave devices initiate communications, as well as unit identification, message-handling and error-checking.

The Liebert IntelliSlot 485/IP card acts as a slave device on a network. This network can be a multidrop configuration over EIA-485, where multiple slaves reside on a common wire or loop.

2.2 Transmission Format

The Liebert IntelliSlot 485/IP interface card supports Modbus Remote Terminal Unit (RTU) transmission modes. See **Table 2** below.

Table 2 Modbus Remote Transmission Unit settings for Liebert IntelliSlot 485/IP interface card

Physical Port	Transmission Mode	Baud Rate	Data Bits	Parity Bits	Stop Bits	Start Bits
EIA-485/422 2 wire	RTU	9600, 19200 or 38400	8	None	1	1

2.3 Modbus Packet Format

Each Modbus packet consists of these fields:

- Device Address
- Function Code
- Data Field(s)
- Error Check Field

2.3.1 Device Address

The address field immediately follows the beginning of the frame and consists of 8-bits (RTU). This bit indicates the user-assigned address of the slave device that is to receive the message from the attached master device.

Each slave must be assigned a unique address. Only the addressed slave will respond to a query that contains its address.

2.3.2 Function Code

The function code field tells the addressed slaves what function to perform. Function codes are designed to invoke a specific action by the slave device. The function code ranges from 1 to 127.

Liebert IntelliSlot Modbus server supports the following Modbus function codes.

Table 3 Supported Modbus function codes

Code	Function	Description
01	Read Coils	Read from 1 to 2000 contiguous status of coils managed by the server. Coils in the response message are packed as one per bit of a byte, 1=On and 0=Off. If the requested quantity of coils is not a multiple of 8, zeros are padded in the final byte.
02	Read Discrete Inputs	Read from 1 to 2000 contiguous input status managed by the server. Discrete inputs in the response message are packed as one per bit of a byte, 1=On and 0=Off. If the requested number of inputs is not a multiple of 8, zeros are padded in the final byte.
03	Read Holding Registers	Read the contents of contiguous block of 1 to 127 holding registers. Data are packed as two bytes per register; the first byte contains the high order bits.
04	Read Input Registers	Read the contents of contiguous block of 1 to 127 Input registers. Data are packed as two bytes per register; the first byte contains the high order bits.
05	Write Single Coil	Write a single output to either On (1) or Off (0) mapped in coil section.
06	Write Single Register	Write a value into a single holding register;
15	Write Multiple Coils	Force each coil in a sequence of coils to either On or Off.
16	Write Multiple Registers	Write values into a block of contiguous registers (1 to 120)

2.3.3 Data Fields

The data field length varies, depending on whether the message is a request or a response to a packet. This field typically contains information required by the slave device to perform the command specified or to the response to a data request from the master device.

2.3.4 Error Check Field

The Error Check Field consists of a 16-bit (2 byte) Cyclical Redundancy Check (CRC16). It allows the receiving device to detect a packet that has been corrupted by transmission errors.

2.4 RTU Framing

The example below shows a typical query and response from a Liebert IntelliSlot interface card. The master device initiates a query asking Slave Device, with address 2, for holding registers starting at holding register 40051 (offset 50) and including next two registers (three total).

Table 4 Query sample

Slave Address	Function Code	Starting Register		Number of Registers		CRC16	
		Hi Byte	Lo Byte	Hi Byte	Lo Byte	Hi Byte	Lo Byte
02	03	00	32	00	03	E5	FA

Table 5 Response sample

Slave Address	Function Code	Count: Bytes of Data	Register						CRC16	
			40051 Data		40052 Data		40053 Data		Hi Byte	Lo Byte
			Hi	Lo	Hi	Lo	Hi	Lo		
02	03	6	1	58	00	FA	00	54	1B	0D

Slave Device, with address 2, responds to Function Code 3 with 6 bytes of hexadecimal data and ends with CRC16 checksum.

Register values: 40051 = 158 (hex) = 344 (decimal)
 40052 = FA (hex) = 250 (decimal)
 40053 = 54 (hex) = 84 (decimal)

3.0 MODBUS 485 AND MODBUS IP PROTOCOLS

3.1 Precision Cooling Products

Table 6 Liebert Challenger 3000, Liebert Challenger ITR™, Liebert CW™, Liebert Deluxe System/3, Liebert DS, Liebert HPM™, Liebert PeX - Status and Coil

Controller	Liebert iCOM v4				
Liebert Products	Units with Liebert iCOM:	Units with Liebert iCOM Firmware PA1.04.033.STD or later: Liebert Challenger 3000 Liebert Challenger ITR Liebert CW Liebert Deluxe System/3 Liebert DS Liebert PeX			
Available Points					
Data Description	Status	Coil	# of Bits	Notes	Extra Notes
Ext Reheat Lockout	10009	-	1	Active on Alarm	1, 2, 3, 4
Ext Humidifier Lockout	10010	-	1	Active on Alarm	1, 2, 3, 4
Minimum Chilled Water Temp Set Point Enable	10013	13	1	0 = disabled 1 = enabled	1, 2, 3, 4
Return Air Sensor Event Control	10019	19	1	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Air Sensor A Event Control	10020	20	1	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Compressor Lockout	10021	-	1	Active on Alarm	1, 2, 3, 4
System On/Off Control	-	25	1	0 = off 1 = on	1, 2, 3, 4
Fan State	10025	-	1	0 = off 1 = on	1, 2, 3, 4
Cooling State	10026	-	1	0 = off 1 = on	1, 2, 3, 4
Free Cooling State	10027	-	1	0 = off 1 = on	1, 2, 3, 4
Hot Water / Hot Gas State	10028	-	1	0 = off 1 = on	1, 2, 3, 4
Electric Reheat State	10029	-	1	0 = off 1 = on	1, 2, 3, 4
Humidifier State	10030	-	1	0 = off 1 = on	1, 2, 3, 4
Dehumidifier State	10031	-	1	0 = off 1 = on	1, 2, 3, 4
Main Fan Overload	10034	-	1	Active on Alarm	1, 2, 3, 4
Loss of Air Flow	10035	-	1	Active on Alarm	1, 2, 3, 4
Ext Loss of Flow	10036	-	1	Active on Alarm	1, 2, 3, 4
Compressor High Head Pressure	10037	-	1	Active on Alarm	1, 2, 3, 4
Compressor Low Suction Pressure	10038	-	1	Active on Alarm	1, 2, 3, 4
Compressor Thermal Overload	10039	-	1	Active on Alarm	1, 2, 3, 4
Compressor Pump Down Issue	10040	-	1	Active on Alarm	1, 2, 3, 4
Compressor High Head Pressure 2	10041	-	1	Active on Alarm	1, 2, 3, 4
Compressor Low Suction Pressure 2	10042	-	1	Active on Alarm	1, 2, 3, 4
Compressor Thermal Overload 2	10043	-	1	Active on Alarm	1, 2, 3, 4
Compressor Pump Down Issue 2	10044	-	1	Active on Alarm	1, 2, 3, 4

Table 6 Liebert Challenger 3000, Liebert Challenger ITR™, Liebert CW™, Liebert Deluxe System/3, Liebert DS, Liebert HPM™, Liebert PeX - Status and Coil (continued)

Controller		Liebert iCOM v4				
Liebert Products		Units with Liebert iCOM:	Units with Liebert iCOM Firmware PA1.04.033.STD or later:			
		Liebert HPM	Liebert Challenger 3000 Liebert Challenger ITR Liebert CW Liebert Deluxe System/3 Liebert DS Liebert PeX			
Available Points						
Data Description	Status	Coil	# of Bits	Notes	Extra Notes	
Dig Scroll Comp Over Temp 1	10045	-	1	Active on Alarm	1, 2, 3, 4	
Dig Scroll Comp Over Temp 2	10046	-	1	Active on Alarm	1, 2, 3, 4	
Smoke Detected	10047	-	1	Active on Alarm	1, 2, 3, 4	
Water Under Floor	10048	-	1	Active on Alarm	1, 2, 3, 4	
Humidifier Issue	10049	-	1	Active on Alarm	1, 2, 3, 4	
Ext Standby Glycol Pump On	10050	-	1	Active on Alarm	1, 2, 3, 4	
Ext Standby Unit On	10051	-	1	Active on Alarm	1, 2, 3, 4	
Ext Condenser Pump High Water	10052	-	1	Active on Alarm	1, 2, 3, 4	
Return Air Sensor Issue	10053	-	1	Active on Alarm	1, 2, 3, 4	
Ext Loss of Air Blower	10055	-	1	Active on Alarm	1, 2, 3, 4	
Humidifier Low Water	10058	-	1	Active on Alarm	1, 2, 3, 4	
Humidifier Over Current	10059	-	1	Active on Alarm	1, 2, 3, 4	
Ext Over Temperature	10060	-	1	Active on Alarm	1, 2, 3, 4	
Shutdown - Loss Of Power	10061	-	1	Active on Alarm	1, 2, 3, 4	
Supply Chilled Water Over Temp	10065	-	1	Active on Alarm	1, 2, 3, 4	
Return Air Over Temperature	10067	-	1	Active on Alarm	1, 2, 3, 4	
Return Air Under Temperature	10068	-	1	Active on Alarm	1, 2, 3, 4	
High Return Humidity	10069	-	1	Active on Alarm	1, 2, 3, 4	
Low Return Humidity	10070	-	1	Active on Alarm	1, 2, 3, 4	
Ext Air Sensor A Over Temperature	10071	-	1	Active on Alarm	1, 2, 3, 4	
Ext Air Sensor A Under Temperature	10072	-	1	Active on Alarm	1, 2, 3, 4	
Ext Air Sensor A High Humidity	10073	-	1	Active on Alarm	1, 2, 3, 4	
Ext Air Sensor A Low Humidity	10074	-	1	Active on Alarm	1, 2, 3, 4	
Supply Chilled Water Loss of Flow	10075	-	1	Active on Alarm	1, 2, 3, 4	
Clogged Air Filter	10076	-	1	Active on Alarm	1, 2, 3, 4	
Supply Air Sensor Issue	10077	-	1	Active on Alarm	1, 2, 3, 4	
Free Cooling Temp Sensor Issue	10078	-	1	Active on Alarm	1, 2, 3, 4	
Ext Air Sensor A Issue	10079	-	1	Active on Alarm	1, 2, 3, 4	
Fan Hours Exceeded	10080	-	1	Active on Alarm	1, 2, 3, 4	
Compressor Hours Exceeded 1	10081	-	1	Active on Alarm	1, 2, 3, 4	
Compressor Hours Exceeded 2	10082	-	1	Active on Alarm	1, 2, 3, 4	
Free Cooling Valve Hours Exceeded	10083	-	1	Active on Alarm	1, 2, 3, 4	
Electric Reheater Hours Exceeded 1	10084	-	1	Active on Alarm	1, 2, 3, 4	
Electric Reheater Hours Exceeded 2	10085	-	1	Active on Alarm	1, 2, 3, 4	
Electric Reheater Hours Exceeded 3	10086	-	1	Active on Alarm	1, 2, 3, 4	

Table 6 Liebert Challenger 3000, Liebert Challenger ITR™, Liebert CW™, Liebert Deluxe System/3, Liebert DS, Liebert HPM™, Liebert PeX - Status and Coil (continued)

Controller		Liebert iCOM v4				
Liebert Products		Units with Liebert iCOM: Liebert HPM		Units with Liebert iCOM Firmware PA1.04.033.STD or later: Liebert Challenger 3000 Liebert Challenger ITR Liebert CW Liebert Deluxe System/3 Liebert DS Liebert PeX		
Available Points						
Data Description	Status	Coil	# of Bits	Notes	Extra Notes	
Hot Water / Hot Gas Valve Hours Exceeded	10087	-	1	Active on Alarm	1, 2, 3, 4	
Humidifier Hours Exceeded	10088	-	1	Active on Alarm	1, 2, 3, 4	
Dehumidifier Hours Exceeded	10089	-	1	Active on Alarm	1, 2, 3, 4	
Unit Communication Lost	10091	-	1	Active on Alarm	1, 2, 3, 4	
Master Unit Communication Lost	10092	-	1	Active on Alarm	1, 2, 3, 4	
Unit Code Missing	10094	-	1	Active on Alarm	1, 2, 3, 4	
Service Required	10098	-	1	Active on Alarm	1, 2, 3, 4	
Humidifier Control Board Not Detected	10099	-	1	Active on Alarm	1, 2, 3, 4	
Customer Input 1	10104	-	1	Active on Alarm	1, 2, 3, 4	
Customer Input 2	10105	-	1	Active on Alarm	1, 2, 3, 4	
Customer Input 3	10106	-	1	Active on Alarm	1, 2, 3, 4	
Customer Input 4	10107	-	1	Active on Alarm	1, 2, 3, 4	
Dig Scroll Comp Discharge Temp Sensor Issue 1	10108	-	1	Active on Alarm	1, 2, 3, 4	
Dig Scroll Comp Discharge Temp Sensor Issue 2	10109	-	1	Active on Alarm	1, 2, 3, 4	
Supply Air Over Temperature	10209	-	1	Active on Alarm	1, 2, 3, 4	
Supply Air Under Temperature	10210	-	1	Active on Alarm	1, 2, 3, 4	
Ambient Air Sensor Issue	10211	-	1	Active on Alarm	2, 3, 4	
Compressor Short Cycle 1	10212	-	1	Active on Alarm	1, 2, 3, 4	
Compressor Short Cycle 2	10213	-	1	Active on Alarm	1, 2, 3, 4	
Ext Free Cooling Lockout	10214	-	1	Active on Alarm	1, 2, 3, 4	
Reheater Over Temperature	10215	-	1	Active on Alarm	1, 2, 3, 4	
Humidifier Cylinder Worn	10216	-	1	Active on Alarm	1, 2, 3, 4	
Humidifier Under Current	10217	-	1	Active on Alarm	1, 2, 3, 4	
Fan Issue	10218	-	1	Active on Alarm	1, 2, 3, 4	
Condenser TVSS Issue	10219	-	1	Active on Alarm	1, 2, 3, 4	
Condenser VFD Issue	10220	-	1	Active on Alarm	1, 2, 3, 4	
Condenser Issue 1	10221	-	1	Active on Alarm	1, 2, 3, 4	
Condenser Issue 2	10222	-	1	Active on Alarm	1, 2, 3, 4	
BMS Communications Timeout	10223	-	1	Active on Alarm	1, 2, 3, 4	
Digital Output Board Not Detected 1	10224	-	1	Active on Alarm	1, 2, 3, 4	
Digital Output Board Not Detected 2	10225	-	1	Active on Alarm	1, 2, 3, 4	
Digital Output Board Not Detected 3	10226	-	1	Active on Alarm	1, 2, 3, 4	
RAM Battery Issue	10227	-	1	Active on Alarm	1, 2, 3, 4	
Water Leakage Detector Sensor Issue	10228	-	1	Active on Alarm	1, 2, 3, 4	
External Fire Detected	10229	-	1	Active on Alarm	1, 2, 3, 4	

Table 6 Liebert Challenger 3000, Liebert Challenger ITR™, Liebert CW™, Liebert Deluxe System/3, Liebert DS, Liebert HPM™, Liebert PeX - Status and Coil (continued)

Controller		Liebert iCOM v4				
Liebert Products		Units with Liebert iCOM: Liebert HPM		Units with Liebert iCOM Firmware PA1.04.033.STD or later: Liebert Challenger 3000 Liebert Challenger ITR Liebert CW Liebert Deluxe System/3 Liebert DS Liebert PeX		
Available Points						
Data Description	Status	Coil	# of Bits	Notes	Extra Notes	
Chilled Water Control Valve Failure 1	10230	-	1	Active on Alarm	1, 2, 3, 4	
Chilled Water Control Valve Failure 2	10231	-	1	Active on Alarm	1, 2, 3, 4	
Unit Off	10232	-	1	Active on Alarm	1, 2, 3, 4	
Unit On	10233	-	1	Active on Alarm	1, 2, 3, 4	
Unit Partial Shutdown	10234	-	1	Active on Alarm	1, 2, 3, 4	
Unit Shutdown	10235	-	1	Active on Alarm	1, 2, 3, 4	
High Power Shutdown	10236	-	1	Active on Alarm	1, 2, 3, 4	
Unit Standby	10237	-	1	Active on Alarm	1, 2, 3, 4	
Maintenance Due	10238	-	1	Active on Alarm	1, 2, 3, 4	
Maintenance Completed	10239	-	1	Active on Alarm	1, 2, 3, 4	
Compressor Low Pressure Transducer Issue 1	10240	-	1	Active on Alarm	1, 2, 3, 4	
Compressor Low Pressure Transducer Issue 2	10241	-	1	Active on Alarm	1, 2, 3, 4	
Compressor High Pressure Transducer Issue 1	10242	-	1	Active on Alarm	1, 2, 3, 4	
Compressor High Pressure Transducer Issue 2	10243	-	1	Active on Alarm	1, 2, 3, 4	
Compressor Capacity Reduced	10244	-	1	Active on Alarm	1, 2, 3, 4	
Dew Point Over Temperature	10345	-	1	Active on Alarm	2, 3, 4	
Dew Point Under Temperature	10346	-	1	Active on Alarm	2, 3, 4	
Ext Dew Point Over Temperature	10347	-	1	Active on Alarm	2, 3, 4	
Ext Dew Point Under Temperature	10348	-	1	Active on Alarm	2, 3, 4	
Compressor Superheat Over Threshold 1	10349	-	1	Active on Alarm	2, 3, 4	
Compressor Superheat Over Threshold 2	10350	-	1	Active on Alarm	2, 3, 4	
Unspecified General Event	10351	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Average Over Temperature	10352	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Average Under Temperature	10353	-	1	Active on Alarm	2, 3, 4	
Remote Sensor System Average Over Temperature	10354	-	1	Active on Alarm	2, 3, 4	
Remote Sensor System Average Under Temperature	10355	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Over Temperature 1	10356	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Over Temperature 2	10357	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Over Temperature 3	10358	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Over Temperature 4	10359	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Over Temperature 5	10360	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Over Temperature 6	10361	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Over Temperature 7	10362	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Over Temperature 8	10363	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Over Temperature 9	10364	-	1	Active on Alarm	2, 3, 4	

Table 6 Liebert Challenger 3000, Liebert Challenger ITR™, Liebert CW™, Liebert Deluxe System/3, Liebert DS, Liebert HPM™, Liebert PeX - Status and Coil (continued)

Controller		Liebert iCOM v4				
Liebert Products		Units with Liebert iCOM: Liebert HPM		Units with Liebert iCOM Firmware PA1.04.033.STD or later: Liebert Challenger 3000 Liebert Challenger ITR Liebert CW Liebert Deluxe System/3 Liebert DS Liebert PeX		
Available Points						
Data Description	Status	Coil	# of Bits	Notes	Extra Notes	
Remote Sensor Over Temperature 10	10365	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 1	10366	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 2	10367	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 3	10368	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 4	10369	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 5	10370	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 6	10371	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 7	10372	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 8	10373	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 9	10374	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Under Temperature 10	10375	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Issue 1	10376	-	1	Active on Alarm	1, 2, 3, 4	
Remote Sensor Issue 2	10377	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Issue 3	10378	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Issue 4	10379	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Issue 5	10380	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Issue 6	10381	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Issue 7	10382	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Issue 8	10383	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Issue 9	10384	-	1	Active on Alarm	2, 3, 4	
Remote Sensor Issue 10	10385	-	1	Active on Alarm	2, 3, 4	
Air Economizer Emergency Override	10386	-	1	Active on Alarm	2, 3, 4	
Air Economizer Reduced Airflow	10387	-	1	Active on Alarm	2, 3, 4	
Temperature Control Sensor Issue	10388	-	1	Active on Alarm	2, 3, 4	
EEV Unspecified General Event	10488	-	1	Active on Alarm	4	
Static Pressure Sensor Issue	10489	-	1	Active on Alarm	3	
High Static Pressure	10490	-	1	Active on Alarm	3	
Low Static Pressure	10491	-	1	Active on Alarm	3	
Pump Unspecified General Event	10492	-	1	Active on Alarm	4	
Condenser Unit Unspecified General Event	10493	-	1	Active on Alarm	3, 4	
Condenser Circuit Unspecified General Event	10494	-	1	Active on Alarm	3, 4	

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Extra Notes:

1. This point is supported on iCOM_PA35
2. This point is supported on iCOM_PA70
3. This point is supported on iCOM_PA151
4. This point is supported on iCOM_PA203

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Free Cooling Internal Control Mode	30017	40017	1	-	0 = Disabled 1 = Contact 2 = Value	1
Humidity Proportional Control Type	30018	40018	1	-	0 = Relative 1 = Compensated 2 = Predictive	1
Fan Speed Maximum Set Point	30019	40019	1	-	%	1, 2, 3, 4
Supply Air Temperature Set Point	30020	40020	1	-	deg C	1
Supply Air Temperature Set Point	30733	40733	1	-	deg C	1
Free Cooling Internal Temperature Delta	30021	40021	1	x / 10	deg C	1, 2, 3, 4
Free Cooling Internal Temperature Delta	30734	40734	1	x / 10	deg F	1, 2, 3, 4
Minimum Chilled Water Temp Set Point	30022	40022	1	x / 10	deg C	1, 2, 3, 4
Minimum Chilled Water Temp Set Point	30735	40735	1	x / 10	deg F	1, 2, 3, 4
Air Temperature Set Point	30023	40023	1	x / 10	deg C	1, 2, 3, 4
Air Temperature Set Point	30736	40736	1	x / 10	deg F	1, 2, 3, 4
Air Temperature Proportional Band	30024	40024	1	x / 10	deg C	1, 2, 3, 4
Air Temperature Proportional Band	30737	40737	1	x / 10	deg F	1, 2, 3, 4
Air Temperature Dead Band	30025	40025	1	x / 10	deg C	1, 2, 3, 4
Air Temperature Dead Band	30738	40738	1	x / 10	deg F	1, 2, 3, 4
Air Temperature Control Integration Time	30026	40026	1	x / 10	min	1, 2, 3, 4
Humidity Set Point	30027	40027	1	-	% RH	1, 2, 3, 4
Humidity Proportional Band	30028	40028	1	-	% RH	1, 2, 3, 4
Humidity Proportional Control Integration Time	30029	40029	1	-	min	1, 2, 3, 4
Humidity Dead Band	30030	40030	1	x / 10	% RH	1, 2, 3, 4
Auto Restart Delay	30031	40031	1	-	sec	1, 2, 3, 4
Air Temperature Control Type	30033	40033	1	-	0 = Proportional 1 = Prop+Integral 3 = Intelligent	1, 2, 3, 4
BMS Timeout Period	30045	40045	1	-	min	1, 2, 3, 4
Return Air Over Temp Threshold	30050	40050	1	x / 10	deg C	1, 2, 3, 4
Return Air Over Temp Threshold	30739	40739	1	x / 10	deg F	1, 2, 3, 4
Return Air Under Temp Threshold	30051	40051	1	x / 10	deg C	1, 2, 3, 4
Return Air Under Temp Threshold	30740	40740	1	x / 10	deg F	1, 2, 3, 4
Ext Air Sensor A Over Temp Threshold	30052	40052	1	x / 10	deg C	1, 2, 3, 4
Ext Air Sensor A Over Temp Threshold	30741	40741	1	x / 10	deg F	1, 2, 3, 4
Ext Air Sensor A Under Temp Threshold	30053	40053	1	x / 10	deg C	1, 2, 3, 4
Ext Air Sensor A Under Temp Threshold	30742	40742	1	x / 10	deg F	1, 2, 3, 4
High Return Humidity Threshold	30054	40054	1	x / 10	% RH	1, 2, 3, 4
Low Return Humidity Threshold	30055	40055	1	x / 10	% RH	1, 2, 3, 4
Ext Air Sensor A High Humidity Threshold	30056	40056	1	x / 10	% RH	1, 2, 3, 4
Ext Air Sensor A Low Humidity Threshold	30057	40057	1	x / 10	% RH	1, 2, 3, 4
Fan Hours Threshold	30070	40070	1	-	hr	1, 2, 3, 4
Compressor Hours Threshold 1	30071	40071	1	-	hr	1, 2, 3, 4
Compressor Hours Threshold 2	30072	40072	1	-	hr	1, 2, 3, 4

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Humidifier Hours Threshold	30073	40073	1	-	hr	1, 2, 3, 4
Dehumidifier Hours Threshold	30074	40074	1	-	hr	1, 2, 3, 4
Free Cooling Valve Hours Threshold	30075	40075	1	-	hr	1, 2, 3, 4
Electric Reheater Hours Threshold 1	30076	40076	1	-	hr	1, 2, 3, 4
Electric Reheater Hours Threshold 2	30077	40077	1	-	hr	1, 2, 3, 4
Electric Reheater Hours Threshold 3	30078	40078	1	-	hr	1, 2, 3, 4
Hot Water / Hot Gas Valve Hours Threshold	30079	40079	1	-	hr	1, 2, 3, 4
System Operating State	30100	-	1	-	0 = off 1 = on 2 = standby	1, 2, 3, 4
System Status	30102	-	1	-	1 = Normal Operation 2 = StartUp 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation	1, 2, 3, 4
Fan Speed	30103	-	1	-	%	1, 2, 3, 4
Compressor Utilization	30104	-	1	-	%	1
Free Cooling Valve Open Position	30105	-	1	-	%	1, 2, 3, 4
Reheat Utilization	30106	-	1	-	%	1, 2, 3, 4
Humidifier Utilization	30107	-	1	-	%	1, 2, 3, 4
Dehumidifier Utilization	30108	-	1	-	%	1, 2, 3, 4
Free Cooling Status	30109	-	1	-	0 = off 2 = on 3 = No Support	1, 2, 3, 4
Return Air Temperature	30110	-	1	x / 10	deg C	1, 2, 3, 4
Return Air Temperature	30743	-	1	x / 10	deg F	1, 2, 3, 4
Supply Air Temperature	30112	-	1	x / 10	deg C	1, 2, 3, 4
Supply Air Temperature	30744	-	1	x / 10	deg F	1, 2, 3, 4
Supply Air Temperature Set Point	30113	-	1	-	deg C	1
Supply Air Temperature Set Point	30745	-	1	-	deg C	1
Free Cooling Fluid Temperature	30115	-	1	x / 10	deg C	1, 2, 3, 4
Free Cooling Fluid Temperature	30746	-	1	x / 10	deg F	1, 2, 3, 4
Ext Air Sensor A Temperature	30116	-	1	x / 10	deg C	1, 2, 3, 4
Ext Air Sensor A Temperature	30747	-	1	x / 10	deg F	1, 2, 3, 4
Ext Air Sensor B Temperature	30117	-	1	x / 10	deg C	1, 2, 3, 4
Ext Air Sensor B Temperature	30748	-	1	x / 10	deg F	1, 2, 3, 4
Ext Air Sensor C Temperature	30118	-	1	x / 10	deg C	1, 2, 3, 4
Ext Air Sensor C Temperature	30749	-	1	x / 10	deg F	1, 2, 3, 4
Dig Scroll Comp Discharge Temp 1	30119	-	1	-	deg C	1, 2, 3, 4
Dig Scroll Comp Discharge Temp 1	30750	-	1	-	deg F	1, 2, 3, 4
Dig Scroll Comp Discharge Temp 2	30120	-	1	-	deg C	1, 2, 3, 4
Dig Scroll Comp Discharge Temp 2	30751	-	1	-	deg F	1, 2, 3, 4
Return Humidity	30130	-	1	x / 10	% RH	1, 2, 3, 4
Ext Air Sensor A Humidity	30132	-	1	x / 10	% RH	1, 2, 3, 4

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Ext Air Sensor B Humidity	30133	-	1	x / 10	% RH	1, 2, 3, 4
Ext Air Sensor C Humidity	30134	-	1	x / 10	% RH	1, 2, 3, 4
Fan Hours	30141	40141	1	-	hr	1, 2, 3, 4
Compressor Hours 1	30142	40142	1	-	hr	1, 2, 3, 4
Compressor Hours 2	30143	40143	1	-	hr	1, 2, 3, 4
Humidifier Hours	30144	40144	1	-	hr	1, 2, 3, 4
Dehumidifier Hours	30145	40145	1	-	hr	1, 2, 3, 4
Free Cooling Valve Hours	30146	40146	1	-	hr	1, 2, 3, 4
Electric Reheater Hours 1	30147	40147	1	-	hr	1, 2, 3, 4
Electric Reheater Hours 2	30148	40148	1	-	hr	1, 2, 3, 4
Electric Reheater Hours 3	30149	40149	1	-	hr	1, 2, 3, 4
Hot Water / Hot Gas Valve Hours	30150	40150	1	-	hr	1, 2, 3, 4
Today's High Air Temperature	30151	-	1	x / 10	deg C	1, 2, 3, 4
Today's High Air Temperature	30752	-	1	x / 10	deg F	1, 2, 3, 4
Today's Low Air Temperature	30153	-	1	x / 10	deg C	1, 2, 3, 4
Today's Low Air Temperature	30753	-	1	x / 10	deg F	1, 2, 3, 4
Today's High Humidity	30155	-	1	x / 10	% RH	1, 2, 3, 4
Today's Low Humidity	30157	-	1	x / 10	% RH	1, 2, 3, 4
Server Class	30257	-	1	-	1 = UPS 2 = AIR 3 = PMP 4 = PDU	1, 2, 3, 4
Today's High Air Temperature Time	30258	-	2	-	Seconds since Midnight	1, 2, 3, 4
Today's Low Air Temperature Time	30260	-	2	-	Seconds since Midnight	1, 2, 3, 4
Supply Air Temperature Sensor Control	30262	40262	1	-	0 = Disabled 1 = Limit 2 = Control 3 = Temp Only	1
Return Air Temperature Set Point	30263	40263	1	-	deg C	1
Return Air Temperature Set Point	30754	40754	1	-	deg C	1
Return Humidity Set Point	30264	40264	1	-	% RH	1
Today's High Humidity Time	30265	-	2	-	Seconds since Midnight	1, 2, 3, 4
Today's Low Humidity Time	30267	-	2	-	Seconds since Midnight	1, 2, 3, 4
Fixed Compressor State 1	30269	-	1	-	0 = off 1 = on	1, 2, 3, 4
Fixed Compressor State 2	30270	-	1	-	0 = off 1 = on	1, 2, 3, 4
Compressor Capacity Control State 1	30271	-	1	-	0 = off 1 = on	1, 2, 3, 4
Compressor Capacity Control State 2	30272	-	1	-	0 = off 1 = on	1, 2, 3, 4
Infrared Humidifier Flush Rate	30273	40273	1	-	%	1, 2, 3, 4
Fan Control Mode	30274	40274	1	-	0 = Auto 1 = Manual 2 = Economy 4 = Delta	1

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Analog Input Reading 1	30275	-	1	x / 100		1, 2, 3, 4
Analog Input Reading 2	30276	-	1	x / 100		1, 2, 3, 4
Analog Input Reading 3	30277	-	1	x / 100		1, 2, 3, 4
Analog Input Reading 4	30278	-	1	x / 100		1, 2, 3, 4
System Control Mode	30280	-	1	-	0 = Internal (Auto) 1 = External (Manual)	1, 2, 3, 4
System Operating State Reason	30281	-	1	-	0 = Reason Unknown 1 = Network Display 2 = Alarm 3 = Schedule 4 = Remote System 5 = External Input 6 = Local Display	1, 2, 3, 4
Maintenance Ramp	30282	-	1	-	%	1, 2, 3, 4
Calculated Next Maintenance Month	30283	-	1	-		1, 2, 3, 4
Calculated Next Maintenance Year	30284	-	1	-		1, 2, 3, 4
Hot Water / Hot Gas Valve Open Position	30285	-	1	-	%	1, 2, 3, 4
Maintenance Tracking State	30286	-	1	-	0 = off 1 = on	1, 2, 3, 4
Customer Input 1 - Event Control	30287	40287	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Customer Input 1 - Event Type	30288	40288	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Customer Input 2 - Event Control	30289	40289	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Customer Input 2 - Event Type	30290	40290	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Customer Input 3 - Event Control	30291	40291	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Customer Input 3 - Event Type	30292	40292	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Customer Input 4 - Event Control	30293	40293	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Customer Input 4 - Event Type	30294	40294	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Free Cooling Lockout - Event Control	30295	40295	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Free Cooling Lockout - Event Type	30296	40296	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Condenser Pump High Water - Event Control	30297	40297	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Condenser Pump High Water - Event Type	30298	40298	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Ext Standby Glycol Pump On - Event Control	30299	40299	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Standby Glycol Pump On - Event Type	30300	40300	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Standby Unit On - Event Control	30301	40301	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Standby Unit On - Event Type	30302	40302	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Humidifier Lockout - Event Control	30303	40303	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Humidifier Lockout - Event Type	30304	40304	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Loss of Flow - Event Control	30305	40305	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Loss of Flow - Event Type	30306	40306	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Over Temperature - Event Control	30307	40307	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Over Temperature - Event Type	30308	40308	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Reheat Lockout - Event Control	30309	40309	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Reheat Lockout - Event Type	30310	40310	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
High Power Shutdown - Event Control	30311	40311	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
High Power Shutdown - Event Type	30312	40312	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Humidifier Issue - Event Control	30313	40313	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Humidifier Issue - Event Type	30314	40314	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Master Unit Communication Lost - Event Control	30315	40315	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Master Unit Communication Lost - Event Type	30316	40316	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Service Required - Event Control	30317	40317	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Service Required - Event Type	30318	40318	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Shutdown - Loss Of Power - Event Control	30319	40319	1	-	0 = disabled 1 = enabled	1, 2, 3, 4

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Shutdown - Loss Of Power - Event Type	30320	40320	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Smoke Detected - Event Control	30321	40321	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Smoke Detected - Event Type	30322	40322	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Water Under Floor - Event Control	30323	40323	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Water Under Floor - Event Type	30324	40324	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Compressor Lockout - Event Control	30325	40325	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Compressor Lockout - Event Type	30326	40326	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Clogged Air Filter - Event Control	30327	40327	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Clogged Air Filter - Event Type	30328	40328	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Loss of Air Blower - Event Control	30329	40329	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Loss of Air Blower - Event Type	30330	40330	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor High Head Pressure - Event Control 1	30331	40331	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Compressor High Head Pressure - Event Control 2	30332	40332	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Compressor High Head Pressure - Event Type 1	30333	40333	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor High Head Pressure - Event Type 2	30334	40334	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor Low Suction Pressure - Event Control 1	30335	40335	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Compressor Low Suction Pressure - Event Control 2	30336	40336	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Compressor Low Suction Pressure - Event Type 1	30337	40337	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor Low Suction Pressure - Event Type 2	30338	40338	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor Pump Down Issue - Event Control 1	30339	40339	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Compressor Pump Down Issue - Event Control 2	30340	40340	1	-	0 = disabled 1 = enabled	1, 2, 3, 4

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Compressor Pump Down Issue - Event Type 1	30341	40341	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor Pump Down Issue - Event Type 2	30342	40342	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor Short Cycle - Event Control 1	30343	40343	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Compressor Short Cycle - Event Control 2	30344	40344	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Compressor Short Cycle - Event Type 1	30345	40345	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor Short Cycle - Event Type 2	30346	40346	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor Thermal Overload - Event Control 1	30347	40347	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Compressor Thermal Overload - Event Control 2	30348	40348	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Compressor Thermal Overload - Event Type 1	30349	40349	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Compressor Thermal Overload - Event Type 2	30350	40350	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Dig Scroll Comp Discharge Over Temp - Event Ctrl 1	30351	40351	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Dig Scroll Comp Discharge Over Temp - Event Ctrl 2	30352	40352	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Dig Scroll Comp Discharge Over Temp - Event Type 1	30353	40353	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Dig Scroll Comp Discharge Over Temp - Event Type 2	30354	40354	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Air Sensor A High Humidity - Event Control	30355	40355	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Air Sensor A High Humidity - Event Type	30356	40356	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Air Sensor A Low Humidity - Event Control	30357	40357	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Air Sensor A Low Humidity - Event Type	30358	40358	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Ext Air Sensor A Over Temp - Event Control	30359	40359	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Air Sensor A Over Temp - Event Type	30360	40360	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Ext Air Sensor A Under Temp - Event Control	30361	40361	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Ext Air Sensor A Under Temp - Event Type	30362	40362	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
High Return Humidity - Event Control	30363	40363	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
High Return Humidity - Event Type	30364	40364	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Low Return Humidity - Event Control	30365	40365	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Low Return Humidity - Event Type	30366	40366	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Return Air Over Temp - Event Control	30367	40367	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Return Air Over Temp - Event Type	30368	40368	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Return Air Under Temp - Event Control	30369	40369	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Return Air Under Temp - Event Type	30370	40370	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Fan Hours Exceeded - Event Control	30371	40371	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Fan Hours Exceeded - Event Type	30372	40372	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Fan Issue - Event Control	30373	40373	1	-	0 = disabled 1 = enabled	1
Fan Issue - Event Type	30374	40374	1	-	0 = Message 1 = Warning 2 = Alarm	1
Main Fan Overload - Event Control	30375	40375	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Main Fan Overload - Event Type	30376	40376	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Condenser Issue - Event Control 1	30377	40377	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Condenser Issue - Event Control 2	30378	40378	1	-	0 = disabled 1 = enabled	1, 2, 3, 4
Condenser Issue - Event Type 1	30379	40379	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
Condenser Issue - Event Type 2	30380	40380	1	-	0 = Message 1 = Warning 2 = Alarm	1, 2, 3, 4
System Event Acknowledge/Reset	-	40381	1	-	2 = Reset 4 = Acknowledge	1, 2, 3, 4

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Air Temperature Control Sensor	30481	40481	1	-	0 = Supply 1 = Remote 2 = Return	2, 3, 4
Supply Air Over Temp Threshold	30482	40482	1	x / 10	deg C	2, 3, 4
Supply Air Over Temp Threshold	30755	40755	1	x / 10	deg F	2, 3, 4
Supply Air Under Temp Threshold	30483	40483	1	x / 10	deg C	2, 3, 4
Supply Air Under Temp Threshold	30756	40756	1	x / 10	deg F	2, 3, 4
Outside Air Temperature	30484	-	1	x / 10	deg C	2, 3, 4
Outside Air Temperature	30757	-	1	x / 10	deg F	2, 3, 4
Humidity Proportional Control Type	30485	40485	1	-	0 = Relative 1 = Compensated 2 = Predictive 3 = Dew Point	2, 3, 4
Ext Air Sensor A Dew Point Temp	30486	-	1	x / 10	deg C	2, 3, 4
Ext Air Sensor A Dew Point Temp	30758	-	1	x / 10	deg F	2, 3, 4
Ext Dew Point Over Temp Threshold	30487	40487	1	x / 10	deg C	2, 3, 4
Ext Dew Point Over Temp Threshold	30759	40759	1	x / 10	deg F	2, 3, 4
Ext Dew Point Under Temp Threshold	30488	40488	1	x / 10	deg C	2, 3, 4
Ext Dew Point Under Temp Threshold	30760	40760	1	x / 10	deg F	2, 3, 4
Compressor Lockout	30489	40489	1	-	0 = disabled 1 = enabled	2, 3, 4
Main Chilled Water Valve	30491	40491	1	-	0 = Valve 1 1 = Valve 2	2, 3, 4
Reheater Lockout	30492	40492	1	-	0 = disabled 1 = enabled	2, 3, 4
Humidifier Lockout	30493	40493	1	-	0 = disabled 1 = enabled	2, 3, 4
Fan Control Sensor	30494	40494	1	-	0 = Supply 1 = Remote 2 = Return 3 = Manual	2, 3, 4
Fan Speed Minimum Set Point	30495	40495	1	-	%	2, 3, 4
Fan Speed Temperature Set Point	30497	40497	1	x / 10	deg C	2, 3, 4
Fan Speed Temperature Set Point	30761	40761	1	x / 10	deg F	2, 3, 4
Standby Units	30498	40498	1	-		2, 3, 4
Adjusted Humidity	30499	-	1	x / 10	% RH	2, 3, 4
Return Dew Point	30500	-	1	x / 10	deg C	2, 3, 4
Return Dew Point	30762	-	1	x / 10	deg F	2, 3, 4
Actual Air Temperature Set Point	30501	-	1	x / 10	deg C	2, 3, 4
Actual Air Temperature Set Point	30763	-	1	x / 10	deg F	2, 3, 4
Actual Humidity Set Point	30502	-	1	-	% RH	2, 3, 4
Dew Point Set Point	30503	40503	1	x / 10	deg C	2, 3, 4
Dew Point Set Point	30764	40764	1	x / 10	deg F	2, 3, 4
Supply Air Over/Under Temperature - Event Control	30504	40504	1	-	0 = disabled 1 = enabled	2, 3, 4
Remote Sensor Over Temp Threshold	30505	40505	1	x / 10	deg C	2, 3, 4

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Remote Sensor Over Temp Threshold	30765	40765	1	x / 10	deg F	2, 3, 4
Remote Sensor Under Temp Threshold	30506	40506	1	x / 10	deg C	2, 3, 4
Remote Sensor Under Temp Threshold	30766	40766	1	x / 10	deg F	2, 3, 4
Remote Sensor Average Temperature	30507	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Average Temperature	30767	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Maximum Temperature	30508	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Maximum Temperature	30768	-	1	x / 10	deg F	2, 3, 4
Remote Sensor System Average Temperature	30509	-	1	x / 10	deg C	2, 3, 4
Remote Sensor System Average Temperature	30769	-	1	x / 10	deg F	2, 3, 4
Remote Sensor System Maximum Temperature	30510	-	1	x / 10	deg C	2, 3, 4
Remote Sensor System Maximum Temperature	30770	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 1	30551	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 1	30771	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 2	30552	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 2	30772	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 3	30553	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 3	30773	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 4	30554	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 4	30774	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 5	30555	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 5	30775	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 6	30556	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 6	30776	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 7	30557	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 7	30777	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 8	30558	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 8	30778	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 9	30559	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 9	30779	-	1	x / 10	deg F	2, 3, 4
Remote Sensor Temperature 10	30560	-	1	x / 10	deg C	2, 3, 4
Remote Sensor Temperature 10	30780	-	1	x / 10	deg F	2, 3, 4
Air Economizer Availability	30561	-	1	-	0 = Not Available 1 = Available	2, 3, 4
Air Economizer Control Source	30562	40562	1	-	0 = disabled 1 = internal 2 = external	2, 3, 4
Chilled Water Valve Hours	30563	40563	1	-	hr	2, 3, 4
Cooling Capacity	30564	-	1	-	%	2, 3, 4
Cooling Control Temperature	30565	-	1	x / 10	deg C	2, 3, 4
Cooling Control Temperature	30781	-	1	x / 10	deg F	2, 3, 4
Fan Speed Control Temperature	30566	-	1	x / 10	deg C	2, 3, 4
Fan Speed Control Temperature	30782	-	1	x / 10	deg F	2, 3, 4

Table 7 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Units/Notes	Extra Notes
Free Cooling Internal Control Mode	30567	40567	1	-	0 = Disabled 1 = Contact 2 = Temperature 3 = Set Point	2, 3, 4
Humidity Control Sensor	30667	40667	1	-	0 = Supply 1 = Remote 2 = Return	3, 4
Digital Scroll Compressor Loading 1	30668	-	1	-	%	3, 4
Digital Scroll Compressor Loading 2	30669	-	1	-	%	3, 4
System Date and Time	30670	40670	2	-		1, 2, 3, 4
Static Pressure Set Point	30672	40672	1	-	Pa	3
Unit Static Pressure	30673	-	1	-	Pa	3
System Static Pressure	30674	-	1	-	Pa	3
Condenser Low Noise Mode State	30675	-	1	-	0 = Inactive 1 = Active (Interval) 2 = Active (Full Day)	3, 4
Condenser Low Noise Mode Schedule Control	30676	40676	1	-	0 = disabled 1 = enabled	3, 4
Condenser Low Noise Mode Max Fan Speed	30677	40677	1	-	%	3, 4
Condenser Normal Mode Max Fan Speed	30678	40678	1	-	%	3, 4
Condenser Low Noise Mode - Interval Days	30679	40679	1	-	1 = Monday 2 = Tuesday 4 = Wednesday 8 = Thursday 16 = Friday 32 = Saturday 64 = Sunday	3, 4
Condenser Low Noise Mode - Full Days	30680	40680	1	-	1 = Monday 2 = Tuesday 4 = Wednesday 8 = Thursday 16 = Friday 32 = Saturday 64 = Sunday	3, 4
Condenser Low Noise Mode Start Time	30681	40681	2	-	Seconds since Midnight	3, 4
Condenser Low Noise Mode Stop Time	30683	40683	2	-	Seconds since Midnight	3, 4
System Date and Time	39998	49998	2	-		1, 2, 3, 4

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Extra Notes:

1. This point is supported on iCOM_PA35.
2. This point is supported on iCOM_PA70.
3. This point is supported on iCOM_PA151.
4. This point is supported on iCOM_PA203

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary

Controller	Liebert iCOM v4
Data Description	Description
Actual Air Temperature Set Point	The actual set point being used for air temperature control. This value may differ from [Air Temperature Set Point] if compensation is applied by the control.
Actual Humidity Set Point	The actual set point being used for humidity control. This value may differ from [Humidity Set Point] if compensation is applied by the control.
Adjusted Humidity	Humidity value being used for control. This value may differ from the actual measured [Return Humidity] based on several factors which may include, but are not limited to, selection of humidity control sensor and humidity control type.
Air Economizer Availability	Indicates if the outside air conditions are appropriate for cooling with the air economizer or glycol freecooling.
Air Economizer Control Source	Source of control of the air economizer.
Air Economizer Emergency Override	Indoor room temperature has exceeded its upper threshold and the outdoor air damper has been opened for emergency cooling.
Air Economizer Reduced Airflow	Air economizer filter is dirty and needs to be cleaned or replaced.
Air Temperature Control Integration Time	Time value used when system is under integral air temperature control.
Air Temperature Control Sensor	Sensor from which air temperature measurements will be used for cooling and heating control.
Air Temperature Control Type	Type of algorithm used to control the system's output air temperature.
Air Temperature Dead Band	Value that is divided evenly to form a temperature range above and below [Air Temperature Set Point]. If measured air temperature is within this range, no heating or cooling will occur.
Air Temperature Proportional Band	Value that is divided evenly to form proportional temperature control bands above and below [Air Temperature Set Point].
Air Temperature Set Point	Desired air temperature. This set point is dependent upon which sensor is selected for control.
Ambient Air Sensor Issue	Ambient air sensor is disconnected or the signal is out of range.
Analog Input Reading	Generic analog input reading (unitless).
Auto Restart Delay	If power is lost, the control will delay this amount of time after power is restored before restarting the unit.
BMS Communications Timeout	Building Management System (or external monitoring system) has not communicated with the system within the expected timeframe.
BMS Timeout Period	Timeframe within which the Building Management System (or external monitoring system) must communicate with the system to avoid a timeout.
Calculated Next Maintenance Month	Calculated month of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Year].
Calculated Next Maintenance Year	Calculated year of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Month].
Chilled Water Control Valve Failure	Chilled water valve out of position. Chilled water control valve position does not match expected value.
Chilled Water Valve Hours	Operating hours for chilled water valve since last reset of this value. If operating hours exceeds 32,000, this client will continue to display 32,000, but the iCOM display will show the actual value.
Clogged Air Filter - Event Control	Enable/disable the activation of the [Clogged Air Filter] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Clogged Air Filter - Event Type	The event type for the [Clogged Air Filter] event.
Clogged Air Filter	Air filter is dirty and needs to be (cleaned or) replaced.
Compressor Capacity Control State	Compressor capacity control state. When 'ON', the cooling capacity of the compressor has been reduced.
Compressor Capacity Reduced	Compressor capacity has been reduced.
Compressor High Head Pressure - Event Control	Enable/disable the activation of the [Compressor High Head Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor High Head Pressure - Event Type	The event type for the [Compressor High Head Pressure] event.

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Compressor High Head Pressure	Compressor is shut down due to high head pressure.
Compressor High Pressure Transducer Issue	Compressor high pressure transducer is disconnected or the signal is out of range.
Compressor Hours Exceeded	[Compressor Hours] has exceeded [Compressor Hours Threshold].
Compressor Hours Threshold	Threshold value used in the [Compressor Hours Exceeded] event.
Compressor Hours	Operating hours for compressor since last reset of this value. If operating hours exceeds 32,000, this client will continue to display 32,000, but the iCOM display will show the actual value.
Compressor Lockout	Enable/disable the use of the compressor.
Compressor Low Pressure Transducer Issue	Compressor low pressure transducer is disconnected or the signal is out of range.
Compressor Low Suction Pressure - Event Control	Enable/disable the activation of the [Compressor Low Suction Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor Low Suction Pressure - Event Type	The event type for the [Compressor Low Suction Pressure] event.
Compressor Low Suction Pressure	Compressor is shut down due to low suction pressure.
Compressor Pump Down Issue - Event Control	Enable/disable the activation of the [Compressor Pump Down Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor Pump Down Issue - Event Type	The event type for the [Compressor Pump Down Issue] event.
Compressor Pump Down Issue	Unable to pump down suction-side pressure during compressor shutdown.
Compressor Short Cycle - Event Control	Enable/disable the activation of the [Compressor Short Cycle] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor Short Cycle - Event Type	The event type for the [Compressor Short Cycle] event.
Compressor Short Cycle	Compressor short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor Superheat Over Threshold	Compressor discharge refrigerant superheat temperature has exceeded an upper threshold.
Compressor Thermal Overload - Event Control	Enable/disable the activation of the [Compressor Thermal Overload] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor Thermal Overload - Event Type	The event type for the [Compressor Thermal Overload] event.
Compressor Thermal Overload	Compressor is shut down due to thermal overload.
Compressor Utilization	Present compressor utilization expressed as a percentage of the maximum rated capacity.
Condenser Circuit Unspecified General Event	One or more unspecified condenser circuit events active. See local unit display for further details.
Condenser Issue - Event Control	Enable/disable the activation of the [Condenser Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Condenser Issue - Event Type	The event type for the [Condenser Issue] event.
Condenser Issue	Condenser is not operating within its operational parameters.
Condenser Low Noise Mode - Full Days	Days of the week selected for low noise mode full day scheduling.
Condenser Low Noise Mode - Interval Days	Days of the week selected for low noise mode interval scheduling.
Condenser Low Noise Mode Max Fan Speed	Maximum fan speed when condenser is placed in low noise mode.
Condenser Low Noise Mode Schedule Control	Enable/disable scheduled control of condenser low noise mode.

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Condenser Low Noise Mode Start Time	The time of day at which the condenser will transition into low noise mode.
Condenser Low Noise Mode State	State of condenser low noise mode scheduler control.
Condenser Low Noise Mode Stop Time	The time of day at which the condenser will transition out of low noise mode.
Condenser Normal Mode Max Fan Speed	Maximum fan speed when condenser is not in low noise mode.
Condenser TVSS Issue	The condenser Transient Voltage Surge Suppressor device has failed.
Condenser Unit Unspecified General Event	One or more unspecified condenser unit events active. See local unit display for further details.
Condenser VFD Issue	The condenser fan Variable Frequency Drive is offline.
Cooling Capacity	Cooling capacity in use, expressed as a percentage of the maximum rated capacity.
Cooling Control Temperature	Temperature value being used for cooling capacity control. This value is compared against the temperature set point to determine the amount of cooling to be applied.
Cooling State	Cooling operational state.
Customer Input 1 - Event Control	Enable/disable the activation of the [Customer Input 1] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 1 - Event Type	The event type for the [Customer Input 1] event.
Customer Input 1	Customer Input 1
Customer Input 2 - Event Control	Enable/disable the activation of the [Customer Input 2] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 2 - Event Type	The event type for the [Customer Input 2] event.
Customer Input 2	Customer Input 2
Customer Input 3 - Event Control	Enable/disable the activation of the [Customer Input 3] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 3 - Event Type	The event type for the [Customer Input 3] event.
Customer Input 3	Customer Input 3
Customer Input 4 - Event Control	Enable/disable the activation of the [Customer Input 4] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 4 - Event Type	The event type for the [Customer Input 4] event.
Customer Input 4	Customer Input 4
Dehumidifier Hours Exceeded	Operating hours for the dehumidifier have exceeded the threshold.
Dehumidifier Hours Threshold	Threshold value used in the [Dehumidifier Hours Exceeded] event.
Dehumidifier Hours	Operating hours for dehumidifier since last reset of this value. If operating hours exceeds 32,000, this client will continue to display 32,000, but the iCOM display will show the actual value.
Dehumidifier State	Dehumidifier operational state.
Dehumidifier Utilization	Present dehumidifier utilization expressed as a percentage of the maximum rated capacity.
Dew Point Over Temperature	Dew point temperature reading has exceeded the upper threshold.
Dew Point Set Point	Desired dew point temperature.
Dew Point Under Temperature	Dew point temperature reading has dropped below the lower threshold.
Dig Scroll Comp Discharge Over Temp - Event Ctrl	Enable/disable the activation of the [Dig Scroll Comp Discharge Over Temp] event.
Dig Scroll Comp Discharge Over Temp - Event Type	The event type for the [Dig Scroll Comp Discharge Over Temp] event.
Dig Scroll Comp Discharge Temp Sensor Issue	Digital scroll compressor discharge temperature sensor is disconnected or the signal is out of range.
Dig Scroll Comp Discharge Temp	Digital scroll compressor discharge temperature.

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Dig Scroll Comp Over Temp	Digital scroll compressor is shut down due to head temperature exceeding an upper threshold.
Digital Output Board Not Detected	Digital output board is required to be connected, but no signal is detected.
Digital Scroll Compressor Loading	Present digital scroll compressor utilization expressed as a percentage of the maximum rated capacity.
EEV Unspecified General Event	One or more unspecified electronic expansion valve events active. See local unit display for further details.
Electric Reheat State	Electric reheater operational state.
Electric Reheater Hours Exceeded	[Electric Reheater Hours] has exceeded [Electric Reheaters Hours Threshold].
Electric Reheater Hours Threshold	Threshold value used in the [Electric Reheater Hours Exceeded] event.
Electric Reheater Hours	Operating hours for electric reheater since last reset of this value. If operating hours exceeds 32,000, this client will continue to display 32,000, but the iCOM display will show the actual value.
Ext Air Sensor A Dew Point Temp	Dew point temperature as measured by external air sensor A.
Ext Air Sensor A Event Control	Enable/disable the activation of events related to measurements by the external air sensor A.
Ext Air Sensor A High Humidity - Event Control	Enable/disable the activation of the [Ext Air Sensor A High Humidity] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A High Humidity - Event Type	The event type for the [Ext Air Sensor A High Humidity] event.
Ext Air Sensor A High Humidity Threshold	Threshold value used in the [External Air Sensor A High Humidity] event.
Ext Air Sensor A High Humidity	[Ext Air Sensor A Humidity] has exceeded [Ext Air Sensor A High Humidity Threshold].
Ext Air Sensor A Humidity	Relative humidity as measured by external air sensor A.
Ext Air Sensor A Issue	The external air sensor A is disconnected or the signal is out of range.
Ext Air Sensor A Low Humidity - Event Control	Enable/disable the activation of the [Ext Air Sensor A Low Humidity] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Low Humidity - Event Type	The event type for the [Ext Air Sensor A Low Humidity] event.
Ext Air Sensor A Low Humidity Threshold	Threshold value used in the [External Air Sensor A Low Humidity] event.
Ext Air Sensor A Low Humidity	[Ext Air Sensor A Humidity] has dropped below [Ext Air Sensor A Low Humidity Threshold].
Ext Air Sensor A Over Temp - Event Control	Enable/disable the activation of the [External Air Sensor A Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Over Temp - Event Type	The event type for the [External Air Sensor A Over Temperature] event.
Ext Air Sensor A Over Temp Threshold	Threshold value used in the [External Air Sensor A Over Temperature] event.
Ext Air Sensor A Over Temperature	[Ext Air Sensor A Temperature] has exceeded [External Air Sensor A Over Temp Threshold].
Ext Air Sensor A Temperature	Air temperature as measured by external air sensor A.
Ext Air Sensor A Under Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor A Under Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Under Temp - Event Type	The event type for the [Ext Air Sensor A Under Temperature] event.
Ext Air Sensor A Under Temp Threshold	Threshold value used in the [External Air Sensor A Under Temperature] event.
Ext Air Sensor A Under Temperature	[Ext Air Sensor A Temperature] has dropped below [Ext Air Sensor A Under Temp Threshold].
Ext Air Sensor B Humidity	Relative humidity as measured by external air sensor B.

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Ext Air Sensor B Temperature	Air temperature as measured by external air sensor B.
Ext Air Sensor C Humidity	Relative humidity as measured by external air sensor C.
Ext Air Sensor C Temperature	Air temperature as measured by external air sensor C.
Ext Compressor Lockout - Event Control	Enable/disable the activation of the [Ext Compressor Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Compressor Lockout - Event Type	The event type for the [Ext Compressor Lockout] event.
Ext Compressor Lockout	The compressor is shut down and disabled by an external input signal.
Ext Condenser Pump High Water - Event Control	Enable/disable the activation of the [Ext Condenser Pump High Water] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Condenser Pump High Water - Event Type	The event type for the [Ext Condenser Pump High Water] event.
Ext Condenser Pump High Water	High water is detected in the condenser, as indicated by an external input signal.
Ext Dew Point Over Temp Threshold	Threshold value used in the [Ext Dew Point Over Temperature] event.
Ext Dew Point Over Temperature	At least one dew point temperature reading ([Ext Air Sensor A Dew Point Temp], [Ext Air Sensor B Dew Point Temp]...) has exceeded [Ext Dew Point Over Temp Threshold].
Ext Dew Point Under Temp Threshold	Threshold value used in the [Ext Dew Point Under Temperature] event.
Ext Dew Point Under Temperature	At least one dew point temperature reading ([Ext Air Sensor A Dew Point Temp], [Ext Air Sensor B Dew Point Temp]...) has dropped below [Ext Dew Point Under Temp Threshold].
Ext Free Cooling Lockout - Event Control	Enable/disable the activation of the [Ext Free Cooling Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Free Cooling Lockout - Event Type	The event type for the [Ext Free Cooling Lockout] event.
Ext Free Cooling Lockout	Free cooling is disabled by an external input signal.
Ext Humidifier Lockout - Event Control	Enable/disable the activation of the [Ext Humidifier Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Humidifier Lockout - Event Type	The event type for the [Ext Humidifier Lockout] event.
Ext Humidifier Lockout	The humidifier is shut down and disabled by an external input signal.
Ext Loss of Air Blower - Event Control	Enable/disable the activation of the [Ext Loss of Air Blower] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Loss of Air Blower - Event Type	The event type for the [Ext Loss of Air Blower] event.
Ext Loss of Air Blower	Loss of air blower is detected, as indicated by an external input signal.
Ext Loss of Flow - Event Control	Enable/disable the activation of the [Ext Loss of Flow] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Loss of Flow - Event Type	The event type for the [Ext Loss of Flow] event.
Ext Loss of Flow	Loss of flow is detected, as indicated by an external input signal.
Ext Over Temperature - Event Control	Enable/disable the activation of the [Ext Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Over Temperature - Event Type	The event type for the [Ext Over Temperature] event.
Ext Over Temperature	A temperature has exceeded its threshold, as indicated by an external input signal.
Ext Reheat Lockout - Event Control	Enable/disable the activation of the [Ext Reheat Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Reheat Lockout - Event Type	The event type for the [Ext Reheat Lockout] event.

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Ext Reheat Lockout	The reheater is shut down and disabled by an external input signal.
Ext Standby Glycol Pump On - Event Control	Enable/disable the activation of the [Ext Standby Glycol Pump On] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Standby Glycol Pump On - Event Type	The event type for the [Ext Standby Glycol Pump On] event.
Ext Standby Glycol Pump On	The standby glycol pump is on, as indicated by an external input signal.
Ext Standby Unit On - Event Control	Enable/disable the activation of the [Ext Standby Unit On] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Standby Unit On - Event Type	The event type for the [Ext Standby Unit On] event.
Ext Standby Unit On	Standby unit is on, as indicated by an external input signal.
External Fire Detected	Fire detected, as indicated by an external input signal.
Fan Control Mode	Fan control mode.
Fan Control Sensor	Sensor to be used for fan speed control.
Fan Hours Exceeded - Event Control	Enable/disable the activation of the [Fan Hours Exceeded] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Fan Hours Exceeded - Event Type	The event type for the [Fan Hours Exceeded] event.
Fan Hours Exceeded	Operating hours for the unit blower fan have exceeded the threshold.
Fan Hours Threshold	Threshold value used in the [Fan Hours Exceeded] event.
Fan Hours	Operating hours for fan since last reset of this value. If operating hours exceeds 32,000, this client will continue to display 32,000, but the iCOM display will show the actual value.
Fan Issue - Event Control	Enable/disable the activation of the [Fan Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Fan Issue - Event Type	The event type for the [Fan Issue] event.
Fan Issue	One or more fans are not operating within their operational parameters.
Fan Speed Control Temperature	Temperature value being used for fan speed control. This value is compared against the fan speed temperature set point to determine the fan speed.
Fan Speed Maximum Set Point	Maximum fan speed. This value may only be modified if iCOM is enabled to allow fan speed changes by the BMS.
Fan Speed Minimum Set Point	Minimum fan speed.
Fan Speed Temperature Set Point	If fan is in decoupled mode and not under manual control, the fan speed will vary depending on the delta between the selected fan control sensor temperature and this set point.
Fan Speed	Fan speed expressed as a percentage of the maximum rated speed.
Fan State	Fan operational state.
Fixed Compressor State	Fixed compressor operational state.
Free Cooling Fluid Temperature	Free cooling fluid temperature.
Free Cooling Internal Control Mode	Free cooling internal control mode
Free Cooling Internal Control Mode	Free cooling internal control mode
Free Cooling Internal Temperature Delta	Minimum temperature delta required between supply fluid and internal ambient air temperatures in order to enable free cooling.
Free Cooling State	Free cooling operational state.
Free Cooling Status	Free cooling status.
Free Cooling Temp Sensor Issue	The free cooling fluid temperature sensor is disconnected or the signal is out of range.
Free Cooling Valve Hours Exceeded	[Free Cooling Valve Hours] has exceeded [Free Cooling Valve Hours Threshold].
Free Cooling Valve Hours Threshold	Threshold value used in the [Free Cooling Valve Hours Exceeded] event.

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Free Cooling Valve Hours	Operating hours for free cooling valve since last reset of this value. If operating hours exceeds 32,000, this client will continue to display 32,000, but the iCOM display will show the actual value.
Free Cooling Valve Open Position	Free cooling valve open position.
High Power Shutdown - Event Control	Enable/disable the activation of the [High Power Shutdown] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
High Power Shutdown - Event Type	The event type for the [High Power Shutdown] event.
High Power Shutdown	Supply to high power components has been shutdown.
High Return Humidity - Event Control	Enable/disable the activation of the [High Return Humidity] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
High Return Humidity - Event Type	The event type for the [High Return Humidity] event.
High Return Humidity Threshold	Threshold value used in the [High Return Humidity] event.
High Return Humidity	Return air high humidity event.
High Static Pressure	High static pressure event.
Hot Water / Hot Gas State	Hot water / hot gas operational state.
Hot Water / Hot Gas Valve Hours Exceeded	[Hot Water / Hot Gas Valve Hours] has exceeded [Hot Water / Hot Gas Valve Hours Threshold].
Hot Water / Hot Gas Valve Hours Threshold	Threshold value used in the [Hot Water / Hot Gas Valve Hours Exceeded] event.
Hot Water / Hot Gas Valve Hours	Operating hours for hot water / hot gas valve since last reset of this value. If operating hours exceeds 32,000, this client will continue to display 32,000, but the iCOM display will show the actual value.
Hot Water / Hot Gas Valve Open Position	Hot water / hot gas valve open position.
Humidifier Control Board Not Detected	Humidifier control board is required to be connected, but no signal is detected.
Humidifier Cylinder Worn	Humidifier cylinder is not operating properly and needs to be replaced.
Humidifier Hours Exceeded	Operating hours for the humidifier have exceeded the threshold.
Humidifier Hours Threshold	Threshold value used in the [Humidifier Hours Exceeded] event.
Humidifier Hours	Operating hours for humidifier since last reset of this value. If operating hours exceeds 32,000, this client will continue to display 32,000, but the iCOM display will show the actual value.
Humidifier Issue - Event Control	Enable/disable the activation of the [Humidifier Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Humidifier Issue - Event Type	The event type for the [Humidifier Issue] event.
Humidifier Issue	Humidifier issue detected, causing it to be locked out.
Humidifier Lockout	Enable/disable the use of the humidifier.
Humidifier Low Water	The water level in the humidifier has dropped below its threshold.
Humidifier Over Current	The electrical current to the humidifier has exceeded its upper threshold.
Humidifier State	Humidifier operational state.
Humidifier Under Current	The electrical current to the humidifier has dropped below its lower threshold.
Humidifier Utilization	Present humidifier utilization expressed as a percentage of the maximum rated capacity.
Humidity Control Sensor	Sensor from which humidity measurements will be used for humidification and dehumidification control.
Humidity Dead Band	Value that is divided evenly to form a range above and below [Humidity Set Point]. If measured humidity is within this range, no humidification or dehumidification will occur.
Humidity Proportional Band	Value that is divided evenly to form proportional humidity control bands above and below [Humidity Set Point].
Humidity Proportional Control Integration Time	Time value used to add an integral term to proportional humidity control. If set to 0, time will not be a factor in the proportional control algorithm.

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Humidity Proportional Control Type	Type of algorithm to use for proportional control of output humidity.
Humidity Proportional Control Type	Type of algorithm to use for proportional control of output humidity.
Humidity Set Point	Desired relative humidity.
Infrared Humidifier Flush Rate	A multiple of an internal time constant that determines the flush duration of the infrared humidifier water pan.
Loss of Air Flow	No air flow through the unit due to failure of all fans.
Low Return Humidity - Event Control	Enable/disable the activation of the [Low Return Humidity] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Low Return Humidity - Event Type	The event type for the [Low Return Humidity] event.
Low Return Humidity Threshold	Threshold value used in the [Low Return Humidity] event.
Low Return Humidity	Return air low humidity event.
Low Static Pressure	Low static pressure event.
Main Chilled Water Valve	The primary valve in a dual valve chilled water system.
Main Fan Overload - Event Control	Enable/disable the activation of the [Main Fan Overload] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Main Fan Overload - Event Type	The event type for the [Main Fan Overload] event.
Main Fan Overload	Main fan is shut down due to thermal overload.
Maintenance Completed	Maintenance has been completed on the unit.
Maintenance Due	The calculated maintenance date has been reached.
Maintenance Ramp	The ratio of operations performed to the calculated operations available between maintenance intervals.
Maintenance Tracking State	Maintenance tracking operational state.
Master Unit Communication Lost - Event Control	Enable/disable the activation of the [Master Unit Communication Lost] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Master Unit Communication Lost - Event Type	The event type for the [Master Unit Communication Lost] event.
Master Unit Communication Lost	Communication with master unit has been lost.
Minimum Chilled Water Temp Set Point Enable	Enable/disable the activation of [Minimum Chilled Water Temp Set Point].
Minimum Chilled Water Temp Set Point	Minimum desired chilled water temperature.
Outside Air Temperature	Ambient outside air temperature.
Pump Unspecified General Event	One or more unspecified pump events active. See local unit display for further details.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.
Reheat Utilization	Present reheating utilization expressed as a percentage of the maximum rated capacity.
Reheater Lockout	Enable/disable the use of the reheater.
Reheater Over Temperature	The temperature of the reheater has exceeded its threshold.
Remote Sensor Average Over Temperature	[Remote Sensor Average Temperature] has exceeded [Remote Sensor Over Temp Threshold].
Remote Sensor Average Temperature	Average value of remote sensor temperature measurements.
Remote Sensor Average Under Temperature	[Remote Sensor Average Temperature] has dropped below [Remote Sensor Under Temp Threshold].
Remote Sensor Issue	Remote sensor is disconnected or the signal is out of range.
Remote Sensor Maximum Temperature	Maximum value of remote sensor temperature measurements.
Remote Sensor Over Temp Threshold	Threshold value used in the remote air sensor over temperature events.
Remote Sensor Over Temperature	[Remote Sensor Temperature] has exceeded [Remote Sensor Over Temp Threshold].

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Remote Sensor System Average Over Temperature	[Remote Sensor System Average Temperature] has exceeded [Remote Sensor Over Temp Threshold].
Remote Sensor System Average Temperature	Average value of remote sensor temperature measurements among a group of interconnected units in a single system.
Remote Sensor System Average Under Temperature	[Remote Sensor System Average Temperature] has dropped below [Remote Sensor Under Temp Threshold].
Remote Sensor System Maximum Temperature	Maximum value of remote sensor temperature measurements among a group of interconnected units in a single system.
Remote Sensor Temperature	Air temperature as measured by remote sensor.
Remote Sensor Under Temp Threshold	Threshold value used in the remote air sensor under temperature events.
Remote Sensor Under Temperature	[Remote Sensor Temperature] has dropped below [Remote Sensor Under Temp Threshold].
Return Air Over Temp - Event Control	Enable/disable the activation of the [Return Air Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Return Air Over Temp - Event Type	The event type for the [Return Air Over Temperature] event.
Return Air Over Temp Threshold	Threshold value used in the [Return Air Over Temperature] event.
Return Air Over Temperature	Return air high temperature event.
Return Air Sensor Event Control	Enable/disable the activation of events related to measurements by the return air sensor.
Return Air Sensor Issue	The air sensor at the inlet of the unit is disconnected or the signal is out of range.
Return Air Temperature Set Point	Desired air temperature at the inlet of the unit.
Return Air Temperature	The temperature of the inlet air
Return Air Under Temp - Event Control	Enable/disable the activation of the [Return Air Under Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Return Air Under Temp - Event Type	The event type for the [Return Air Under Temperature] event.
Return Air Under Temp Threshold	Threshold value used in the [Return Air Under Temperature] event.
Return Air Under Temperature	[Return Air Temperature] has dropped below [Return Air Under Temp Threshold].
Return Dew Point	Dew point temperature measured at the inlet of the unit.
Return Humidity Set Point	Desired relative humidity at the inlet of the unit.
Return Humidity	Relative humidity measured at the inlet of the unit.
Server Class	The general classification for this system
Service Required - Event Control	Enable/disable the activation of the [Service Required] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Service Required - Event Type	The event type for the [Service Required] event.
Service Required	Unit requires servicing.
Shutdown - Loss Of Power - Event Control	Enable/disable the activation of the [Shutdown - Loss Of Power] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Shutdown - Loss Of Power - Event Type	The event type for the [Shutdown - Loss Of Power] event.
Shutdown - Loss Of Power	System lost power. This event becomes active when the unit is powered on following an unexpected loss of power. This event remains active for 90 minutes.
Smoke Detected - Event Control	Enable/disable the activation of the [Smoke Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Smoke Detected - Event Type	The event type for the [Smoke Detected] event.
Smoke Detected	Smoke detected.
Standby Units	The number of standby units.

Table 8 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Static Pressure Sensor Issue	The static pressure sensor is disconnected or the signal is out of range.
Static Pressure Set Point	Desired static pressure.
Supply Air Over Temp Threshold	Threshold value used in the [Supply Air Over Temperature] event.
Supply Air Over Temperature	Supply air high temperature event.
Supply Air Over/Under Temperature - Event Control	Enable/disable the activation of the [Supply Air Over Temperature] and [Supply Air Under Temperature] events.
Supply Air Sensor Issue	The air sensor at the outlet of the unit is disconnected or the signal is out of range.
Supply Air Temperature Sensor Control	Control mode to be used with the supply air temperature sensor.
Supply Air Temperature Set Point	Desired supply air temperature.
Supply Air Temperature	Air temperature measured at the outlet of the unit.
Supply Air Under Temp Threshold	Threshold value used in the [Supply Air Under Temperature] event.
Supply Air Under Temperature	Supply air low temperature event.
Supply Chilled Water Loss of Flow	Supply chilled water flow is too low.
Supply Chilled Water Over Temp	Chilled water temperature is too high, as indicated by an external input signal.
System Control Mode	System control mode.
System Date and Time	The system date and time
System Event Acknowledge/Reset	Reset and/or acknowledge all events.
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Static Pressure	Static pressure measurement among a group of interconnected units in a single system.
System Status	The operating status for the system
Temperature Control Sensor Issue	The air sensor selected for cooling control is disconnected or the signal is out of range.
Today's High Air Temperature Time	[Today's High Air Temperature] was measured at this time.
Today's High Air Temperature	The highest external air temperature measured since midnight.
Today's High Humidity Time	[Today's High Humidity] was measured at this time
Today's High Humidity	The highest external humidity measured since midnight.
Today's Low Air Temperature Time	[Today's Low Air Temperature] was measured at this time.
Today's Low Air Temperature	The lowest external air temperature measured since midnight.
Today's Low Humidity Time	[Today's Low Humidity] was measured at this time
Today's Low Humidity	The lowest external humidity measured since midnight.
Unit Code Missing	Unit code has not been entered and saved.
Unit Communication Lost	Master has lost communication with one or more networked units.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.
Unit Partial Shutdown	An event has occurred requiring some system components to be shutdown and disabled.
Unit Shutdown	An event has occurred requiring the unit to be shutdown and disabled to prevent damage to the system.
Unit Standby	Unit was placed in standby mode.
Unit Static Pressure	Static pressure measurement for a single unit.
Unspecified General Event	One or more unspecified events active. See local unit display for further details.
Water Leakage Detector Sensor Issue	The water leakage detector sensor is disconnected or the signal is out of range.
Water Under Floor - Event Control	Enable/disable the activation of the [Water Under Floor] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Water Under Floor - Event Type	The event type for the [Water Under Floor] event.
Water Under Floor	Water under the floor is detected.

Table 9 Liebert® CRV™ - Status and Coil

Data Description	Controller Liebert iCOM v4			
	Status	Coil	Number of Bits	Notes
Supply Air Over Temperature	10001	-	1	Active on Alarm
Supply Air Under Temperature	10002	-	1	Active on Alarm
Return Air Over Temperature	10003	-	1	Active on Alarm
Supply Air Sensor Issue	10004	-	1	Active on Alarm
High Return Humidity	10005	-	1	Active on Alarm
Low Return Humidity	10006	-	1	Active on Alarm
Humidifier Hours Exceeded	10007	-	1	Active on Alarm
Dehumidifier Hours Exceeded	10008	-	1	Active on Alarm
Humidifier Under Current	10009	-	1	Active on Alarm
Humidifier Over Current	10010	-	1	Active on Alarm
Humidifier Low Water	10011	-	1	Active on Alarm
Humidifier Cylinder Worn	10012	-	1	Active on Alarm
Humidifier Issue	10013	-	1	Active on Alarm
Ext Humidifier Lockout	10014	-	1	Active on Alarm
Humidifier Control Board Not Detected	10015	-	1	Active on Alarm
Return Humidity Out Of Proportional Band	10016	-	1	Active on Alarm
Loss of Air Flow	10017	-	1	Active on Alarm
Fan Hours Exceeded	10018	-	1	Active on Alarm
Top Fan Issue	10019	-	1	Active on Alarm
Bottom Fan Issue	10020	-	1	Active on Alarm
Remote Sensor Issue 1 - 10	10021-10030	-	1	Active on Alarm
Compressor 1 High Head Pressure	10031	-	1	Active on Alarm
Compressor 1 Low Suction Pressure	10032	-	1	Active on Alarm
Compressor 1 Hours Exceeded	10033	-	1	Active on Alarm
Dig Scroll Comp 1 Temp Sensor Issue	10034	-	1	Active on Alarm
Dig Scroll Comp 1 Over Temp	10035	-	1	Active on Alarm
Compressor 1 Low Pressure Transducer Issue	10036	-	1	Active on Alarm
Ext Compressor Lockout	10037	-	1	Active on Alarm
Compressor 1 Short Cycle	10038	-	1	Active on Alarm
Compressor 1 High Pressure Transducer Issue	10039	-	1	Active on Alarm
Compressor 1 Pump Down Issue	10040	-	1	Active on Alarm
Reheater Over Temperature	10041	-	1	Active on Alarm
Electric Reheater Hours Exceeded	10042	-	1	Active on Alarm
Ext Reheat Lockout	10043	-	1	Active on Alarm
Condenser 1 Issue	10044	-	1	Active on Alarm
Condenser VFD Issue	10045	-	1	Active on Alarm
Condenser TVSS Issue	10046	-	1	Active on Alarm
Supply Chilled Water Over Temp	10047	-	1	Active on Alarm
Chilled Water Control Valve Failure	10048	-	1	Active on Alarm
Supply Chilled Water Loss of Flow	10049	-	1	Active on Alarm
Supply Fluid Temp Sensor Issue	10050	-	1	Active on Alarm

Table 9 Liebert® CRV™ - Status and Coil (continued)

Data Description	Controller			
	Status	Coil	Number of Bits	Notes
Customer Input 1	10051	-	1	Active on Alarm
Customer Input 2	10052	-	1	Active on Alarm
Customer Input 3	10053	-	1	Active on Alarm
Customer Input 4	10054	-	1	Active on Alarm
Smoke Detected	10055	-	1	Active on Alarm
Water Under Floor	10056	-	1	Active on Alarm
Service Required	10057	-	1	Active on Alarm
Shutdown - Loss Of Power	10058	-	1	Active on Alarm
Ext Over Temperature	10059	-	1	Active on Alarm
Ext Loss of Flow	10060	-	1	Active on Alarm
Ext Condenser Pump High Water	10061	-	1	Active on Alarm
Ext Standby Glycol Pump On	10062	-	1	Active on Alarm
External Fire Detected	10063	-	1	Active on Alarm
Unit On	10064	-	1	Active on Alarm
Unit Off	10065	-	1	Active on Alarm
Unit Standby	10066	-	1	Active on Alarm
Unit Partial Shutdown	10067	-	1	Active on Alarm
Unit Shutdown	10068	-	1	Active on Alarm
Water Leakage Detector Sensor Issue	10069	-	1	Active on Alarm
BMS Communications Timeout	10070	-	1	Active on Alarm
Maintenance Due	10071	-	1	Active on Alarm
Maintenance Completed	10072	-	1	Active on Alarm
Clogged Air Filter	10073	-	1	Active on Alarm
RAM Battery Issue	10074	-	1	Active on Alarm
Master Unit Communication Lost	10075	-	1	Active on Alarm
High Power Shutdown	10076	-	1	Active on Alarm
Return Air Sensor Issue	10077	-	1	Active on Alarm
Condenser Outside Air Temp Sensor Issue	10078	-	1	Active on Alarm
Condenser Outside Air Temp Out of Operating Range	10079	-	1	Active on Alarm
Condenser Control Board Issue	10080	-	1	Active on Alarm
Condenser Refrigerant Pressure Over Threshold	10081	-	1	Active on Alarm
Condenser Refrigerant Pressure Under Threshold	10082	-	1	Active on Alarm
Condenser Refrigerant Pressure Sensor Issue	10083	-	1	Active on Alarm
Condenser Supply Refrigerant Over Temp	10084	-	1	Active on Alarm
Condenser Supply Refrigerant Under Temp	10085	-	1	Active on Alarm
Condenser Supply Refrigerant Temp Sensor Issue	10086	-	1	Active on Alarm
Condenser Max Fan Speed Override	10087	-	1	Active on Alarm
Condenser Fan Issue 1 - 4	10088-10091	-	1	Active on Alarm

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 10 Liebert CRV - Input and Holding

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Supply Air Temperature	30385	-	1	x / 10	deg C
Supply Air Temperature	30386	-	1	x / 10	deg F
Return Air Temperature	30387	-	1	x / 10	deg C
Return Air Temperature	30388	-	1	x / 10	deg F
Return Dew Point	30389	-	1	x / 10	deg C
Return Dew Point	30390	-	1	x / 10	deg F
Remote Sensor Minimum Temperature	30391	-	1	x / 10	deg C
Remote Sensor Minimum Temperature	30392	-	1	x / 10	deg F
Remote Sensor Maximum Temperature	30393	-	1	x / 10	deg C
Remote Sensor Maximum Temperature	30394	-	1	x / 10	deg F
Remote Sensor Average Temperature	30395	-	1	x / 10	deg C
Remote Sensor Average Temperature	30396	-	1	x / 10	deg F
Air Temperature Set Point	30397	40397	1	x / 10	deg C
Air Temperature Set Point	30398	40398	1	x / 10	deg F
Cooling Proportional Band	30399	40399	1	x / 10	deg C
Cooling Proportional Band	30400	40400	1	x / 10	deg F
Heating Proportional Band	30401	40401	1	x / 10	deg C
Heating Proportional Band	30402	40402	1	x / 10	deg F
Air Temperature Dead Band	30403	40403	1	x / 10	deg C
Air Temperature Dead Band	30404	40404	1	x / 10	deg F
Supply Air Over Temp Threshold	30405	40405	1	x / 10	deg C
Supply Air Over Temp Threshold	30406	40406	1	x / 10	deg F
Supply Air Under Temp Threshold	30407	40407	1	x / 10	deg C
Supply Air Under Temp Threshold	30408	40408	1	x / 10	deg F
Return Air Over Temp Threshold	30409	40409	1	x / 10	deg C
Return Air Over Temp Threshold	30410	40410	1	x / 10	deg F
Supply Humidity	30411	-	1	x / 10	% RH
Return Humidity	30412	-	1	x / 10	% RH
Humidity Set Point	30413	40413	1	-	% RH
Humidification Proportional Band	30414	40414	1	-	% RH
Dehumidification Proportional Band	30415	40415	1	-	% RH
Humidity Dead Band	30416	40416	1	x / 10	% RH
High Return Humidity Threshold	30417	40417	1	x / 10	% RH
Low Return Humidity Threshold	30418	40418	1	x / 10	% RH
Fan Speed Proportional Band	30419	40419	1	x / 10	deg C
Fan Speed Proportional Band	30420	40420	1	x / 10	deg F
Fan Speed Manual Set Point	30421	40421	1	-	%
Fan Speed Maximum Set Point	30422	40422	1	-	%
Fan Speed Minimum Set Point	30423	40423	1	-	%
Remote Sensor Temperature 1 - 10	30424-30433	-	1	x / 10	deg C
Remote Sensor Temperature 1 - 10	30434-30443	-	1	x / 10	deg F
Supply Chilled Water Temperature	30444	-	1	x / 10	deg C
Supply Chilled Water Temperature	30445	-	1	x / 10	deg F
Supply Chilled Water Over Temp Threshold	30446	40446	1	x / 10	deg C
Supply Chilled Water Over Temp Threshold	30447	40447	1	x / 10	deg F
BMS Timeout Period	30448	40448	1	-	min

Table 10 Liebert CRV - Input and Holding (continued)

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Auto Restart Delay	30449	40449	1	-	sec
Operating Efficiency	30450	-	1	-	%
Fan Speed	30451	-	1	-	%
Cooling Capacity (Primary)	30452	-	1	-	%
Dehumidifier Utilization	30453	-	1	-	%
Reheat Utilization	30454	-	1	-	%
Humidifier Utilization	30455	-	1	-	%
Calculated Next Maintenance Month	30456	-	1	-	0
Calculated Next Maintenance Year	30457	-	1	-	0
Maintenance Ramp	30458	-	1	-	%
Server Class	30459	-	1	-	1 = UPS 2 = AIR 3 = PMP 4 = PDU
Air Temperature Control Sensor	30460	40460	1	-	0 = Supply 1 = Remote 2 = Return
Remote Sensor Temperature Calculation	30461	40461	1	-	0 = Average 1 = Maximum
Fan Control Mode	30462	40462	1	-	0 = Internal (Auto) 1 = External (Manual)
Fan Control Sensor	30463	40463	1	-	0 = Supply 1 = Remote 2 = Return
Remote Sensor Function 1 - 10	30464- 30473	40464- 40473	1	-	0 = Disable 1 = Reference 2 = Control
System Status	30474	-	1	-	1 = Normal Operation 2 = StartUp 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation
System Operating State	30475	-	1	-	0 = off 1 = on 2 = standby
System Control Mode	30476	-	1	-	0 = Internal (Auto) 1 = External (Manual)
System Operating State Reason	30477	-	1	-	0 = Reason Unknown 1 = Network Display 2 = Alarm 3 = Schedule 4 = Remote System 5 = External Input 6 = Local Display
System On/Off Control	30478	40478	1	-	0 = off 1 = on
Condenser Refrigerant Type	30479	-	1	-	0 = R22 1 = R407C 2 = R410A
Condenser Outside Air Temperature	30480	-	1	x / 10	deg C
Condenser Outside Air Temperature	30481	-	1	x / 10	deg F
Condenser Fan Speed 1 - 4	30482- 30485	-	1	-	%
Condenser Fan Power 1 - 4	30486- 30489	-	1	x / 10	kW

Table 10 Liebert CRV - Input and Holding (continued)

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Condenser Low Noise Mode State	30490	-	1	-	0 = Inactive 1 = Active (Interval) 2 = Active (Full Day)
Condenser Low Noise Mode Schedule Control	30491	40491	1	-	0 = disabled 1 = enabled
Condenser Low Noise Mode Max Fan Speed	30492	40492	1	-	%
Condenser Normal Mode Max Fan Speed	30493	40493	1	-	%
Condenser Low Noise Mode - Interval Days	30494	40494	1	-	1 = Monday 2 = Tuesday 4 = Wednesday 8 = Thursday 16 = Friday 32 = Saturday 64 = Sunday
Condenser Low Noise Mode - Full Days	30495	40495	1	-	1 = Monday 2 = Tuesday 4 = Wednesday 8 = Thursday 16 = Friday 32 = Saturday 64 = Sunday
Condenser Low Noise Mode Start Time	30496	40496	2	-	
Condenser Low Noise Mode Stop Time	30498	40498	2	-	
System Event Acknowledge/Reset	-	40500	1	-	2 = Reset 4 = Acknowledge
System Date and Time	39998	49998	2	-	
Supply Air Temperature	30385	-	1	x / 10	deg C
Supply Air Temperature	30386	-	1	x / 10	deg F
Return Air Temperature	30387	-	1	x / 10	deg C
Return Air Temperature	30388	-	1	x / 10	deg F
Return Dew Point	30389	-	1	x / 10	deg C
Return Dew Point	30390	-	1	x / 10	deg F
Remote Sensor Minimum Temperature	30391	-	1	x / 10	deg C
Remote Sensor Minimum Temperature	30392	-	1	x / 10	deg F
Remote Sensor Maximum Temperature	30393	-	1	x / 10	deg C
Remote Sensor Maximum Temperature	30394	-	1	x / 10	deg F
Remote Sensor Average Temperature	30395	-	1	x / 10	deg C
Remote Sensor Average Temperature	30396	-	1	x / 10	deg F
Air Temperature Set Point	30397	40397	1	x / 10	deg C
Air Temperature Set Point	30398	40398	1	x / 10	deg F
Cooling Proportional Band	30399	40399	1	x / 10	deg C
Cooling Proportional Band	30400	40400	1	x / 10	deg F
Heating Proportional Band	30401	40401	1	x / 10	deg C
Heating Proportional Band	30402	40402	1	x / 10	deg F
Air Temperature Dead Band	30403	40403	1	x / 10	deg C
Air Temperature Dead Band	30404	40404	1	x / 10	deg F
Supply Air Over Temp Threshold	30405	40405	1	x / 10	deg C
Supply Air Over Temp Threshold	30406	40406	1	x / 10	deg F
Supply Air Under Temp Threshold	30407	40407	1	x / 10	deg C
Supply Air Under Temp Threshold	30408	40408	1	x / 10	deg F
Return Air Over Temp Threshold	30409	40409	1	x / 10	deg C

Table 10 Liebert CRV - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units	
Return Air Over Temp Threshold	30410	40410	1	x / 10	deg F	
Supply Humidity	30411	-	1	x / 10	% RH	
Return Humidity	30412	-	1	x / 10	% RH	
Humidity Set Point	30413	40413	1	-	% RH	
Humidification Proportional Band	30414	40414	1	-	% RH	
Dehumidification Proportional Band	30415	40415	1	-	% RH	
Humidity Dead Band	30416	40416	1	x / 10	% RH	
High Return Humidity Threshold	30417	40417	1	x / 10	% RH	
Low Return Humidity Threshold	30418	40418	1	x / 10	% RH	
Fan Speed Proportional Band	30419	40419	1	x / 10	deg C	
Fan Speed Proportional Band	30420	40420	1	x / 10	deg F	
Fan Speed Manual Set Point	30421	40421	1	-	%	
Fan Speed Maximum Set Point	30422	40422	1	-	%	
Fan Speed Minimum Set Point	30423	40423	1	-	%	
Remote Sensor Temperature 1 - 10	30424-30433	-	1	x / 10	deg C	
Remote Sensor Temperature 1 - 10	30434-30443	-	1	x / 10	deg F	
Supply Chilled Water Temperature	30444	-	1	x / 10	deg C	
Supply Chilled Water Temperature	30445	-	1	x / 10	deg F	
Supply Chilled Water Over Temp Threshold	30446	40446	1	x / 10	deg C	
Supply Chilled Water Over Temp Threshold	30447	40447	1	x / 10	deg F	
BMS Timeout Period	30448	40448	1	-	min	
Auto Restart Delay	30449	40449	1	-	sec	
Operating Efficiency	30450	-	1	-	%	
Fan Speed	30451	-	1	-	%	
Cooling Capacity (Primary)	30452	-	1	-	%	
Dehumidifier Utilization	30453	-	1	-	%	
Reheat Utilization	30454	-	1	-	%	
Humidifier Utilization	30455	-	1	-	%	
Calculated Next Maintenance Month	30456	-	1	-	0	
Calculated Next Maintenance Year	30457	-	1	-	0	
Maintenance Ramp	30458	-	1	-	%	
Server Class	30459	-	1	-	1 = UPS 2 = AIR 3 = PMP 4 = PDU	
Air Temperature Control Sensor	30460	40460	1	-	0 = Supply 1 = Remote 2 = Return	
Remote Sensor Temperature Calculation	30461	40461	1	-	0 = Average 1 = Maximum	
Fan Control Mode	30462	40462	1	-	0 = Internal (Auto) 1 = External (Manual)	
Fan Control Sensor	30463	40463	1	-	0 = Supply 1 = Remote 2 = Return	
Remote Sensor Function 1 - 10	30464-30473	40464-40473	1	-	0 = Disable 1 = Reference 2 = Control	

Table 10 Liebert CRV - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units	
System Status	30474	-	1	-	1 = Normal Operation 2 = StartUp 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation	
System Operating State	30475	-	1	-	0 = off 1 = on 2 = standby	
System Control Mode	30476	-	1	-	0 = Internal (Auto) 1 = External (Manual)	
System Operating State Reason	30477	-	1	-	0 = Reason Unknown 1 = Network Display 2 = Alarm 3 = Schedule 4 = Remote System 5 = External Input 6 = Local Display	
System On/Off Control	30478	40478	1	-	0 = off 1 = on	
Condenser Refrigerant Type	30479	-	1	-	0 = R22 1 = R407C 2 = R410A	
Condenser Outside Air Temperature	30480	-	1	x / 10	deg C	
Condenser Outside Air Temperature	30481	-	1	x / 10	deg F	
Condenser Fan Speed 1 - 4	30482-30485	-	1	-	%	
Condenser Fan Power 1 - 4	30486-30489	-	1	x / 10	kW	
Condenser Low Noise Mode State	30490	-	1	-	0 = Inactive 1 = Active (Interval) 2 = Active (Full Day)	
Condenser Low Noise Mode Schedule Control	30491	40491	1	-	0 = disabled 1 = enabled	
Condenser Low Noise Mode Max Fan Speed	30492	40492	1	-	%	
Condenser Normal Mode Max Fan Speed	30493	40493	1	-	%	
Condenser Low Noise Mode - Interval Days	30494	40494	1	-	1 = Monday 2 = Tuesday 4 = Wednesday 8 = Thursday 16 = Friday 32 = Saturday 64 = Sunday	
Condenser Low Noise Mode - Full Days	30495	40495	1	-	1 = Monday 2 = Tuesday 4 = Wednesday 8 = Thursday 16 = Friday 32 = Saturday 64 = Sunday	
Condenser Low Noise Mode Start Time	30496	40496	2	-		
Condenser Low Noise Mode Stop Time	30498	40498	2	-		
System Event Acknowledge/Reset	-	40500	1	-	2 = Reset 4 = Acknowledge	
System Date and Time	39998	49998	2	-		

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 11 Liebert CRV - Glossary

Controller	Liebert iCOM v4
Data Description	Description
Air Temperature Control Sensor	Sensor from which air temperature measurements will be used for cooling and heating control.
Air Temperature Dead Band	Value that is divided evenly to form a temperature range above and below [Air Temperature Set Point]. If measured air temperature is within this range, no heating or cooling will occur.
Air Temperature Set Point	Desired air temperature. This set point is dependent upon which sensor is selected for control.
Auto Restart Delay	If power is lost, the control will delay this amount of time after power is restored before restarting the unit.
BMS Communications Timeout	Building Management System (or external monitoring system) has not communicated with the system within the expected timeframe.
BMS Timeout Period	Timeframe within which the Building Management System (or external monitoring system) must communicate with the system to avoid a timeout.
Bottom Fan Issue	The bottom fan is not operating within its normal parameters.
Calculated Next Maintenance Month	Calculated month of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Year].
Calculated Next Maintenance Year	Calculated year of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Month].
Chilled Water Control Valve Failure	Chilled water valve out of position. Chilled water control valve position does not match expected value.
Clogged Air Filter	Air filter is dirty and needs to be (cleaned or) replaced.
Compressor 1 High Head Pressure	Compressor 1 high head pressure.
Compressor 1 High Pressure Transducer Issue	Compressor 1 high pressure transducer is disconnected or the signal is out of range.
Compressor 1 Hours Exceeded	Operating hours for compressor 1 have exceeded the threshold.
Compressor 1 Low Pressure Transducer Issue	Compressor 1 low pressure transducer is disconnected or the signal is out of range.
Compressor 1 Low Suction Pressure	Compressor 1 low suction pressure.
Compressor 1 Pump Down Issue	Unable to pump down suction-side pressure during compressor 1 shutdown.
Compressor 1 Short Cycle	Compressor 1 short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Condenser 1 Issue	Condenser 1 is not operating within its normal parameters.
Condenser Control Board Issue	The condenser control board is reporting an issue.
Condenser Fan Issue	Condenser fan is not operating within its operational parameters.
Condenser Fan Power	Condenser fan's measured input power.
Condenser Fan Speed	Condenser fan speed expressed as a percentage of the maximum rated speed.
Condenser Low Noise Mode - Full Days	Days of the week selected for low noise mode full day scheduling.
Condenser Low Noise Mode - Interval Days	Days of the week selected for low noise mode interval scheduling.
Condenser Low Noise Mode Max Fan Speed	Maximum fan speed when condenser is placed in low noise mode.
Condenser Low Noise Mode Schedule Control	Enable/disable scheduled control of condenser low noise mode.
Condenser Low Noise Mode Start Time	The time of day at which the condenser will transition into low noise mode.
Condenser Low Noise Mode State	State of condenser low noise mode scheduler control.
Condenser Low Noise Mode Stop Time	The time of day at which the condenser will transition out of low noise mode.
Condenser Max Fan Speed Override	Fan speed exceeding the maximum set point in order to alleviate a high temperature or pressure condition.

Table 11 Liebert CRV - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Condenser Normal Mode Max Fan Speed	Maximum fan speed when condenser is not in low noise mode.
Condenser Outside Air Temp Out of Operating Range	[Condenser Outside Air Temperature] is either above an upper threshold or below a lower threshold.
Condenser Outside Air Temp Sensor Issue	Condenser outside air temperature sensor is disconnected or the signal is out of range.
Condenser Outside Air Temperature	Condenser ambient outside air temperature.
Condenser Refrigerant Pressure Over Threshold	Condenser refrigerant pressure has exceeded a threshold.
Condenser Refrigerant Pressure Sensor Issue	Condenser refrigerant pressure sensor is disconnected or the signal is out of range.
Condenser Refrigerant Pressure Under Threshold	Condenser refrigerant pressure has dropped below a threshold.
Condenser Refrigerant Type	Condenser refrigerant type.
Condenser Supply Refrigerant Over Temp	Condenser supply refrigerant temperature has exceeded a threshold.
Condenser Supply Refrigerant Temp Sensor Issue	Condenser supply refrigerant temperature sensor is disconnected or the signal is out of range.
Condenser Supply Refrigerant Under Temp	Condenser supply refrigerant temperature has dropped below a specified threshold.
Condenser TVSS Issue	The condenser Transient Voltage Surge Suppressor device has failed.
Condenser VFD Issue	The condenser fan Variable Frequency Drive is offline.
Cooling Capacity (Primary)	Compressor utilization or chilled water valve position, based on unit type.
Cooling Proportional Band	Temperature control band above [Air Temperature Set Point]. If measured air temperature is within this band, cooling operations are proportionally controlled.
Customer Input 1	Customer Input 1.
Customer Input 2	Customer Input 2.
Customer Input 3	Customer Input 3.
Customer Input 4	Customer Input 4.
Dehumidification Proportional Band	Humidity control band above [Humidity Set Point]. If measured humidity is within this band, dehumidification operations are proportionally controlled.
Dehumidifier Hours Exceeded	Operating hours for the dehumidifier have exceeded the threshold.
Dehumidifier Utilization	Present dehumidifier utilization expressed as a percentage of the maximum rated capacity.
Dig Scroll Comp 1 Over Temp	Digital scroll compressor 1 shut off because its head temperature has exceeded the upper threshold.
Dig Scroll Comp 1 Temp Sensor Issue	Digital scroll compressor 1 temperature sensor is disconnected or the signal is out of range.
Electric Reheater Hours Exceeded	Operating hours for electric reheater have exceeded the threshold.
Ext Compressor Lockout	The compressor is shut down and disabled by an external input signal.
Ext Condenser Pump High Water	High water is detected in the condenser, as indicated by an external input signal.
Ext Humidifier Lockout	The humidifier is shut down and disabled by an external input signal.
Ext Loss of Flow	Loss of flow is detected, as indicated by an external input signal.
Ext Over Temperature	A temperature has exceeded its threshold, as indicated by an external input signal.
Ext Reheat Lockout	The reheater is shut down and disabled by an external input signal.
Ext Standby Glycol Pump On	The standby glycol pump is on, as indicated by an external input signal.
External Fire Detected	Fire detected, as indicated by an external input signal.
Fan Control Mode	Fan control mode. Allowable modes are: (0) Auto - Fan speed is controlled via the selected fan control sensor, and, (1) Manual - Fan will operate at a fixed speed.
Fan Control Sensor	Sensor from which air temperature measurements will be used for fan speed control.
Fan Hours Exceeded	Operating hours for the unit blower fan have exceeded the threshold.

Table 11 Liebert CRV - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Fan Speed Manual Set Point	Manual fan speed.
Fan Speed Maximum Set Point	Maximum fan speed.
Fan Speed Minimum Set Point	Minimum fan speed.
Fan Speed Proportional Band	Temperature control band above the temperature set point calculated for proportional fan speed control. If measured air temperature is within this band, fan speed operations are proportionally controlled.
Fan Speed	Fan speed expressed as a percentage of the maximum rated speed.
Heating Proportional Band	Temperature control band below [Air Temperature Set Point]. If measured air temperature is within this band, heating operations are proportionally controlled.
High Power Shutdown	Supply to high power components has been shutdown.
High Return Humidity Threshold	Threshold value used in the [High Return Humidity] event.
High Return Humidity	Return air high humidity event.
Humidification Proportional Band	Humidity control band below [Humidity Set Point]. If measured humidity is within this band, humidification operations are proportionally controlled.
Humidifier Control Board Not Detected	Humidifier control board is required to be connected, but no signal is detected.
Humidifier Cylinder Worn	Humidifier cylinder is not operating properly and needs to be replaced.
Humidifier Hours Exceeded	Operating hours for the humidifier have exceeded the threshold.
Humidifier Issue	Humidifier issue detected, causing it to be locked out.
Humidifier Low Water	The water level in the humidifier has dropped below its threshold.
Humidifier Over Current	The electrical current to the humidifier has exceeded its upper threshold.
Humidifier Under Current	The electrical current to the humidifier has dropped below its lower threshold.
Humidifier Utilization	Present humidifier utilization expressed as a percentage of the maximum rated capacity.
Humidity Dead Band	Value that is divided evenly to form a range above and below [Humidity Set Point]. If measured humidity is within this range, no humidification or dehumidification will occur.
Humidity Set Point	Desired relative humidity.
Loss of Air Flow	No air flow through the unit due to failure of all fans.
Low Return Humidity Threshold	Threshold value used in the [Low Return Humidity] event.
Low Return Humidity	Return air low humidity event.
Maintenance Completed	Maintenance has been completed on the unit.
Maintenance Due	The calculated maintenance date has been reached.
Maintenance Ramp	The ratio of operations performed to the calculated operations available between maintenance intervals.
Master Unit Communication Lost	Communication with master unit has been lost.
Operating Efficiency	The ratio of cooling energy provided to the amount of total energy being used.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.
Reheat Utilization	Present reheating utilization expressed as a percentage of the maximum rated capacity.
Reheater Over Temperature	The temperature of the reheater has exceeded its threshold.
Remote Sensor Average Temperature	Average value of remote sensor temperature measurements.
Remote Sensor Function	Function assigned to remote sensor. Available values are: (0) Control - sensor will be used in calculation of remote sensor temperature that may be used for heating and cooling control, (1) Reference - sensor will not be used in calculation of remote sensor temperature, but is enabled, (2) Disable - sensor is disabled
Remote Sensor Issue	Remote sensor is disconnected or the signal is out of range.
Remote Sensor Maximum Temperature	Maximum value of remote sensor temperature measurements.
Remote Sensor Minimum Temperature	Minimum value of remote sensor temperature measurements.

Table 11 Liebert CRV - Glossary (continued)

Controller	Liebert iCOM v4
Data Description	Description
Remote Sensor Temperature Calculation	Calculation method applied to temperature readings from the remote sensors to determine a single temperature measurement value for cooling and heating control.
Remote Sensor Temperature	Air temperature as measured by remote sensor.
Return Air Over Temp Threshold	Threshold value used in the [Return Air Over Temperature] event.
Return Air Over Temperature	Return air high temperature event.
Return Air Sensor Issue	The air sensor at the inlet of the unit is disconnected or the signal is out of range.
Return Air Temperature	The temperature of the inlet air
Return Dew Point	Dew point temperature measured at the inlet of the unit.
Return Humidity Out Of Proportional Band	[Return Humidity] has exceeded the upper limit of [Dehumidification Proportional Band], or has dropped below the lower limit of [Humidification Proportional Band] , for an extended period of time.
Return Humidity	Relative humidity measured at the inlet of the unit.
Server Class	The general classification for this system
Service Required	Unit requires servicing.
Shutdown - Loss Of Power	System lost power. This event becomes active when the unit is powered on following an unexpected loss of power. This event remains active for 90 minutes.
Smoke Detected	Smoke detected.
Supply Air Over Temp Threshold	Threshold value used in the [Supply Air Over Temperature] event.
Supply Air Over Temperature	Supply air high temperature event.
Supply Air Sensor Issue	The air sensor at the outlet of the unit is disconnected or the signal is out of range.
Supply Air Temperature	Air temperature measured at the outlet of the unit.
Supply Air Under Temp Threshold	Threshold value used in the [Supply Air Under Temperature] event.
Supply Air Under Temperature	Supply air low temperature event.
Supply Chilled Water Loss of Flow	Supply chilled water flow is too low.
Supply Chilled Water Over Temp Threshold	Threshold value used in the [Supply Chilled Water Over Temp] event.
Supply Chilled Water Over Temp	[Supply Chilled Water Temperature] has exceeded [Supply Chilled Water Over Temp Threshold].
Supply Chilled Water Temperature	Supply chilled water temperature.
Supply Fluid Temp Sensor Issue	The supply fluid temperature sensor is disconnected or the signal is out of range.
Supply Humidity	Relative humidity at the outlet of the unit.
System Control Mode	System control mode.
System Date and Time	The system date and time
System Event Acknowledge/Reset	Reset and/or acknowledge all events.
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Status	The operating status for the system
Top Fan Issue	The top fan is not operating within its normal parameters.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.
Unit Partial Shutdown	An event has occurred requiring some system components to be shutdown and disabled.
Unit Shutdown	An event has occurred requiring the unit to be shutdown and disabled to prevent damage to the system.
Unit Standby	Unit was placed in standby mode.
Water Leakage Detector Sensor Issue	The water leakage detector sensor is disconnected or the signal is out of range.
Water Under Floor	Water under the floor is detected.

Table 12 Liebert HPC™ (Chiller) - Status and Coil

Controller		Liebert iCOM v4				
Data Label	Status	Coil	Number of Bits	Notes	Extra Notes	
Compressors						
Compressor Not Stopping	10001		1	Active on Alarm	1, 2	
Compressor Superheat Over Threshold	10002		1	Active on Alarm	2	
Compressor 1						
Compressor Hours Exceeded	10012		1	Active on Alarm	1, 2	
Compressor High Head Pressure	10013		1	Active on Alarm	1, 2	
Compressor Low Suction Pressure	10014		1	Active on Alarm	1, 2	
Compressor Thermal Overload	10015		1	Active on Alarm	1, 2	
Compressor Low Oil Pressure	10016		1	Active on Alarm	1, 2	
Compressor Loss of Differential Pressure	10018		1	Active on Alarm	1, 2	
Compressor Capacity Reduced	10019		1	Active on Alarm	1, 2	
Compressor Capacity Normal	10020		1	Active on Alarm	2	
Compressor Contactor Issue	10021		1	Active on Alarm	2	
Compressor 2						
Compressor Hours Exceeded	10029		1	Active on Alarm	1, 2	
Compressor High Head Pressure	10030		1	Active on Alarm	1, 2	
Compressor Low Suction Pressure	10031		1	Active on Alarm	1, 2	
Compressor Thermal Overload	10032		1	Active on Alarm	1, 2	
Compressor Low Suction Pressure	10033		1	Active on Alarm	1, 2	
Compressor Loss of Differential Pressure	10035		1	Active on Alarm	1, 2	
Compressor Capacity Reduced	10036		1	Active on Alarm	1, 2	
Compressor Capacity Normal	10037		1	Active on Alarm	2	
Compressor Contactor Issue	10038		1	Active on Alarm	2	
Compressor 3						
Compressor Hours Exceeded	10210		1	Active on Alarm	2	
Compressor High Head Pressure	10211		1	Active on Alarm	2	
Compressor Low Suction Pressure	10212		1	Active on Alarm	2	
Compressor Thermal Overload	10213		1	Active on Alarm	2	
Compressor Low Suction Pressure	10214		1	Active on Alarm	2	
Compressor Loss of Differential Pressure	10216		1	Active on Alarm	2	
Compressor Capacity Reduced	10217		1	Active on Alarm	2	
Compressor Capacity Normal	10218		1	Active on Alarm	2	
Compressor Contactor Issue	10219		1	Active on Alarm	2	
Compressor 4						
Compressor Hours Exceeded	10230		1	Active on Alarm	2	
Compressor High Head Pressure	10231		1	Active on Alarm	2	
Compressor Low Suction Pressure	10232		1	Active on Alarm	2	
Compressor Thermal Overload	10233		1	Active on Alarm	2	
Compressor Low Suction Pressure	10234		1	Active on Alarm	2	
Compressor Loss of Differential Pressure	10236		1	Active on Alarm	2	
Compressor Capacity Reduced	10237		1	Active on Alarm	2	

Table 12 Liebert HPC™ (Chiller) - Status and Coil (continued)

Controller		Liebert iCOM v4			
Data Label	Status	Coil	Number of Bits	Notes	Extra Notes
Compressor Capacity Normal	10238		1	Active on Alarm	2
Compressor Contactor Issue	10239		1	Active on Alarm	2
Condensers 1					
Condenser Fan Issue	10046		1	Active on Alarm	1, 2
Low Condenser Refrigerant Pressure	10047		1	Active on Alarm	1, 2
Condenser Max Fan Speed Override	10048		1	Active on Alarm	1, 2
Condensers 2					
Condenser Fan Issue	10058		1	Active on Alarm	1, 2
Low Condenser Refrigerant Pressure	10059		1	Active on Alarm	1, 2
Condenser Max Fan Speed Override	10060		1	Active on Alarm	1, 2
Condensers 3					
Condenser Fan Issue	10062		1	Active on Alarm	2
Low Condenser Refrigerant Pressure	10063		1	Active on Alarm	2
Condenser Max Fan Speed Override	10064		1	Active on Alarm	2
Condensers 4					
Condenser Fan Issue	10066		1	Active on Alarm	2
Low Condenser Refrigerant Pressure	10067		1	Active on Alarm	2
Condenser Max Fan Speed Override	10068		1	Active on Alarm	2
Fluid					
Low Fluid Pressure	10070		1	Active on Alarm	1, 2
Supply (Outlet) Fluid					
Supply Fluid Over Temp	10081		1	Active on Alarm	1, 2
Supply Fluid Under Temp	10082		1	Active on Alarm	1, 2
Supply Fluid Temp Sensor Issue	10083		1	Active on Alarm	1, 2
Pumps					
All Pumps Loss of Flow	10107		1	Active on Alarm	1, 2
Pump 1 Loss of Flow	10108		1	Active on Alarm	1, 2
Pump 2 Loss of Flow	10109		1	Active on Alarm	1, 2
Pump 1					
Pump Hours Exceeded	10120		1	Active on Alarm	1, 2
Pump 2					
Pump Hours Exceeded	10131		1	Active on Alarm	1, 2
Free Cooling					
Free Cooling Valve Hours Exceeded	10142		1	Active on Alarm	1, 2
Ambient Air Temperature Sensor Issue	10143		1	Active on Alarm	1, 2
Evaporators					
Evaporator Inlet Temp Sensor Issue	10154		1	Active on Alarm	1, 2
Evaporator Return Fluid Over Temp	10155		1	Active on Alarm	1, 2
Evaporator Return Fluid Under Temp	10156		1	Active on Alarm	1, 2
Evaporator 1					
Evaporator Fluid Freeze - Auto Reset	10165		1	Active on Alarm	1, 2

Table 12 Liebert HPC™ (Chiller) - Status and Coil (continued)

Controller		Liebert iCOM v4			
Data Label	Status	Coil	Number of Bits	Notes	Extra Notes
Evaporator Fluid Freeze - Manual Reset Required	10166		1	Active on Alarm	1, 2
Supply Refrigerant Temp Sensor Issue	10167		1	Active on Alarm	1, 2
Evaporator 2					
Evaporator Fluid Freeze - Auto Reset	10178		1	Active on Alarm	1, 2
Evaporator Fluid Freeze - Manual Reset Required	10179		1	Active on Alarm	1, 2
Supply Refrigerant Temp Sensor Issue	10180		1	Active on Alarm	1, 2
System Events					
Customer Input 1	10191		1	Active on Alarm	1, 2
Customer Input 2	10192		1	Active on Alarm	1, 2
Customer Input 3	10251		1	Active on Alarm	2
Customer Input 4	10252		1	Active on Alarm	2
Unit On	10193		1	Active on Alarm	1, 2
Unit Off	10194		1	Active on Alarm	1, 2
Master Unit Communication Lost	10195		1	Active on Alarm	1, 2
Subgroup Event Occurred During Communication Loss	10196		1	Active on Alarm	1, 2
Humidifier Control Board Not Detected	10197		1	Active on Alarm	1, 2
RAM Battery Issue	10198		1	Active on Alarm	1, 2
Unit Code Missing	10199		1	Active on Alarm	1, 2
Unspecified General Event	10200		1	Active on Alarm	2
Unit Shutdown Unspecified General Event	10250		1	Active on Alarm	2

Extra Notes

1. This point is supported on iCOM_SC31.
2. This point is supported on iCOM_SC100.

Table 13 Liebert HPC (Chiller) - Input and Holding

Controller		Liebert iCOM v4				
Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units	Extra Notes
Server Class	30385		1		1 = UPS 2 = AIR 3 = PMP 4 = PDU	1, 2
Compressors						
Compressor Shut Down - Ambient Air Low Temp Limit	30389	40389	1		Units : deg C	1, 2
Compressor Shut Down - Ambient Air Low Temp Limit	30390	40390	1		Units : deg F	1, 2
Compressor 1						
Compressor State	30394		1		0 = off 1 = on	1, 2
Compressor Capacity Control State	30395		1		0 = off 1 = on	1, 2
Compressor Head Pressure	30396		1	Scale : x / 10	Units : bar	1, 2
Compressor Hours	30397	40397	1		Units : hr	1, 2
Compressor Hours Threshold	30398	40398	1		Units : hr	1, 2
Compressor 2						
Compressor State	30402		1		0 = off 1 = on	1, 2
Compressor Capacity Control State	30403		1		0 = off 1 = on	1, 2
Compressor Head Pressure	30404		1	Scale : x / 10	Units : bar	1, 2
Compressor Hours	30405	40405	1		Units : hr	1, 2
Compressor Hours Threshold	30406	40406	1		Units : hr	1, 2
Compressor 3						
Compressor State	30530		1		0 = off 1 = on	2
Compressor Capacity Control State	30531		1		0 = off 1 = on	2
Compressor Head Pressure	30532		1	Scale : x / 10	Units : bar	2
Compressor Hours	30533	40533	1		Units : hr	2
Compressor Hours Threshold	30534	40534	1		Units : hr	2
Compressor 4						
Compressor State	30550		1		0 = off 1 = on	2
Compressor Capacity Control State	30551		1		0 = off 1 = on	2
Compressor Head Pressure	30552		1	Scale : x / 10	Units : bar	2
Compressor Hours	30553	40553	1		Units : hr	2
Compressor Hours Threshold	30554	40554	1		Units : hr	2
Condensers 1						
Condenser Fan Speed	30410		1		Units : %	1, 2
Condensers 2						
Condenser Fan Speed	30414		1		Units : %	1, 2

Table 13 Liebert HPC (Chiller) - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units	Extra Notes
Condensers 3						
Condenser Fan Speed	30416		1		Units : %	2
Condenser 4						
Condenser Fan Speed	30417		1		Units : %	2
Fluid						
Fluid Pressure	30418		1	Scale : x / 10	Units : bar	1, 2
Fluid Cooling Proportional Band	30419	40419	1	Scale : x / 10	Units : deg C	1, 2
Fluid Cooling Proportional Band	30420	40420	1	Scale : x / 10	Units : deg F	1, 2
Supply (Outlet) Fluid						
Supply Fluid Temp Set Point 1	30424	40424	1	Scale : x / 10	Units : deg C	1, 2
Supply Fluid Temp Set Point 1	30425	40425	1	Scale : x / 10	Units : deg F	1, 2
Supply Fluid Temp Set Point 2	30426	40426	1		Units : deg C	1, 2
Supply Fluid Temp Set Point 2	30427	40427	1		Units : deg F	1, 2
Supply Fluid Over Temp Alarm Threshold	30430	40430	1		Units : deg C	1, 2
Supply Fluid Over Temp Alarm Threshold	30431	40431	1		Units : deg F	1, 2
Supply Fluid Under Temp Alarm Threshold	30434	40434	1		Units : deg C	1, 2
Supply Fluid Under Temp Alarm Threshold	30435	40435	1		Units : deg F	1, 2
Pump 1						
Pump Hours	30450	40450	1		Units : hr	1, 2
Pump Hours Threshold	30451	40451	1		Units : hr	1, 2
Pump 2						
Pump Hours	30455	40455	1		Units : hr	1, 2
Pump Hours Threshold	30456	40456	1		Units : hr	1, 2
Free Cooling						
Free Cooling External Temperature Delta	30460	40460	1		Units : deg C	1, 2
Free Cooling External Temperature Delta	30461	40461	1		Units : deg F	1, 2
Free Cooling Status	30462		1		0 = off 2 = on 3 = No Support	1, 2
Free Cooling Valve Open Position	30463		1		Units : %	1, 2
Free Cooling Valve Hours	30464	40464	1		Units : hr	1, 2
Free Cooling Valve Hours Threshold	30465	40465	1		Units : hr	1, 2

Table 13 Liebert HPC (Chiller) - Input and Holding (continued)

Controller						
Liebert iCOM v4						
Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units	Extra Notes
Evaporators						
Evaporator Return Fluid Temperature	30469		1	Scale : x / 10	Units : deg C	1, 2
Evaporator Return Fluid Temperature	30470		1	Scale : x / 10	Units : deg F	1, 2
Evaporator Return Fluid Over Temp Alarm Threshold	30615	40615	1		Units : deg C	1, 2
Evaporator Return Fluid Over Temp Alarm Threshold	30616	40616	1		Units : deg F	1, 2
Evaporator Return Fluid Over Temp Warning Threshold	30617	40617	1		Units : deg C	1, 2
Evaporator Return Fluid Over Temp Warning Threshold	30618	40618	1		Units : deg F	1, 2
Evaporator Return Fluid Under Temp Warning Threshold	30619	40619	1		Units : deg C	1, 2
Evaporator Return Fluid Under Temp Warning Threshold	30620	40620	1		Units : deg F	1, 2
Evaporator Return Fluid Under Temp Alarm Threshold	30621	40621	1		Units : deg C	1, 2
Evaporator Return Fluid Under Temp Alarm Threshold	30622	40622	1		Units : deg F	1, 2
Brine						
Supply Brine Temp Set Point	30474	40474	1		Units : deg C	1, 2
Supply Brine Temp Set Point	30475	40475	1		Units : deg F	1, 2
Standby Units						
Standby Units	30479	40479	1			1, 2
System Info						
System Status	30483		1		1 = Normal Operation 2 = StartUp 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation	1, 2
System Operating State	30484		1		0 = off 1 = on 2 = standby	1, 2
System Control Mode	30485		1		0 = Internal (Auto) 1 = External (Manual)	1, 2
System Operating State Reason	30486		1		0 = Reason Unknown 1 = Network Display 2 = Alarm 3 = Schedule 4 = Remote System 5 = External Input 6 = Local Display	1, 2
System On/Off Control	30487	40487	1		0 = off 1 = on	1, 2

Table 13 Liebert HPC (Chiller) - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units	Extra Notes
System Operations						
Return Fluid Temperature	30491		1	Scale : x / 10	Units : deg C	1, 2
Return Fluid Temperature	30492		1	Scale : x / 10	Units : deg F	1, 2
Supply Fluid Temperature	30493		1	Scale : x / 10	Units : deg C	1, 2
Supply Fluid Temperature	30494		1	Scale : x / 10	Units : deg F	1, 2
Actual Supply Fluid Temp Set Point	30495		1	Scale : x / 10	Units : deg C	1, 2
Actual Supply Fluid Temp Set Point	30496		1	Scale : x / 10	Units : deg F	1, 2
Condenser Inlet Water Temperature	30497		1	Scale : x / 10	Units : deg C	1, 2
Condenser Inlet Water Temperature	30498		1	Scale : x / 10	Units : deg F	1, 2
Condenser Outlet Water Temperature	30499		1	Scale : x / 10	Units : deg C	1, 2
Condenser Outlet Water Temperature	30500		1	Scale : x / 10	Units : deg F	1, 2
Supply Heated Water Temp Set Point	30501	40501	1		Units : deg C	1, 2
Supply Heated Water Temp Set Point	30502	40502	1		Units : deg F	1, 2
Free Cooling Utilization	30503		1		Units : %	1, 2
Reheat Utilization	30504		1		Units : %	1, 2
Compressor Utilization	30505		1		Units : %	1, 2
Ambient Air Temperature	30506		1	Scale : x / 10	Units : deg C	1, 2
Ambient Air Temperature	30507		1	Scale : x / 10	Units : deg F	1, 2
Compressor Economizer Utilization	30508		1		Units : %	1, 2
Condenser Adiabatic Cooling Utilization	30509		1		Units : %	1, 2
Pump 1 State	30510		1		0 = off 1 = on	1, 2
Pump 2 State	30511		1		0 = off 1 = on	1, 2
System Events						
System Event Acknowledge/Reset		40515	1		2 = Reset 4 = Acknowledge	1, 2
Time						
System Date and Time	39998	49998	2		Secs since Epoch(UTC)	

Table 14 Liebert HPC (Chiller) - Glossary

Controller	Liebert iCOM v4
Data Label	Data Description
Actual Supply Fluid Temp Set Point	The actual set point value being used for the desired fluid temperature at the outlet of the unit.
All Pumps Loss of Flow	System is shut down due to loss of flow in all available pumps.
Ambient Air Temperature Sensor Issue	The ambient air temperature sensor is disconnected or the signal is out of range.
Ambient Air Temperature	Ambient air temperature.
Compressor Capacity Control State	Compressor capacity control state. When 'ON', the cooling capacity of the compressor has been reduced.
Compressor Capacity Normal	Compressor has returned to normal load capacity.
Compressor Capacity Reduced	Compressor capacity has been reduced.
Compressor Contactor Issue	Compressor contactor is not closing during compressor startup or is not opening during compressor shutdown.
Compressor Economizer Utilization	Present compressor economizer utilization expressed as a percentage of the maximum.
Compressor Head Pressure	Compressor head pressure.
Compressor High Head Pressure	Compressor is shut down due to high head pressure.
Compressor Hours Exceeded	[Compressor Hours] has exceeded [Compressor Hours Threshold].
Compressor Hours Threshold	Threshold value used in the [Compressor Hours Exceeded] event.
Compressor Hours	Operating hours for compressor since last reset of this value.
Compressor Loss of Differential Pressure	Compressor is shut down due to low differential pressure.
Compressor Low Oil Pressure	Compressor low oil pressure.
Compressor Low Suction Pressure	Compressor is shut down due to low suction pressure.
Compressor Not Stopping	Compressor commanded to stop, but continues to run.
Compressor Shut Down - Ambient Air Low Temp Limit	When the temperature of ambient air falls below this lower threshold, the compressor will be shut off. Correct condensing pressure cannot be achieved when temperature is too low.
Compressor State	Compressor operational state.
Compressor Superheat Over Threshold	Compressor discharge refrigerant superheat temperature has exceeded an upper threshold.
Compressor Thermal Overload	Compressor is shut down due to thermal overload.
Compressor Utilization	Present compressor utilization expressed as a percentage of the maximum rated capacity.
Condenser Adiabatic Cooling Utilization	Present adiabatic cooling utilization expressed as a percentage of the maximum.
Condenser Fan Issue	Condenser fan is not operating within its operational parameters.
Condenser Fan Speed	Condenser fan speed expressed as a percentage of the maximum rated speed.
Condenser Inlet Water Temperature	For water cooled condensers, the temperature of the water entering the heat exchanger, before cooling the refrigerant.
Condenser Max Fan Speed Override	Fan speed exceeding the maximum set point in order to alleviate a high temperature or pressure condition.
Condenser Outlet Water Temperature	For water cooled condensers, the temperature of the water exiting the heat exchanger, after cooling the refrigerant.
Customer Input 1	Customer input 1.
Customer Input 2	Customer input 2.
Customer Input 3	Customer input 3.
Customer Input 4	Customer input 4.

Table 14 Liebert HPC (Chiller) - Glossary (continued)

Controller	Liebert iCOM v4
Data Label	Data Description
Evaporator Fluid Freeze - Auto Reset	Evaporator outlet fluid temperature has dropped below the freeze threshold. Evaporator has been shut down, but will restart when the temperature rises above the threshold.
Evaporator Fluid Freeze - Manual Reset Required	Evaporator outlet fluid temperature has dropped below the freeze threshold. Evaporator has been shut down and requires a manual reset.
Evaporator Inlet Temp Sensor Issue	The evaporator inlet temperature sensor is disconnected or the signal is out of range.
Evaporator Return Fluid Over Temp Alarm Threshold	Alarm threshold value used in the [Evaporator Return Fluid Over Temp] event.
Evaporator Return Fluid Over Temp Warning Threshold	Warning threshold value used in the [Evaporator Return Fluid Over Temp] event.
Evaporator Return Fluid Over Temp	[Evaporator Return Fluid Temperature] has exceeded a threshold. The event is deactivated when the temperature drops below the threshold.
Evaporator Return Fluid Temperature	Fluid temperature measured at the inlet of the evaporator.
Evaporator Return Fluid Under Temp Alarm Threshold	Alarm threshold value used in the [Evaporator Return Fluid Under Temp] event.
Evaporator Return Fluid Under Temp Warning Threshold	Warning threshold value used in the [Evaporator Return Fluid Under Temp] event.
Evaporator Return Fluid Under Temp	[Evaporator Return Fluid Temperature] has dropped below a threshold. The event is deactivated when the temperature rises above the threshold.
Fluid Cooling Proportional Band	Temperature control band above [Actual Supply Fluid Temp Set Point]. If [Return Fluid Temperature] is within this band, fluid cooling operations are proportionally controlled.
Fluid Pressure	Fluid pressure. This is the pressure within a closed water/glycol circuit.
Free Cooling External Temperature Delta	Minimum temperature delta required between return fluid and external ambient air temperatures in order to enable free cooling.
Free Cooling Status	Free cooling status.
Free Cooling Utilization	Present free cooling utilization expressed as a percentage of the maximum.
Free Cooling Valve Hours Exceeded	[Free Cooling Valve Hours] has exceeded [Free Cooling Valve Hours Threshold].
Free Cooling Valve Hours Threshold	Threshold value used in the [Free Cooling Valve Hours Exceeded] event.
Free Cooling Valve Hours	Operating hours for free cooling valve since last reset of this value.
Free Cooling Valve Open Position	Free cooling valve open position.
Humidifier Control Board Not Detected	Humidifier control board is required to be connected, but no signal is detected.
Low Condenser Refrigerant Pressure	Refrigerant pressure in condenser coil is too low.
Low Fluid Pressure	[Fluid Pressure] has dropped below a specified threshold.
Master Unit Communication Lost	Communication with master unit has been lost.
Pump 1 Loss of Flow	Loss of flow is detected in pump 1. This condition occurs when no flow is detected through the flow switch.
Pump 1 State	Pump 1 operational state.
Pump 2 Loss of Flow	Loss of flow is detected in pump 2. This condition occurs when no flow is detected through the flow switch.
Pump 2 State	Pump 2 operational state.
Pump Hours Exceeded	[Pump Hours] has exceeded [Pump Hours Threshold].
Pump Hours Threshold	Threshold value used in the [Pump Hours Exceeded] event.
Pump Hours	Operating hours for pump since last reset of this value.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.

Table 14 Liebert HPC (Chiller) - Glossary (continued)

Controller	Liebert iCOM v4
Data Label	Data Description
Reheat Utilization	Present reheating utilization expressed as a percentage of the maximum rated capacity.
Return Fluid Temperature	Fluid temperature measured at the inlet of the unit.
Server Class	The general classification for this system
Standby Units	The number of standby units.
Subgroup Event Occurred During Communication Loss	While subgroup unit communication was lost, an event occurred on the subgroup unit. Please check subgroup unit event log.
Supply Brine Temp Set Point	Desired brine fluid temperature at the outlet of the unit.
Supply Fluid Over Temp Alarm Threshold	Threshold value used to generate a [Supply Fluid Over Temp] alarm.
Supply Fluid Over Temp	[Supply Fluid Temperature] has exceeded a specified threshold.
Supply Fluid Temp Sensor Issue	The supply fluid temperature sensor is disconnected or the signal is out of range.
Supply Fluid Temp Set Point 1	Set point 1 of desired fluid temperature at the outlet of the unit.
Supply Fluid Temp Set Point 2	Set point 2 of desired fluid temperature at the outlet of the unit.
Supply Fluid Temperature	Fluid temperature measured at the outlet of the unit.
Supply Fluid Under Temp Alarm Threshold	Threshold value used to generate a [Supply Fluid Under Temp] alarm.
Supply Fluid Under Temp	[Supply Fluid Temperature] has dropped below a specified threshold.
Supply Heated Water Temp Set Point	Desired heated water temperature at the outlet of the unit.
Supply Refrigerant Temp Sensor Issue	The supply refrigerant temperature sensor is disconnected or the signal is out of range.
System Control Mode	System control mode.
System Date and Time	The system date and time
System Event Acknowledge/Reset	Reset and/or acknowledge all events.
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Status	The operating status for the system
Unit Code Missing	Unit code has not been entered and saved.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.
Unit Shutdown Unspecified General Event	One or more unspecified unit shutdown events active. See local unit display for further details.
Unspecified General Event	One or more unspecified events active. See local unit display for further details.

Table 15 Liebert XDC™ - Status and Coil

Controller		Liebert iCOM v4			
Data Description	Status	Coil	Number of Bits	Notes	
Pumps					
Pump 1 Loss of Flow	10001		1	Active on Alarm	
Pump 2 Loss of Flow	10002		1	Active on Alarm	
Pump Short Cycle	10016		1	Active on Alarm	
System Events					
Fan Issue	10003		1	Active on Alarm	
System Condensation Detected	10004		1	Active on Alarm	
Customer Input 1	10005		1	Active on Alarm	
Shutdown - Loss Of Power	10027		1	Active on Alarm	
Smoke Detected	10028		1	Active on Alarm	
Water Under Floor	10029		1	Active on Alarm	
Service Required	10030		1	Active on Alarm	
Unit Communication Lost	10272		1	Active on Alarm	
RAM Battery Issue	10273		1	Active on Alarm	
Master Unit Communication Lost	10274		1	Active on Alarm	
Remote Shutdown	10275		1	Active on Alarm	
Unit Code Missing	10276		1	Active on Alarm	
Refrigerant					
Supply Refrigerant Over Temp	10006		1	Active on Alarm	
Supply Refrigerant Under Temp	10007		1	Active on Alarm	
Supply Refrigerant Temp Sensor Issue	10008		1	Active on Alarm	
External Air					
Ext Air Sensor A Over Temperature	10009		1	Active on Alarm	
Ext Air Sensor A Under Temperature	10010		1	Active on Alarm	
Ext Air Sensor A Issue	10011		1	Active on Alarm	
Ext Air Sensor B Over Temperature	10012		1	Active on Alarm	
Ext Air Sensor B Under Temperature	10013		1	Active on Alarm	
Ext Air Sensor B Issue	10014		1	Active on Alarm	
Ext Dew Point Over Temperature	10015		1	Active on Alarm	
Compressor					
Compressor 1A High Head Pressure	10017		1	Active on Alarm	
Compressor 1B High Head Pressure	10018		1	Active on Alarm	
Compressor 2A High Head Pressure	10019		1	Active on Alarm	
Compressor 2B High Head Pressure	10020		1	Active on Alarm	
Compressor 1A Short Cycle	10021		1	Active on Alarm	
Compressor 1B Short Cycle	10022		1	Active on Alarm	
Compressor 2A Short Cycle	10023		1	Active on Alarm	
Compressor 2B Short Cycle	10024		1	Active on Alarm	
Circuit 1 Low Suction Pressure	10025		1	Active on Alarm	
Circuit 2 Low Suction Pressure	10026		1	Active on Alarm	
Pump Hours 1					
Pump Hours Exceeded	10040		1	Active on Alarm	
Pump Hours 2					
Pump Hours Exceeded	10046		1	Active on Alarm	

Table 15 Liebert XDC™ - Status and Coil (continued)

Controller		Liebert iCOM v4			
Data Description	Status	Coil	Number of Bits	Notes	
XD System 1					
Ext System Condensation Detected	10052		1	Active on Alarm	
Ext Fan Issue	10053		1	Active on Alarm	
Sensor Issue	10054		1	Active on Alarm	
Ext Remote Shutdown	10055		1	Active on Alarm	
Hot Aisle Temp Out of Range	10056		1	Active on Alarm	
Cold Aisle Temp Out of Range	10057		1	Active on Alarm	
XD System 2					
Ext System Condensation Detected	10063		1	Active on Alarm	
Ext Fan Issue	10064		1	Active on Alarm	
Sensor Issue	10065		1	Active on Alarm	
Ext Remote Shutdown	10066		1	Active on Alarm	
Hot Aisle Temp Out of Range	10067		1	Active on Alarm	
Cold Aisle Temp Out of Range	10068		1	Active on Alarm	
XD System 20					
Ext System Condensation Detected	10261		1	Active on Alarm	
Ext Fan Issue	10262		1	Active on Alarm	
Sensor Issue	10263		1	Active on Alarm	
Ext Remote Shutdown	10264		1	Active on Alarm	
Hot Aisle Temp Out of Range	10265		1	Active on Alarm	
Cold Aisle Temp Out of Range	10266		1	Active on Alarm	
Messages					
Unit On	10282		1	Active on Alarm	
Unit Off	10283		1	Active on Alarm	
Unit Standby	10284		1	Active on Alarm	
Unit Partial Shutdown	10285		1	Active on Alarm	
Unit Shutdown	10286		1	Active on Alarm	
Maintenance Due	10287		1	Active on Alarm	
Maintenance Completed	10288		1	Active on Alarm	
SFA Report					
SFA Reserved Event 1	18000		1	Active on Alarm	
SFA Reserved Event 2	18001		1	Active on Alarm	
SFA Reserved Event 3	18002		1	Active on Alarm	
SFA Reserved Event 4	18003		1	Active on Alarm	
SFA Reserved Event 5	18004		1	Active on Alarm	
SFA Reserved Event 6	18005		1	Active on Alarm	
SFA Reserved Event 7	18006		1	Active on Alarm	
SFA Reserved Event 8	18007		1	Active on Alarm	
SFA Reserved Event 9	18008		1	Active on Alarm	
SFA Reserved Event 10	18009		1	Active on Alarm	
SFA Reserved Event 11	18010		1	Active on Alarm	
SFA Reserved Event 12	18011		1	Active on Alarm	
SFA Reserved Event 13	18012		1	Active on Alarm	
SFA Reserved Event 14	18013		1	Active on Alarm	

Table 15 Liebert XDC™ - Status and Coil (continued)

Controller		Liebert iCOM v4		
Data Description	Status	Coil	Number of Bits	Notes
SFA Reserved Event 15	18014		1	Active on Alarm
SFA Reserved Event 16	18015		1	Active on Alarm
SFA Reserved Event 17	18016		1	Active on Alarm
SFA Reserved Event 18	18017		1	Active on Alarm
SFA Reserved Event 19	18018		1	Active on Alarm
SFA Reserved Event 20	18019		1	Active on Alarm
SFA Reserved Event 21	18020		1	Active on Alarm
SFA Reserved Event 22	18021		1	Active on Alarm
SFA Reserved Event 23	18022		1	Active on Alarm
SFA Reserved Event 24	18023		1	Active on Alarm
SFA Reserved Event 25	18024		1	Active on Alarm

Table 16 Liebert XDC - Input and Holding

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Pumps					
Pump 1 State	30385		1		0 = Off / 1 = On
Pump 2 State	30386		1		0 = Off / 1 = On
Refrigerant					
Supply Refrigerant Temperature	30387		1	Scale: x / 10	deg C
Supply Refrigerant Temperature	30388		1	Scale: x / 10	deg F
Supply Refrig Over Temp Threshold	30410	40410	1	Scale: x / 10	deg C
Supply Refrig Over Temp Threshold	30411	40411	1	Scale: x / 10	deg F
System Information					
System Operating State	30389		1		0 = Off / 1 = On 2 = Standby
Calculated Next Maintenance Month	30420		1		
Calculated Next Maintenance Year	30421		1		
System Status	30422		1		1 = Normal Operation 2 = StartUp 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation
System Control Mode	30423		1		0 = Internal (Auto) 1 = External (Manual)
Maintenance Ramp	30424		1		Units : %
Auto Restart Delay	30425	40425	1		Units : sec
System On/Off Control	30426	40426	1		0 = off 1 = on
System Operating State Reason	31704		1		0 = Reason Unknown 1 = Network Display 2 = Alarm 3 = Schedule 4 = Remote System 5 = External Input 6 = Local Display

Table 16 Liebert XDC - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units	
External Air						
Ext Air Sensor A Temperature	30390		1	Scale: x / 10	Units : deg C	
Ext Air Sensor A Temperature	30391		1	Scale: x / 10	Units : deg F	
Ext Air Sensor A Humidity	30392		1	Scale: x / 10	Units : % RH	
Ext Air Sensor A Dew Point Temp	30393		1	Scale: x / 10	Units : deg C	
Ext Air Sensor A Dew Point Temp	30394		1	Scale: x / 10	Units : deg F	
Ext Air Sensor B Temperature	30395		1	Scale: x / 10	Units : deg C	
Ext Air Sensor B Temperature	30396		1	Scale: x / 10	Units : deg F	
Ext Air Sensor B Humidity	30397		1	Scale: x / 10	Units : % RH	
Ext Air Sensor B Dew Point Temp	30398		1	Scale: x / 10	Units : deg C	
Ext Air Sensor B Dew Point Temp	30399		1	Scale: x / 10	Units : deg F	
Dew Point Temperature	30400		1	Scale: x / 10	Units : deg C	
Dew Point Temperature	30401		1	Scale: x / 10	Units : deg F	
Minimum Room Temperature Set Point	30402	40402	1	Scale: x / 10	Units : deg C	
Minimum Room Temperature Set Point	30403	40403	1	Scale: x / 10	Units : deg F	
Ext Air Over Temp Threshold	30404	40404	1	Scale: x / 10	Units : deg C	
Ext Air Over Temp Threshold	30405	40405	1	Scale: x / 10	Units : deg F	
Ext Air Under Temp Threshold	30406	40406	1	Scale: x / 10	Units : deg C	
Ext Air Under Temp Threshold	30407	40407	1	Scale: x / 10	Units : deg F	
Ext Dew Point Over Temp Threshold	30408	40408	1	Scale: x / 10	Units : deg C	
Ext Dew Point Over Temp Threshold	30409	40409	1	Scale: x / 10	Units : deg F	
Hot Gas						
Hot Gas Valve 1 Open Position	30412		1	Scale : x / 10	Units : %	
Hot Gas Valve 2 Open Position	30413		1	Scale : x / 10	Units : %	
Hot Gas Solenoid Valve 1 Position	30414		1		0 = closed 1 = open	
Hot Gas Solenoid Valve 2 Position	30415		1		0 = closed 1 = open	
Compressors						
Compressor 1A State	30416		1		0 = off 1 = on	
Compressor 1B State	30417		1		0 = off 1 = on	
Compressor 2A State	30418		1		0 = off 1 = on	
Compressor 2B State	30419		1		0 = off 1 = on	
Pump Hours 1						
Pump Hours	30430	40430	1		Units : hr	
Pump Hours Threshold	30431	40431	1		Units : hr	
Pump Hours 2						
Pump Hours	30437	40437	1		Units : hr	
Pump Hours Threshold	30438	40438	1		Units : hr	

Table 16 Liebert XDC - Input and Holding (continued)

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
XD System 1					
Communication Status	30444		1		0 = Connected 1 = Not Connected
Fan On/Off Control	30445	40445	1		0 = off 1 = on
Primary Fan Group State	30446		1		0 = off 1 = on 2 = economy
Fan Button Control	30447	40447	1		0 = enabled 1 = disabled
Visual ID Control	30448	40448	1		0 = disabled 1 = enabled
Cooling Capacity	30449		1		Units : %
Cooling Capacity	30450		1		Units : kW
Ext System Condensation Detected - Event Control	30451	40451	1		0 = disabled 1 = enabled
Ext System Condensation Detected - Event Type	30452	40452	1		0 = Message 1 = Warning 2 = Alarm
Ext Fan Issue - Event Control	30453	40453	1		0 = disabled 1 = enabled
Ext Fan Issue - Event Type	30454	40454	1		0 = Message 1 = Warning 2 = Alarm
Sensor Issue - Event Control	30455	40455	1		0 = disabled 1 = enabled
Sensor Issue - Event Type	30456	40456	1		0 = Message 1 = Warning 2 = Alarm
Ext Remote Shutdown - Event Control	30457	40457	1		0 = disabled 1 = enabled
Ext Remote Shutdown - Event Type	30458	40458	1		0 = Message 1 = Warning 2 = Alarm
Hot Aisle Over Temp Threshold	30459	40459	1		Units : deg C
Hot Aisle Over Temp Threshold	30460	40460	1		Units : deg F
Hot Aisle Under Temp Threshold	30461	40461	1		Units : deg C
Hot Aisle Under Temp Threshold	30462	40462	1		Units : deg F
Cold Aisle Over Temp Threshold	30463	40463	1		Units : deg C
Cold Aisle Over Temp Threshold	30464	40464	1		Units : deg F
Cold Aisle Under Temp Threshold	30465	40465	1		Units : deg C
Cold Aisle Under Temp Threshold	30466	40466	1		Units : deg F
XD System 2					
Communication Status	30472		1		0 = Connected 1 = Not Connected
Fan On/Off Control	30473	40473	1		0 = off 1 = on
Primary Fan Group State	30474		1		0 = off 1 = on 2 = economy
Fan Button Control	30475	40475	1		0 = enabled 1 = disabled

Table 16 Liebert XDC - Input and Holding (continued)

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Visual ID Control	30476	40476	1		0 = disabled 1 = enabled
Cooling Capacity	30477		1		Units : %
Cooling Capacity	30478		1		Units : kW
Ext System Condensation Detected - Event Control	30479	40479	1		0 = disabled 1 = enabled
Ext System Condensation Detected - Event Type	30480	40480	1		0 = Message 1 = Warning 2 = Alarm
Ext Fan Issue - Event Control	30481	40481	1		0 = disabled 1 = enabled
Ext Fan Issue - Event Type	30482	40482	1		0 = Message 1 = Warning 2 = Alarm
Sensor Issue - Event Control	30483	40483	1		0 = disabled 1 = enabled
Sensor Issue - Event Type	30484	40484	1		0 = Message 1 = Warning 2 = Alarm
Ext Remote Shutdown - Event Control	30485	40485	1		0 = disabled 1 = enabled
Ext Remote Shutdown - Event Type	30486	40486	1		0 = Message 1 = Warning 2 = Alarm
Hot Aisle Over Temp Threshold	30487	40487	1		Units : deg C
Hot Aisle Over Temp Threshold	30488	40488	1		Units : deg F
Hot Aisle Under Temp Threshold	30489	40489	1		Units : deg C
Hot Aisle Under Temp Threshold	30490	40490	1		Units : deg F
Cold Aisle Over Temp Threshold	30491	40491	1		Units : deg C
Cold Aisle Over Temp Threshold	30492	40492	1		Units : deg F
Cold Aisle Under Temp Threshold	30493	40493	1		Units : deg C
Cold Aisle Under Temp Threshold	30494	40494	1		Units : deg F
XD System 20					
Communication Status	30976		1		0 = Connected 1 = Not Connected
Fan On/Off Control	30977	40977	1		0 = off 1 = on
Primary Fan Group State	30978		1		0 = off 1 = on 2 = economy
Fan Button Control	30979	40979	1		0 = enabled 1 = disabled
Visual ID Control	30980	40980	1		0 = disabled 1 = enabled
Cooling Capacity	30981		1		Units : %
Cooling Capacity	30982		1		Units : kW
Ext System Condensation Detected - Event Control	30983	40983	1		0 = disabled 1 = enabled
Ext System Condensation Detected - Event Type	30984	40984	1		0 = Message 1 = Warning 2 = Alarm

Table 16 Liebert XDC - Input and Holding (continued)

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Ext Fan Issue - Event Control	30985	40985	1		0 = disabled 1 = enabled
Ext Fan Issue - Event Type	30986	40986	1		0 = Message 1 = Warning 2 = Alarm
Sensor Issue - Event Control	30987	40987	1		0 = disabled 1 = enabled
Sensor Issue - Event Type	30988	40988	1		0 = Message 1 = Warning 2 = Alarm
Ext Remote Shutdown - Event Control	30989	40989	1		0 = disabled 1 = enabled
Ext Remote Shutdown - Event Type	30990	40990	1		0 = Message 1 = Warning 2 = Alarm
Hot Aisle Over Temp Threshold	30991	40991	1		Units : deg C
Hot Aisle Over Temp Threshold	30992	40992	1		Units : deg F
Hot Aisle Under Temp Threshold	30993	40993	1		Units : deg C
Hot Aisle Under Temp Threshold	30994	40994	1		Units : deg F
Cold Aisle Over Temp Threshold	30995	40995	1		Units : deg C
Cold Aisle Over Temp Threshold	30996	40996	1		Units : deg F
Cold Aisle Under Temp Threshold	30997	40997	1		Units : deg C
Cold Aisle Under Temp Threshold	30998	40998	1		Units : deg F
XD System 1 Temperature Sensor 1					
Remote Sensor Temperature	31004		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31005		1	Scale : x / 10	Units : deg F
XD System 1 Temperature Sensor 2					
Remote Sensor Temperature	31011		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31012		1	Scale : x / 10	Units : deg F
XD System 1 Temperature Sensor 4					
Remote Sensor Temperature	31025		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31026		1	Scale : x / 10	Units : deg F
XD System 2 Temperature Sensor 1					
Remote Sensor Temperature	31032		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31033		1	Scale : x / 10	Units : deg F
XD System 2 Temperature Sensor 2					
Remote Sensor Temperature	31039		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31040		1	Scale : x / 10	Units : deg F
XD System 2 Temperature Sensor 4					
Remote Sensor Temperature	31053		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31054		1	Scale : x / 10	Units : deg F
XD System 3 Temperature Sensor 1					
Remote Sensor Temperature	31060		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31061		1	Scale : x / 10	Units : deg F
XD System 3 Temperature Sensor 2					
Remote Sensor Temperature	31067		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31068		1	Scale : x / 10	Units : deg F

Table 16 Liebert XDC - Input and Holding (continued)

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
XD System 3 Temperature Sensor 4					
Remote Sensor Temperature	31081		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31082		1	Scale : x / 10	Units : deg F
XD System 4 Temperature Sensor 1					
Remote Sensor Temperature	31088		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31089		1	Scale : x / 10	Units : deg F
XD System 4 Temperature Sensor 2					
Remote Sensor Temperature	31095		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31096		1	Scale : x / 10	Units : deg F
XD System 4 Temperature Sensor 4					
Remote Sensor Temperature	31109		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31110		1	Scale : x / 10	Units : deg F
XD System 5 Temperature Sensor 1					
Remote Sensor Temperature	31116		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31117		1	Scale : x / 10	Units : deg F
XD System 5 Temperature Sensor 2					
Remote Sensor Temperature	31123		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31124		1	Scale : x / 10	Units : deg F
XD System 5 Temperature Sensor 4					
Remote Sensor Temperature	31137		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31138		1	Scale : x / 10	Units : deg F
XD System 6 Temperature Sensor 1					
Remote Sensor Temperature	31144		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31145		1	Scale : x / 10	Units : deg F
XD System 6 Temperature Sensor 2					
Remote Sensor Temperature	31151		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31152		1	Scale : x / 10	Units : deg F
XD System 6 Temperature Sensor 4					
Remote Sensor Temperature	31165		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31166		1	Scale : x / 10	Units : deg F
XD System 7 Temperature Sensor 1					
Remote Sensor Temperature	31172		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31173		1	Scale : x / 10	Units : deg F
XD System 7 Temperature Sensor 2					
Remote Sensor Temperature	31179		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31180		1	Scale : x / 10	Units : deg F
XD System 7 Temperature Sensor 4					
Remote Sensor Temperature	31193		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31194		1	Scale : x / 10	Units : deg F
XD System 8 Temperature Sensor 1					
Remote Sensor Temperature	31200		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31201		1	Scale : x / 10	Units : deg F
XD System 8 Temperature Sensor 2					
Remote Sensor Temperature	31207		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31208		1	Scale : x / 10	Units : deg F

Table 16 Liebert XDC - Input and Holding (continued)

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
XD System 8 Temperature Sensor 4					
Remote Sensor Temperature	31221		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31222		1	Scale : x / 10	Units : deg F
XD System 9 Temperature Sensor 1					
Remote Sensor Temperature	31228		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31229		1	Scale : x / 10	Units : deg F
XD System 9 Temperature Sensor 2					
Remote Sensor Temperature	31235		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31236		1	Scale : x / 10	Units : deg F
XD System 9 Temperature Sensor 4					
Remote Sensor Temperature	31249		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31250		1	Scale : x / 10	Units : deg F
XD System 10 Temperature Sensor 1					
Remote Sensor Temperature	31256		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31257		1	Scale : x / 10	Units : deg F
XD System 10 Temperature Sensor 2					
Remote Sensor Temperature	31263		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31264		1	Scale : x / 10	Units : deg F
XD System 10 Temperature Sensor 4					
Remote Sensor Temperature	31277		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31278		1	Scale : x / 10	Units : deg F
XD System 11 Temperature Sensor 1					
Remote Sensor Temperature	31284		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31285		1	Scale : x / 10	Units : deg F
XD System 11 Temperature Sensor 2					
Remote Sensor Temperature	31291		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31292		1	Scale : x / 10	Units : deg F
XD System 11 Temperature Sensor 4					
Remote Sensor Temperature	31305		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31306		1	Scale : x / 10	Units : deg F
XD System 12 Temperature Sensor 1					
Remote Sensor Temperature	31312		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31313		1	Scale : x / 10	Units : deg F
XD System 12 Temperature Sensor 2					
Remote Sensor Temperature	31319		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31320		1	Scale : x / 10	Units : deg F
XD System 12 Temperature Sensor 4					
Remote Sensor Temperature	31333		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31334		1	Scale : x / 10	Units : deg F
XD System 13 Temperature Sensor 1					
Remote Sensor Temperature	31340		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31341		1	Scale : x / 10	Units : deg F
XD System 13 Temperature Sensor 2					
Remote Sensor Temperature	31347		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31348		1	Scale : x / 10	Units : deg F

Table 16 Liebert XDC - Input and Holding (continued)

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
XD System 13 Temperature Sensor 4					
Remote Sensor Temperature	31361		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31362		1	Scale : x / 10	Units : deg F
XD System 14 Temperature Sensor 1					
Remote Sensor Temperature	31368		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31369		1	Scale : x / 10	Units : deg F
XD System 14 Temperature Sensor 2					
Remote Sensor Temperature	31375		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31376		1	Scale : x / 10	Units : deg F
XD System 14 Temperature Sensor 4					
Remote Sensor Temperature	31389		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31390		1	Scale : x / 10	Units : deg F
XD System 15 Temperature Sensor 1					
Remote Sensor Temperature	31396		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31397		1	Scale : x / 10	Units : deg F
XD System 15 Temperature Sensor 2					
Remote Sensor Temperature	31403		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31404		1	Scale : x / 10	Units : deg F
XD System 15 Temperature Sensor 4					
Remote Sensor Temperature	31417		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31418		1	Scale : x / 10	Units : deg F
XD System 16 Temperature Sensor 1					
Remote Sensor Temperature	31424		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31425		1	Scale : x / 10	Units : deg F
XD System 16 Temperature Sensor 2					
Remote Sensor Temperature	31431		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31432		1	Scale : x / 10	Units : deg F
XD System 16 Temperature Sensor 4					
Remote Sensor Temperature	31445		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31446		1	Scale : x / 10	Units : deg F
XD System 17 Temperature Sensor 1					
Remote Sensor Temperature	31452		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31453		1	Scale : x / 10	Units : deg F
XD System 17 Temperature Sensor 2					
Remote Sensor Temperature	31459		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31460		1	Scale : x / 10	Units : deg F
XD System 17 Temperature Sensor 4					
Remote Sensor Temperature	31473		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31474		1	Scale : x / 10	Units : deg F
XD System 18 Temperature Sensor 1					
Remote Sensor Temperature	31480		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31481		1	Scale : x / 10	Units : deg F
XD System 18 Temperature Sensor 2					
Remote Sensor Temperature	31487		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31488		1	Scale : x / 10	Units : deg F

Table 16 Liebert XDC - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units	
XD System 18 Temperature Sensor 4						
Remote Sensor Temperature	31501		1	Scale : x / 10	Units : deg C	
Remote Sensor Temperature	31502		1	Scale : x / 10	Units : deg F	
XD System 19 Temperature Sensor 1						
Remote Sensor Temperature	31508		1	Scale : x / 10	Units : deg C	
Remote Sensor Temperature	31509		1	Scale : x / 10	Units : deg F	
XD System 19 Temperature Sensor 2						
Remote Sensor Temperature	31515		1	Scale : x / 10	Units : deg C	
Remote Sensor Temperature	31516		1	Scale : x / 10	Units : deg F	
XD System 19 Temperature Sensor 4						
Remote Sensor Temperature	31529		1	Scale : x / 10	Units : deg C	
Remote Sensor Temperature	31530		1	Scale : x / 10	Units : deg F	
XD System 20 Temperature Sensor 1						
Remote Sensor Temperature	31536		1	Scale : x / 10	Units : deg C	
Remote Sensor Temperature	31537		1	Scale : x / 10	Units : deg F	
XD System 20 Temperature Sensor 2						
Remote Sensor Temperature	31543		1	Scale : x / 10	Units : deg C	
Remote Sensor Temperature	31544		1	Scale : x / 10	Units : deg F	
XD System 20 Temperature Sensor 4						
Remote Sensor Temperature	31557		1	Scale : x / 10	Units : deg C	
Remote Sensor Temperature	31558		1	Scale : x / 10	Units : deg F	
Secondary Fans 1						
Fan State	31564		1		0 = off 1 = on 2 = economy	
Fan Economy Mode	31565	41565	1		0 = disabled 1 = automatic 2 = manual	
Secondary Fans 2						
Fan State	31571		1		0 = off 1 = on 2 = economy	
Fan Economy Mode	31572	41572	1		0 = disabled 1 = automatic 2 = manual	
Secondary Fans 20						
Fan State	31697		1		0 = off 1 = on 2 = economy	
Fan Economy Mode	31698	41698	1		0 = disabled 1 = automatic 2 = manual	
Time						
System Date and Time	39998	49998	2		Secs since Epoch(UTC)	

Table 16 Liebert XDC - Input and Holding (continued)

Controller		Liebert iCOM v4				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units	
SFA Report						
SFA ID Number	38000		2			
SFA 16bit Read Only Value 1	38002		1			
SFA 16bit Read Only Value 2	38003		1			
SFA 16bit Read Only Value 3	38004		1			
SFA 16bit Read Only Value 4	38005		1			
SFA 16bit Read Only Value 5	38006		1			
SFA 16bit Read Only Value 6	38007		1			
SFA 16bit Read Only Value 7	38008		1			
SFA 16bit Read Only Value 8	38009		1			
SFA 16bit Read Only Value 9	38010		1			
SFA 16bit Read Only Value 10	38011		1			
SFA 32bit Read Only Value 1	38012		2			
SFA 32bit Read Only Value 2	38014		2			
SFA 32bit Read Only Value 3	38016		2			
SFA 32bit Read Only Value 4	38018		2			
SFA 32bit Read Only Value 5	38020		2			
SFA 32bit Read Only Value 6	38022		2			
SFA 32bit Read Only Value 7	38024		2			
SFA 32bit Read Only Value 8	38026		2			
SFA 32bit Read Only Value 9	38028		2			
SFA 32bit Read Only Value 10	38030		2			
SFA 16bit Writable Value 1	38032	48032	1			
SFA 16bit Writable Value 2	38033	48033	1			
SFA 16bit Writable Value 3	38034	48034	1			
SFA 16bit Writable Value 4	38035	48035	1			
SFA 16bit Writable Value 5	38036	48036	1			
SFA 16bit Writable Value 6	38037	48037	1			
SFA 16bit Writable Value 7	38038	48038	1			
SFA 16bit Writable Value 8	38039	48039	1			
SFA 16bit Writable Value 9	38040	48040	1			
SFA 16bit Writable Value 10	38041	48041	1			
SFA 32bit Writable Value 1	38042	48042	2			
SFA 32bit Writable Value 2	38044	48044	2			
SFA 32bit Writable Value 3	38046	48046	2			
SFA 32bit Writable Value 4	38048	48048	2			
SFA 32bit Writable Value 5	38050	48050	2			
SFA 32bit Writable Value 6	38052	48052	2			
SFA 32bit Writable Value 7	38054	48054	2			
SFA 32bit Writable Value 8	38056	48056	2			
SFA 32bit Writable Value 9	38058	48058	2			
SFA 32bit Writable Value 10	38060	48060	2			

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 17 Liebert XDC - Glossary

Data Label	Data Description
Auto Restart Delay	If power is lost, the control will delay this amount of time after power is restored before restarting the unit.
Calculated Next Maintenance Month	Calculated month of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Year].
Calculated Next Maintenance Year	Calculated year of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Month].
Circuit 1 Low Suction Pressure	Compressor circuit 1 low suction pressure.
Circuit 2 Low Suction Pressure	Compressor circuit 2 low suction pressure.
Cold Aisle Over Temp Threshold	Upper threshold value used in the [Cold Aisle Temp Out of Range] event.
Cold Aisle Temp Out of Range	The air temperature in the cold aisle is either above [Cold Aisle Over Temp Threshold] or below [Cold Aisle Under Temp Threshold].
Cold Aisle Under Temp Threshold	Lower threshold value used in the [Cold Aisle Temp Out of Range] event.
Communication Status	Communication status of remote device.
Compressor 1A High Head Pressure	Compressor 1A high head pressure.
Compressor 1A Short Cycle	Compressor 1A short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor 1A State	Compressor 1A operational state.
Compressor 1B High Head Pressure	Compressor 1B high head pressure.
Compressor 1B Short Cycle	Compressor 1B short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor 1B State	Compressor 1B operational state.
Compressor 2A High Head Pressure	Compressor 2A high head pressure.
Compressor 2A Short Cycle	Compressor 2A short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor 2A State	Compressor 2A operational state.
Compressor 2B High Head Pressure	Compressor 2B high head pressure.
Compressor 2B Short Cycle	Compressor 2B short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor 2B State	Compressor 2B operational state.
Cooling Capacity	Cooling capacity in use, expressed as a percentage of the maximum rated capacity.
Cooling Capacity	Cooling capacity in use, expressed in kilowatts.
Customer Input 1	Customer input 1.
Dew Point Temperature	Dew point temperature, using the highest reading from all sensors.
Ext Air Over Temp Threshold	Threshold value used in the ([Ext Air Sensor A Over Temperature], [Ext Air Sensor B Over Temperature]...) events.
Ext Air Sensor A Dew Point Temp	Dew point temperature as measured by external air sensor A.
Ext Air Sensor A Humidity	Relative humidity as measured by external air sensor A.
Ext Air Sensor A Issue	The external air sensor A is disconnected or the signal is out of range.
Ext Air Sensor A Over Temperature	[Ext Air Sensor A Temperature] has exceeded [Ext Air Over Temp Threshold].
Ext Air Sensor A Temperature	Air temperature as measured by external air sensor A.
Ext Air Sensor A Under Temperature	[Ext Air Sensor A Temperature] has dropped below [Ext Air Under Temp Threshold].
Ext Air Sensor B Dew Point Temp	Dew point temperature as measured by external air sensor B.
Ext Air Sensor B Humidity	Relative humidity as measured by external air sensor B.
Ext Air Sensor B Issue	The external air sensor B is disconnected or the signal is out of range.
Ext Air Sensor B Over Temperature	[Ext Air Sensor B Temperature] has exceeded [Ext Air Over Temp Threshold].

Table 17 Liebert XDC - Glossary (continued)

Data Label	Data Description
Ext Air Sensor B Temperature	Air temperature as measured by external air sensor B.
Ext Air Sensor B Under Temperature	[Ext Air Sensor B Temperature] has dropped below [Ext Air Under Temp Threshold].
Ext Air Under Temp Threshold	Threshold value used in the ([Ext Air Sensor A Under Temperature], [Ext Air Sensor B Under Temperature]...) events.
Ext Dew Point Over Temp Threshold	Threshold value used in the [Ext Dew Point Over Temperature] event.
Ext Dew Point Over Temperature	At least one dew point temperature reading ([Ext Air Sensor A Dew Point Temp], [Ext Air Sensor B Dew Point Temp]...) has exceeded [Ext Dew Point Over Temp Threshold].
Ext Fan Issue - Event Control	Enable/disable the activation of the [Ext Fan Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Fan Issue - Event Type	The event type for the [Ext Fan Issue] event.
Ext Fan Issue	One or more fans are not operating within their operational parameters.
Ext Remote Shutdown - Event Control	Enable/disable the activation of the [Remote Shutdown] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Remote Shutdown - Event Type	The event type for the [Remote Shutdown] event.
Ext Remote Shutdown	Unit is shut down by a remote signal.
Ext System Condensation Detected - Event Control	Enable/disable the activation of the [Ext System Condensation Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext System Condensation Detected - Event Type	The event type for the [Ext System Condensation Detected] event.
Ext System Condensation Detected	External system condensation detected.
Fan Button Control	Enable or disable the buttons from controlling the state of the fans.
Fan Economy Mode	Mode in which system secondary fans are to be controlled.
Fan Issue	One or more fans are not operating within their operational parameters.
Fan On/Off Control	Turn system fans on or off.
Fan State	Current operational state of a group of fans.
Hot Aisle Over Temp Threshold	Upper threshold value used in the [Hot Aisle Temp Out of Range] event.
Hot Aisle Temp Out of Range	The air temperature in the Hot aisle is either above [Hot Aisle Over Temp Threshold] or below [Hot Aisle Under Temp Threshold].
Hot Aisle Under Temp Threshold	Lower threshold value used in the [Hot Aisle Temp Out of Range] event.
Hot Gas Solenoid Valve 1 Position	Hot gas solenoid valve 1 position.
Hot Gas Solenoid Valve 2 Position	Hot gas solenoid valve 2 position
Hot Gas Valve 1 Open Position	Hot gas valve 1 open position.
Hot Gas Valve 2 Open Position	Hot gas valve 2 open position.
Maintenance Completed	Maintenance has been completed on the unit.
Maintenance Due	The calculated maintenance date has been reached.
Maintenance Ramp	The ratio of operations performed to the calculated operations available between maintenance intervals.
Master Unit Communication Lost	Communication with master unit has been lost.
Minimum Room Temperature Set Point	Minimum desired room air temperature. If the room air temperature falls below this set point, the unit will reduce the cooling.
Primary Fan Group State	Current operational state of the primary fan group.
Pump 1 Loss of Flow	Loss of flow is detected in pump 1. The loss of flow condition occurs when no differential pressure is detected across the pump.

Table 17 Liebert XDC - Glossary (continued)

Data Label	Data Description
Pump 1 State	Pump 1 operational state.
Pump 2 Loss of Flow	Loss of flow is detected in pump 2. The loss of flow condition occurs when no differential pressure is detected across the pump.
Pump 2 State	Pump 2 operational state.
Pump Hours Exceeded	[Pump Hours] has exceeded [Pump Hours Threshold].
Pump Hours Threshold	Threshold value used in the [Pump Hours Exceeded] event.
Pump Hours	Operating hours for pump since last reset of this value.
Pump Short Cycle	Pumps have short cycled. A short cycle is defined as turning on and off a number of times over a set time period.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.
Remote Shutdown	Unit is shut down by a remote signal.
Sensor Issue - Event Control	Enable/disable the activation of the [Sensor Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Sensor Issue - Event Type	The event type for the [Sensor Issue] event.
Sensor Issue	One or more sensors are disconnected or the signals are out of range.
Sensor Temperature	Temperature as measured by sensor.
Service Required	Unit requires servicing.
SFA 16bit Read Only Value 1	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 10	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 2	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 3	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 4	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 5	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 6	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 7	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 8	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 9	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 1	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 10	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 2	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 3	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 4	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 5	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 6	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 7	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 8	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 9	Reserved 16bit value for SFA use.
SFA 32bit Read Only Value 1	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 10	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 2	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 3	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 4	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 5	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 6	Reserved 32bit value for SFA use.

Table 17 Liebert XDC - Glossary (continued)

Data Label	Data Description
SFA 32bit Read Only Value 7	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 8	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 9	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 1	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 10	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 2	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 3	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 4	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 5	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 6	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 7	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 8	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 9	Reserved 32bit value for SFA use.
SFA ID Number	This is a unique value identifying a specific SFA.
SFA Reserved Event 1	Reserved event for SFA use.
SFA Reserved Event 10	Reserved event for SFA use.
SFA Reserved Event 11	Reserved event for SFA use.
SFA Reserved Event 12	Reserved event for SFA use.
SFA Reserved Event 13	Reserved event for SFA use.
SFA Reserved Event 14	Reserved event for SFA use.
SFA Reserved Event 15	Reserved event for SFA use.
SFA Reserved Event 16	Reserved event for SFA use.
SFA Reserved Event 17	Reserved event for SFA use.
SFA Reserved Event 18	Reserved event for SFA use.
SFA Reserved Event 19	Reserved event for SFA use.
SFA Reserved Event 2	Reserved event for SFA use.
SFA Reserved Event 20	Reserved event for SFA use.
SFA Reserved Event 21	Reserved event for SFA use.
SFA Reserved Event 22	Reserved event for SFA use.
SFA Reserved Event 23	Reserved event for SFA use.
SFA Reserved Event 24	Reserved event for SFA use.
SFA Reserved Event 25	Reserved event for SFA use.
SFA Reserved Event 3	Reserved event for SFA use.
SFA Reserved Event 4	Reserved event for SFA use.
SFA Reserved Event 5	Reserved event for SFA use.
SFA Reserved Event 6	Reserved event for SFA use.
SFA Reserved Event 7	Reserved event for SFA use.
SFA Reserved Event 8	Reserved event for SFA use.
SFA Reserved Event 9	Reserved event for SFA use.
Shutdown - Loss Of Power	System lost power. This event becomes active when the unit is powered on following an unexpected loss of power.
Smoke Detected	Smoke detected.
Supply Refrig Over Temp Threshold	Threshold value used in the [Supply Refrigerant Over Temp] event.

Table 17 Liebert XDC - Glossary (continued)

Data Label	Data Description
Supply Refrigerant Over Temp	Event that is activated when [Supply Refrigerant Temperature] exceeds [Supply Refrig Over Temp Threshold]. The event is deactivated when the temperature drops below the threshold.
Supply Refrigerant Temp Sensor Issue	The supply refrigerant temperature sensor is disconnected or the signal is out of range.
Supply Refrigerant Temperature	Supply refrigerant temperature.
Supply Refrigerant Under Temp	[Supply Refrigerant Temperature] has dropped below a specified threshold.
System Condensation Detected	System condensation detected.
System Control Mode	System control mode.
System Date and Time	The system date and time
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Status	The operating status for the system
Unit Code Missing	Unit code has not been entered and saved.
Unit Communication Lost	Master has lost communication with one or more networked units.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.
Unit Partial Shutdown	An event has occurred requiring some system components to be shutdown and disabled.
Unit Shutdown	An event has occurred requiring the unit to be shutdown and disabled to prevent damage to the system.
Unit Standby	Unit was placed in standby mode.
Visual ID Control	Visual identification control to display an LED flashing sequence, allowing it to be visually located.
Water Under Floor	Water under the floor is detected.

Table 18 Liebert XDP™ - Status and Coil

Data Label	Controller			
	Status	Coil	Number of Bits	Notes
Liebert iCOM v4				
Pumps				
Pump 1 Loss of Flow	10001		1	Active on Alarm
Pump 2 Loss of Flow	10002		1	Active on Alarm
Pump Short Cycle	10020		1	Active on Alarm
System Events				
Fan Issue	10003		1	Active on Alarm
System Condensation Detected	10004		1	Active on Alarm
Customer Input 1	10005		1	Active on Alarm
Shutdown - Loss Of Power	10019		1	Active on Alarm
Water Under Floor	10021		1	Active on Alarm
Smoke Detected	10022		1	Active on Alarm
Service Required	10023		1	Active on Alarm
Unit Communication Lost	10262		1	Active on Alarm
RAM Battery Issue	10263		1	Active on Alarm
Master Unit Communication Lost	10264		1	Active on Alarm
Remote Shutdown	10265		1	Active on Alarm
Unit Code Missing	10266		1	Active on Alarm
Chilled Water				
Supply Chilled Water Over Temp	10006		1	Active on Alarm
Supply Chilled Water Temp Sensor Issue	10007		1	Active on Alarm
Chilled Water Control Valve Position	10018		1	Active on Alarm
Refrigerant				
Supply Refrigerant Over Temp	10008		1	Active on Alarm
Supply Refrigerant Under Temp	10009		1	Active on Alarm
Supply Refrigerant Temp Sensor Issue	10010		1	Active on Alarm
External Air				
Ext Air Sensor A Over Temperature	10011		1	Active on Alarm
Ext Air Sensor A Under Temperature	10012		1	Active on Alarm
Ext Air Sensor A Issue	10013		1	Active on Alarm
Ext Air Sensor B Over Temperature	10014		1	Active on Alarm
Ext Air Sensor B Under Temperature	10015		1	Active on Alarm
Ext Air Sensor B Issue	10016		1	Active on Alarm
Ext Dew Point Over Temperature	10017		1	Active on Alarm
Pump Hours 1				
Pump Hours Exceeded	10030		1	Active on Alarm
Pump Hours 2				
Pump Hours Exceeded	10036		1	Active on Alarm
XD System 1				
Ext System Condensation Detected	10042		1	Active on Alarm
Ext Fan Issue	10043		1	Active on Alarm
Sensor Issue	10044		1	Active on Alarm
Ext Remote Shutdown	10045		1	Active on Alarm
Hot Aisle Temp Out of Range	10046		1	Active on Alarm
Cold Aisle Temp Out of Range	10047		1	Active on Alarm
XD System 2				
Ext System Condensation Detected	10053		1	Active on Alarm

Table 18 Liebert XDP™ - Status and Coil (continued)

Data Label	Controller			
	Liebert iCOM v4			
	Status	Coil	Number of Bits	Notes
Ext Fan Issue	10054		1	Active on Alarm
Sensor Issue	10055		1	Active on Alarm
Ext Remote Shutdown	10056		1	Active on Alarm
Hot Aisle Temp Out of Range	10057		1	Active on Alarm
Cold Aisle Temp Out of Range	10058		1	Active on Alarm
XD System 20				
Ext System Condensation Detected	10251		1	Active on Alarm
Ext Fan Issue	10252		1	Active on Alarm
Sensor Issue	10253		1	Active on Alarm
Ext Remote Shutdown	10254		1	Active on Alarm
Hot Aisle Temp Out of Range	10255		1	Active on Alarm
Cold Aisle Temp Out of Range	10256		1	Active on Alarm
Messages				
Unit On	10272		1	Active on Alarm
Unit Off	10273		1	Active on Alarm
Unit Standby	10274		1	Active on Alarm
Unit Partial Shutdown	10275		1	Active on Alarm
Unit Shutdown	10276		1	Active on Alarm
Maintenance Due	10277		1	Active on Alarm
Maintenance Completed	10278		1	Active on Alarm
SFA Report				
SFA Reserved Event 1	18000		1	Active on Alarm
SFA Reserved Event 2	18001		1	Active on Alarm
SFA Reserved Event 3	18002		1	Active on Alarm
SFA Reserved Event 4	18003		1	Active on Alarm
SFA Reserved Event 5	18004		1	Active on Alarm
SFA Reserved Event 6	18005		1	Active on Alarm
SFA Reserved Event 7	18006		1	Active on Alarm
SFA Reserved Event 8	18007		1	Active on Alarm
SFA Reserved Event 9	18008		1	Active on Alarm
SFA Reserved Event 10	18009		1	Active on Alarm
SFA Reserved Event 11	18010		1	Active on Alarm
SFA Reserved Event 12	18011		1	Active on Alarm
SFA Reserved Event 13	18012		1	Active on Alarm
SFA Reserved Event 14	18013		1	Active on Alarm
SFA Reserved Event 15	18014		1	Active on Alarm
SFA Reserved Event 16	18015		1	Active on Alarm
SFA Reserved Event 17	18016		1	Active on Alarm
SFA Reserved Event 18	18017		1	Active on Alarm
SFA Reserved Event 19	18018		1	Active on Alarm
SFA Reserved Event 20	18019		1	Active on Alarm
SFA Reserved Event 21	18020		1	Active on Alarm
SFA Reserved Event 22	18021		1	Active on Alarm
SFA Reserved Event 23	18022		1	Active on Alarm
SFA Reserved Event 24	18023		1	Active on Alarm
SFA Reserved Event 25	18024		1	Active on Alarm

Table 19 Liebert XDP - Input and Holding

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
Pumps					
Pump 1 State	30385		1		0 = off 1 = on
Pump 2 State	30386		1		0 = off 1 = on
Refrigerant					
Supply Refrigerant Temperature	30387		1	Scale : x / 10	Units : deg C
Supply Refrigerant Temperature	30388		1	Scale : x / 10	Units : deg F
Supply Refrig Over Temp Threshold	30411	40411	1	Scale : x / 10	Units : deg C
Supply Refrig Over Temp Threshold	30412	40412	1	Scale : x / 10	Units : deg F
Chilled Water					
Supply Chilled Water Temperature	30389		1	Scale : x / 10	Units : deg C
Supply Chilled Water Temperature	30390		1	Scale : x / 10	Units : deg F
Supply Chilled Water Over Temp Threshold	30413	40413	1	Scale : x / 10	Units : deg C
Supply Chilled Water Over Temp Threshold	30414	40414	1	Scale : x / 10	Units : deg F
Chilled Water Valve Open Position	31710		1		
System Information					
System Status	30391		1		1 = Normal Operation 2 = StartUp 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation
System Operating State	30392		1		0 = off 1 = on 2 = standby
Auto Restart Delay	30417	40417	1		Units : sec
System Control Mode	30418		1		0 = Internal (Auto) 1 = External (Manual)
Maintenance Ramp	30419		1		Units : %
Calculated Next Maintenance Month	30420		1		
Calculated Next Maintenance Year	30421		1		
System On/Off Control	30422	40422	1		0 = off 1 = on
System Operating State Reason	31704		1		0 = Reason Unknown 1 = Network Display 2 = Alarm 3 = Schedule 4 = Remote System 5 = External Input 6 = Local Display

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
External Air					
Ext Air Sensor A Temperature	30393		1	Scale : x / 10	Units : deg C
Ext Air Sensor A Temperature	30394		1	Scale : x / 10	Units : deg F
Ext Air Sensor A Humidity	30395		1	Scale : x / 10	Units : % RH
Ext Air Sensor A Dew Point Temp	30396		1	Scale : x / 10	Units : deg C
Ext Air Sensor A Dew Point Temp	30397		1	Scale : x / 10	Units : deg F
Ext Air Sensor B Temperature	30398		1	Scale : x / 10	Units : deg C
Ext Air Sensor B Temperature	30399		1	Scale : x / 10	Units : deg F
Ext Air Sensor B Humidity	30400		1	Scale : x / 10	Units : % RH
Ext Air Sensor B Dew Point Temp	30401		1	Scale : x / 10	Units : deg C
Ext Air Sensor B Dew Point Temp	30402		1	Scale : x / 10	Units : deg F
Minimum Room Temperature Set Point	30403	40403	1	Scale : x / 10	Units : deg C
Minimum Room Temperature Set Point	30404	40404	1	Scale : x / 10	Units : deg F
Ext Air Over Temp Threshold	30405	40405	1	Scale : x / 10	Units : deg C
Ext Air Over Temp Threshold	30406	40406	1	Scale : x / 10	Units : deg F
Ext Air Under Temp Threshold	30407	40407	1	Scale : x / 10	Units : deg C
Ext Air Under Temp Threshold	30408	40408	1	Scale : x / 10	Units : deg F
Ext Dew Point Over Temp Threshold	30409	40409	1	Scale : x / 10	Units : deg C
Ext Dew Point Over Temp Threshold	30410	40410	1	Scale : x / 10	Units : deg F
Dew Point Temperature	30415		1	Scale : x / 10	Units : deg C
Dew Point Temperature	30416		1	Scale : x / 10	Units : deg F
Time					
System Date and Time	39998	49998	2		Secs since Epoch(UTC)
Pump Hours 1					
Pump Hours	30430	40430	1		Units : hr
Pump Hours Threshold	30431	40431	1		Units : hr
Pump Hours 2					
Pump Hours	30437	40437	1		Units : hr
Pump Hours Threshold	30438	40438	1		Units : hr
XD System 1					
Communication Status	30444		1		0 = Connected 1 = Not Connected
Fan On/Off Control	30445	40445	1		0 = off 1 = on
Primary Fan Group State	30446		1		0 = off 1 = on 2 = economy
Fan Button Control	30447	40447	1		0 = enabled 1 = disabled
Visual ID Control	30448	40448	1		0 = disabled 1 = enabled
Cooling Capacity	30449		1		Units : %
Cooling Capacity	30450		1		Units : kW
Ext System Condensation Detected - Event Control	30451	40451	1		0 = disabled 1 = enabled

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
Ext System Condensation Detected - Event Type	30452	40452	1		0 = Message 1 = Warning 2 = Alarm
Ext Fan Issue - Event Control	30453	40453	1		0 = disabled 1 = enabled
Ext Fan Issue - Event Type	30454	40454	1		0 = Message 1 = Warning 2 = Alarm
Sensor Issue - Event Control	30455	40455	1		0 = disabled 1 = enabled
Sensor Issue - Event Type	30456	40456	1		0 = Message 1 = Warning 2 = Alarm
Ext Remote Shutdown - Event Control	30457	40457	1		0 = disabled 1 = enabled
Ext Remote Shutdown - Event Type	30458	40458	1		0 = Message 1 = Warning 2 = Alarm
Hot Aisle Over Temp Threshold	30459	40459	1		Units : deg C
Hot Aisle Over Temp Threshold	30460	40460	1		Units : deg F
Hot Aisle Under Temp Threshold	30461	40461	1		Units : deg C
Hot Aisle Under Temp Threshold	30462	40462	1		Units : deg F
Cold Aisle Over Temp Threshold	30463	40463	1		Units : deg C
Cold Aisle Over Temp Threshold	30464	40464	1		Units : deg F
Cold Aisle Under Temp Threshold	30465	40465	1		Units : deg C
Cold Aisle Under Temp Threshold	30466	40466	1		Units : deg F
XD System 2					
Communication Status	30472		1		0 = Connected 1 = Not Connected
Fan On/Off Control	30473	40473	1		0 = off 1 = on
Primary Fan Group State	30474		1		0 = off 1 = on 2 = economy
Fan Button Control	30475	40475	1		0 = enabled 1 = disabled
Visual ID Control	30476	40476	1		0 = disabled 1 = enabled
Cooling Capacity	30477		1		Units : %
Cooling Capacity	30478		1		Units : kW
Ext System Condensation Detected - Event Control	30479	40479	1		0 = disabled 1 = enabled
Ext System Condensation Detected - Event Type	30480	40480	1		0 = Message 1 = Warning 2 = Alarm
Ext Fan Issue - Event Control	30481	40481	1		0 = disabled 1 = enabled
Ext Fan Issue - Event Type	30482	40482	1		0 = Message 1 = Warning 2 = Alarm

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
Sensor Issue - Event Control	30483	40483	1		0 = disabled 1 = enabled
Sensor Issue - Event Type	30484	40484	1		0 = Message 1 = Warning 2 = Alarm
Ext Remote Shutdown - Event Control	30485	40485	1		0 = disabled 1 = enabled
Ext Remote Shutdown - Event Type	30486	40486	1		0 = Message 1 = Warning 2 = Alarm
Hot Aisle Over Temp Threshold	30487	40487	1		Units : deg C
Hot Aisle Over Temp Threshold	30488	40488	1		Units : deg F
Hot Aisle Under Temp Threshold	30489	40489	1		Units : deg C
Hot Aisle Under Temp Threshold	30490	40490	1		Units : deg F
Cold Aisle Over Temp Threshold	30491	40491	1		Units : deg C
Cold Aisle Over Temp Threshold	30492	40492	1		Units : deg F
Cold Aisle Under Temp Threshold	30493	40493	1		Units : deg C
Cold Aisle Under Temp Threshold	30494	40494	1		Units : deg F
XD System 20					
Communication Status	30976		1		0 = Connected 1 = Not Connected
Fan On/Off Control	30977	40977	1		0 = off 1 = on
Primary Fan Group State	30978		1		0 = off 1 = on 2 = economy
Fan Button Control	30979	40979	1		0 = enabled 1 = disabled
Visual ID Control	30980	40980	1		0 = disabled 1 = enabled
Cooling Capacity	30981		1		Units : %
Cooling Capacity	30982		1		Units : kW
Ext System Condensation Detected - Event Control	30983	40983	1		0 = disabled 1 = enabled
Ext System Condensation Detected - Event Type	30984	40984	1		0 = Message 1 = Warning 2 = Alarm
Ext Fan Issue - Event Control	30985	40985	1		0 = disabled 1 = enabled
Ext Fan Issue - Event Type	30986	40986	1		0 = Message 1 = Warning 2 = Alarm
Sensor Issue - Event Control	30987	40987	1		0 = disabled 1 = enabled
Sensor Issue - Event Type	30988	40988	1		0 = Message 1 = Warning 2 = Alarm
Ext Remote Shutdown - Event Control	30989	40989	1		0 = disabled 1 = enabled

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
Ext Remote Shutdown - Event Type	30990	40990	1		0 = Message 1 = Warning 2 = Alarm
Hot Aisle Over Temp Threshold	30991	40991	1		Units : deg C
Hot Aisle Over Temp Threshold	30992	40992	1		Units : deg F
Hot Aisle Under Temp Threshold	30993	40993	1		Units : deg C
Hot Aisle Under Temp Threshold	30994	40994	1		Units : deg F
Cold Aisle Over Temp Threshold	30995	40995	1		Units : deg C
Cold Aisle Over Temp Threshold	30996	40996	1		Units : deg F
Cold Aisle Under Temp Threshold	30997	40997	1		Units : deg C
Cold Aisle Under Temp Threshold	30998	40998	1		Units : deg F
XD System 1 Temperature Sensor 1					
Remote Sensor Temperature	31004		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31005		1	Scale : x / 10	Units : deg F
XD System 1 Temperature Sensor 2					
Fan State	31032		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31033	41033	1		0 = disabled 1 = automatic 2 = manual
XD System 1 Temperature Sensor 4					
Remote Sensor Temperature	31025		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31026		1	Scale : x / 10	Units : deg F
XD System 1 Secondary Fans					
Fan State	31032		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31033	41033	1		0 = disabled 1 = automatic 2 = manual
XD System 2 Temperature Sensor 1					
Remote Sensor Temperature	31039		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31040		1	Scale : x / 10	Units : deg F
XD System 2 Temperature Sensor 2					
Remote Sensor Temperature	31046		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31047		1	Scale : x / 10	Units : deg F
XD System 2 Temperature Sensor 4					
Remote Sensor Temperature	31060		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31061		1	Scale : x / 10	Units : deg F
XD System 2 Secondary Fans					
Fan State	31067		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31068	41068	1		0 = disabled 1 = automatic 2 = manual

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
XD System 3 Temperature Sensor 1					
Remote Sensor Temperature	31074		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31075		1	Scale : x / 10	Units : deg F
XD System 3 Temperature Sensor 2					
Remote Sensor Temperature	31081		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31082		1	Scale : x / 10	Units : deg F
XD System 3 Temperature Sensor 4					
Remote Sensor Temperature	31095		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31096		1	Scale : x / 10	Units : deg F
XD System 3 Secondary Fans					
Fan State	31102		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31103	41103	1		0 = disabled 1 = automatic 2 = manual
XD System 4 Temperature Sensor 1					
Remote Sensor Temperature	31109		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31110		1	Scale : x / 10	Units : deg F
XD System 4 Temperature Sensor 2					
Remote Sensor Temperature	31116		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31117		1	Scale : x / 10	Units : deg F
XD System 4 Temperature Sensor 4					
Remote Sensor Temperature	31130		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31131		1	Scale : x / 10	Units : deg F
XD System 4 Secondary Fans					
Fan State	31137		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31138	41138	1		0 = disabled 1 = automatic 2 = manual
XD System 5 Temperature Sensor 1					
Remote Sensor Temperature	31144		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31145		1	Scale : x / 10	Units : deg F
XD System 5 Temperature Sensor 2					
Remote Sensor Temperature	31151		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31152		1	Scale : x / 10	Units : deg F
XD System 5 Temperature Sensor 4					
Remote Sensor Temperature	31165		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31166		1	Scale : x / 10	Units : deg F
XD System 5 Secondary Fans					
Fan State	31172		1		0 = off 1 = on 2 = economy

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
Fan Economy Mode	31173	41173	1		0 = disabled 1 = automatic 2 = manual
XD System 6 Temperature Sensor 1					
Remote Sensor Temperature	31179		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31180		1	Scale : x / 10	Units : deg F
XD System 6 Temperature Sensor 2					
Remote Sensor Temperature	31186		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31187		1	Scale : x / 10	Units : deg F
XD System 6 Temperature Sensor 4					
Remote Sensor Temperature	31200		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31201		1	Scale : x / 10	Units : deg F
XD System 6 Secondary Fans					
Fan State	31207		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31208	41208	1		0 = disabled 1 = automatic 2 = manual
XD System 7 Temperature Sensor 1					
Remote Sensor Temperature	31214		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31215		1	Scale : x / 10	Units : deg F
XD System 7 Temperature Sensor 2					
Remote Sensor Temperature	31221		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31222		1	Scale : x / 10	Units : deg F
XD System 7 Temperature Sensor 4					
Remote Sensor Temperature	31235		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31236		1	Scale : x / 10	Units : deg F
XD System 7 Secondary Fans					
Fan State	31242		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31243	41243	1		0 = disabled 1 = automatic 2 = manual
XD System 8 Temperature Sensor 1					
Remote Sensor Temperature	31249		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31250		1	Scale : x / 10	Units : deg F
XD System 8 Temperature Sensor 2					
Remote Sensor Temperature	31256		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31257		1	Scale : x / 10	Units : deg F
XD System 8 Temperature Sensor 4					
Remote Sensor Temperature	31270		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31271		1	Scale : x / 10	Units : deg F

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
XD System 8 Secondary Fans					
Fan State	31277		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31278	41278	1		0 = disabled 1 = automatic 2 = manual
XD System 9 Temperature Sensor 1					
Remote Sensor Temperature	31284		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31285		1	Scale : x / 10	Units : deg F
XD System 9 Temperature Sensor 2					
Remote Sensor Temperature	31291		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31292		1	Scale : x / 10	Units : deg F
XD System 9 Temperature Sensor 4					
Remote Sensor Temperature	31305		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31306		1	Scale : x / 10	Units : deg F
XD System 9 Secondary Fans					
Fan State	31312		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31313	41313	1		0 = disabled 1 = automatic 2 = manual
XD System 10 Temperature Sensor 1					
Remote Sensor Temperature	31319		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31320		1	Scale : x / 10	Units : deg F
XD System 10 Temperature Sensor 2					
Remote Sensor Temperature	31326		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31327		1	Scale : x / 10	Units : deg F
XD System 10 Temperature Sensor 4					
Remote Sensor Temperature	31340		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31341		1	Scale : x / 10	Units : deg F
XD System 10 Secondary Fans					
Fan State	31347		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31348	41348	1		0 = disabled 1 = automatic 2 = manual
XD System 11 Temperature Sensor 1					
Remote Sensor Temperature	31354		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31355		1	Scale : x / 10	Units : deg F
XD System 11 Temperature Sensor 2					
Remote Sensor Temperature	31361		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31362		1	Scale : x / 10	Units : deg F
XD System 11 Temperature Sensor 4					
Remote Sensor Temperature	31375		1	Scale : x / 10	Units : deg C

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
Remote Sensor Temperature	31376		1	Scale : x / 10	Units : deg F
XD System 11 Secondary Fans					
Fan State	31382		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31383	41383	1		0 = disabled 1 = automatic 2 = manual
XD System 12 Temperature Sensor 1					
Remote Sensor Temperature	31389		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31390		1	Scale : x / 10	Units : deg F
XD System 12 Temperature Sensor 2					
Remote Sensor Temperature	31396		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31397		1	Scale : x / 10	Units : deg F
XD System 12 Temperature Sensor 4					
Remote Sensor Temperature	31410		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31411		1	Scale : x / 10	Units : deg F
XD System 12 Secondary Fans					
Fan State	31417		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31418	41418	1		0 = disabled 1 = automatic 2 = manual
XD System 13 Temperature Sensor 1					
Remote Sensor Temperature	31424		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31425		1	Scale : x / 10	Units : deg F
XD System 13 Temperature Sensor 2					
Remote Sensor Temperature	31431		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31432		1	Scale : x / 10	Units : deg F
XD System 13 Temperature Sensor 4					
Remote Sensor Temperature	31445		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31446		1	Scale : x / 10	Units : deg F
XD System 13 Secondary Fans					
Fan State	31452		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31453	41453	1		0 = disabled 1 = automatic 2 = manual
XD System 14 Temperature Sensor 1					
Remote Sensor Temperature	31459		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31460		1	Scale : x / 10	Units : deg F
XD System 14 Temperature Sensor 2					
Remote Sensor Temperature	31466		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31467		1	Scale : x / 10	Units : deg F

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
XD System 14 Temperature Sensor 4					
Remote Sensor Temperature	31480		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31481		1	Scale : x / 10	Units : deg F
XD System 14 Secondary Fans					
Fan State	31487		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31488	41488	1		0 = disabled 1 = automatic 2 = manual
XD System 15 Temperature Sensor 1					
Remote Sensor Temperature	31494		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31495		1	Scale : x / 10	Units : deg F
XD System 15 Temperature Sensor 2					
Remote Sensor Temperature	31501		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31502		1	Scale : x / 10	Units : deg F
XD System 15 Temperature Sensor 4					
Remote Sensor Temperature	31515		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31516		1	Scale : x / 10	Units : deg F
XD System 15 Secondary Fans					
Fan State	31522		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31523	41523	1		0 = disabled 1 = automatic 2 = manual
XD System 16 Temperature Sensor 1					
Remote Sensor Temperature	31529		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31530		1	Scale : x / 10	Units : deg F
XD System 16 Temperature Sensor 2					
Remote Sensor Temperature	31536		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31537		1	Scale : x / 10	Units : deg F
XD System 16 Temperature Sensor 4					
Remote Sensor Temperature	31550		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31551		1	Scale : x / 10	Units : deg F
XD System 16 Secondary Fans					
Fan State	31557		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31558	41558	1		0 = disabled 1 = automatic 2 = manual
XD System 17 Temperature Sensor 1					
Remote Sensor Temperature	31564		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31565		1	Scale : x / 10	Units : deg F
XD System 17 Temperature Sensor 2					
Remote Sensor Temperature	31571		1	Scale : x / 10	Units : deg C

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
Remote Sensor Temperature	31572		1	Scale : x / 10	Units : deg F
XD System 17 Temperature Sensor 4					
Remote Sensor Temperature	31585		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31586		1	Scale : x / 10	Units : deg F
XD System 17 Secondary Fans					
Fan State	31592		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31593	41593	1		0 = disabled 1 = automatic 2 = manual
XD System 18 Temperature Sensor 1					
Remote Sensor Temperature	31599		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31600		1	Scale : x / 10	Units : deg F
XD System 18 Temperature Sensor 2					
Remote Sensor Temperature	31606		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31607		1	Scale : x / 10	Units : deg F
XD System 18 Temperature Sensor 4					
Remote Sensor Temperature	31620		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31621		1	Scale : x / 10	Units : deg F
XD System 18 Secondary Fans					
Fan State	31627		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31628	41628	1		0 = disabled 1 = automatic 2 = manual
XD System 19 Temperature Sensor 1					
Remote Sensor Temperature	31634		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31635		1	Scale : x / 10	Units : deg F
XD System 19 Temperature Sensor 2					
Remote Sensor Temperature	31641		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31642		1	Scale : x / 10	Units : deg F
XD System 19 Temperature Sensor 4					
Remote Sensor Temperature	31655		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31656		1	Scale : x / 10	Units : deg F
XD System 19 Secondary Fans					
Fan State	31662		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31663	41663	1		0 = disabled 1 = automatic 2 = manual
XD System 20 Temperature Sensor 1					
Remote Sensor Temperature	31669		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31670		1	Scale : x / 10	Units : deg F
XD System 20 Temperature Sensor 2					

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
Remote Sensor Temperature	31676		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31677		1	Scale : x / 10	Units : deg F
XD System 20 Temperature Sensor 4					
Remote Sensor Temperature	31690		1	Scale : x / 10	Units : deg C
Remote Sensor Temperature	31691		1	Scale : x / 10	Units : deg F
XD System 20 Secondary Fans					
Fan State	31697		1		0 = off 1 = on 2 = economy
Fan Economy Mode	31698	41698	1		0 = disabled 1 = automatic 2 = manual
SFA Report					
SFA ID Number	38000		2		
SFA 16bit Read Only Value 1	38002		1		
SFA 16bit Read Only Value 2	38003		1		
SFA 16bit Read Only Value 3	38004		1		
SFA 16bit Read Only Value 4	38005		1		
SFA 16bit Read Only Value 5	38006		1		
SFA 16bit Read Only Value 6	38007		1		
SFA 16bit Read Only Value 7	38008		1		
SFA 16bit Read Only Value 8	38009		1		
SFA 16bit Read Only Value 9	38010		1		
SFA 16bit Read Only Value 10	38011		1		
SFA 32bit Read Only Value 1	38012		2		
SFA 32bit Read Only Value 2	38014		2		
SFA 32bit Read Only Value 3	38016		2		
SFA 32bit Read Only Value 4	38018		2		
SFA 32bit Read Only Value 5	38020		2		
SFA 32bit Read Only Value 6	38022		2		
SFA 32bit Read Only Value 7	38024		2		
SFA 32bit Read Only Value 8	38026		2		
SFA 32bit Read Only Value 9	38028		2		
SFA 32bit Read Only Value 10	38030		2		
SFA 16bit Writable Value 1	38032	48032	1		
SFA 16bit Writable Value 2	38033	48033	1		
SFA 16bit Writable Value 3	38034	48034	1		
SFA 16bit Writable Value 4	38035	48035	1		
SFA 16bit Writable Value 5	38036	48036	1		
SFA 16bit Writable Value 6	38037	48037	1		
SFA 16bit Writable Value 7	38038	48038	1		
SFA 16bit Writable Value 8	38039	48039	1		
SFA 16bit Writable Value 9	38040	48040	1		
SFA 16bit Writable Value 10	38041	48041	1		

Table 19 Liebert XDP - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Reg	Scale	Notes/Units
SFA 32bit Writable Value 1	38042	48042	2		
SFA 32bit Writable Value 2	38044	48044	2		
SFA 32bit Writable Value 3	38046	48046	2		
SFA 32bit Writable Value 4	38048	48048	2		
SFA 32bit Writable Value 5	38050	48050	2		
SFA 32bit Writable Value 6	38052	48052	2		
SFA 32bit Writable Value 7	38054	48054	2		
SFA 32bit Writable Value 8	38056	48056	2		
SFA 32bit Writable Value 9	38058	48058	2		
SFA 32bit Writable Value 10	38060	48060	2		

Table 20 Liebert XDP - Glossary

Data Label	Data Description
Auto Restart Delay	If power is lost, the control will delay this amount of time after power is restored before restarting the unit.
Calculated Next Maintenance Month	Calculated month of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Year].
Calculated Next Maintenance Year	Calculated year of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Month].
Chilled Water Control Valve Failure	Chilled water valve out of position. Chilled water control valve position does not match expected value.
Chilled Water Valve Open Position	Chilled water valve open position.
Cold Aisle Over Temp Threshold	Upper threshold value used in the [Cold Aisle Temp Out of Range] event.
Cold Aisle Temp Out of Range	The air temperature in the cold aisle is either above [Cold Aisle Over Temp Threshold] or below [Cold Aisle Under Temp Threshold].
Cold Aisle Under Temp Threshold	Lower threshold value used in the [Cold Aisle Temp Out of Range] event.
Communication Status	Communication status of remote device.
Cooling Capacity	Cooling capacity in use, expressed as a percentage of the maximum rated capacity.
Cooling Capacity	Cooling capacity in use, expressed in kilowatts.
Customer Input 1	Customer input 1.
Dew Point Temperature	Dew point temperature, using the highest reading from all sensors.
Ext Air Over Temp Threshold	Threshold value used in the ([Ext Air Sensor A Over Temperature], [Ext Air Sensor B Over Temperature]...) events.
Ext Air Sensor A Dew Point Temp	Dew point temperature as measured by external air sensor A.
Ext Air Sensor A Humidity	Relative humidity as measured by external air sensor A.
Ext Air Sensor A Issue	The external air sensor A is disconnected or the signal is out of range.
Ext Air Sensor A Over Temperature	[Ext Air Sensor A Temperature] has exceeded [Ext Air Over Temp Threshold].
Ext Air Sensor A Temperature	Air temperature as measured by external air sensor A.
Ext Air Sensor A Under Temperature	[Ext Air Sensor A Temperature] has dropped below [Ext Air Under Temp Threshold].
Ext Air Sensor B Dew Point Temp	Dew point temperature as measured by external air sensor B.
Ext Air Sensor B Humidity	Relative humidity as measured by external air sensor B.
Ext Air Sensor B Issue	The external air sensor B is disconnected or the signal is out of range.

Table 20 Liebert XDP - Glossary (continued)

Data Label	Data Description
Ext Air Sensor B Over Temperature	[Ext Air Sensor B Temperature] has exceeded [Ext Air Over Temp Threshold].
Ext Air Sensor B Temperature	Air temperature as measured by external air sensor B.
Ext Air Sensor B Under Temperature	[Ext Air Sensor B Temperature] has dropped below [Ext Air Under Temp Threshold].
Ext Air Under Temp Threshold	Threshold value used in the ([Ext Air Sensor A Under Temperature], [Ext Air Sensor B Under Temperature]...) events.
Ext Dew Point Over Temp Threshold	Threshold value used in the [Ext Dew Point Over Temperature] event.
Ext Dew Point Over Temperature	At least one dew point temperature reading ([Ext Air Sensor A Dew Point Temp], [Ext Air Sensor B Dew Point Temp]...) has exceeded [Ext Dew Point Over Temp Threshold].
Ext Fan Issue - Event Control	Enable/disable the activation of the [Ext Fan Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Fan Issue - Event Type	The event type for the [Ext Fan Issue] event.
Ext Fan Issue	One or more fans are not operating within their operational parameters.
Ext Remote Shutdown - Event Control	Enable/disable the activation of the [Remote Shutdown] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Remote Shutdown - Event Type	The event type for the [Remote Shutdown] event.
Ext Remote Shutdown	Unit is shut down by a remote signal.
Ext System Condensation Detected - Event Control	Enable/disable the activation of the [Ext System Condensation Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext System Condensation Detected - Event Type	The event type for the [Ext System Condensation Detected] event.
Ext System Condensation Detected	External system condensation detected.
Fan Button Control	Enable or disable the buttons from controlling the state of the fans.
Fan Economy Mode	Mode in which system secondary fans are to be controlled.
Fan Issue	One or more fans are not operating within their operational parameters.
Fan On/Off Control	Turn system fans on or off.
Fan State	Current operational state of a group of fans.
Hot Aisle Over Temp Threshold	Upper threshold value used in the [Hot Aisle Temp Out of Range] event.
Hot Aisle Temp Out of Range	The air temperature in the Hot aisle is either above [Hot Aisle Over Temp Threshold] or below [Hot Aisle Under Temp Threshold].
Hot Aisle Under Temp Threshold	Lower threshold value used in the [Hot Aisle Temp Out of Range] event.
Maintenance Completed	Maintenance has been completed on the unit.
Maintenance Due	The calculated maintenance date has been reached.
Maintenance Ramp	The ratio of operations performed to the calculated operations available between maintenance intervals.
Master Unit Communication Lost	Communication with master unit has been lost.
Minimum Room Temperature Set Point	Minimum desired room air temperature. If the room air temperature falls below this set point, the unit will reduce the cooling.
Primary Fan Group State	Current operational state of the primary fan group.
Pump 1 Loss of Flow	Loss of flow is detected in pump 1. The loss of flow condition occurs when no differential pressure is detected across the pump.
Pump 1 State	Pump 1 operational state.
Pump 2 Loss of Flow	Loss of flow is detected in pump 2. The loss of flow condition occurs when no differential pressure is detected across the pump.

Table 20 Liebert XDP - Glossary (continued)

Data Label	Data Description
Pump 2 State	Pump 2 operational state.
Pump Hours Exceeded	[Pump Hours] has exceeded [Pump Hours Threshold].
Pump Hours Threshold	Threshold value used in the [Pump Hours Exceeded] event.
Pump Hours	Operating hours for pump since last reset of this value.
Pump Short Cycle	Pumps have short cycled. A short cycle is defined as turning on and off a number of times over a set time period.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.
Remote Shutdown	Unit is shut down by a remote signal.
Sensor Issue - Event Control	Enable/disable the activation of the [Sensor Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Sensor Issue - Event Type	The event type for the [Sensor Issue] event.
Sensor Issue	One or more sensors are disconnected or the signals are out of range.
Sensor Temperature	Temperature as measured by sensor.
Service Required	Unit requires servicing.
SFA 16bit Read Only Value 1	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 10	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 2	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 3	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 4	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 5	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 6	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 7	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 8	Reserved 16bit value for SFA use.
SFA 16bit Read Only Value 9	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 1	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 10	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 2	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 3	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 4	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 5	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 6	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 7	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 8	Reserved 16bit value for SFA use.
SFA 16bit Writable Value 9	Reserved 16bit value for SFA use.
SFA 32bit Read Only Value 1	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 10	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 2	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 3	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 4	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 5	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 6	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 7	Reserved 32bit value for SFA use.
SFA 32bit Read Only Value 8	Reserved 32bit value for SFA use.

Table 20 Liebert XDP - Glossary (continued)

Data Label	Data Description
SFA 32bit Read Only Value 9	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 1	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 10	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 2	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 3	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 4	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 5	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 6	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 7	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 8	Reserved 32bit value for SFA use.
SFA 32bit Writable Value 9	Reserved 32bit value for SFA use.
SFA ID Number	This is a unique value identifying a specific SFA.
SFA Reserved Event 1	Reserved event for SFA use.
SFA Reserved Event 10	Reserved event for SFA use.
SFA Reserved Event 11	Reserved event for SFA use.
SFA Reserved Event 12	Reserved event for SFA use.
SFA Reserved Event 13	Reserved event for SFA use.
SFA Reserved Event 14	Reserved event for SFA use.
SFA Reserved Event 15	Reserved event for SFA use.
SFA Reserved Event 16	Reserved event for SFA use.
SFA Reserved Event 17	Reserved event for SFA use.
SFA Reserved Event 18	Reserved event for SFA use.
SFA Reserved Event 19	Reserved event for SFA use.
SFA Reserved Event 2	Reserved event for SFA use.
SFA Reserved Event 20	Reserved event for SFA use.
SFA Reserved Event 21	Reserved event for SFA use.
SFA Reserved Event 22	Reserved event for SFA use.
SFA Reserved Event 23	Reserved event for SFA use.
SFA Reserved Event 24	Reserved event for SFA use.
SFA Reserved Event 25	Reserved event for SFA use.
SFA Reserved Event 3	Reserved event for SFA use.
SFA Reserved Event 4	Reserved event for SFA use.
SFA Reserved Event 5	Reserved event for SFA use.
SFA Reserved Event 6	Reserved event for SFA use.
SFA Reserved Event 7	Reserved event for SFA use.
SFA Reserved Event 8	Reserved event for SFA use.
SFA Reserved Event 9	Reserved event for SFA use.
Shutdown - Loss Of Power	System lost power. This event becomes active when the unit is powered on following an unexpected loss of power.
Smoke Detected	Smoke detected.
Supply Chilled Water Over Temp Threshold	Threshold value used in the [Supply Chilled Water Over Temp] event.
Supply Chilled Water Over Temp	Chilled water temperature is too high, as indicated by an external input signal.

Table 20 Liebert XDP - Glossary (continued)

Data Label	Data Description
Supply Chilled Water Temp Sensor Issue	The supply chilled water temperature sensor is disconnected or the signal is out of range.
Supply Chilled Water Temperature	Supply chilled water temperature.
Supply Refrig Over Temp Threshold	Threshold value used in the [Supply Refrigerant Over Temp] event.
Supply Refrigerant Over Temp	Event that is activated when [Supply Refrigerant Temperature] exceeds [Supply Refrig Over Temp Threshold]. The event is deactivated when the temperature drops below the threshold.
Supply Refrigerant Temp Sensor Issue	The supply refrigerant temperature sensor is disconnected or the signal is out of range.
Supply Refrigerant Temperature	Supply refrigerant temperature.
Supply Refrigerant Under Temp	[Supply Refrigerant Temperature] has dropped below a specified threshold.
System Condensation Detected	System condensation detected.
System Control Mode	System control mode.
System Date and Time	The system date and time
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Status	The operating status for the system
Unit Code Missing	Unit code has not been entered and saved.
Unit Communication Lost	Master has lost communication with one or more networked units.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.
Unit Partial Shutdown	An event has occurred requiring some system components to be shutdown and disabled.
Unit Shutdown	An event has occurred requiring the unit to be shutdown and disabled to prevent damage to the system.
Unit Standby	Unit was placed in standby mode.
Visual ID Control	Visual identification control to display an LED flashing sequence, allowing it to be visually located.
Water Under Floor	Water under the floor is detected.

Table 21 Liebert XDWP™ (XDP-W™) - Status and Coil

Controller	Liebert iCOM v4				
Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Pump 1 Loss of Flow	10001	-	1	-	Active on Alarm
Pump 2 Loss of Flow	10002	-	1	-	Active on Alarm
Fan Issue	10003	-	1	-	Active on Alarm
System Condensation Detected	10004	-	1	-	Active on Alarm
Customer Input 1	10005	-	1	-	Active on Alarm
Supply Chilled Water Over Temp	10006	-	1	-	Active on Alarm
Supply Chilled Water Temp Sensor Issue	10007	-	1	-	Active on Alarm
Supply Fluid Over Temp	10008	-	1	-	Active on Alarm
Supply Fluid Under Temp	10009	-	1	-	Active on Alarm
Supply Fluid Temp Sensor Issue	10010	-	1	-	Active on Alarm
Ext Air Sensor A Over Temperature	10011	-	1	-	Active on Alarm
Ext Air Sensor A Under Temperature	10012	-	1	-	Active on Alarm
Ext Air Sensor A Issue	10013	-	1	-	Active on Alarm
Ext Air Sensor B Over Temperature	10014	-	1	-	Active on Alarm
Ext Air Sensor B Under Temperature	10015	-	1	-	Active on Alarm
Ext Air Sensor B Issue	10016	-	1	-	Active on Alarm
Ext Dew Point Over Temperature	10017	-	1	-	Active on Alarm
Chilled Water Control Valve Position	10018	-	1	-	Active on Alarm
Shutdown -Loss Of Power	10019	-	1	-	Active on Alarm
Pump Short Cycle	10020	-	1	-	Active on Alarm
Water Under Floor	10021	-	1	-	Active on Alarm
Smoke Detected	10022	-	1	-	Active on Alarm
Service Required	10023	-	1	-	Active on Alarm

Table 22 Liebert XDWP (XDP-W) - Input and Holding

Controller		Liebert iCOM v4			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Pump 1 State	30385	-	1	-	0 = Off / 1 = On
Pump 2 State	30386	-	1	-	0 = Off / 1 = On
Supply Fluid Temperature	30387	-	1	10	deg C
Supply Fluid Temperature	30388	-	1	10	deg F
Supply Chilled Water Temperature	30389	-	1	10	deg C
Supply Chilled Water Temperature	30390	-	1	10	deg F
System Status	30391	-	1	-	1 = Normal Operation 2 = Startup 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation
System Operating State	30392	-	1	-	0 = Off / 1 = On 2 = Standby
Ext Air Sensor A Temperature	30393	-	1	10	deg C
Ext Air Sensor A Temperature	30394	-	1	10	deg F
Ext Air Sensor A Humidity	30395	-	1	10	% RH
Ext Air Sensor A Dew Point Temp	30396	-	1	10	deg C
Ext Air Sensor A Dew Point Temp	30397	-	1	10	deg F
Ext Air Sensor B Temperature	30398	-	1	10	deg C
Ext Air Sensor B Temperature	30399	-	1	10	deg F
Ext Air Sensor B Humidity	30400	-	1	10	% RH
Ext Air Sensor B Dew Point Temp	30401	-	1	10	deg C
Ext Air Sensor B Dew Point Temp	30402	-	1	10	deg F
Minimum Room Temperature Set Point	30403	40403	1	-	deg C
Minimum Room Temperature Set Point	30404	40404	1	-	deg F
Ext Air Over Temp Threshold	30405	40405	1	-	deg C
Ext Air Over Temp	30406	40406	1	-	deg F
Threshold					
Ext Air Under Temp Threshold	30407	40407	1	-	deg C
Ext Air Under Temp Threshold	30408	40408	1	-	deg F
Ext Dew Point Over Temp Threshold	30409	40409	1	-	deg C
Ext Dew Point Over Temp Threshold	30410	40410	1	-	deg F
Supply Fluid Over Temp Threshold	30411	40411	1	-	deg C
Supply Fluid Over Temp Threshold	30412	40412	1	-	deg F
Supply Chilled Water Over Temp Threshold	30413	40413	1	-	deg C
Supply Chilled Water Over Temp Threshold	30414	40414	1	-	deg F
Dew Point Temperature	30415	-	1	10	deg C
Dew Point Temperature	30416	-	1	10	deg F
Auto Restart Delay	30417	40417	1	-	sec
System Control Mode	30418	-	1	-	0 = Internal (Auto) 1 = External (Manual)
Maintenance Ramp	30419	-	1	-	%
Calculated Next Maintenance Month	30420	-	1	-	-
Calculated Next Maintenance Year	30421	-	1	-	-
System On/Off Control	30422	40422	1	-	0 = Off / 1 = On
System Event Acknowledge/Reset		40423	1	-	2 = Reset 4 = Acknowledge

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 23 Liebert DS™ and Liebert PeX™ - Status and Coil

Data Description	Controller		Liebert iCOM v3			
	Status	Coil	Number of Bits	Scale	Notes / Units	
Sleep on Monday	10001	1	1	-	-	
Sleep on Tuesday	10002	2	1	-	-	
Sleep on Wednesday	10003	3	1	-	-	
Sleep on Thursday	10004	4	1	-	-	
Sleep on Friday	10005	5	1	-	-	
Sleep on Saturday	10006	6	1	-	-	
Sleep on Sunday	10007	7	1	-	-	
Supply Limit Enable	10008	8	1	-	-	
Reheat Lockout	10009	9	1	-	-	
Humidifier Lockout	10010	10	1	-	-	
Temperature Indication ¹	10011	11	1	-	-	
Timer Mode Type	10012	12	1	-	-	
Minimum Chilled Water Temp Enable	10013	13	1	-	-	
Std. Sensor Alarms Enable	10019	19	1	-	-	
Sensor A Alarms Enable	10020	20	1	-	-	
Compressor Lockout	10021	21	1	-	-	
VSD Fan speed	10022	22	1	-	-	
Unit Control	-	25	1	-	-	
Reset Alarm	-	26	1	-	-	
Acknowledge Alarm	-	27	1	-	-	
Reset Total Run Hours Fan Motor	-	28	1	-	-	
Reset Comp1Run Hour	-	29	1	-	-	
Reset Comp2Run Hour	-	30	1	-	-	
Reset Humidifier Run Hour	-	31	1	-	-	
Reset Dehumidifier Run Hour	-	32	1	-	-	
Reset CW/FC Run Hour	-	33	1	-	-	
Reset E-Heater1RunHour	-	34	1	-	-	
Reset E-heater2RunHour	-	35	1	-	-	
Reset E-heater3 Run Hour	-	36	1	-	-	
Reset HG/HW Run Hour	-	37	1	-	-	
Fan On	10025	-	1	-	-	
Cool On	10026	-	1	-	-	
Free Cool On	10027	-	1	-	-	
Hot Water On	10028	-	1	-	-	
Electrical Heater On	10029	-	1	-	-	
Humidification On	10030	-	1	-	-	
Dehumidification On	10031	-	1	-	-	
Audible Alarm On	10032	-	1	-	-	
Reserved	10033	-	1	-	-	
Main Fan Overload	10034	-	1	-	-	
Loss of Airflow	10035	-	1	-	-	
Loss of Flow	10036	-	1	-	-	
Comp 1 High Pressure	10037	-	1	-	-	
Comp 1 Low Pressure	10038	-	1	-	-	

Table 23 Liebert DS™ and Liebert PeX™ - Status and Coil (continued)

Data Description	Controller Liebert iCOM v3				
	Status	Coil	Number of Bits	Scale	Notes / Units
Comp 1 Overload	10039	-	1	-	-
Comp 1 Pumpdown Fail	10040	-	1	-	-
Comp 2 High Pressure	10041	-	1	-	-
Comp 2 Low Pressure	10042	-	1	-	-
Comp 2 Overload	10043	-	1	-	-
Comp 2 Pumpdown Fail	10044	-	1	-	-
Digital Scroll Compressor 1 High Temperature	10045	-	1	-	-
Digital Scroll Compressor 2 High Temperature	10046	-	1	-	-
Smoke Detected	10047	-	1	-	-
Water Under Floor	10048	-	1	-	-
Humidifier Problem	10049	-	1	-	-
Stby Glycol Pump On	10050	-	1	-	-
Standby Unit On	10051	-	1	-	-
Cond Pump-high Water	10052	-	1	-	-
Room Sensor Failure	10053	-	1	-	-
Loss Compressor Power	10054	-	1	-	-
Loss of Air Blower 1	10055	-	1	-	-
Humidifier Low Water	10058	-	1	-	-
Humidifier High Amps	10059	-	1	-	-
High Temperature	10060	-	1	-	-
Loss of Power	10061	-	1	-	-
Unspecified Event(s) ¹	10064	-	1	-	-
High CW Temp	10065	-	1	-	-
Reserved	10066	-	1	-	-
High Room Temp	10067	-	1	-	-
Low Room Temp	10068	-	1	-	-
High Room Hum	10069	-	1	-	-
Low Room Hum	10070	-	1	-	-
High Temp Sensor A	10071	-	1	-	-
Low Temp Sensor A	10072	-	1	-	-
High Hum Sensor A	10073	-	1	-	-
Low Hum Sensor A	10074	-	1	-	-
Loss of CW Flow	10075	-	1	-	-
Clogged Filters	10076	-	1	-	-
Supply Sensor Failure	10077	-	1	-	-
Freecool Temp Sensor	10078	-	1	-	-
Sensor A Failure	10079	-	1	-	-
Unit Hrs Exceeded	10080	-	1	-	-
Comp 1 Hrs Exceeded	10081	-	1	-	-
Comp 2 Hrs Exceeded	10082	-	1	-	-
FC Hrs Exceeded	10083	-	1	-	-
EI Heat1 Hrs Exceeded	10084	-	1	-	-
EI Heat2 Hrs Exceeded	10085	-	1	-	-
EI Heat3 Hrs Exceeded	10086	-	1	-	-

Table 23 Liebert DS™ and Liebert PeX™ - Status and Coil (continued)

Data Description	Controller	Liebert iCOM v3			
	Status	Coil	Number of Bits	Scale	Notes / Units
HW/HG Hrs Exceeded	10087	-	1	-	-
Hum Hrs Exceeded	10088	-	1	-	-
Dehum Hrs Exceeded	10089	-	1	-	-
Network Failure	10091	-	1	-	-
No Connection W/Unit	10092	-	1	-	-
Unit(s) Disconnected	10093	-	1	-	-
Unit Code Missing	10094	-	-	-	-
Unit Code Mismatch	10095	-	-	-	-
Call Service	10096	-	-	-	-
Low Memory 1	10097	-	-	-	-
RAM / Battery Failure	10098	-	-	-	-
HCB not connected	10099	-	-	-	-
(Parallel Flash) Memory 1 Fail	10100	-	-	-	-
(Serial Flash) Memory 2 Fail	10101	-	-	-	-
Customer Input 1	10104	-	-	-	-
Customer Input 2	10105	-	-	-	-
Customer Input 3	10106	-	-	-	-
Customer Input 4	10107	-	-	-	-
Digital Scroll Compressor 1 Sensor Fail	10108	-	-	-	-
Digital Scroll Compressor 2 Sensor Fail	10109	-	-	-	-
Low Int Temperature	10110	-	-	-	-
High Ext Dewpoint	10111	-	-	-	-
Cabinet Temp Sensor Fail	10112	-	-	-	-
Cabinet Humidity Sensor Fail	10113	-	-	-	-
Ambient Temp Sensor Fail	10114	-	-	-	-
Comp 1 Short Cycle	10132	-	-	-	-
Comp 2 Short Cycle	10133	-	-	-	-
Reheat Lockout	10140	-	-	-	-
Humidifier Lockout	10141	-	-	-	-
Compressor(s) Lockout	10142	-	-	-	-
Fire Alarm	10148	-	-	-	-
Heaters Overheated	10149	-	-	-	-
Condenser 1 Failure	10150	-	-	-	-
Condenser 2 Failure	10151	-	-	-	-
Humidifier Cylinder Worn	10152	-	-	-	-
Heat Rej VFD	10153	-	-	-	-
Heat Rej TVSS	10154	-	-	-	-
Humidifier Low Amps	10155	-	-	-	-
FC Lockout	10156	-	-	-	-
Water Leak Sensor Fail	10157	-	-	-	-

Reference Document: ST100I&C PA Parameters and Events, Version 18.0

- Any non-recognized alarm code by current firmware received from the DS control will trigger this event.

Table 24 Liebert DS and Liebert PeX - Input and Holding

Data Description	Controller				
	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Vendor ID	30001	40001	1	-	-
Device ID	30002	40002	1	-	-
Version Number	30003	40003	1	-	-
UPS/Env/Pwr	30004	40004	1	-	-
Timer Mode ¹	30016	40016	1	-	-
Type of DT Room-FC ²	30017	40017	1	-	-
Humidity Control ³	30018	40018	1	-	-
VSD Setpoint	30019	40019	1	-	% (HP)
Supply Temperature Limit	30020	40020	1	10	deg C
DT between Room and FC	30021	40021	1	10	deg C
Minimum CW Temperature	30022	40022	1	10	deg C
Temperature Setpoint	30023	40023	1	10	deg C
Temperature Proportional Band	30024	40024	1	10	deg C
Temperature Deadband	30025	40025	1	10	deg C
Temperature Integration Time	30026	40026	1	-	Minutes
Humidity Setpoint	30027	40027	1	-	%
Humidity Proportional Band	30028	40028	1	-	%
Humidity Integration Time	30029	40029	1	-	Minutes
Humidity Deadband	30030	40030	1	-	%
Single Unit Auto-Restart Delay	30031	40031	1	-	Seconds
Infrared Flush Rate	30032	40032	1	-	%
Temp Control Type ⁴	30033	40033	1	-	-
Sleep Interval 1 Start Time Hour: Minute	30040	40040	1	-	LSB:Min
Sleep Interval 1 End Time Hour: Minute	30041	40041	1	-	LSB:Min
Sleep Interval 2 Start Time Hour: Minute	30042	40042	1	-	LSB:Min
Sleep Interval 2 End Time Hour: Minute	30043	40043	1	-	LSB:Min
Timer Deadband	30044	40044	1	10	deg C
Manual VSD Timer/Counter ⁵	30045	40045	1	-	-
High Temperature	30050	40050	1	10	deg C
Low Temperature	30051	40051	1	10	deg C
High Temperature Sensor A	30052	40052	1	10	deg C
Low Temperature Sensor A	30053	40053	1	10	deg C
High Humidity	30054	40054	1	-	%
Low Humidity	30055	40055	1	-	%
High Humidity Sensor A	30056	40056	1	-	%
Low Humidity Sensor A	30057	40057	1	-	%
Fan Run Hour Threshold	30070	40070	-	-	Hours
Compressor 1 Run Hour Threshold	30071	40071	-	-	Hours
Compressor 2 Run Hour Threshold	30072	40072	-	-	Hours
Humidifier Run Hours Threshold	30073	40073	-	-	Hours
Dehumidification Run Hours Threshold	30074	40074	-	-	Hours

Table 24 Liebert DS and Liebert PeX - Input and Holding (continued)

Controller		Liebert iCOM v3			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
CW/FC Run Hours Threshold	30075	40075	-	-	Hours
Electrical Heaters #1 Run Hours Threshold	30076	40076	-	-	Hours
Electrical Heaters #2 Run Hours Threshold	30077	40077	-	-	Hours
Electrical Heaters #3 Run Hours Threshold	30078	40078	-	-	Hours
Hot Water / Hot Gas Run Hours Threshold	30079	40079	-	-	Hours
Operating State ⁶	30100	-	-	-	-
Number of Active Events/Alarm	30101	-	-	-	-
Summary Alarm Status ⁷	30102	-	-	-	-
Fan Ramp	30103	-	-	-	%
Cooling Ramp	30104	-	-	-	%
Free Cooling Ramp	30105	-	-	-	%
Heating Ramp	30106	-	-	-	%
Humidification Ramp	30107	-	-	-	%
Dehumidifier Ramp	30108	-	-	-	%
FreeCooling Status ⁸	30109	-	-	-	%
Return Temperature	30110	-	-	10	deg C
Actual Temperature SP	30111	-	-	10	deg C
Supply Temperature	30112	-	-	10	deg C
Actual Supply Temperature SP	30113	-	-	10	deg C
FC Temperature	30115	-	-	10	deg C
Sensor A Temperature	30116	-	-	10	deg C
Sensor B Temperature	30117	-	-	10	deg C
Sensor C Temperature	30118	-	-	10	deg C
Digital Scroll Compressor 1 High Temperature	30119	-	-	10	deg C
Digital Scroll Compressor 2 High Temperature	30120	-	-	10	deg C
Return Humidity	30130	-	-	-	%
Actual Humidity SP	30131	-	-	-	%
Sensor A Humidity	30132	-	-	-	%
Sensor B Humidity	30133	-	-	-	%
Sensor C Humidity	30134	-	-	-	%
Fan Run Hour	30141	-	-	-	Hours
Compressor 1 Run Hour	30142	-	-	-	Hours
Compressor 2 Run Hour	30143	-	-	-	Hours
Humidifier Run Hours	30144	-	-	-	Hours
Dehumidification Run Hours	30145	-	-	-	Hours
Free cooling Run Hours	30146	-	-	-	Hours
Electrical Heaters #1 Run Hours	30147	-	-	-	Hours
Electrical Heaters #2 Run Hours	30148	-	-	-	Hours
Electrical Heaters #3 Run Hours	30149	-	-	-	Hours
Hot Water / Hot Gas Run Hours	30150	-	-	-	Hours
Daily High Temperature	30151	-	-	10	deg C
Daily High Temp Time	30152	-	-	-	Hh:mm

Table 24 Liebert DS and Liebert PeX - Input and Holding (continued)

Controller	Liebert iCOM v3				
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Daily Low Temperature	30153	-	-	10	deg C
Daily Low Temp Time	30154	-	-	-	Hh:mm
Daily High Humidity	30155	-	-	-	%RH
Daily High Hum Time	30156	-	-	-	Hh:mm
Daily Low Humidity	30157	-	-	-	%RH
Daily Low Hum Time	30158	-	-	-	Hh:mm

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Reference Document: ST100I&C PA Parameters and Events, Version 18.0

1. Timer mode: 0 = no, 1 = yes
2. Type of DT Room-Glycol: 0 = no, 1 = contact, 2 = value
3. Predictive Hum Control: 0 = relative, 1 = compensated, 2 = predictive
4. Temp Control Algorithm: 0 = proportional, 1 = PD, 2 = PDI; 3 = intelligent
5. When VFD is set to manual mode (coil 22), the host can control the VFD by the value of register 40019. The Manual VSD Timer will start to count down. Once it reaches 0, the VFD control mode will switch to auto. The host will need to periodically reset this timer in order to maintain the manual mode. Consult factory for BMS timer information.
6. Operating state:
 - Bit 0-1: 00 unit off, 01 unit on, 10 unit standby
 - Bit 2-3: 00 auto, 01 manual
 - Bit 4-7: 0000 none
 - 0001 local user
 - 0010 alarm
 - 0011 schedule
 - 0100 remote user
 - 0101 external device
 - 0110 local display
7. Alarm state bit map:
 - Bit 0 = Reset state
 - Bit 1 = Active state
 - Bit 2 = Acknowledge state
 - Bit 3-7 = Alarm Type
 - 00000: Message
 - 00001: Warning
 - 00010: Alarm
8. Free-cool state: 0 = Off, 1 = Start, 2 = On

Table 25 Liebert XDF™ - Status and Coil

Controller		Liebert iCOM v3				
Data Description	Status	Coil	Number of Bits	Scale	Notes / Units	
Temperature Indication ¹	10011	11	1	-	-	
Unit Control	-	25	1	-	-	
Reset Alarm	-	26	1	-	-	
Acknowledge Alarm	-	27	1	-	-	
Cabinet Sensor Alarm Enable	10023	23	1	-	-	
Fan On	10025	-	1	-	-	
Cool On	10026	-	1	-	-	
Compressor 1 High Pressure	10037	-	1	-	-	
Compressor 1 Low Pressure	10038	-	1	-	-	
Cond Pump-High Water	10052	-	1	-	-	
Loss Compressor Power	10054	-	1	-	-	
Emergency Damper Fail	10056	-	1	-	-	
High Internal Temperature	10057	-	1	-	-	
Loss of Power	10061	-	1	-	-	
Remote Shutdown	10062	-	1	-	-	
Unspecified Event(s) ¹	10064	-	1	-	-	
Unit Hrs Exceeded	10080	-	1	-	-	
Comp 1 Hrs Exceeded	10081	-	1	-	-	
Network Failure	10091	-	1	-	-	
No Connection W/Unit 1	10092	-	1	-	-	
Unit(s) Disconnected	10093	-	1	-	-	
Unit Code Missing	10094	-	-	-	-	
Unit Code Mismatch	10095	-	-	-	-	
Low Memory 1	10097	-	-	-	-	
Ram / Battery Failure	10098	-	-	-	-	
(Parallel Flash) MEMORY 1 FAIL	10100	-	-	-	-	
(Serial Flash) MEMORY 2 FAIL	10101	-	-	-	-	
Front Door Open	10102	-	-	-	-	
Rear Door Open	10103	-	-	-	-	
Digital Scroll Compressor 1 Sensor Fail	10108	-	-	-	-	
Low Int Temperature	10110	-	-	-	-	
High Ext Dewpoint	10111	-	-	-	-	
Cabinet Temp Sensor Fail	10112	-	-	-	-	
Cabinet Humidity Sensor Fail	10113	-	-	-	-	
Ambient Temp Sensor Fail	10114	-	-	-	-	
Comp 1 Short Cycle	10132	-	-	-	-	
Reheat Lockout	10140	-	-	-	-	
Humidifier Lockout	10141	-	-	-	-	
Compressor(s) Lockout	10142	-	-	-	-	
Backup Ventilation	10143	-	-	-	-	
Door Open	10144	-	-	-	-	
Device Load	10146	-	-	-	-	
Alarm Status	10147	-	-	-	-	

Reference Document: ST100I&C PA Parameters and Events, Version 18.0

1. Any non-recognized alarm code by current firmware received from the XDF control will trigger this event.

Table 26 Liebert XDF - Input and Holding

Controller		Liebert iCOM v3			
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Vendor ID	30001	40001	1	-	-
Device ID	30002	40002	1	-	-
Version number	30003	40003	1	-	-
UPS/Env/Pwr	30004	40004	1	-	-
Temperature Setpoint	30023	40023	1	10	deg C
Delay after safe Temp has been reached	30034	40034	-	-	Minutes
Allowable deviation between internal temp sensors	30035	40035	-	-	deg C
High Cabinet Temperature Setpoint	30058	40058	-	10	deg C
Low Cabinet Temperature Setpoint	30059	40059	-	10	deg C
Fan Run Hour Threshold	30070	40070	-	-	Hours
Compressor 1 Run Hour Threshold	30071	40071	-	-	Hours
Service Ramp	30099	-	-	-	%
Operating State ⁶	30100	-	-	-	-
Number of Active Events/Alarm	30101	-	-	-	-
Summary Alarm Status ⁷	30102	-	-	-	-
Fan Ramp	30103	-	-	-	%
Cooling Ramp	30104	-	-	-	%
Digital Scroll Compressor 1 High Temperature	30119	-	-	10	deg C
Sensor 1 Temp	30121	-	-	10	deg C
Sensor 2 Temp	30122	-	-	10	deg C
Sensor 3 Temp	30123	-	-	10	deg C
Sensor 4 Temp	30124	-	-	10	deg C
Ambient Temp	30125	-	-	10	deg C
Ambient Humidity	30126	-	-	-	%
Dew Point Temp	30127	-	-	-	deg C
Adjusted Setpoint Temp	30128	-	-	10	deg C
Cabinet Temperature	30129	-	-	10	deg C
Service Due Year	30135	-	-	-	-
Service Due Month	30136	-	-	-	-
Device kW Load	30137	-	-	-	kW
Fan Run Hour	30141	-	-	-	Hours
Compressor 1 Run Hour	30142	-	-	-	Hours

NOTES

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Reference Document: ST100I&C PA Parameters and Events, Version 18.0

1. Timer mode: 0 = no, 1 = yes
2. Type of DT Room-Glycol: 0 = no, 1 = contact, 2 = value
3. Predictive Hum Control: 0 = relative, 1 = compensated, 2 = predictive
4. Temp Control Algorithm: 0 = proportional, 1 = PD, 2 = PDI; 3 = intelligent
5. When VFD is set to manual mode (coil 22), the host can control the VFD by the value of register 40019. The Manual VSD Timer will start to count down. Once it reaches 0, the VFD control mode will switch to auto. The host will need to periodically reset this timer in order to maintain the manual mode. Consult factory for BMS timer information.
6. Operating state:
 - Bit 0-1: 00 unit off, 01 unit on, 10 unit standby
 - Bit 2-3: 00 auto, 01 manual
 - Bit 4-7: 0000 none
 - 0001 local user
 - 0010 alarm
 - 0011 schedule
 - 0100 remote user
 - 0101 external device
 - 0110 local display
7. Alarm state bit map:
 - Bit 0 = Reset state
 - Bit 1 = Active state
 - Bit 2 = Acknowledge state
 - Bit 3-7 = Alarm Type
 - 00000: Message
 - 00001: Warning
 - 00010: Alarm
8. Free-cool state: 0 = Off, 1 = Start, 2 = On

**Table 27 Liebert Challenger 3000™, Liebert Deluxe System/3™, Liebert Himod™, Liebert ICS™
- Input and Holding - LAM**

Controller		Advanced Microprocessor - LAM			
Liebert Products		Liebert Challenger 3000 Liebert Deluxe System/3 Liebert Himod (LNA version - Using Liebert Sitescan®) Liebert ICS			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Temperature	-	40001	1	-	-
Humidity	-	40002	1	-	-
Cooling	-	40003	1	-	1=On / 0=Off
Heating	-	40004	1	-	1=On / 0=Off
Humidification	-	40005	1	-	1=On / 0=Off
De-humidification	-	40006	1	-	1=On / 0=Off
Econ-O-Cycle	-	40007	1	-	1=On / 0=Off
Stages	-	40008	1	-	-
% Capacity	-	40009	1	-	-
Unit Status (On / Off)	-	40018	1	-	1=On / 0=Off (R/W)
Analog input 1	-	40023	1	-	A/D raw value w/ slope=1 and offset = 0
Analog input 2	-	40024	1	-	A/D raw value w/ slope=1 and offset = 0
Analog input 3	-	40025	1	-	A/D raw value w/ slope=1 and offset = 0
Analog input 4	-	40026	1	-	A/D raw value w/ slope=1 and offset = 0
Alarm Points					
Discrete alarm objects available; use autodiscover for this unit					
Communications	-	40289	1	-	Bit 0
Local Off	-	40289	1	-	Bit 1
Remote Off	-	40289	1	-	Bit 2
High Head Pressure 1	-	40289	1	-	Bit 3
High Head Pressure 2	-	40289	1	-	Bit 4
Loss of Airflow	-	40289	1	-	Bit 5
Standby Glycol Unit On	-	40289	1	-	Bit 6
Liquid Detected	-	40289	1	-	Bit 7
Change Filters	-	40289	1	-	Bit 8
High Temperature	-	40289	1	-	Bit 9
Low Temperature	-	40289	1	-	Bit 10
High Humidity	-	40290	1	-	Bit 0
Low Humidity	-	40290	1	-	Bit 1
Humidifier Problem	-	40290	1	-	Bit 2
No Water in Humidifier Pan	-	40290	1	-	Bit 3
Compressor 1 Overload	-	40290	1	-	Bit 4
Compressor 2 Overload	-	40290	1	-	Bit 5
Main Fan Overload	-	40290	1	-	Bit 6
Manual Override	-	40290	1	-	Bit 7
Smoke Detected	-	40290	1	-	Bit 8
Loss of Water	-	40290	1	-	Bit 9
Standby Unit On	-	40290	1	-	Bit 10
Low Suction	-	40291	1	-	Bit 0
Short Cycle	-	40291	1	-	Bit 1
Loss of Power	-	40291	1	-	Bit 2

**Table 27 Liebert Challenger 3000™, Liebert Deluxe System/3™, Liebert Himod™, Liebert ICS™
- Input and Holding - LAM (continued)**

Controller	Advanced Microprocessor - LAM				
Liebert Products	Liebert Challenger 3000 Liebert Deluxe System/3 Liebert Himod (LNA version - Using Liebert Sitescan®) Liebert ICS				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Inverter on Bypass	-	40291	1	-	Bit 3
Standby Fan On	-	40291	1	-	Bit 4
Loss of Emergency Power	-	40291	1	-	Bit 5
Local Alarm 1	-	40291	1	-	Bit 6
Local Alarm 2	-	40291	1	-	Bit 7
Off by Remote Shutdown	-	40291	1	-	Bit 8
Local Alarm 3	-	40291	1	-	Bit 9
Local Alarm 4	-	40291	1	-	Bit 10
Compressor 1 Run Hours	-	40019	1	-	-
Compressor 2 Run Hours	-	40020	1	-	-
Fan Motor Run Hours	-	40021	1	-	-
Humidifier Run Hours	-	40022	1	-	-
Setpoints (View)					
Temperature Setpoint	-	40010	1	-	(R/W)
Temperature Tolerance	-	40011	1	-	(R/W)
Humidity Setpoint	-	40012	1	-	(R/W)
Humidity Tolerance	-	40013	1	-	(R/W)
High Temp Alarm Setpoint	-	40014	1	-	(R/W)
Low Temp Alarm Setpoint	-	40015	1	-	(R/W)
High Humd Alarm Setpoint	-	40016	1	-	(R/W)
Low Humidity Alarm Setpoint	-	40017	1	-	(R/W)
Winter Start Delay	-	40028	1	-	Minutes (R/W)
Auto Flush Rate	-	40029	1	-	% (R/W)
Chill Water Flush Rate	-	40030	1	-	Hours (R/W)
Auto Restart Delay	-	40031	1	-	0.1 minute (R/W)
Control Points (Set)					
Unit On / Off	-	40349	1	-	Bit 0 On=unit Off; Bit 1 On=unit On
Temperature Setpoint	-	40350	1	-	-
Temperature Tolerance	-	40350	1	1000	-
Humidity Setpoint	-	40351	1	-	-
Humidity Tolerance	-	40351	1	1000	-
Reheat Lockout	-	40349	1	-	Bit 2 On=RH Off; Bit 3 On=RH On
Humidifier Lockout	-	40349	1	-	Bit 4 On=HL Off; Bit 5 On=HL On
Trendable Points (Set)					
Temperature	-	-	1	-	-
Humidity	-	-	1	-	-
Reports					
Trend	-	-	1	-	-
Status	-	-	1	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 28 Liebert DataMate™, Liebert Mini-Mate Plus™, Liebert Mini-Mate2™ - Input and Holding - L0B

Controller	Small Systems - L0B				
Liebert Products	Liebert DataMate Liebert Mini-Mate Plus Liebert Mini-Mate2				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Temperature	-	40001	1	-	-
Humidity	-	40002	1	-	-
Cooling	-	40003	1	-	1=On / 0=Off
Heating	-	40004	1	-	1=On / 0=Off
Humidification	-	40005	1	-	1=On / 0=Off
Dehumidification	-	40006	1	-	1=On / 0=Off
Econ-o-Cycle	-	40007	1	-	1=On / 0=Off
Stages	-	40008	1	-	-
% Capacity	-	40009	1	-	-
Alarm Points					
Communications	-	40289	1	-	Bit 0
Local Off	-	40289	1	-	Bit 1
Remote Off	-	40289	1	-	Bit 2
High Temperature	-	40289	1	-	Bit 3
Low Temperature	-	40289	1	-	Bit 4
High Humidity	-	40289	1	-	Bit 5
Low Humidity	-	40289	1	-	Bit 6
Setpoints (View)					
None	-	-	1	-	-
Control Points (Set)					
Unit On/Off	-	40011	1	-	1=On / 0=Off (R/W)
Remote On/Off	-	40349	1	-	Bit 0 On=unit Off Bit 1 On=unit On (W)
Trendable Points (Set)					
Temperature	-	-	1	-	-
Humidity	-	-	1	-	-
Reports					
Trend	-	-	1	-	-
Status	-	-	1	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 29 Liebert DataMate, Liebert Mini-Mate2 - Input and Holding - MM2

Controller	MM2				
Liebert Products	Liebert DataMate Liebert Mini-Mate2				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Temperature	-	40001	1	-	-
Humidity	-	40002	1	-	-
Cooling	-	40003	1	-	1=On / 0=Off
Heating	-	40004	1	-	1=On / 0=Off
Humidification	-	40005	1	-	1=On / 0=Off
Dehumidification	-	40006	1	-	1=On / 0=Off
Econ-o-Cycle	-	40007	1	-	1=On / 0=Off
Stages	-	40008	1	-	-
% Capacity	-	40009	1	-	-
Alarm Points					
Communications	-	40289	1	-	Bit 0
Local Off	-	40289	1	-	Bit 1
Remote Off	-	40289	1	-	Bit 2
High Head Pressure 1	-	40289	1	-	Bit 3
Loss of Airflow	-	40289	1	-	Bit 5
Standby Glycol Unit On	-	40289	1	-	Bit 6
Change Filters	-	40289	1	-	Bit 8
High Temperature	-	40289	1	-	Bit 9
Low Temperature	-	40289	1	-	Bit 10
High Humidity	-	40290	1	-	Bit 0
Low Humidity	-	40290	1	-	Bit 1
Humidifier Problem	-	40290	1	-	Bit 2
Smoke Detected	-	40290	1	-	Bit 8
Loss of Water Flow	-	40290	1	-	Bit 9
Standby Unit On	-	40290	1	-	Bit 10
Short Cycle	-	40291	1	-	Bit 1
Loss of Power	-	40291	1	-	Bit 2
Local Alarm 1	-	40291	1	-	Bit 6
Local Alarm 2	-	40291	1	-	Bit 7
Local Alarm 3	-	40291	1	-	Bit 9
Local Alarm 4	-	40291	1	-	Bit 10
Run Hours (View)					
Compressor 1	-	40019	1	-	-
Fan Motor	-	40020	1	-	-
Humidifier	-	40021	1	-	-

Table 29 Liebert DataMate, Liebert Mini-Mate2 - Input and Holding - MM2 (continued)

Controller	MM2				
Liebert Products	Liebert DataMate Liebert Mini-Mate2				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Setpoints (View)					-
Temperature	-	40010	1	-	-
Temp Tolerance	-	40011	1	-	-
Humidity	-	40012	1	-	-
Humidity Tolerance	-	40013	1	-	-
High Temperature Alarm	-	40014	1	-	-
Low Temperature Alarm	-	40015	1	-	-
High Humidity Alarm	-	40016	1	-	-
Low Humidity Alarm	-	40017	1	-	-
Chill Water Flush Rate	-	40025	1	-	Hours (R/W)
Auto Restart Delay	-	40026	1	-	0.1 minute (R/W)
Control Points (Set)					
Unit On/Off	-	40018	1	-	1=On / 0=Off (R/W)
Remote On/Off	-	40349	1	-	Bit 0 On=unit Off Bit 1 On=unit On (W)
Temperature Setpoint	-	40350	1	-	(W)
Temperature Tolerance	-	40350	1	1000	Multiply desired value by 1000 (Modbus only) 0=No Change (W)
Humidity Setpoint	-	40351	1	-	(W)
Humidity Tolerance	-	40351	1	1000	Multiply desired value by 1000 (Modbus only) 0=No Change (W)
Trendable Points (Set)					
Temperature	-		1	-	-
Humidity	-		1	-	-
Reports					
Trend	-		1	-	-
Status	-		1	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 30 Liebert Mini-Mate2 8 Ton - Input and Holding - L8T

Controller	L8T				
Liebert Products	Liebert Mini-Mate2 8 Ton				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Temperature	-	40001	1	-	-
Humidity	-	40002	1	-	-
Cooling	-	40003	1	-	1=On / 0=Off
Heating	-	40004	1	-	1=On / 0=Off
Humidification	-	40005	1	-	1=On / 0=Off
De-humidification	-	40006	1	-	1=On / 0=Off
Econ-O-Cycle	-	40007	1	-	1=On / 0=Off
Stages	-	40008	1	-	-
% Capacity	-	40009	1	-	-
Analog input 1	-	40023	1	-	A/D raw value w/ slope =1 and offset = 0
Analog input 2	-	40024	1	-	A/D raw value w/ slope =1 and offset = 0
Analog input 3	-	40025	1	-	A/D raw value w/ slope =1 and offset = 0
Analog input 4	-	40026	1	-	A/D raw value w/ slope =1 and offset = 0
Alarm Points					
Communications	-	40289	1	-	Bit 0
Local Off	-	40289	1	-	Bit 1
Remote Off	-	40289	1	-	Bit 2
High Head Pressure 1	-	40289	1	-	Bit 3
High Head Pressure 2	-	40289	1	-	Bit 4
Loss of Airflow	-	40289	1	-	Bit 5
Standby Glycol Unit On	-	40289	1	-	Bit 6
Not Used	-	40289	1	-	Bit 7
Change Filters	-	40289	1	-	Bit 8
High Temperature	-	40289	1	-	Bit 9
Low Temperature	-	40289	1	-	Bit 10
High Humidity	-	40290	1	-	Bit 0
Low Humidity	-	40290	1	-	Bit 1
Humidifier Problem	-	40290	1	-	Bit 2
Smoke Detected	-	40290	1	-	Bit 8
Loss of Water	-	40290	1	-	Bit 9
Standby Unit On	-	40290	1	-	Bit 10
Not Used	-	40291	1	-	Bit 0
Short Cycle	-	40291	1	-	Bit 1
Loss of Power	-	40291	1	-	Bit 2
Local Alarm 1	-	40291	1	-	Bit 6
Local Alarm 2	-	40291	1	-	Bit 7

Table 30 Liebert Mini-Mate2 8 Ton - Input and Holding - L8T (continued)

Controller	L8T				
Liebert Products	Liebert Mini-Mate2 8 Ton				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
EPO Shutdown	-	40291	1	-	Bit 8
Local Alarm 3	-	43291	1	-	Bit 9
Local Alarm 4	-	40291	1	-	Bit 10
Run Times (View)					
Compressor 1 Run Hours	-	40019	1	-	-
Compressor 2 Run Hours	-	40020	1	-	-
Glycol Run Hours	-	-	1	-	-
Fan Motor Run Hours	-	40021	1	-	-
Humidifier Run Hours	-	40022	1	-	-
Reheat 1 Run Hours	-	-	1	-	-
Reheat 2 Run Hours	-	-	1	-	-
Reheat 3 Run Hours	-	-	1	-	-
Chilled H2O Valve Run Hours	-	-	1	-	-
Setpoints (View)					
Temperature Setpoint	-	40010	1	-	(R/W)
Temperature Tolerance	-	40011	1	-	(R/W)
Humidity Setpoint	-	40012	1	-	(R/W)
Humidity Tolerance	-	40013	1	-	(R/W)
High Temperature Alarm Setpoint	-	40014	1	-	(R/W)
Low Temp Alarm Setpoint	-	40015	1	-	(R/W)
High Humidity Alarm Setpoint	-	40016	1	-	(R/W)
Low Humidity Alarm Setpoint	-	40017	1	-	(R/W)
Winter Start Delay	-	40028	1	-	Minutes (R/W)
Auto Flush Rate	-	40029	1	-	% (R/W)
Chill Water Flush Rate	-	40030	1	-	Hours (R/W)
Auto Restart Delay	-	40031	1	-	0.1 minute (R/W)
Control Points (Set)					
Unit Status (On / Off)	-	40018	1	-	1=On / 0=Off (R/W)
Unit On / Off	-	40349	1	-	Bit 0 On=unit Off Bit 1 On=unit On (W)
Temperature Setpoint	-	40350	1	-	(W)
Temperature Tolerance	-	40350	1	1000	(W)
Humidity Setpoint	-	40351	1	-	(W)
Humidity Tolerance	-	40351	1	1000	(W)
Reheat Lockout	-	40349	1	-	Bit 2 On=RH Off Bit 3 On=RH On
Humidifier Lockout	-	40349	1	-	Bit 4 On=HL Off Bit 5 On=HL On

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 31 Liebert Atlas Air™, Liebert Atlas PEC™, Liebert LECS 15™ - Input and Holding - C10 2-step

Controller	C10				
Liebert Products	Liebert Atlas Air; Liebert Atlas PEC; Liebert LECS 15				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Unit Number	-	40001	1	-	1-99
Average Return Air Temp.	-	40002	1	10	deg C
Average Return Air Humidity	-	40003	1	10	%
Average Supply Air Temp.	-	40004	1	10	deg C
Average Supply Air Humidity	-	40005	1	10	%
Fan Status	-	40007	1	-	1=On / 0=Off
Cool 1 Status	-	40008	1	-	1=On / 0=Off
Cool 2 Status	-	40009	1	-	1=On / 0=Off
Heat 1 Status	-	40010	1	-	1=On / 0=Off
Heat 2 Status	-	40011	1	-	1=On / 0=Off
Humidifier Status	-	40012	1	-	-
De-humidifier Status	-	40013	1	-	-
Cooling Capacity	-	40014	1	-	%
Heating Capacity	-	40015	1	-	%
Temperature Control Status	-	40019	1	-	0=Return / 1=Supply
Battery Voltage Level	-	40020	1	10	V
Remote Shutdown Status	-	40021	1	-	1=Enabled / 0=Disabled
Temperature Control Select	-	40024	1	-	0=Return / 1=Supply 2=Remote / 3=Auto
Alarm Points					
Communications	-	40289	1	-	Bit 0
Faulty Sensor	-	40289	1	-	Bit 1
High Temperature	-	40289	1	-	Bit 2
Low Temperature	-	40289	1	-	Bit 3
High Humidity	-	40289	1	-	Bit 4
Low Humidity	-	40289	1	-	Bit 5
Loss of Airflow	-	40289	1	-	Bit 6
Water Under Floor	-	40289	1	-	Bit 7
Cool 1 Low Pressure Alarm	-	40289	1	-	Bit 8
Cool 2 Low Pressure Alarm	-	40289	1	-	Bit 9
Cool 1 High Pressure Alarm	-	40289	1	-	Bit 10
Cool 2 High Pressure Alarm	-	40290	1	-	Bit 0
Cool Service	-	40290	1	-	Bit 1
Humidifier Service	-	40290	1	-	Bit 2
Filter Service	-	40290	1	-	Bit 3
Humidity Low Level	-	40290	1	-	Bit 4
Battery Level Low	-	40290	1	-	Bit 5
Loss of Power	-	40290	1	-	Bit 6
Local Alarm 1	-	40290	1	-	Bit 7
Local Alarm 2	-	40290	1	-	Bit 8

Table 31 Liebert Atlas Air™, Liebert Atlas PEC™, Liebert LECS 15™ - Input and Holding - C10 2-step (continued)

Controller		C10			
Liebert Products		Liebert Atlas Air; Liebert Atlas PEC; Liebert LECS 15			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Setpoints (View)					
Return Air Temperature	-	40016	1	10	deg C (R/W)
Return Air Humidity	-	40017	1	10	deg C (R/W)
Supply Air Temperature	-	40018	1	10	deg C (R/W)
High Temp Alarm	-	40025	1	10	deg C (R/W)
Low Temp Alarm	-	40026	1	10	deg C (R/W)
High Hum Alarm	-	40027	1	10	% (R/W)
Low Hum Alarm	-	40028	1	10	% (R/W)
Restart Delay	-	40029	1	-	Seconds (R/W)
Control Points (Set)					
Activation Mode	-	40006	1	-	1=On / 0=Off (R/W)
General Alarm Status	-	40022	1	-	1=On / 0=Off; write 0 to reset alarm
Audible Alarm Status	-	40023	1	-	1=On / 0=Off; write 0 to ack alarm
Return Air Temperature	-	40349	1	10	deg C (R/W)
Return Air Humidity	-	40350	1	10	deg C (R/W)
Supply Air Temperature	-	40351	1	10	deg C (R/W)

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 32 Liebert Atlas Air, Liebert Atlas PEC, Liebert CEMS 100™ - Input and Holding - C100 4-step

Controller		CEMS 100			
Liebert Products		Liebert Atlas Air; Liebert Atlas PEC; Liebert CEMS 100			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Unit Number	-	40001	1	-	1-99
Average Return Air Temp.	-	40002	1	10	deg C
Average Return Air Humidity	-	40003	1	10	%
Average Supply Air Temp.	-	40004	1	10	deg C
Average Supply Air Humidity	-	40005	1	10	%
Fan Status	-	40007	1	-	1=On / 0=Off
Cool 1 Status	-	40008:0	1	-	1=On / 0=Off
Cool 2 Status	-	40009:0	1	-	1=On / 0=Off
Cool 3 Status	-	40008:4	1	-	1=On / 0=Off
Cool 4 Status	-	40009:4	1	-	1=On / 0=Off
Heat 1 Status	-	40010	1	-	1=On / 0=Off
Heat 2 Status	-	40011	1	-	1=On / 0=Off
Humidifier Status	-	40012	1	-	-
De-humidifier Status	-	40013	1	-	-

Table 32 Liebert Atlas Air, Liebert Atlas PEC, Liebert CEMS 100™ - Input and Holding - C100 4-step (continued)

Controller	CEMS 100				
Liebert Products	Liebert Atlas Air; Liebert Atlas PEC; Liebert CEMS 100				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Cooling Capacity	-	40014	1	-	%
Heating Capacity	-	40015	1	-	%
Temperature Control Status	-	40019	1	-	0=Return / 1=Supply
Battery Voltage Level	-	40020	1	100	V
Remote Shutdown Status	-	40021	1	-	1=Enabled / 0=Disabled
Temperature Control Select	-	40024	1	-	0=Return / 1=Supply 2=Remote / 3=Auto
Alarm Points					
Communications	-	40289	1	-	Bit 0
Faulty Sensor	-	40289	1	-	Bit 1
High Temperature	-	40289	1	-	Bit 2
Low Temperature	-	40289	1	-	Bit 3
High Humidity	-	40289	1	-	Bit 4
Low Humidity	-	40289	1	-	Bit 5
Loss of Airflow	-	40289	1	-	Bit 6
Water Under Floor	-	40289	1	-	Bit 7
Cool 1 Low Pressure Alarm	-	40289	1	-	Bit 8
Cool 2 Low Pressure Alarm	-	40289	1	-	Bit 9
Cool 1 High Pressure Alarm	-	40289	1	-	Bit 10
Cool 2 High Pressure Alarm	-	40290	1	-	Bit 0
Cool Service	-	40290	1	-	Bit 1
Humidifier Service	-	40290	1	-	Bit 2
Filter Service	-	40290	1	-	Bit 3
Humidity Low Level	-	40290	1	-	Bit 4
Battery Level Low	-	40290	1	-	Bit 5
Loss of Power	-	40290	1	-	Bit 6
Local Alarm 1	-	40290	1	-	Bit 7
Local Alarm 2	-	40290	1	-	Bit 8
Cool 3 Low Pressure	-	40290	1	-	Bit 9
Cool 4 Low Pressure	-	40290	1	-	Bit 10
Cool 3 High Pressure	-	40290	1	-	Bit 11
Cool 4 High Pressure	-	40290	1	-	Bit 12
Air Flow 2 Loss	-	40290	1	-	Bit 13
Setpoints (View)					
Return Air Temperature	-	40016	1	10	deg C (R/W)
Return Air Humidity	-	40017	1	10	deg C (R/W)
Supply Air Temperature	-	40018	1	10	deg C (R/W)
High Temp Alarm	-	40025	1	10	deg C (R/W)
Low Temp Alarm	-	40026	1	10	deg C (R/W)

Table 32 Liebert Atlas Air, Liebert Atlas PEC, Liebert CEMS 100™ - Input and Holding - C100 4-step (continued)

Controller	CEMS 100				
Liebert Products	Liebert Atlas Air; Liebert Atlas PEC; Liebert CEMS 100				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
High Hum Alarm	-	40027	1	10	% (R/W)
Low Hum Alarm	-	40028	1	10	% (R/W)
Restart Delay	-	40029	1	-	Seconds (R/W)
Control Points (Set)					
Activation Mode	-	40006	1	-	1=On / 0=Off (R/W)
General Alarm Status	-	40022	1	-	1=On / 0=Off; write 0 to reset alarm
Audible Alarm Status	-	40023	1	-	1=On / 0=Off; write 0 to ack alarm
Return Air Temperature	-	40349	1	10	deg C (R/W)
Return Air Humidity	-	40350	1	10	deg C (R/W)
Supply Air Temperature	-	40351	1	10	deg C (R/W)

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

3.2 Power Distribution and Power Conditioning Products

Table 33 Liebert Datawave™, Liebert FPC™, Liebert PPC™ - Input and Holding - PMP, PM2 Options for Liebert FPC and Liebert PPC

Controller	Power Monitoring Panel - PMP, PM2 Options for Liebert FPC and Liebert PPC				
Liebert Products	Liebert Datawave; Liebert FPC; Liebert PPC				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Voltage In X-Y	-	40001	1	-	V
Voltage In Y-Z	-	40002	1	-	V
Voltage In Z-X	-	40003	1	-	V
Voltage Out A-B	-	40004	1	-	V
Voltage Out B-C	-	40005	1	-	V
Voltage Out C-A	-	40006	1	-	V
Voltage Out A-N	-	40007	1	-	V
Voltage Out B-N	-	40008	1	-	V
Voltage Out C-N	-	40009	1	-	V
Current Out A	-	40010	1	-	A
Current Out B	-	40011	1	-	A
Current Out C	-	40012	1	-	A
Ground Current	-	40013	1	10	A
Neutral Current	-	40014	1	-	A
kVA	-	40015	1	-	kVA
kW	-	40016	1	-	kW
Frequency	-	40017	1	10	Hz
% Capacity A	-	40018	1	-	%
% Capacity B	-	40019	1	-	%
% Capacity C	-	40020	1	-	%
Power Factor	-	40021	1	100	-
Kilowatt Hours	-		1	-	-
THD Voltage X	-		1	-	-
THD Voltage Y	-		1	-	-
THD Voltage Z	-		1	-	-
THD Current X	-		1	-	-
THD Current Y	-		1	-	-
THD Current Z	-		1	-	-
K Factor Current X	-		1	-	-
K Factor Current Y	-		1	-	-
K Factor Current Z	-		1	-	-
CREST Factor Current X	-		1	-	-
CREST Factor Current Y	-		1	-	-
CREST Factor Current Z	-		1	-	-

Table 33 Liebert Datawave™, Liebert FPC™, Liebert PPC™ - Input and Holding - PMP, PM2 Options for Liebert FPC and Liebert PPC (continued)

Controller	Power Monitoring Panel - PMP, PM2 Options for Liebert FPC and Liebert PPC				
Liebert Products	Liebert Datawave; Liebert FPC; Liebert PPC				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications	-	40289	1	-	Bit 0
Output Undervoltage	-	40289	1	-	Bit 1
Output Overvoltage	-	40289	1	-	Bit 2
Output Overcurrent	-	40289	1	-	Bit 3
Frequency Deviation	-	40289	1	-	Bit 4
Ground Overcurrent	-	40289	1	-	Bit 5
Transformer Overtemp	-	40289	1	-	Bit 6
Ground Fault	-	40289	1	-	Bit 7
Ground Failure	-	40289	1	-	Bit 8
Liquid Detected	-	40289	1	-	Bit 9
Security Alarm	-	40289	1	-	Bit 10
Phase Rotation/Loss	-	40290	1	-	Bit 0
Datawave Overtemperature	-	40290	1	-	Bit 1
Emergency Shutdown	-	40290	1	-	Bit 2
Load On Bypass	-	40290	1	-	Bit 3
Local Alarm #1	-	40290	1	-	Bit 4
Local Alarm #2	-	40290	1	-	Bit 5
Output Voltage THD	-	40290	1	-	Bit 6
Custom Alarm #1	-	40290	1	-	Bit 7
Custom Alarm #2	-	40290	1	-	Bit 8
Setpoints (View)					
None	-		1	-	-
Control Points (Set)					
None	-		1	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 34 Liebert Datawave, Liebert EXC, Liebert FPC, Liebert PPC - Input and Holding - PMP Option for Liebert FPC, Liebert PPC

Controller	Power Monitoring Panel - PMP Option for Liebert FPC and Liebert PPC				
Liebert Products	Liebert Datawave; Liebert FPC; Liebert PPC				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Voltage In X-Y	-	40001	1	-	V
Voltage In Y-Z	-	40002	1	-	V
Voltage In Z-X	-	40003	1	-	V
Voltage Out A-B	-	40004	1	-	V
Voltage Out B-C	-	40005	1	-	V
Voltage Out C-A	-	40006	1	-	V
Voltage Out A-N	-	40007	1	-	V
Voltage Out B-N	-	40008	1	-	V
Voltage Out C-N	-	40009	1	-	V
Current Out A	-	40010	1	-	A
Current Out B	-	40011	1	-	A
Current Out C	-	40012	1	-	A
Ground Current	-	40013	1	10	A
Neutral Current	-	40014	1	-	A
kVA	-	40015	1	-	kVA
kW	-	40016	1	-	kW
Frequency	-	40017	1	10	Hz
% Capacity A	-	40018	1	-	%
% Capacity B	-	40019	1	-	%
% Capacity C	-	40020	1	-	%
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications	-	40289	1	-	Bit 0
Output Undervoltage	-	40289	1	-	Bit 1
Output Overvoltage	-	40289	1	-	Bit 2
Output Overcurrent	-	40289	1	-	Bit 3
Frequency Deviation	-	40289	1	-	Bit 4
Ground Overcurrent	-	40289	1	-	Bit 5
Transformer Overtemp	-	40289	1	-	Bit 6
Ground Fault	-	40289	1	-	Bit 7
Ground Failure	-	40289	1	-	Bit 8
Liquid Detected	-	40289	1	-	Bit 9
Security Alarm	-	40289	1	-	Bit 10
Phase Rotation/Loss	-	40290	1	-	Bit 0
Datawave Overtemperature	-	40290	1	-	Bit 1
Emergency Shutdown	-	40290	1	-	Bit 2
Load On Bypass	-	40290	1	-	Bit 3
Local Alarm	-	40290	1	-	Bit 4
Custom Alarm #1	-	40290	1	-	Bit 5
Custom Alarm #2	-	40290	1	-	Bit 6
Setpoints (View)					
None	-	-	1	-	-
Control Points (Set)					
None	-	-	1	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 35 Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC Liebert RDC, Liebert RX - Status and Coil

Controller		v4				
Liebert Products		Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC Liebert RDC, Liebert RX				
Available Points						
Data Description	Status	Coil	Number of Bits	Scale	Notes / Units	
Input Power 1						
Phase Loss	10001	-	1	-	Active on Alarm	
Phase Rotation Error	10002	-	1	-	Active on Alarm	
Input Power 2						
Phase Loss	10013	-	1	-	Active on Alarm	
Phase Rotation Error	10014	-	1	-	Active on Alarm	
Output Power 1						
Output Overvoltage	10025	-	1	-	Active on Alarm	
Output Undervoltage	10026	-	1	-	Active on Alarm	
Output Overcurrent	10027	-	1	-	Active on Alarm	
Neutral Overcurrent	10028	-	1	-	Active on Alarm	
Ground Overcurrent	10029	-	1	-	Active on Alarm	
Output Voltage THD	10030	-	1	-	Active on Alarm	
Frequency Deviation	10031	-	1	-	Active on Alarm	
Transformer Overtemperature Power Off	10032	-	1	-	Active on Alarm	
Transformer Overtemperature	10033	-	1	-	Active on Alarm	
Transformer Temperature Sensor Fail	10034	-	1	-	Active on Alarm	
Output Power 2						
Output Overvoltage	10045	-	1	-	Active on Alarm	
Output Undervoltage	10046	-	1	-	Active on Alarm	
Output Overcurrent	10047	-	1	-	Active on Alarm	
Neutral Overcurrent	10048	-	1	-	Active on Alarm	
Ground Overcurrent	10049	-	1	-	Active on Alarm	
Output Voltage THD	10050	-	1	-	Active on Alarm	
Frequency Deviation	10051	-	1	-	Active on Alarm	
Transformer Overtemperature Power Off	10052	-	1	-	Active on Alarm	
Transformer Overtemperature	10053	-	1	-	Active on Alarm	
Transformer Temperature Sensor Fail	10054	-	1	-	Active on Alarm	
Panel 1						
Panel Summary Alarm	10065	-	1	-	Active on Alarm	
Panel Overvoltage	10066	-	1	-	Active on Alarm	
Panel Undervoltage	10067	-	1	-	Active on Alarm	
Panel Phase Overcurrent	10068	-	1	-	Active on Alarm	
Panel Phase Overcurrent	10069	-	1	-	Active on Warning	
Panel Neutral Overcurrent	10070	-	1	-	Active on Alarm	
Panel Ground Overcurrent	10071	-	1	-	Active on Alarm	
Panel 2						
Panel Summary Alarm	10082	-	1	-	Active on Alarm	
Panel Overvoltage	10083	-	1	-	Active on Alarm	
Panel Undervoltage	10084	-	1	-	Active on Alarm	
Panel Phase Overcurrent	10085	-	1	-	Active on Alarm	
Panel Phase Overcurrent	10086	-	1	-	Active on Warning	
Panel Neutral Overcurrent	10087	-	1	-	Active on Alarm	
Panel Ground Overcurrent	10088	-	1	-	Active on Alarm	

Table 35 Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC Liebert RDC, Liebert RX - Status and Coil

Controller	v4				
Liebert Products	Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC Liebert RDC, Liebert RX				
Available Points					
Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Panel 4					
Panel Summary Alarm	10116	-	1	-	Active on Alarm
Panel Overvoltage	10117	-	1	-	Active on Alarm
Panel Undervoltage	10118	-	1	-	Active on Alarm
Panel Phase Overcurrent	10119	-	1	-	Active on Alarm
Panel Phase Overcurrent	10120	-	1	-	Active on Warning
Panel Neutral Overcurrent	10121	-	1	-	Active on Alarm
Panel Ground Overcurrent	10122	-	1	-	Active on Alarm
Panel 1 Position 1					
Branch Overcurrent	10133	-	1	-	Active on Alarm
Branch Overcurrent	10134	-	1	-	Active on Warning
Branch Undercurrent Warning	10135	-	1	-	Active on Alarm
Panel 1 Position 2					
Branch Overcurrent	10146	-	1	-	Active on Alarm
Branch Overcurrent	10147	-	1	-	Active on Warning
Branch Undercurrent Warning	10148	-	1	-	Active on Alarm
Panel 1 Position 84					
Branch Overcurrent	11212	-	1	-	Active on Alarm
Branch Overcurrent	11213	-	1	-	Active on Warning
Branch Undercurrent Warning	11214	-	1	-	Active on Alarm
Panel 2 Position 1					
Branch Overcurrent	11225	-	1	-	Active on Alarm
Branch Overcurrent	11226	-	1	-	Active on Warning
Branch Undercurrent Warning	11227	-	1	-	Active on Alarm
Panel 2 Position 2					
Branch Overcurrent	11238	-	1	-	Active on Alarm
Branch Overcurrent	11239	-	1	-	Active on Warning
Branch Undercurrent Warning	11240	-	1	-	Active on Alarm
Panel 2 Position 84					
Branch Overcurrent	12304	-	1	-	Active on Alarm
Branch Overcurrent	12305	-	1	-	Active on Warning
Branch Undercurrent Warning	12306	-	1	-	Active on Alarm
Panel 3 Position 1					
Branch Overcurrent	12317	-	1	-	Active on Alarm
Branch Overcurrent	12318	-	1	-	Active on Warning
Branch Undercurrent Warning	12319	-	1	-	Active on Alarm
Panel 3 Position 2					
Branch Overcurrent	12330	-	1	-	Active on Alarm
Branch Overcurrent	12331	-	1	-	Active on Warning
Branch Undercurrent Warning	12332	-	1	-	Active on Alarm
Panel 3 Position 84					
Branch Overcurrent	13396	-	1	-	Active on Alarm
Branch Overcurrent	13397	-	1	-	Active on Warning
Branch Undercurrent Warning	13398	-	1	-	Active on Alarm

Table 35 Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC Liebert RDC, Liebert RX - Status and Coil

Controller		v4				
Liebert Products		Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC Liebert RDC, Liebert RX				
Available Points						
Data Description	Status	Coil	Number of Bits	Scale	Notes / Units	
Panel 4 Position 1						
Branch Overcurrent	13409	-	1	-	Active on Alarm	
Branch Overcurrent	13410	-	1	-	Active on Warning	
Branch Undercurrent Warning	13411	-	1	-	Active on Alarm	
Panel 4 Position 2						
Branch Overcurrent	13422	-	1	-	Active on Alarm	
Branch Overcurrent	13423	-	1	-	Active on Warning	
Branch Undercurrent Warning	13424	-	1	-	Active on Alarm	
Panel 4 Position 84						
Branch Overcurrent	14488	-	1	-	Active on Alarm	
Branch Overcurrent	14489	-	1	-	Active on Warning	
Branch Undercurrent Warning	14490	-	1	-	Active on Alarm	
Subfeed 1						
Subfeed Phase Overcurrent	14501	-	1	-	Active on Alarm	
Subfeed Phase Overcurrent	14502	-	1	-	Active on Warning	
Subfeed Neutral Overcurrent	14503	-	1	-	Active on Alarm	
Subfeed Ground Overcurrent	14504	-	1	-	Active on Alarm	
Subfeed 2						
Subfeed Phase Overcurrent	14515	-	1	-	Active on Alarm	
Subfeed Phase Overcurrent	14516	-	1	-	Active on Warning	
Subfeed Neutral Overcurrent	14517	-	1	-	Active on Alarm	
Subfeed Ground Overcurrent	14518	-	1	-	Active on Alarm	
Subfeed 64						
Subfeed Phase Overcurrent	15383	-	1	-	Active on Alarm	
Subfeed Phase Overcurrent	15384	-	1	-	Active on Warning	
Subfeed Neutral Overcurrent	15385	-	1	-	Active on Alarm	
Subfeed Ground Overcurrent	15386	-	1	-	Active on Alarm	
Customer Events 1						
Event State	15397	-	1	-	Active on Alarm	
Customer Events 2						
Event State	15408	-	1	-	Active on Alarm	
Customer Events 10						
Event State	15496	-	1	-	Active on Alarm	
System						
System Shutdown - EPO	15507	-	1	-	Active on Alarm	
System Shutdown - REPO	15508	-	1	-	Active on Alarm	
Transformer Overtemperature Shutdown	15509	-	1	-	Active on Alarm	
Transformer Overtemperature	15510	-	1	-	Active on Alarm	
Equipment Temperature Sensor Fail	15511	-	1	-	Active on Alarm	

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 36 Liebert EXC, Liebert FDC, Liebert FPC, Liebert RDC, Liebert PPC, Liebert RX - Input and Holding

Controller		v4				
Liebert Products		Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC, Liebert RDC, Liebert RX				
Available Points						
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units	
Input Power 1						
Input Voltage A-B	30385	-	1	-	VAC	
Input Voltage B-C	30386	-	1	-	VAC	
Input Voltage C-A	30387	-	1	-	VAC	
Input Power 2						
Input Voltage A-B	30391	-	1	-	VAC	
Input Voltage B-C	30392	-	1	-	VAC	
Input Voltage C-A	30393	-	1	-	VAC	
Output Power 1						
Output Voltage X-Y	30397	-	1	-	VAC	
Output Voltage Y-Z	30398	-	1	-	VAC	
Output Voltage Z-X	30399	-	1	-	VAC	
Output Voltage Vx	30400	-	1	-	VAC	
Output Voltage Vy	30401	-	1	-	VAC	
Output Voltage Vz	30402	-	1	-	VAC	
Output Current Ix	30403	-	1	-	A AC	
Output Current Iy	30404	-	1	-	A AC	
Output Current Iz	30405	-	1	-	A AC	
Output Neutral Current	30406	-	1	-	A AC	
Ground Current	30407	-	1	10	A AC	
Output Frequency	30408	-	1	-	Hz	
Output Power (kVA)	30409	-	1	-	kVA	
Output Power (kW)	30410	-	1	-	kW	
Output kW-Hrs	30411	40411	2	-	kWH	
Output Power Factor	30413	-	1	100	-	
Output Percent Load	30414	-	1	-	%	
Output Voltage Vx THD	30415	-	1	10	% THD	
Output Voltage Vy THD	30416	-	1	10	% THD	
Output Voltage Vz THD	30417	-	1	10	% THD	
Output Current Ix THD	30418	-	1	10	% THD	
Output Current Iy THD	30419	-	1	10	% THD	
Output Current Iz THD	30420	-	1	10	% THD	
Output Current Ix K-Factor	30421	-	1	10	-	
Output Current Iy K-Factor	30422	-	1	10	-	
Output Current Iz K-Factor	30423	-	1	10	-	
Output Current Ix Crest Factor	30424	-	1	10	-	
Output Current Iy Crest Factor	30425	-	1	10	-	
Output Current Iz Crest Factor	30426	-	1	10	-	

Table 36 Liebert EXC, Liebert FDC, Liebert FPC, Liebert RDC, Liebert PPC, Liebert RX - Input and Holding (continued)

Controller		v4			
Liebert Products		Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC, Liebert RDC, Liebert RX			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Output Power 2					
Output Voltage X-Y	30430	-	1	-	VAC
Output Voltage Y-Z	30431	-	1	-	VAC
Output Voltage Z-X	30432	-	1	-	VAC
Output Voltage Vx	30433	-	1	-	VAC
Output Voltage Vy	30434	-	1	-	VAC
Output Voltage Vz	30435	-	1	-	VAC
Output Current Ix	30436	-	1	-	A AC
Output Current Iy	30437	-	1	-	A AC
Output Current Iz	30438	-	1	-	A AC
Output Neutral Current	30439	-	1	-	A AC
Ground Current	30440	-	1	10	A AC
Output Frequency	30441	-	1	-	Hz
Output Power (kVA)	30442	-	1	-	kVA
Output Power (kW)	30443	-	1	-	kW
Output kW-Hrs	30444	40444	2	-	kWH
Output Power Factor	30446	-	1	100	-
Output Percent Load	30447	-	1	-	%
Output Voltage Vx THD	30448	-	1	10	% THD
Output Voltage Vy THD	30449	-	1	10	% THD
Output Voltage Vz THD	30450	-	1	10	% THD
Output Current Ix THD	30451	-	1	10	% THD
Output Current Iy THD	30452	-	1	10	% THD
Output Current Iz THD	30453	-	1	10	% THD
Output Current Ix K-Factor	30454	-	1	10	-
Output Current Iy K-Factor	30455	-	1	10	-
Output Current Iz K-Factor	30456	-	1	10	-
Output Current Ix Crest Factor	30457	-	1	10	-
Output Current Iy Crest Factor	30458	-	1	10	-
Output Current Iz Crest Factor	30459	-	1	10	-
Panel 1					
Columns of Breakers	30463	-	1	-	-
Number of Breakers	30464	-	1	-	-
Panel Main Voltage X-Y	30465	-	1	-	VAC
Panel Main Voltage Y-Z	30466	-	1	-	VAC
Panel Main Voltage Z-X	30467	-	1	-	VAC
Panel Main Voltage X-N	30468	-	1	-	VAC
Panel Main Voltage Y-N	30469	-	1	-	VAC
Panel Main Voltage Z-N	30470	-	1	-	VAC

Table 36 Liebert EXC, Liebert FDC, Liebert FPC, Liebert RDC, Liebert PPC, Liebert RX - Input and Holding (continued)

Controller		v4				
Liebert Products		Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC, Liebert RDC, Liebert RX				
Available Points						
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units	
Panel Main Current Ix	30471	-	1	-	A AC	
Panel Main Current Iy	30472	-	1	-	A AC	
Panel Main Current Iz	30473	-	1	-	A AC	
Panel Main Neutral Current	30474	-	1	-	A AC	
Panel Main Ground Current	30475	-	1	10	A AC	
Panel Main Output Power (kVA)	30476	-	1	-	kVA	
Panel Main Output Power (kW)	30477	-	1	-	kW	
Panel Main Output kW-Hrs	30478	40478	2	10	kWH	
Panel Main Output Power Factor	30480	-	1	100	-	
Panel Main Output Percent Load	30481	-	1	-	%	
Panel Main Voltage Vx THD	30482	-	1	10	% THD	
Panel Main Voltage Vy THD	30483	-	1	10	% THD	
Panel Main Voltage Vz THD	30484	-	1	10	% THD	
Panel Main Current Ix THD	30485	-	1	10	% THD	
Panel Main Current Iy THD	30486	-	1	10	% THD	
Panel Main Current Iz THD	30487	-	1	10	% THD	
Panel Main Current Ix Crest Factor	30488	-	1	10	-	
Panel Main Current Iy Crest Factor	30489	-	1	10	-	
Panel Main Current Iz Crest Factor	30490	-	1	10	-	
Panel 2						
Columns of Breakers	30494	-	1	-	-	
Number of Breakers	30495	-	1	-	-	
Panel Main Voltage X-Y	30496	-	1	-	VAC	
Panel Main Voltage Y-Z	30497	-	1	-	VAC	
Panel Main Voltage Z-X	30498	-	1	-	VAC	
Panel Main Voltage X-N	30499	-	1	-	VAC	
Panel Main Voltage Y-N	30500	-	1	-	VAC	
Panel Main Voltage Z-N	30501	-	1	-	VAC	
Panel Main Current Ix	30502	-	1	-	A AC	
Panel Main Current Iy	30503	-	1	-	A AC	
Panel Main Current Iz	30504	-	1	-	A AC	
Panel Main Neutral Current	30505	-	1	-	A AC	
Panel Main Ground Current	30506	-	1	10	A AC	
Panel Main Output Power (kVA)	30507	-	1	-	kVA	
Panel Main Output Power (kW)	30508	-	1	-	kW	
Panel Main Output kW-Hrs	30509	40509	2	10	kWH	
Panel Main Output Power Factor	30511	-	1	100	-	
Panel Main Output Percent Load	30512	-	1	-	%	
Panel Main Voltage Vx THD	30513	-	1	10	% THD	

Table 36 Liebert EXC, Liebert FDC, Liebert FPC, Liebert RDC, Liebert PPC, Liebert RX - Input and Holding (continued)

Controller		v4			
Liebert Products		Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC, Liebert RDC, Liebert RX			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Panel Main Voltage Vy THD	30514	-	1	10	% THD
Panel Main Voltage Vz THD	30515	-	1	10	% THD
Panel Main Current Ix THD	30516	-	1	10	% THD
Panel Main Current Iy THD	30517	-	1	10	% THD
Panel Main Current Iz THD	30518	-	1	10	% THD
Panel Main Current Ix Crest Factor	30519	-	1	10	-
Panel Main Current Iy Crest Factor	30520	-	1	10	-
Panel Main Current Iz Crest Factor	30521	-	1	10	-
Panel 4					
Columns of Breakers	30556	-	1	-	-
Number of Breakers	30557	-	1	-	-
Panel Main Voltage X-Y	30558	-	1	-	VAC
Panel Main Voltage Y-Z	30559	-	1	-	VAC
Panel Main Voltage Z-X	30560	-	1	-	VAC
Panel Main Voltage X-N	30561	-	1	-	VAC
Panel Main Voltage Y-N	30562	-	1	-	VAC
Panel Main Voltage Z-N	30563	-	1	-	VAC
Panel Main Current Ix	30564	-	1	-	A AC
Panel Main Current Iy	30565	-	1	-	A AC
Panel Main Current Iz	30566	-	1	-	A AC
Panel Main Neutral Current	30567	-	1	-	A AC
Panel Main Ground Current	30568	-	1	10	A AC
Panel Main Output Power (kVA)	30569	-	1	-	kVA
Panel Main Output Power (kW)	30570	-	1	-	kW
Panel Main Output kW-Hrs	30571	40571	2	10	kWH
Panel Main Output Power Factor	30573	-	1	100	-
Panel Main Output Percent Load	30574	-	1	-	%
Panel Main Voltage Vx THD	30575	-	1	10	% THD
Panel Main Voltage Vy THD	30576	-	1	10	% THD
Panel Main Voltage Vz THD	30577	-	1	10	% THD
Panel Main Current Ix THD	30578	-	1	10	% THD
Panel Main Current Iy THD	30579	-	1	10	% THD
Panel Main Current Iz THD	30580	-	1	10	% THD
Panel Main Current Ix Crest Factor	30581	-	1	10	-
Panel Main Current Iy Crest Factor	30582	-	1	10	-
Panel Main Current Iz Crest Factor	30583	-	1	10	-

Table 36 Liebert EXC, Liebert FDC, Liebert FPC, Liebert RDC, Liebert PPC, Liebert RX - Input and Holding *(continued)*

Controller	v4				
Liebert Products	Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC, Liebert RDC, Liebert RX				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Panel 1 Position 1					
Breaker position	30587	-	1	-	-
Branch Current Phase 1	30588	-	1	10	A AC
Branch Current Phase 2	30589	-	1	10	A AC
Branch Current Phase 3	30590	-	1	10	A AC
Branch Output Power (kW)	30591	-	1	1000	kW
Output kW-Hrs	30592	-	2	1000	kWH
Branch Output Power Factor	30594	-	1	100	-
Branch Output Percent Load	30595	-	1	-	%
Panel 1 Position 2					
Breaker position	30599	-	1	-	-
Branch Current Phase 1	30600	-	1	10	A AC
Branch Current Phase 2	30601	-	1	10	A AC
Branch Current Phase 3	30602	-	1	10	A AC
Branch Output Power (kW)	30603	-	1	1000	kW
Output kW-Hrs	30604	-	2	1000	kWH
Branch Output Power Factor	30606	-	1	100	-
Branch Output Percent Load	30607	-	1	-	%
Panel 1 Position 84					
Breaker position	31583	-	1	-	-
Branch Current Phase 1	31584	-	1	10	A AC
Branch Current Phase 2	31585	-	1	10	A AC
Branch Current Phase 3	31586	-	1	10	A AC
Branch Output Power (kW)	31587	-	1	1000	kW
Output kW-Hrs	31588	-	2	1000	kWH
Branch Output Power Factor	31590	-	1	100	-
Branch Output Percent Load	31591	-	1	-	%
Panel 2 Position 1					
Breaker position	31595	-	1	-	-
Branch Current Phase 1	31596	-	1	10	A AC
Branch Current Phase 2	31597	-	1	10	A AC
Branch Current Phase 3	31598	-	1	10	A AC
Branch Output Power (kW)	31599	-	1	1000	kW
Output kW-Hrs	31600	-	2	1000	kWH
Branch Output Power Factor	31602	-	1	100	-
Branch Output Percent Load	31603	-	1	-	%

Table 36 Liebert EXC, Liebert FDC, Liebert FPC, Liebert RDC, Liebert PPC, Liebert RX - Input and Holding (continued)

Controller		v4			
Liebert Products		Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC, Liebert RDC, Liebert RX			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Panel 2 Position 2					
Breaker position	31607	-	1	-	-
Branch Current Phase 1	31608	-	1	10	A AC
Branch Current Phase 2	31609	-	1	10	A AC
Branch Current Phase 3	31610	-	1	10	A AC
Branch Output Power (kW)	31611	-	1	1000	kW
Output kW-Hrs	31612	-	2	1000	kWH
Branch Output Power Factor	31614	-	1	100	-
Branch Output Percent Load	31615	-	1	-	%
Panel 2 Position 84					
Breaker position	32591	-	1	-	-
Branch Current Phase 1	32592	-	1	10	A AC
Branch Current Phase 2	32593	-	1	10	A AC
Branch Current Phase 3	32594	-	1	10	A AC
Branch Output Power (kW)	32595	-	1	1000	kW
Output kW-Hrs	32596	-	2	1000	kWH
Branch Output Power Factor	32598	-	1	100	-
Branch Output Percent Load	32599	-	1	-	%
Panel 3 Position 1					
Breaker position	32603	-	1	-	-
Branch Current Phase 1	32604	-	1	10	A AC
Branch Current Phase 2	32605	-	1	10	A AC
Branch Current Phase 3	32606	-	1	10	A AC
Branch Output Power (kW)	32607	-	1	1000	kW
Output kW-Hrs	32608	-	2	1000	kWH
Branch Output Power Factor	32610	-	1	100	-
Branch Output Percent Load	32611	-	1	-	%
Panel 3 Position 2					
Breaker position	32615	-	1	-	-
Branch Current Phase 1	32616	-	1	10	A AC
Branch Current Phase 2	32617	-	1	10	A AC
Branch Current Phase 3	32618	-	1	10	A AC
Branch Output Power (kW)	32619	-	1	1000	kW
Output kW-Hrs	32620	-	2	1000	kWH
Branch Output Power Factor	32622	-	1	100	-
Branch Output Percent Load	32623	-	1	-	%

Table 36 Liebert EXC, Liebert FDC, Liebert FPC, Liebert RDC, Liebert PPC, Liebert RX - Input and Holding (continued)

Controller	v4				
Liebert Products	Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC, Liebert RDC, Liebert RX				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Panel 3 Position 84					
Breaker position	33599	-	1	-	-
Branch Current Phase 1	33600	-	1	10	A AC
Branch Current Phase 2	33601	-	1	10	A AC
Branch Current Phase 3	33602	-	1	10	A AC
Branch Output Power (kW)	33603	-	1	1000	kW
Output kW-Hrs	33604	-	2	1000	kWH
Branch Output Power Factor	33606	-	1	100	-
Branch Output Percent Load	33607	-	1	-	%
Panel 4 Position 1					
Breaker position	33611	-	1	-	-
Branch Current Phase 1	33612	-	1	10	A AC
Branch Current Phase 2	33613	-	1	10	A AC
Branch Current Phase 3	33614	-	1	10	A AC
Branch Output Power (kW)	33615	-	1	1000	kW
Output kW-Hrs	33616	-	2	1000	kWH
Branch Output Power Factor	33618	-	1	100	-
Branch Output Percent Load	33619	-	1	-	%
Panel 4 Position 2					
Breaker position	33623	-	1	-	-
Branch Current Phase 1	33624	-	1	10	A AC
Branch Current Phase 2	33625	-	1	10	A AC
Branch Current Phase 3	33626	-	1	10	A AC
Branch Output Power (kW)	33627	-	1	1000	kW
Output kW-Hrs	33628	-	2	1000	kWH
Branch Output Power Factor	33630	-	1	100	-
Branch Output Percent Load	33631	-	1	-	%
Panel 4 Position 84					
Breaker position	34607	-	1	-	-
Branch Current Phase 1	34608	-	1	10	A AC
Branch Current Phase 2	34609	-	1	10	A AC
Branch Current Phase 3	34610	-	1	10	A AC
Branch Output Power (kW)	34611	-	1	1000	kW
Output kW-Hrs	34612	-	2	1000	kWH
Branch Output Power Factor	34614	-	1	100	-
Branch Output Percent Load	34615	-	1	-	%

Table 36 Liebert EXC, Liebert FDC, Liebert FPC, Liebert RDC, Liebert PPC, Liebert RX - Input and Holding (continued)

Controller	v4				
Liebert Products	Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC, Liebert RDC, Liebert RX				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Subfeed 1					
Subfeed Current Ix	34619	-	1	-	A AC
Subfeed Current Iy	34620	-	1	-	A AC
Subfeed Current Iz	34621	-	1	-	A AC
Subfeed Neutral Current	34622	-	1	-	A AC
Subfeed Ground Current	34623	-	1	10	A AC
Subfeed Output Power (kVA)	34624	-	1	-	kVA
Subfeed Output Power (kW)	34625	-	1	-	kW
Subfeed Output kW-Hrs	34626	44626	2	10	kWH
Subfeed Power Factor	34628	-	1	100	-
Subfeed Output Percent Load	34629	-	1	-	%
Subfeed Current Ix THD	34630	-	1	10	%
Subfeed Current Iy THD	34631	-	1	10	%
Subfeed Current Iz THD	34632	-	1	10	%
Subfeed Current Ix Crest Factor	34633	-	1	10	-
Subfeed Current Iy Crest Factor	34634	-	1	10	-
Subfeed Current Iz Crest Factor	34635	-	1	10	-
Subfeed 2					
Subfeed Current Ix	34639	-	1	-	A AC
Subfeed Current Iy	34640	-	1	-	A AC
Subfeed Current Iz	34641	-	1	-	A AC
Subfeed Neutral Current	34642	-	1	-	A AC
Subfeed Ground Current	34643	-	1	10	A AC
Subfeed Output Power (kVA)	34644	-	1	-	kVA
Subfeed Output Power (kW)	34645	-	1	-	kW
Subfeed Output kW-Hrs	34646	44646	2	10	kWH
Subfeed Power Factor	34648	-	1	100	-
Subfeed Output Percent Load	34649	-	1	-	%
Subfeed Current Ix THD	34650	-	1	10	%
Subfeed Current Iy THD	34651	-	1	10	%
Subfeed Current Iz THD	34652	-	1	10	%
Subfeed Current Ix Crest Factor	34653	-	1	10	-
Subfeed Current Iy Crest Factor	34654	-	1	10	-
Subfeed Current Iz Crest Factor	34655	-	1	10	-

Table 36 Liebert EXC, Liebert FDC, Liebert FPC, Liebert RDC, Liebert PPC, Liebert RX - Input and Holding (continued)

Controller		v4			
Liebert Products		Liebert EXC, Liebert FDC, Liebert FPC, Liebert PPC, Liebert RDC, Liebert RX			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Subfeed 64					
Subfeed Current Ix	35879	-	1	-	A AC
Subfeed Current Iy	35880	-	1	-	A AC
Subfeed Current Iz	35881	-	1	-	A AC
Subfeed Neutral Current	35882	-	1	-	A AC
Subfeed Ground Current	35883	-	1	10	A AC
Subfeed Output Power (kVA)	35884	-	1	-	kVA
Subfeed Output Power (kW)	35885	-	1	-	kW
Subfeed Output kW-Hrs	35886	45886	2	10	kWH
Subfeed Power Factor	35888	-	1	100	-
Subfeed Output Percent Load	35889	-	1	-	%
Subfeed Current Ix THD	35890	-	1	10	%
Subfeed Current Iy THD	35891	-	1	10	%
Subfeed Current Iz THD	35892	-	1	10	%
Subfeed Current Ix Crest Factor	35893	-	1	10	-
Subfeed Current Iy Crest Factor	35894	-	1	10	-
Subfeed Current Iz Crest Factor	35895	-	1	10	-
System					
System Status	35899	-	1	-	1 = Normal Operation 2 = Startup 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation
System Event Acknowledge/Reset	-	45900	1	-	2 = Reset 4 = Acknowledge
System Date and Time	39998	49998	2	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 37 Liebert FDC, Liebert FPC, Liebert RDC, Liebert RX - Glossary

Data Description	Description
Branch Current Phase 1	Branch breaker Phase 1 RMS current
Branch Current Phase 2	Branch Breaker Phase 2 RMS current
Branch Current Phase 3	Branch breaker Phase 3 RMS current
Branch Output Percent Load	Branch breaker percent load of rated current
Branch Output Power (W)	Branch breaker W
Branch Output Power Factor	Branch breaker Power Factor (real power/apparent power)
Branch Overcurrent	Branch breaker current has exceeded the limit.
Branch Undercurrent Warning	Branch breaker current is less than the limit.
Breaker position	Panelboard pole position of the branch breaker. First position if 2 or 3 pole breaker
Columns of Breakers	The breakers in this panel are physically arranged in this many columns.
Equipment Temperature Sensor Fail	Transformer temperature sensor has failed
Event State	Alarm present
Frequency Deviation	The output frequency is outside a specified range.
Ground Current	Unit Ground RMS current.
Ground Overcurrent	Unit ground current has exceeded the limit.
Input Voltage A-B	Unit Input RMS Voltage between Phase A and Phase B
Input Voltage B-C	Unit Input RMS Voltage between Phase B and Phase C
Input Voltage C-A	Unit Input RMS Voltage between Phase C and Phase A
Neutral Overcurrent	Unit neutral current has exceeded the limit.
Number of Breakers	Number of Breakers in this panelboard.
Output Current Ix Crest Factor	Unit phase X Current Crest Factor (peak/RMS).
Output Current Ix K-Factor	Unit output Current Harmonic K-Factor for phase X.
Output Current Ix THD	Unit Current Total Harmonic Distortion for phase X.
Output Current Ix	Unit Phase X output RMS current.
Output Current Iy Crest Factor	Unit phase Y Current Crest Factor (peak/RMS).
Output Current Iy K-Factor	Unit output Current Harmonic K-Factor for phase Y.
Output Current Iy THD	Unit Current Total Harmonic Distortion for phase Y.
Output Current Iy	Unit Phase Y output RMS current.
Output Current Iz Crest Factor	Unit phase Z Current Crest Factor (peak/RMS).
Output Current Iz K-Factor	Unit output Current Harmonic K-Factor for phase Z.
Output Current Iz THD	Unit Current Total Harmonic Distortion for phase Z.
Output Current Iz	Unit Phase Z output RMS current.
Output Frequency	The system output frequency.
Output kW-Hrs	Branch Breaker accumulated KW-Hours since last KW-Hours reset.
Output kW-Hrs	Unit accumulated KW-Hours since last KW-Hours reset.
Output Neutral Current	Unit output Neutral RMS current.
Output Overcurrent	Unit phase current has exceeded the limit.
Output Overvoltage	Unit voltage has exceeded the limit.
Output Percent Load	Unit percent load of rated current
Output Power (kVA)	Unit output kVA
Output Power (kW)	Unit output KW
Output Power Factor	Unit output Power Factor (real power/apparent power)

Table 37 Liebert FDC, Liebert FPC, Liebert RDC, Liebert RX - Glossary (continued)

Data Description	Description
Output Undervoltage	Unit voltage is less than the limit.
Output Voltage THD	Unit output Voltage Total Harmonic Distortion has exceeded the limit.
Output Voltage Vx THD	Unit Voltage Total Harmonic Distortion for phase X.
Output Voltage Vx	Unit output RMS voltage between phase X and Neutral
Output Voltage Vy THD	Unit Voltage Total Harmonic Distortion for phase Y.
Output Voltage Vy	Unit output RMS voltage between phase Y and Neutral
Output Voltage Vz THD	Unit Voltage Total Harmonic Distortion for phase Z.
Output Voltage Vz	Unit output RMS voltage between phase Z and Neutral
Output Voltage X-Y	Unit output RMS voltage between phases X and Y
Output Voltage Y-Z	Unit output RMS voltage between phases Y and Z.
Output Voltage Z-X	Unit output RMS voltage between phases Z and X.
Panel Ground Overcurrent	Panelboard Ground current has exceeded the limit.
Panel Main Current Ix Crest Factor	Panelboard phase X Current Crest Factor (peak/RMS).
Panel Main Current Ix THD	Current Total Harmonic Distortion for Panelboard phase X.
Panel Main Current Ix	Panelboard RMS current for phase X.
Panel Main Current Iy Crest Factor	Panelboard phase Y Current Crest Factor (peak/RMS).
Panel Main Current Iy THD	Current Total Harmonic Distortion for Panelboard phase Y.
Panel Main Current Iy	Panelboard RMS current for phase Y.
Panel Main Current Iz Crest Factor	Panelboard phase Z Current Crest Factor (peak/RMS).
Panel Main Current Iz THD	Current Total Harmonic Distortion for Panelboard phase Z.
Panel Main Current Iz	Panelboard RMS current for phase Z.
Panel Main Ground Current	Panelboard Ground RMS current.
Panel Main Neutral Current	Panelboard Neutral RMS current.
Panel Main Output kW-Hrs	Panelboard accumulated KW-Hours since last KW-Hours reset.
Panel Main Output Percent Load	Panelboard percent load of rated current
Panel Main Output Power (kVA)	Panelboard output kVA.
Panel Main Output Power (kW)	Panelboard output KW
Panel Main Output Power Factor	Panelboard Output Power Factor (real power/apparent power)
Panel Main Voltage Vx THD	Voltage Total Harmonic Distortion for Panelboard phase X.
Panel Main Voltage Vy THD	Voltage Total Harmonic Distortion for Panelboard phase Y.
Panel Main Voltage Vz THD	Voltage Total Harmonic Distortion for Panelboard phase Z.
Panel Main Voltage X-N	Panelboard RMS voltage between Phase X and Neutral.
Panel Main Voltage X-Y	Panelboard RMS voltage between phases X and Y.
Panel Main Voltage Y-N	Panelboard RMS voltage between Phase Y and Neutral.
Panel Main Voltage Y-Z	Panelboard RMS voltage between phases Y and Z.
Panel Main Voltage Z-N	Panelboard RMS voltage between Phase Z and Neutral.
Panel Main Voltage Z-X	Panelboard RMS voltage between phases Z and X.
Panel Neutral Overcurrent	Panelboard Neutral current has exceeded the limit.
Panel Overvoltage	Panelboard voltage has exceeded the limit.
Panel Phase Overcurrent	Panelboard phase current has exceeded the limit.
Panel Summary Alarm	Panelboard Summary Alarm. Annunciates upon occurrence of any branch or panelboard main breaker alarm.
Panel Undervoltage	Panelboard voltage is less than the limit.
Phase Loss	Voltage and/or Frequency on one or more of the phases is outside the limit.

Table 37 Liebert FDC, Liebert FPC, Liebert RDC, Liebert RX - Glossary (continued)

Data Description	Description
Phase Rotation Error	Unit input phase sequence is not A, B, C. The phase sequence should be verified and corrected.
Subfeed Current Ix Crest Factor	Subfeed breaker phase X Current Crest Factor (peak/RMS).
Subfeed Current Ix THD	Current Total Harmonic Distortion for Subfeed breaker phase X.
Subfeed Current Ix	Subfeed breaker RMS current for phase X.
Subfeed Current Iy Crest Factor	Subfeed breaker phase Y Current Crest Factor (peak/RMS).
Subfeed Current Iy THD	Current Total Harmonic Distortion for Subfeed breaker phase Y.
Subfeed Current Iy	Subfeed breaker RMS current for phase Y.
Subfeed Current Iz Crest Factor	Subfeed breaker phase Z Current Crest Factor (peak/RMS).
Subfeed Current Iz THD	Current Total Harmonic Distortion for Subfeed breaker phase Z.
Subfeed Current Iz	Subfeed breaker RMS current for phase Z.
Subfeed Ground Current	Subfeed breaker Ground RMS current.
Subfeed Ground Overcurrent	Subfeed breaker Ground current has exceeded the limit.
Subfeed Neutral Current	Subfeed breaker Neutral RMS current.
Subfeed Neutral Overcurrent	Subfeed breaker Neutral current has exceeded the limit.
Subfeed Output kW-Hrs	Subfeed breaker accumulated KW-Hours since last KW-Hours reset.
Subfeed Output Percent Load	Subfeed breaker percent load of rated current
Subfeed Output Power (kVA)	Subfeed breaker output kVA.
Subfeed Output Power (kW)	Subfeed breaker output KW
Subfeed Phase Overcurrent	Subfeed breaker phase current has exceeded the limit.
Subfeed Power Factor	Subfeed breaker Power Factor (real power/apparent power)
System Date and Time	Unit date and time
System Event Acknowledge/Reset	Alarm Present/Reset
System Shutdown - EPO	Unit shutdown by Emergency Power Off (EPO) switch
System Shutdown - REPO	Unit shutdown by Remote Emergency Power Off (REPO) switch
System Status	The operating status for the system
Transformer Overtemperature Power Off	Output power shutdown due to high transformer temperature
Transformer Overtemperature Shutdown	Unit shutdown due to transformer over temperature
Transformer Overtemperature	Transformer temperature has exceeded the limit
Transformer Overtemperature	Transformer temperature has exceeded the limit
Transformer Temperature Sensor Fail	Transformer temperature sensor has failed

Table 38 Liebert STS™, Liebert STS/PDU™ - Input and Holding - STS

Controller	STS				
Liebert Products	Liebert STS Liebert STS/PDU				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Transfer Count	-	40001	1	-	-
Preferred Source	-	40002	1	-	1=Source 1 / 2=Source 2
Load On Source	-	40003	1	-	1=Source 1 / 2=Source 2
Source 1 Voltage A-B	-	40004	1	-	V
Source 1 Voltage B-C	-	40005	1	-	V
Source 1 Voltage C-A	-	40006	1	-	V
Source 1 Current A	-	40007	1	-	A
Source 1 Current B	-	40008	1	-	A
Source 1 Current C	-	40009	1	-	A
Source 1 Frequency	-	40010	1	10	Hz
Source 2 Voltage A-B	-	40011	1	-	V
Source 2 Voltage B-C	-	40012	1	-	V
Source 2 Voltage C-A	-	40013	1	-	V
Source 2 Current A	-	40014	1	-	A
Source 2 Current B	-	40015	1	-	A
Source 2 Current C	-	40016	1	-	A
Source 2 Frequency	-	40017	1	10	Hz
kW	-	40018	1	-	kW
kVA	-	40019	1	-	kVA
Auto Transfer Timer	-	40020	1	-	Seconds
Nominal Voltage Deviation	-	40021	1	-	V
Phase Differential Limit	-	40022	1	-	Degree
Frequency Deviation	-	40023	1	10	Hz
Alarm Points					
Communications	-	40289	1	-	Bit 0
Logic Failure	-	40289	1	-	Bit 1
Equipment Overtemp	-	40289	1	-	Bit 2
Power Supply 1 Fault	-	40289	1	-	Bit 3
Source 1 Overvoltage	-	40289	1	-	Bit 4
Source 1 Undervoltage	-	40289	1	-	Bit 5
Source 2 Overvoltage	-	40289	1	-	Bit 6
Source 2 Undervoltage	-	40289	1	-	Bit 7
Source 1 Overload	-	40289	1	-	Bit 8
Shorted SCR1	-	40289	1	-	Bit 9
Shorted SCR2	-	40289	1	-	Bit 10
Open SCR1	-	40290	1	-	Bit 0
Open SCR2	-	40290	1	-	Bit 1
Fan Failure	-	40290	1	-	Bit 2

Table 38 Liebert STS™, Liebert STS/PDU™ - Input and Holding - STS (continued)

Controller	STS				
Liebert Products	Liebert STS Liebert STS/PDU				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Source 2 Overload	-	40290	1	-	Bit 3
Power Supply 2 Fault	-	40290	1	-	Bit 4
Frequency Deviation	-	40290	1	-	Bit 5
Transfer Inhibit	-	40290	1	-	Bit 6
Auto Retransfer Primed	-	40290	1	-	Bit 7
Out of Synchronization	-	40290	1	-	Bit 8
Source 1 Failure	-	40290	1	-	Bit 9
Source 2 Failure	-	40290	1	-	Bit 10
Auto Retransfer Failed	-	40291	1	-	Bit 0
Overload	-	40291	1	-	Bit 1
Control Fuse 1 Blown	-	40291	1	-	Bit 2
Control Fuse 2 Blown	-	40291	1	-	Bit 3
Source 1 CB1 Open	-	40291	1	-	Bit 4
Source 2 CB2 Open	-	40291	1	-	Bit 5
Output CB3 Open	-	40291	1	-	Bit 6
Custom Alarm 1	-	40291	1	-	Bit 7
Custom Alarm 2	-	40291	1	-	Bit 8
Bypass CB4 Closed	-	40291	1	-	Bit 9
Bypass CB5 Closed	-	40291	1	-	Bit 10
Custom Alarm 3	-	40292	1	-	Bit 0
Custom Alarm 4	-	40292	1	-	Bit 1
Custom Alarm 5	-	40292	1	-	Bit 2
Custom Alarm 6	-	40292	1	-	Bit 3
Custom Alarm 7	-	40292	1	-	Bit 4
Custom Alarm 8	-	40292	1	-	Bit 5

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 39 Liebert STS2™, Liebert STS2/PDU™ - Input and Holding - STS2

Controller	STS2				
Liebert Products	Liebert STS2; Liebert STS2/PDU				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Total Transfer Count	-	40001	1	-	-
Preferred Source	-	40002	1	-	1=Source 1, 2=Source 2
Active Source	-	40003	1	-	1=Source 1, 2=Source 2
Source 1 Volts A-B	-	40004	1	-	V
Source 1 Volts B-C	-	40005	1	-	V
Source 1 Volts C-A	-	40006	1	-	V
Source 1 Current A	-	40007	1	-	A
Source 1 Current B	-	40008	1	-	A
Source 1 Current C	-	40009	1	-	A
Source 1 Frequency	-	40010	1	10	Hz
Source 2 Volts A-B	-	40011	1	-	V
Source 2 Volts B-C	-	40012	1	-	V
Source 2 Volts C-A	-	40013	1	-	V
Source 2 Current A	-	40014	1	-	A
Source 2 Current B	-	40015	1	-	A
Source 2 Current C	-	40016	1	-	A
Source 2 Frequency	-	40017	1	10	Hz
Output kW	-	40018	1	-	kW
Output kVA	-	40019	1	-	kVA
CB 1 Status	-	40024	1	-	Bit 0
CB 2 Status	-	40024	1	-	Bit 1
CB 3 Status	-	40024	1	-	Bit 2
CB 3A Status	-	40024	1	-	Bit 3
CB 4 Status	-	40024	1	-	Bit 4
CB 5 Status	-	40024	1	-	Bit 5
CB Spare 1 Status	-	40024	1	-	Bit 6
CB Spare 2 Status	-	40024	1	-	Bit 7
CB 7 Status	-	40024	1	-	Bit 8
CB 8 Status	-	40024	1	-	Bit 9
Auto Xfer Enabled	-	40025	1	-	Bit 0
Has Dual Out Breakers	-	40025	1	-	Bit 1
Has PDU Equipped	-	40025	1	-	Bit 2
Has 4 pole Switch	-	40025	1	-	Bit 3
Has Shunt Trip	-	40025	1	-	Bit 4
Has Wye Out Xfmr	-	40025	1	-	Bit 5
Has Rmt Sorce Sel	-	40025	1	-	Bit 6
Manual I peak Reset	-	40025	1	-	Bit 7
Auto Restart Enabled	-	40025	1	-	Bit 8

Table 39 Liebert STS2™, Liebert STS2/PDU™ - Input and Holding - STS2 (continued)

Controller	STS2				
Liebert Products	Liebert STS2; Liebert STS2/PDU				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
LoadKVA %	-	40026	1	-	%
Source 1 Volts A-N	-	40027	1	-	V (4 Pole only)
Source 1 Volts B-N	-	40028	1	-	V (4 Pole only)
Source 1 Volts C-N	-	40029	1	-	V (4 Pole only)
Source 2 Volts A-N	-	40030	1	-	V (4 Pole only)
Source 2 Volts B-N	-	40031	1	-	V (4 Pole only)
Source 2 Volts C-N	-	40032	1	-	V (4 Pole only)
Source 1 Neutral Current	-	40033	1	-	A (4 Pole only)
Source 2 Neutral Current	-	40034	1	-	A (4 Pole only)
Setpoints (View)					
Retransfer Delay	-	40020	1	-	Seconds
STS2 Voltage Rating	-	40021	1	-	V
Max Xfer Phase Angle	-	40022	1	-	Degree
Freq. Deviation Trip Point	-	40023	1	10	Hz
Source 1 Neutral Current Limit	-	40035	1	-	A (4 Pole only)
Source 2 Neutral Current Limit	-	40036	1	-	A (4 Pole only)
Alarm Points					Discrete alarm objects available; use auto-discover for this unit
Communications Lost	-	40289	1	-	Bit 0
S1 SCR Short	-	40289	1	-	Bit 1
S2 SCR Short	-	40289	1	-	Bit 2
S1 SCR Open	-	40289	1	-	Bit 3
S2 SCR Open	-	40289	1	-	Bit 4
Primary Fan Fail	-	40289	1	-	Bit 5
Control Module Fail	-	40289	1	-	Bit 6
PWR Supply DC A Fail	-	40289	1	-	Bit 7
PWR Supply DC B Fail	-	40289	1	-	Bit 8
PWR Supply SRC 1 AC Fail	-	40289	1	-	Bit 9
PWR Supply SRC 2 AC Fail	-	40289	1	-	Bit 10
PWR Supply Logic Fail	-	40289	1	-	Bit 11
Output Voltage Sense Fail	-	40289	1	-	Bit 12
S1 Voltage Sense Fail	-	40289	1	-	Bit 13
S2 Voltage Sense Fail	-	40289	1	-	Bit 14
S1 SCR Sense Fail	-	40289	1	-	Bit 15
S2 SCR Sense Fail	-	40290	1	-	Bit 0
S1 Current Sense Fail	-	40290	1	-	Bit 1
S2 Current Sense Fail	-	40290	1	-	Bit 2
S1 Gate Drive Fail	-	40290	1	-	Bit 3
S2 Gate Drive Fail	-	40290	1	-	Bit 4
Internal Comm Fail	-	40290	1	-	Bit 5

Table 39 Liebert STS2™, Liebert STS2/PDU™ - Input and Holding - STS2 (continued)

Controller		STS2			
Liebert Products		Liebert STS2; Liebert STS2/PDU			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
External Comm Fail	-	40290	1	-	Bit 6
CB1 Shunt Trip Fail	-	40290	1	-	Bit 7
CB2 Shunt Trip Fail	-	40290	1	-	Bit 8
CB6 Neutral Open	-	40290	1	-	Bit 9 (N/A to 4P)
Contactors Neutral Fail	-	40290	1	-	Bit 10 (N/A to 4P)
Heatsink Overtemp	-	40290	1	-	Bit 11
Equipment Overtemp	-	40290	1	-	Bit 12 (N/A to 4P)
Ambient Overtemp	-	40290	1	-	Bit 13 (N/A to 4P)
S1 Undervolts	-	40290	1	-	Bit 14
S1 Undervolts (RMS)	-	40290	1	-	Bit 15
S1 Overvolts	-	40291	1	-	Bit 0
S1 Over/Under Freq	-	40291	1	-	Bit 1
S1 Fail	-	40291	1	-	Bit 2
S2 Undervolts	-	40291	1	-	Bit 3
S2 Undervolts (RMS)	-	40291	1	-	Bit 4
S2 Overvolts	-	40291	1	-	Bit 5
S2 Over/Under Frequency	-	40291	1	-	Bit 6
S2 Fail	-	40291	1	-	Bit 7
S1 Overcurrent	-	40291	1	-	Bit 8
S2 Overcurrent	-	40291	1	-	Bit 9
S1 I-Peak	-	40291	1	-	Bit 10
S2 I-Peak	-	40291	1	-	Bit 11
Sources Out of Sync	-	40291	1	-	Bit 12
Load On Alternate Source	-	40291	1	-	Bit 13
Auto Retransfer Inhibit	-	40291	1	-	Bit 14
CB1 (S1) Open	-	40292	1	-	Bit 0
CB2 (S2) Open	-	40292	1	-	Bit 1
CB4 (S1 BYP) Closed	-	40292	1	-	Bit 2
CB5 (S2 BYP) Closed	-	40292	1	-	Bit 3
CB3 Output Bkr Open	-	40292	1	-	Bit 4
CB3A Output Bkr Open	-	40292	1	-	Bit 5
S1 Phase Rotation Error	-	40292	1	-	Bit 6
S2 Phase Rotation Error	-	40292	1	-	Bit 7
Transfer Inhibited	-	40292	1	-	Bit 8
Output Undervoltage	-	40292	1	-	Bit 9
History Logs Full	-	40292	1	-	Bit 10
Equipment Fan Fail	-	40292	1	-	Bit 11
Load Volt THD High	-	40292	1	-	Bit 12
Load Over-current	-	40292	1	-	Bit 13

Table 39 Liebert STS2™, Liebert STS2/PDU™ - Input and Holding - STS2 (continued)

Controller	STS2				
Liebert Products	Liebert STS2; Liebert STS2/PDU				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Ground Over-current	-	40292	1	-	Bit 14
Neutral Over-current	-	40292	1	-	Bit 15
Customer Alarm #1	-	40293	1	-	Bit 0
Customer Alarm #2	-	40293	1	-	Bit 1
Customer Alarm #3	-	40293	1	-	Bit 2
Customer Alarm #4	-	40293	1	-	Bit 3
Customer Alarm #5	-	40293	1	-	Bit 4
Customer Alarm #6	-	40293	1	-	Bit 5
Customer Alarm #7	-	40293	1	-	Bit 6
Customer Alarm #8	-	40293	1	-	Bit 7
Neutral Current 1 Over Limit	-	40294	1	-	Bit 13 (4P Only)
Neutral Current 2 Over Limit	-	40294	1	-	Bit 14 (4P Only)
Neutral Snubber Fail	-	40294	1	-	Bit 15 (4P Only)
Neutral 1 SCR Short	-	40295	1	-	Bit 0 (4P Only)
Neutral 2 SCR Short	-	40295	1	-	Bit 1 (4P Only)
Neutral 1 SCR Open	-	40295	1	-	Bit 2 (4P Only)
Neutral 2 SCR Open	-	40295	1	-	Bit 3 (4P Only)

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

3.3 UPS Systems

Table 40 Liebert APM™ - Status and Coil

Data Description	Status	Coil	# of Bits	Notes
System Status				
Battery Auto Test In Progress	10001		1	Active on Alarm
Battery Equalize	10002		1	Active on Alarm
Battery Charging Inhibited	10003		1	Active on Alarm
On Generator	10004		1	Active on Alarm
System Events				
System Input Power Problem	10015		1	Active on Alarm
Rectifier Failure	10016		1	Active on Alarm
Inverter Failure	10017		1	Active on Alarm
Bypass Not Available	10018		1	Active on Alarm
Battery Low	10019		1	Active on Alarm
LBS Inhibited	10020		1	Active on Alarm
System Fan Failure	10021		1	Active on Alarm
Equipment Over Temperature	10022		1	Active on Alarm
System Shutdown - EPO	10023		1	Active on Alarm
Bypass Static Switch Unavailable	10024		1	Active on Alarm
Bypass - Excess Auto Retransfers	10025		1	Active on Alarm
Parallel Comm Warning	10026		1	Active on Alarm

Table 40 Liebert APM™ - Status and Coil (continued)

Data Description	Status	Coil	# of Bits	Notes
Power Supply Failure	10027		1	Active on Alarm
Battery Over Temperature	10028		1	Active on Alarm
System Input Phs Rotation Error	10029		1	Active on Alarm
Fuse Failure	10030		1	Active on Alarm
Inverter Overload Phase A	10031		1	Active on Alarm
Inverter Overload Phase B	10032		1	Active on Alarm
Inverter Overload Phase C	10033		1	Active on Alarm
MMS Overload	10034		1	Active on Alarm
Inverter Shutdown - Overload	10035		1	Active on Alarm
System Output Fault	10036		1	Active on Alarm
Internal Communications Failure	10037		1	Active on Alarm
Battery Charging Error	10038		1	Active on Alarm
System Input Current Imbalance	10039		1	Active on Alarm
Main Battery Disconnect Open	10040		1	Active on Alarm
Inverter Static Switch SCR Short	10041		1	Active on Alarm
Battery Not Qualified	10042		1	Active on Alarm
Battery Terminals Reversed	10043		1	Active on Alarm
Battery Converter Failure	10044		1	Active on Alarm
Inverter SCR Open	10045		1	Active on Alarm
Load Sharing Fault	10046		1	Active on Alarm
DC Bus Abnormal	10047		1	Active on Alarm
Mains Input Neutral Lost	10048		1	Active on Alarm
Load Impact Transfer	10049		1	Active on Alarm
User Operation Invalid	10050		1	Active on Alarm
Power Sub Module Fault	10051		1	Active on Alarm
Battery Discharging	10052		1	Active on Alarm
UPS Output on Bypass	10053		1	Active on Alarm
Output Load on Maint. Bypass	10054		1	Active on Alarm
Battery Capacity Low	10055		1	Active on Alarm
MMS On Battery	10056		1	Active on Alarm
Loss of Redundancy	10057		1	Active on Alarm
Top Outlet Fan Fault	10058		1	Active on Alarm
MMS Over Capacity	10059		1	Active on Alarm

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 41 Liebert APM - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Input					
System Input RMS A-B	30385		1		Units : VAC
System Input RMS B-C	30386		1		Units : VAC
System Input RMS C-A	30387		1		Units : VAC
System Input RMS Current Phase A	30388		1		Units : A AC
System Input RMS Current Phase B	30389		1		Units : A AC
System Input RMS Current Phase C	30390		1		Units : A AC
System Input Frequency	30391		1	Scale : x / 10	Units : Hz
System Input RMS A-N	30392		1		Units : VAC
System Input RMS B-N	30393		1		Units : VAC
System Input RMS C-N	30394		1		Units : VAC
System Input Power Factor Phs A	30395		1	Scale : x / 100	
System Input Power Factor Phs B	30396		1	Scale : x / 100	
System Input Power Factor Phs C	30397		1	Scale : x / 100	
Bypass					
Bypass Input Voltage RMS A-N	30401		1		Units : VAC
Bypass Input Voltage RMS B-N	30402		1		Units : VAC
Bypass Input Voltage RMS C-N	30403		1		Units : VAC
Bypass Input Frequency	30404		1	Scale : x / 10	Units : Hz
Battery					
Battery Time Remaining	30408		1		Units : min
Battery Volts for Cabinet	30409		1		Units : VDC
Battery Temperature for Cabinet	30410		1		Units : deg C
Battery Temperature for Cabinet	30411		1		Units : deg F
Inlet Air Temperature	30412		1		Units : deg C
Inlet Air Temperature	30413		1		Units : deg F
DC Bus Current	30414		1		Units : A DC
UPS battery1 status	30415		1		1 = Unknown 2 = Normal 3 = Low 4 = Depleted
Output					
System Output Voltage RMS A-N	30419		1		Units : VAC
System Output Voltage RMS B-N	30420		1		Units : VAC
System Output Voltage RMS C-N	30421		1		Units : VAC
System Output RMS Current Phs A	30422		1		Units : A AC
System Output RMS Current Phs B	30423		1		Units : A AC
System Output RMS Current Phs C	30424		1		Units : A AC
System Output Frequency	30425		1	Scale : x / 10	Units : Hz

Table 41 Liebert APM - Input and Holding (continued)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
System Output Voltage RMS A-B	30426		1		Units : VAC
System Output Voltage RMS B-C	30427		1		Units : VAC
System Output Voltage RMS C-A	30428		1		Units : VAC
System Output Power Factor Phs A	30429		1	Scale : x / 100	
System Output Power Factor Phs B	30430		1	Scale : x / 100	
System Output Power Factor Phs C	30431		1	Scale : x / 100	
System Output Pct Power Phase A	30432		1		Units : %
System Output Pct Power Phase B	30433		1		Units : %
System Output Pct Power Phase C	30434		1		Units : %
MMS Output Apparent Power	30435		1		Units : kVA
MMS Output Power	30436		1		Units : kW
System Output Apparent Power	30437		1		Units : kVA
System Output Power	30438		1		Units : kW
Output Current Crest Factor Phs A	30439		1	Scale : x / 10	
Output Current Crest Factor Phs B	30440		1	Scale : x / 10	
Output Current Crest Factor Phs C	30441		1	Scale : x / 10	
System Status					
Inverter On/Off State	30445		1		0 = off 1 = on
Maintenance Bypass Breaker (MBB)	30446		1		0 = Open 1 = Close 2 = Not Installed
UPS Output Source	30447		1		1 = Other 2 = Off 3 = Normal 4 = Bypass 5 = Battery 6 = Booster 7 = Reducer
System Status	30448		1		1 = Normal Operation 2 = StartUp 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation
ECO Mode Operation State	30449		1		0 = disabled 1 = enabled
System Configuration					
System Date and Time	39998	49998	2		Secs since Epoch(UTC)

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 42 Liebert APM - Glossary

Data Description	Description
Battery Auto Test In Progress	Automatic battery test is in progress
Battery Capacity Low	Battery capacity is low
Battery Charging Error	The battery is not charging properly
Battery Charging Inhibited	Battery charging is inhibited due to an external inhibit signal
Battery Converter Failure	Battery converter failure. This is a summary event caused by one or more power sub-modules in a UPS module.
Battery Discharging	The battery is discharging
Battery Equalize	The rectifier output voltage is increased to equalize the battery voltage level.
Battery Low	The calculated battery time remaining has reached the low battery threshold
Battery Not Qualified	The UPS battery voltage is not qualified. This event will be detected even in the absence of battery disconnect or when it is open.
Battery Over Temperature	A battery temperature sensor is reporting a value above a threshold
Battery Temperature for Cabinet	The battery temperature for a cabinet
Battery Terminals Reversed	The measured battery voltage is a negative value due to reverse battery terminal connections.
Battery Time Remaining	The calculated available time on battery
Battery Volts for Cabinet	The voltage between the positive and negative battery terminals of a battery cabinet
Bypass - Excess Auto Retransfers	The number of auto retransfers, from bypass to inverter, has exceeded the maximum for a specified time interval
Bypass Input Frequency	The bypass input frequency
Bypass Input Voltage RMS A-N	The bypass input RMS voltage between phase A and Neutral
Bypass Input Voltage RMS B-N	The bypass input RMS voltage between phase B and Neutral
Bypass Input Voltage RMS C-N	The bypass input RMS voltage between phase C and Neutral
Bypass Not Available	A problem associated with the bypass has been detected
Bypass Static Switch Unavailable	The static bypass switch is off, and unable to operate
DC Bus Abnormal	The system has detected an abnormal DC Bus Voltage.
DC Bus Current	The current at the battery input terminals. In charging mode, the current will be a positive value. In discharging mode, the current will be a negative value
ECO Mode Operation State	This setting is used to enable or disable ECO Mode.
Equipment Over Temperature	Equipment over temperature summary event
Fuse Failure	A summary event indicating one or more fuse failures
Inlet Air Temperature	The temperature of the inlet air
Internal Communications Failure	The control has detected a communication failure of a component on the internal communication bus
Inverter Failure	Inverter failure - inverter output is off
Inverter On/Off State	inverter on/off state
Inverter Overload Phase A	Inverter is operating with an overload on phase A
Inverter Overload Phase B	Inverter is operating with an overload on phase B
Inverter Overload Phase C	Inverter is operating with an overload on phase C
Inverter SCR Open	The system has detected an open across one or more inverter static switch Silicon Controlled Rectifiers.
Inverter Shutdown - Overload	The inverter has shutdown due to a sustained overload
Inverter Static Switch SCR Short	The system has detected a short across one or more inverter static switch Silicon Controlled Rectifiers (SCR)
LBS Inhibited	The system has detected that conditions to perform Load Bus Sync are not satisfied
Load Impact Transfer	On bypass as result of load impact.

Table 42 Liebert APM - Glossary (continued)

Data Description	Description
Load Sharing Fault	Difference between any phase inverter current of unit and the relevant average output current of parallel system is more than a specific percent of nominal current.
Loss of Redundancy	The multi-module collection doesn't have enough modules to redundantly support the load
Main Battery Disconnect Open	Main battery disconnect is open
Mains Input Neutral Lost	Loss of neutral in the input source is detected.
Maintenance Bypass Breaker (MBB)	Maintenance bypass breaker (MBB)
MMS On Battery	The multi-module system is on battery
MMS Output Apparent Power	The sum total apparent power of all system output modules
MMS Output Power	The sum total power of all system output modules
MMS Over Capacity	The multi-module system load is larger than the apparent power limit setting.
MMS Overload	Multi-module system overload
On Generator	A generator is supplying the power to the system
Output Current Crest Factor Phs A	Output current crest factor of Phase A.
Output Current Crest Factor Phs B	Output current crest factor of Phase B.
Output Current Crest Factor Phs C	Output current crest factor of Phase C.
Output Load on Maint. Bypass	The output power is supplied by the maintenance bypass
Parallel Comm Warning	Parallel communication bus warning
Power Sub Module Fault	One or more failures detected in power module, inverter or rectifier.
Power Supply Failure	Power supply failure
Rectifier Failure	Rectifier failure - rectifier is off
System Date and Time	The system date and time
System Fan Failure	System fan failure - one or more fans have failed
System Input Current Imbalance	System Input Currents are Imbalanced
System Input Frequency	The system input frequency
System Input Phs Rotation Error	The power conductors on the input line are not wired to the UPS in the sequence preferred for the rectifier (A-B-C)
System Input Power Factor Phs A	The system input power factor for Phase A
System Input Power Factor Phs B	The system input power factor for Phase B
System Input Power Factor Phs C	The system input power factor for Phase C
System Input Power Problem	The input is not qualified to provide power to the system
System Input RMS A-B	The System Input RMS Voltage between Phase A and Phase B
System Input RMS A-N	The System Input RMS Voltage between Phase A and Neutral
System Input RMS B-C	The System Input RMS Voltage between Phase B and Phase C
System Input RMS B-N	The System Input RMS Voltage between Phase B and Neutral
System Input RMS C-A	The System Input RMS Voltage between Phase C and Phase A
System Input RMS C-N	The System Input RMS Voltage between Phase C and Neutral
System Input RMS Current Phase A	The system input RMS current for Phase A
System Input RMS Current Phase B	The system input RMS current for Phase B
System Input RMS Current Phase C	The system input RMS current for Phase C
System Output Apparent Power	The sum total apparent power of all system output phases
System Output Fault	A fault has been detected in the system output
System Output Frequency	The system output frequency
System Output Pct Power Phase A	The system output power on phase A as a percentage of the rated capacity

Table 42 Liebert APM - Glossary (continued)

Data Description	Description
System Output Pct Power Phase B	The system output power on phase B as a percentage of the rated capacity
System Output Pct Power Phase C	The system output power on phase C as a percentage of the rated capacity
System Output Power Factor Phs A	The system output power factor of phase A
System Output Power Factor Phs B	The system output power factor of phase B
System Output Power Factor Phs C	The system output power factor of phase C
System Output Power	The sum total power of all system output phases
System Output RMS Current Phs A	The system output RMS current for Phase A
System Output RMS Current Phs B	The system output RMS current for Phase B
System Output RMS Current Phs C	The system output RMS current for Phase C
System Output Voltage RMS A-B	The system output RMS voltage between phases A and B
System Output Voltage RMS A-N	The system output RMS voltage between phases A and Neutral
System Output Voltage RMS B-C	The system output RMS voltage between phases B and C
System Output Voltage RMS B-N	The system output RMS voltage between phases B and Neutral
System Output Voltage RMS C-A	The system output RMS voltage between phases C and A
System Output Voltage RMS C-N	The system output RMS voltage between phases C and Neutral
System Shutdown - EPO	System shutdown due to Emergency Power Off (EPO)
System Status	The operating status for the system
Top Outlet Fan Fault	Top outlet fan fault - one or more top outlet fans have failed.
UPS battery1 status	UPS battery status
UPS Output on Bypass	The output power is supplied by the bypass
UPS Output Source	UPS output source
User Operation Invalid	User attempted an invalid operation.

Table 43 Liebert GXT2™ and Liebert GXT3™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Audible Alarm Enabled	10002	2	1	-	-
Automatic Battery Test Enabled	10003	3	1	-	-
DC-to-DC Converter On	10042	-	1	-	-
Battery Charge Compensation	10046	-	1	-	-
Inverter Ready	10047	-	1	-	-
Power Factor Correction State	10050	-	1	-	-
Load Circuit 1 State	10057	-	1	-	-
Load Circuit 2 State	10058	-	1	-	-
Load Circuit 3 State	10059	-	1	-	-
Load Circuit 4 State	10060	-	1	-	-
Load Circuit 5 State	10061	-	1	-	-
Load Circuit 6 State	10062	-	1	-	-
Load Circuit 7 State	10063	-	1	-	-
Load Circuit 8 State	10064	-	1	-	-
Load Circuit 9 State	10065	-	1	-	-
Load Circuit 10 State	10066	-	1	-	-
Load Circuit 11 State	10067	-	1	-	-
Load Circuit 12 State	10068	-	1	-	-
Load Circuit 13 State	10069	-	1	-	-
Load Circuit 14 State	10070	-	1	-	-

Table 43 Liebert GXT2™ and Liebert GXT3™ - Status and Coil (continued)

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Load Circuit 15 State	10071	-	1	-	-
Load Circuit 16 State	10072	-	1	-	-
Load On Inverter	10073	-	1	-	-
Bypass Active	10074	-	1	-	-
Replace Battery	10081	-	1	-	-
Battery Under Test	10082	-	1	-	-
Shutdown Reason - Over Temperature	10086	-	1	-	-
Shutdown Reason - Overload	10087	-	1	-	-
Shutdown Reason - Link Over Voltage	10088	-	1	-	-
Shutdown Reason - Output Short	10089	-	1	-	-
Shutdown Reason - Line Neutral Swap	10090	-	1	-	-
Shutdown Reason - Low Battery	10092	-	1	-	-
Shutdown Reason - Remote Shutdown	10093	-	1	-	-
Shutdown Reason - Input Under Voltage	10094	-	1	-	-
Shutdown Reason - PFC Startup	10095	-	1	-	-
Shutdown Reason - Hardware	10096	-	1	-	-
Load on Battery	10128	-	1	-	-
Output Off Pending	10151	-	1	-	-
Low Battery - Shutdown Imminent	10152	-	1	-	-
Output Overload	10154	-	1	-	-
Over Temperature Warning	10171	-	1	-	-
Battery Over Temperature CB Trip	10172	-	1	-	-
Input Power Supply Fail	10186	-	1	-	-
Input Over Voltage	10187	-	1	-	-
Input Under Voltage	10188	-	1	-	-
Bad Input Frequency	10190	-	1	-	-
Bypass Input Voltage/Frequency Fault	10202	-	1	-	-
Output Under Voltage	10218	-	1	-	-
Output Over Voltage	10219	-	1	-	-

Table 44 Liebert GXT2 and Liebert GXT3 - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Load Circuit Present	30013	40013	1	-	There are 16 possible Load Circuits. Each bit represents 1 Load Circuit. Load Circuit 1 is bit 0, Load Circuit 2 is bit 1 and so on. If the bit is 1, then the Load Circuit is supported.
Battery Cabinet Type	30018	40018	2	-	-
Battery Cabinet Number	30019	40019	1	-	-
Battery AmpHour	30020	40020	1	-	AH
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Auto Restart Delay	30051	40051	1	-	Seconds
Device Low Battery Time	30053	40053	1	-	Minutes
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Ambient Temperature	30119	-	1	-	deg C
Battery Test Result	30130	-	1	-	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 6 - Inhibited
Input Voltage L1	30153	-	1	-	V

Table 44 Liebert GXT2 and Liebert GXT3 - Input and Holding (*continued*)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Bypass Voltage L1	30159	-	1	-	V
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Maximum Voltage L1	30180	-	1	-	V
Input Minimum Voltage L1	30181	-	1	-	V
Output Maximum Voltage L1	30182	-	1	-	V
Output Minimum Voltage L1	30183	-	1	-	V
Black Out Count	30301	-	1	-	-
Brown Out Count	30302	-	1	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 45 Liebert HiNet™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
DC-To-DC Converter On	10042	-	1	-	-
Load On Inverter	10073	-	1	-	-
Bypass Active	10074	-	1	-	-
Load On Battery	10128	-	1	-	-
Permanently On Bypass	10133	-	1	-	-
Bypass SCR Open Circuit	10149	-	1	-	-
Low Battery - Shutdown Imminent	10152	-	1	-	-
Output Overload	10154	-	1	-	-
Inverter Unsynchronized	10160	-	1	-	-
Input Power Supply Fail	10186	-	1	-	-
Bypass Input Voltage/Frequency Fault	10202	-	1	-	-

Table 46 Liebert HiNet - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Number of Battery Cells	30012	40012	1	-	-
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Battery Voltage	30113	-	1	-	V
Battery Current (Charge/Discharge)	30114	-	1	-	A
Battery Charge Percentage	30116	-	1	-	%
Ambient Temperature	30119	-	1	-	deg C
Input Voltage L1	30153	-	1	-	V
Input Current L1	30154	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Voltage L2	30203	-	1	-	V
Input Current L2	30204	-	1	-	A
Input Voltage L3	30253	-	1	-	V
Input Current L3	30254	-	1	-	A

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 47 Liebert Nfinity® - Status and Coil

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Automatic Battery Test Enabled	10003	3	1	-	-
Battery Charger On	10044	-	1	-	-
Inverter Ready	10047	-	1	-	-
Power Factor Correction State	10050	-	1	-	-
Load on Inverter	10073	-	1	-	-
Bypass Active	10074	-	1	-	-
Replace Battery	10081	-	1	-	-
Battery Under Test	10082	-	1	-	-
Load on Battery	10128	-	1	-	-
Load on Bypass	10129	-	1	-	-
Load on Manual Bypass	10132	-	1	-	-
Load Transferred to Bypass Due to UPS Fault	10134	-	1	-	-
Transfer Inhibit	10146	-	1	-	-
Output Off Pending	10151	-	1	-	-
Low Battery - Shutdown Imminent	10152	-	1	-	-
Output Overload	10154	-	1	-	-
UPS Overload	10155	-	1	-	-

Table 47 Liebert Nfinity® - Status and Coil (continued)

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Output Off	10158	-	1	-	-
Check Air Filter - Replace	10170	-	1	-	-
Transformer Over Temperature	10178	-	1	-	-
Input Power Supply Fail	10186	-	1	-	-
Internal Device Communication Failure	10284	-	1	-	-
Device Active Alarm	10290	-	1	-	-
Main Control Warning	10291	-	1	-	-
Redundant Control Warning	10292	-	1	-	-
Control Module Failure	10293	-	1	-	-
Redundant Control Module Failed	10294	-	1	-	-
User Interface Module Failed	10295	-	1	-	-
UPS Power Not Redundant	10296	-	1	-	-
Power Module Failure	10298	-	1	-	-
Battery Module Failure	10299	-	1	-	-
Power Module Warning	10300	-	1	-	-
Battery Module Warning	10301	-	1	-	-

Table 48 Liebert Nfinity - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of Power Mod.	30010	40010	1	-	-
Number of Battery Modules Installed	30011	40011	1	-	-
Device Maximum Frame Capacity	30023	40023	2	-	-
Device System Capacity	30025	40025	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Auto Restart Delay	30051	40051	1	-	Seconds
Device Auto Restart Percent Setpt	30052	40052	1	-	%
Device Low Battery Time	30053	40053	1	-	Minutes
Next Battery Auto Test Time	30057	40057	1	-	Minutes
Overload Alarm Limit	30067	40067	2	-	VA
Minimum Redundant Power Modules	30074	40074	1	-	-
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz

Table 48 Liebert Nfinity - Input and Holding (continued)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Battery Temperature	30117	-	1	-	deg C
Transformer Temperature	30121	-	1	-	deg C
Redundant Power Modules	30124	-	1	-	-
Active Power Module Count	30126	-	1	-	-
Battery Module Active Count	30127	-	1	-	-
Battery Test Result	30130	-	1	-	-
Input Voltage L1	30153	-	1	-	V
Input Current L1	30154	-	1	-	A
Bypass Voltage L1	30159	-	1	-	V
Bypass Current L1	30160	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Power Module Failure Count	30304	-	1	-	-
Battery Module Failure Count	30305	-	1	-	-
Power Module Warning Count	30306	-	1	-	-
Battery Module Warning Count	30307	-	1	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 49 Liebert NX™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Economode	10005	5	-	-	-
DC-To-DC Converter On	10042	-	-	-	-
Battery Charge Compensation	10046	-	-	-	-
Inverter Ready	10047	-	-	-	-
Power Factor Correction State	10050	-	-	-	-
Battery Charge Mode	10051	-	-	-	-
Load On Inverter	10073	-	-	-	-
Bypass Active	10074	-	-	-	-
Battery Under Test	10082	-	-	-	-
Load On Battery	10128	-	-	-	-
Overload Transfer To Bypass	10131	-	-	-	-
Input Switch Open	10137	-	-	-	-
Generator Disconnected	10141	-	-	-	-
Bypass Transfer Count Block	10147	-	-	-	-
Static Bypass Switch Disabled	10148	-	-	-	-
Low Battery - Shutdown Imminent	10152	-	-	-	-
Output Overload	10154	-	-	-	-
UPS Load Joint Mode	10156	-	-	-	-
Output Off	10158	-	-	-	-

Table 49 Liebert NX™ - Status and Coil (*continued*)

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Inverter Unsynchronized	10160	-	-	-	-
Main Neutral Lost	10161	-	-	-	-
Fan Failure	10169	-	-	-	-
Ambient Over Temperature	10173	-	-	-	-
Rectifier Over Temperature	10174	-	-	-	-
Rectifier Inductor Over Temperature	10175	-	-	-	-
Inverter Over Temperature	10176	-	-	-	-
Inverter Inductor Over Temperature	10177	-	-	-	-
Battery Converter Over Temperature	10179	-	-	-	-
DC Bus Balancer Over Temperature	10180	-	-	-	-
Input Power Supply Fail	10186	-	-	-	-
Input BrownOut	10189	-	-	-	-
Bad Input Frequency	10190	-	-	-	-
Bypass Phase Rotation Error	10191	-	-	-	-
Bypass Phase Loss	10201	-	-	-	-
Bypass Input Voltage/Frequency Fault	10202	-	-	-	-
Output Fuse Blown	10217	-	-	-	-
Output Over Voltage	10219	-	-	-	-
Charger Failed	10234	-	-	-	-
Battery Fault	10235	-	-	-	-
Battery Contact Fail	10236	-	-	-	-
Battery Converter Over Current	10237	-	-	-	-
Battery Converter Fail	10238	-	-	-	-
DC Bus Balancer Over Current	10239	-	-	-	-
DC Bus Balancer Fault	10240	-	-	-	-
DC Bus 1 Power Supply Fail	10251	-	-	-	-
Rectifier Fuse Fail	10257	-	-	-	-
Rectifier Startup Failure	10258	-	-	-	-
Rectifier Fault	10259	-	-	-	-
Rectifier Current Limit	10260	-	-	-	-
Inverter DC Voltage Low Shutdown	10262	-	-	-	-
Inverter Fault	10263	-	-	-	-
Inverter DC Offset Overload	10264	-	-	-	-
Inverter Contactor Fail	10265	-	-	-	-
Inverter Current Limit	10266	-	-	-	-
Parallel Low Battery Warning	10267	-	-	-	-
Load Share Fault	10268	-	-	-	-
Parallel System Fault	10269	-	-	-	-
Parallel Connection Error	10270	-	-	-	-
Parallel System Overload	10271	-	-	-	-
Parallel Transfer To Static Bypass Switch	10272	-	-	-	-
Inverter Communication Fail	10281	-	-	-	-
Rectifier Communication Failure	10282	-	-	-	-
Parallel Communication Fault	10283	-	-	-	-
Operation Fault	10289	-	-	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 50 Liebert NX - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Module Number	30014	40014	1	-	-
Device Module Count	30015	40015	1	-	-
Device Redundant Count	30016	40016	1	-	-
Device Module Mode	30017	40017	1	-	-
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal DC Bus #1 Voltage	30035	40035	1	-	V
Nominal DC Bus #2 Voltage	30036	40036	1	-	-
Nominal Battery Float Voltage	30038	40038	1	-	V
Load Bus Sync Mode	30040	40040	1	-	-
Auto Restart Delay	30051	40051	1	-	Seconds
Device Low Battery Time	30053	40053	1	-	Minutes
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Current (Charge/Discharge)	30114	-	1	-	A
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Battery Temperature	30117	-	1	-	C
Ambient Temperature	30119	-	1	-	C
Parallel Load Source	30128	-	1	-	-
Rotary Breaker	30129	-	1	-	-
Battery Test Result	30130	-	1	-	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 6 - Inhibited
Input Voltage L1-L2	30151	-	1	-	V
Input Voltage L1	30153	-	1	-	V

Table 50 Liebert NX - Input and Holding (*continued*)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Input Current L1	30154	-	1	-	A
Input Power Factor L1	30155	-	1	100	-
Bypass Voltage L1	30159	-	1	-	V
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Output Load L1	30165	-	1	-	-
Output Power Factor L1	30166	-	1	100	%
Apparent Output Power L1	30168	-	2	-	VA
Reactive Output Power L1	30170	-	2	-	VAR
Output Power L1	30172	-	2	-	W
Output Current Crest Factor L1	30186	-	1	-	%
Input Voltage L2-L3	30201	-	1	-	V
Input Voltage L2	30203	-	1	-	V
Input Current L2	30204	-	1	-	A
Input Power Factor L2	30205	-	1	100	-
Bypass Voltage L2	30209	-	1	-	V
Output Voltage L2	30213	-	1	-	V
Output Current L2	30214	-	1	-	A
Output Load L2	30215	-	1	-	%
Output Power Factor L2	30216	-	1	100	-
Apparent Output Power L2	30218	-	2	-	VA
Reactive Output Power L2	30220	-	2	-	VAR
Output Power L2	30222	-	2	-	W
Output Current Crest Factor L2	30236	-	1	-	%
Input Voltage L3-L1	30251	-	1	-	V
Input Voltage L3	30253	-	1	-	V
Input Current L3	30254	-	1	-	A
Input Power Factor L3	30255	-	1	100	-
Bypass Voltage L3	30259	-	1	-	V
Output Voltage L3	30263	-	1	-	V
Output Current L3	30264	-	1	-	A
Output Load L3	30265	-	1	-	%
Output Power Factor L3	30266	-	1	100	-
Apparent Output Power L3	30268	-	2	-	VA
Reactive Output Power L3	30270	-	2	-	VAR
Output Power L3	30272	-	2	-	W
Output Current Crest Factor L3	30286	-	1	-	%

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 51 Liebert NXL™ SA, SR, SN, MM, CD - Status and Coil

Data Label	Status	Coil	# of Bits	Notes	NXL Type
Battery Self Test	10082	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Low Shutdown	10092	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
System Shutdown - REPO	10093	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
UPS Output on Bypass	10129	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Output Load on Maint. Bypass	10132	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Main Battery Disconnect Open	10136	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Bypass - Excess Auto Retransfers	10147	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Battery Low	10152	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
System Shutdown - EPO	10157	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
System Output Off	10158	-	1	Active on Alarm	Deprecated
Battery Over Temperature	10172	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Inlet Air Over Temperature	10173	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
System Input Current Imbalance	10185	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
System Input Phs Rotation Error	10191	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Rectifier Failure	10259	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Inverter Failure	10263	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Main Controller Fault	10293	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Bypass Not Available	10321	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Overload Phase A	10322	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Overload Phase B	10323	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Overload Phase C	10324	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Auto Retransfer Failed	10325	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Static Switch Unavailable	10326	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Static Switch Overload	10327	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Excessive Pulse Parallel	10328	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Auto Transfer Failed	10329	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Frequency Error	10330	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass - Manual Rexfr Inhibited	10331	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass - Manual Xfr Inhibited	10332	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Bypass Static Switch Off Extrnl	10333	-	1	Active on Alarm	CE only
Battery Charging Reduced-Extrnl	10334	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Capacity Low	10335	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Discharging	10336	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Temperature Imbalance	10337	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Temperature Sensor Fault	10338	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Charging Inhibited	10339	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Circuit Breaker 1 Open	10340	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Circuit Breaker 2 Open	10341	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Circuit Breaker 3 Open	10342	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Circuit Breaker 4 Open	10343	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Circuit Breaker 5 Open	10344	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Circuit Breaker 6 Open	10345	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Circuit Breaker 7 Open	10346	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS

Table 51 Liebert NXL™ SA, SR, SN, MM, CD - Status and Coil (continued)

Data Label	Status	Coil	# of Bits	Notes	NXL Type
Battery Circuit Breaker 8 Open	10347	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery - External Monitor 1	10348	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery - External Monitor 2	10349	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Over Temperature	10350	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
DC Bus Ground Fault - Positive	10351	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
DC Bus Ground Fault - Negative	10352	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
System Output Low Power Factor	10353	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Leading Power Factor	10354	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Output Amp Over User Limit-Phs A	10355	-	1	Active on Alarm	1+N, 1+1, SMS
Output Amp Over User Limit-Phs B	10356	-	1	Active on Alarm	1+N, 1+1, SMS
Output Amp Over User Limit-Phs C	10357	-	1	Active on Alarm	1+N, 1+1, SMS
System Output Fault	10358	-	1	Active on Alarm	1+N, 1+1, SMS
Inverter Overload Phase A	10359	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Inverter Overload Phase B	10360	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Inverter Overload Phase C	10361	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Inverter Inhibit - External	10362	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Inverter Shutdown - Overload	10363	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Inverter Off - External	10364	-	1	Active on Alarm	CE only
Inverter Static Switch SCR Short	10365	-	1	Active on Alarm	CE only
Equipment Over Temperature	10366	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Equipment Over Temperature	10367	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Equipment Temperature Sensor Fail	10368	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 01	10369	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 02	10370	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 03	10371	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 04	10372	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 05	10373	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 06	10374	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 07	10375	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 08	10376	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 09	10377	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 10	10378	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 11	10379	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 12	10380	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 13	10381	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 14	10382	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 15	10383	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Contact 16	10384	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Rectifier Operation Inhibit-Ext	10385	-	1	Active on Alarm	
System Fan Failure - Redundant	10386	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Multiple Fan Failure	10387	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Auto Restart In Progress	10388	-	1	Active on Alarm	SMS
Automatic Restart Failed	10389	-	1	Active on Alarm	SMS

Table 51 Liebert NXL™ SA, SR, SN, MM, CD - Status and Coil (continued)

Data Label	Status	Coil	# of Bits	Notes	NXL Type
Fuse Failure	10390	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
System Breaker(s) Open Failure	10391	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
System Breaker(s) Close Failure	10392	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Input Filter Cycle Lock	10393	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Service Code Active	10394	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
LBS Inhibited	10396	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
Controls Reset Required	10397	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Battery Test Failed	10398	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Auto Restart Inhibited - Ext	10399	-	1	Active on Alarm	SMS
Battery Test Inhibited	10400	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Battery Equalize	10401	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Backfeed Breaker Open	10402	-	1	Active on Alarm	SCC, 1+N, 1+1, SMS
On Generator	10403	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Power Supply Failure	10404	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Battery Ground Fault	10405	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
System Input Power Problem	10407	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
System Input Current Limit	10408	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Internal Communications Failure	10409	-	1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
System Controller Error	10410	-	1	Active on Alarm	N+1, 1+N, 1+1, SMS
Output					
Output Of/Uf	10510		1	Active on Alarm	N+1, 1+N, 1+1, SMS
MultiModule					
Parallel Comm Warning	10521		1	Active on Alarm	SCC, N+1, 1+N, 1+1
System Comm Fail	10522		1	Active on Alarm	SCC, N+1, 1+N, 1+1
Loss of Redundancy	10523		1	Active on Alarm	SCC, 1+N, 1+1
BPSS Startup Inhibit	10524		1	Active on Alarm	
MMS Transfer Inhibit	10525		1	Active on Alarm	SCC, 1+N, 1+1
MMS Retransfer Inhibit	10526		1	Active on Alarm	SCC, 1+N, 1+1
MMS Loss of Sync Pulse	10527		1	Active on Alarm	
MMS Overload	10528		1	Active on Alarm	SCC
MMS On Battery	10529		1	Active on Alarm	SCC, 1+N, 1+1
MMS Low Battery Warning	10530		1	Active on Alarm	SCC, 1+N, 1+1
MMS Module Alarm Active	10531		1	Active on Alarm	SCC
MMS Sharing Calib Active	10532		1	Active on Alarm	SCC
Intelligent Paralleling					
Module In Standby - Intelligent Paralleling	10543		1	Active on Alarm	N+1, 1+N, 1+1
ECO Mode					
ECO Mode Active	10554		1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
ECO Mode Suspended	10555		1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
Excess ECO Suspends	10556		1	Active on Alarm	SCC, N+1, 1+N, 1+1, SMS
System					
LBS Active - Master	10567		1	Active on Alarm	SCC, 1+N, 1+1, SMS
LBS Active - Slave	10568		1	Active on Alarm	SCC, 1+N, 1+1, SMS

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
System Date and Time	30005	-	2	-	Masks: Year 0xFFFF 0000 Mon 0x0000 FF00 Day 0x0000 00FF	SCC, N+1, 1+N, 1+1, SMS
System Date and Time	30007	-	2	-	Masks: Hour 0xFF00 0000 Min 0x00FF 0000 Sec 0x0000 FF00	SCC, N+1, 1+N, 1+1, SMS
Output Apparent Power Rating	30021	-	1	-	kVA	N+1, 1+N, 1+1, SMS
System Input Nominal Voltage	30027	-	1	-	VAC	N+1, 1+N, 1+1, SMS
System Output Nominal Voltage	30028	-	1	-	VAC	SCC, N+1, 1+N, 1+1, SMS
Bypass Nominal Voltage	30029	-	1	-	VAC	SCC, 1+N, 1+1, SMS
System Input Nominal Frequency	30031	-	1	x / 10	Hz	N+1, 1+N, 1+1, SMS
System Output Nominal Frequency	30032	-	1	x / 10	Hz	SCC, N+1, 1+N, 1+1, SMS
System Output Apparent Power	30102	-	1	-	kVA	N+1, 1+N, 1+1, SMS
System Output Power	30104	-	1	-	kW	N+1, 1+N, 1+1, SMS
System Input Frequency	30107	-	1	x / 10	Hz	N+1, 1+N, 1+1, SMS
System Output Frequency	30108	-	1	x / 10	Hz	N+1, 1+N, 1+1, SMS
Bypass Input Frequency	30109	-	1	x / 10	Hz	SCC, 1+N, 1+1, SMS
Battery Volts at Main Disconnect	30113	-	1	-	VDC	N+1, 1+N, 1+1, SMS
Battery Time Remaining	30115	-	1	-	min	N+1, 1+N, 1+1, SMS
Battery Percentage Charge	30116	-	1	-		N+1, 1+N, 1+1, SMS
Inlet Air Temperature	30119	-	1	-	deg C	SCC, N+1, 1+N, 1+1, SMS
System Input RMS A-B	30151	-	1	-	VAC	N+1, 1+N, 1+1, SMS
System Input RMS Current Phase A	30154	-	1	-	A AC	N+1, 1+N, 1+1, SMS
Bypass Input Voltage RMS A-B	30157	-	1	-	VAC	SCC, 1+N, 1+1, SMS
System Output Voltage RMS A-B	30161	-	1	-	VAC	N+1, 1+N, 1+1, SMS
System Output Voltage RMS A-N	30162	-	1	-	VAC	N+1, 1+N, 1+1, SMS

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
System Output RMS Current Phase A	30164	-	1	-	A AC	N+1, 1+N, 1+1, SMS
System Output Pct Power Phase A	30165	-	1	-	%	N+1, 1+N, 1+1, SMS
System Output Power Factor Phase A	30166	-	1	x / 100		N+1, 1+N, 1+1, SMS
System Input RMS B-C	30201	-	1	-	VAC	N+1, 1+N, 1+1, SMS
System Input RMS Current Phase B	30204	-	1	-	A AC	N+1, 1+N, 1+1, SMS
Bypass Input Voltage RMS B-C	30207	-	1	-	VAC	SCC, 1+N, 1+1, SMS
System Output Voltage RMS B-C	30211	-	1	-	VAC	N+1, 1+N, 1+1, SMS
System Output Voltage RMS B-N	30212	-	1	-	VAC	N+1, 1+N, 1+1, SMS
System Output RMS Current Phs B	30214	-	1	-	A AC	N+1, 1+N, 1+1, SMS
System Output Pct Power Phase B	30215	-	1	-	%	N+1, 1+N, 1+1, SMS
System Output Power Factor Phase B	30216	-	1	x / 100		N+1, 1+N, 1+1, SMS
System Input RMS C-A	30251	-	1	-	VAC	N+1, 1+N, 1+1, SMS
System Input RMS Current Phase C	30254	-	1	-	A AC	N+1, 1+N, 1+1, SMS
Bypass Input Voltage RMS C-A	30257	-	1	-	VAC	SCC, 1+N, 1+1, SMS
System Output Voltage RMS C-A	30261	-	1	-	VAC	N+1, 1+N, 1+1, SMS
System Output Voltage RMS C-N	30262	-	1	-	VAC	N+1, 1+N, 1+1, SMS
System Output RMS Current Phs C	30264	-	1	-	A AC	N+1, 1+N, 1+1, SMS
System Output Pct Power Phase C	30265	-	1	-	%	N+1, 1+N, 1+1, SMS
System Output Power Factor Phs C	30266	-	1	x / 100		N+1, 1+N, 1+1, SMS
Battery Discharge Time	30309	-	1	-	sec	N+1, 1+N, 1+1, SMS
Battery Amp-Hours Consumed This Discharge	30310	-	1	-	AH	N+1, 1+N, 1+1, SMS
Input Qualification Status	30312	-	1	-	0 = Fail 1 = Marginal Low 2 = Normal 3 = Marginal High	N+1, 1+N, 1+1, SMS
Bypass Sync Phase Difference	30313	-	1	-	deg	SCC, 1+N, 1+1, SMS
Bypass SS Overload Time Remain	30314	-	1	-	sec	SCC, 1+N, 1+1, SMS

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
Bypass Qualification Status	30315	-	1	-	0 = Fail 1 = Marginal Low 2 = Normal 3 = Marginal High	SCC, 1+N, 1+1, SMS
Battery Total Discharge Time	30316	-	1	-	hr	N+1, 1+N, 1+1, SMS
Battery Discharge Power	30317	-	1	-	W	N+1, 1+N, 1+1, SMS
Battery Last Discharge Date	30318	-	2	-	Masks: Year 0xFFFF 0000 Mon 0x0000 FF00 Day 0x0000 00FF	N+1, 1+N, 1+1, SMS
Battery Last Discharge Date	30320	-	2	-	Masks: Hour 0xFF00 0000 Min 0x00FF 0000 Sec 0x0000 FF00	N+1, 1+N, 1+1, SMS
Battery Commission Date	30322	-	2	-	Masks: Year 0xFFFF 0000 Mon 0x0000 FF00 Day 0x0000 00FF	N+1, 1+N, 1+1, SMS
Battery Commission Date	30324	-	2	-	Masks: Hour 0xFF00 0000 Min 0x00FF 0000 Sec 0x0000 FF00	N+1, 1+N, 1+1, SMS
DC Bus Voltage	30326	-	1	-	VDC	N+1, 1+N, 1+1, SMS
DC Bus Current	30327	-	1	-	A DC	N+1, 1+N, 1+1, SMS
DC Bus Qualification Status	30328	-	1	-	0 = Fail 1 = Marginal Low 2 = Normal 3 = Marginal High	N+1, 1+N, 1+1, SMS
System Output Pct Pwr (VA) Phase A	30329	-	1	-	%	N+1, 1+N, 1+1, SMS
System Output Pct Pwr (VA) Phase B	30330	-	1	-	%	N+1, 1+N, 1+1, SMS
System Output Pct Pwr (VA) Phase C	30331	-	1	-	%	N+1, 1+N, 1+1, SMS
Output Qualification Status	30332	-	1	-	0 = Fail 1 = Marginal Low 2 = Normal 3 = Marginal High	N+1, 1+N, 1+1, SMS
Inverter Overload Time Remaining	30333	-	1	-	sec	N+1, 1+N, 1+1, SMS
Inverter Output Qualification Status	30334	-	1	-	0 = Fail 1 = Marginal Low 2 = Normal 3 = Marginal High	N+1, 1+N, 1+1, SMS
Total System Operating Time	30335	-	2	-	hr	SCC, N+1, 1+N, 1+1, SMS
Rectifier Pulse Count	30337	-	1	-	0 = 6 Pulse 1 = 12 Pulse 2 = 18 Pulse 3 = 24 Pulse	N+1, 1+N, 1+1, SMS

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
Rectifier Input Passive Filter	30338	-	1	-	0 = Not Installed 1 = Installed	N+1, 1+N, 1+1, SMS
Rectifier Passive Filter Switch	30339	-	1	-	0 = Not Installed 1 = Installed	N+1, 1+N, 1+1, SMS
Rectifier Active Filter	30340	-	1	-	0 = Not Installed 1 = Installed	N+1, 1+N, 1+1, SMS
Rectifier Status	30341	-	1	-	0 = off 1 = on	N+1, 1+N, 1+1, SMS
System Status	30342	-	1	-	1 = Normal Operation 2 = Startup 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation	SCC, N+1, 1+N, 1+1, SMS
UPS Module Type	30343	-	1	-	0 = Single Module System 1 = Module (1 + 1) 2 = Module (1 + N) 3 = Module (N + 1) 4 = System Control Cabinet 5 = Main Static Switch	SCC, N+1, 1+N, 1+1, SMS
Static Switch Type	30344	-	1	-	0 = Not Applicable 1 = Continuous Duty 2 = Momentary Duty	SCC, 1+N, 1+1, SMS
System Input Power Source	30345	-	1	-	0 = None 1 = Utility (mains) 2 = Generator	SCC, N+1, 1+N, 1+1, SMS
Output Real Power Rating	30346	-	1	-	kW	N+1, 1+N, 1+1, SMS
Input Isolation Transformer	30348	-	1	-	0 = Not Installed 1 = Installed	N+1, 1+N, 1+1, SMS
System Output Maximum Amp Rating	30350	-	1	-	A AC	SCC, 1+N, 1+1
Output Wire Configuration	30353	-	1	-	0 = Two Wire (single phase + return) 1 = Two Wire (2 phase, no neutral) 2 = Three Wire (2 phase + neutral) 3 = Three Wire (3-phase, no neutral) 4 = Four Wire (3 phases + neutral)	SCC, N+1, 1+N, 1+1, SMS
Battery Cell Count - Lead Acid	30354	-	1	-		N+1, 1+N, 1+1, SMS

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
Battery Cell Count-Nickel Cadmium	30355	-	1	-		N+1, 1+N, 1+1, SMS
UPS System Output Source	30356	-	1	-	0 = Off 1 = Normal 2 = Bypass 3 = Maintenance Bypass	SCC, 1+N, 1+1, SMS
Static Bypass Switch	30357	-	1	-	0 = off 1 = on	SCC, 1+N, 1+1, SMS
Battery Volts for Cabinet 1	30358	-	1	-	VDC	N+1, 1+N, 1+1, SMS
Battery Volts for Cabinet 2	30359	-	1	-	VDC	N+1, 1+N, 1+1, SMS
Battery Volts for Cabinet 3	30360	-	1	-	VDC	N+1, 1+N, 1+1, SMS
Battery Volts for Cabinet 4	30361	-	1	-	VDC	N+1, 1+N, 1+1, SMS
Battery Volts for Cabinet 5	30362	-	1	-	VDC	N+1, 1+N, 1+1, SMS
Battery Volts for Cabinet 6	30363	-	1	-	VDC	N+1, 1+N, 1+1, SMS
Battery Volts for Cabinet 7	30364	-	1	-	VDC	N+1, 1+N, 1+1, SMS
Battery Volts for Cabinet 8	30365	-	1	-	VDC	N+1, 1+N, 1+1, SMS
Battery Temperature for Cabinet 1	30366	-	1	-	deg C	N+1, 1+N, 1+1, SMS
Battery Temperature for Cabinet 2	30367	-	1	-	deg C	N+1, 1+N, 1+1, SMS
Battery Temperature for Cabinet 3	30368	-	1	-	deg C	N+1, 1+N, 1+1, SMS
Battery Temperature for Cabinet 4	30369	-	1	-	deg C	N+1, 1+N, 1+1, SMS
Battery Temperature for Cabinet 5	30370	-	1	-	deg C	N+1, 1+N, 1+1, SMS
Battery Temperature for Cabinet 6	30371	-	1	-	deg C	N+1, 1+N, 1+1, SMS
Battery Temperature for Cabinet 7	30372	-	1	-	deg C	N+1, 1+N, 1+1, SMS
Battery Temperature for Cabinet 8	30373	-	1	-	deg C	N+1, 1+N, 1+1, SMS
Backfeed Breaker	30374	-	1	-	0 = Open 1 = Close 2 = Not Installed	N+1, 1+N, 1+1, SMS
SBS Load Disconnect	30375	-	1	-	0 = Open 1 = Close 2 = Not Installed	Deprecated
Input Breaker (CB1/RIB)	30376	-	1	-	0 = Open 1 = Close 2 = Not Installed	N+1, 1+N, 1+1, SMS
Trap Filter Disconnect	30377	-	1	-	0 = Open 1 = Close 2 = Not Installed	N+1, 1+N, 1+1, SMS

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
Output Breaker (CB2/IOB)	30378	-	1	-	0 = Open 1 = Close 2 = Not Installed	N+1, 1+N, 1+1, SMS
Internal Bypass Breaker (CB3)	30379	-	1	-	0 = Open 1 = Close 2 = Not Installed	Depricated
Bypass Isolation Breaker (BIB)	30380	-	1	-	0 = Open 1 = Close 2 = Not Installed	1+N, 1+1, SMS
Rectifier Feed Breaker (RFB)	30381	-	1	-	0 = Open 1 = Close 2 = Not Installed	SMS
Maintenance Bypass Breaker (MBB)	30382	-	1	-	0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1, SMS
Maintenance Isolation Breaker (MIB)	30383	-	1	-	0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1, SMS
Output Series Static Switch	30384	-	1	-	0 = Open 1 = Close 2 = Not Installed	LEU/LAP only
Module Output Breaker (MOB)	30385	-	1	-	0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1
Battery Amp-Hours Consumed	30386	-	2	-	AH	N+1, 1+N, 1+1, SMS
Auto Retransfer Time Remaining	30388	-	1	-	sec	SCC, 1+N, 1+1, SMS
Inverter On/Off State	30389	-	1	-	0 = off 1 = on	N+1, 1+N, 1+1, SMS
UPS Battery Status	30390	-	1	-	1 = Unknown 2 = Normal 3 = Low 4 = Depleted	N+1, 1+N, 1+1, SMS
UPS Output Source	30391	-	1	-	1 = Other 2 = Off 3 = Normal 4 = Bypass 5 = Battery 6 = Booster 7 = Reducer	SCC, N+1, 1+N, 1+1, SMS
System Date and Time	39998	49998	2	-		SCC, N+1, 1+N, 1+1, SMS
Environment						
Total kW Hours Saved	30491		2		Units : kWh	SCC, N+1, 1+N, 1+1, SMS
System Date and Time	39998	49998	2		Secs since Epoch(UTC)	SCC, N+1, 1+N, 1+1, SMS
System						

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
Bypass Input Wire Configuration	30496		1		0 = Two Wire (single phase + return) 1 = Two Wire (2 phase, no neutral) 2 = Three Wire (2 phase + neutral) 3 = Three Wire (3 phase, no neutral) 4 = Four Wire (3 phases + neutral)	SCC, 1+N, 1+1, SMS
Configuration Description	30497		1		0 = Single Module System 33 1 = Single Module System 34 2 = Single Module System 44 3 = 1+1 33 4 = 1+1 34 5 = 1+1 44 6 = 1+N 33 7 = 1+N 34 8 = 1+N 44 9 = N+1 33 10 = N+1 34 11 = N+1 44 12 = SCC w/ Continuous Duty SS 33 13 = SCC w/ Continuous Duty SS 44 14 = SCC w/ Momentary Duty SS 15 = Main Static Switch	SCC, N+1, 1+N, 1+1, SMS
Ratings						
System UPS Module Count	30501		1			SCC, 1+N, 1+1, SMS
MultiModule						
Multi-module System Output Voltage RMS A-B	30505		1		Units : VAC	SCC, 1+N, 1+1
Multi-module System Output Voltage RMS B-C	30506		1		Units : VAC	SCC, 1+N, 1+1
Multi-module System Output Voltage RMS C-A	30507		1		Units : VAC	SCC, 1+N, 1+1
Multi-module System Output Voltage RMS A-N	30508		1		Units : VAC	SCC, 1+N, 1+1
Multi-module System Output Voltage RMS B-N	30509		1		Units : VAC	SCC, 1+N, 1+1
Multi-module System Output Voltage RMS C-N	30510		1		Units : VAC	SCC, 1+N, 1+1

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
Sum of MMS Output RMS Currents for Phase A	30511		1		Units : A AC	SCC, 1+N, 1+1
Sum of MMS Output RMS Currents for Phase B	30512		1		Units : A AC	SCC, 1+N, 1+1
Sum of MMS Output RMS Currents for Phase C	30513		1		Units : A AC	SCC, 1+N, 1+1
MMS Output Frequency	30514		1	Scale : x / 10	Units : Hz	SCC, 1+N, 1+1
MMS Output Power	30515		1		Units : kW	SCC, 1+N, 1+1
MMS Output Apparent Power	30516		1		Units : kVA	SCC, 1+N, 1+1
MMS Output Power Factor Phase A	30517		1	Scale : x / 100		SCC, 1+N, 1+1
MMS Output Power Factor Phase B	30518		1	Scale : x / 100		SCC, 1+N, 1+1
MMS Output Power Factor Phase C	30519		1	Scale : x / 100		SCC, 1+N, 1+1
MMS Output Pct Power Phase A	30520		1		Units : %	SCC
MMS Output Pct Power Phase B	30521		1		Units : %	SCC
MMS Output Pct Power Phase C	30522		1		Units : %	SCC
MMS Output Pct Apparent Pwr (kVA) Phase A	30523		1		Units : %	SCC
MMS Output Pct Apparent Pwr (kVA) Phase B	30524		1		Units : %	SCC
MMS Output Pct Apparent Pwr (kVA) Phase C	30525		1		Units : %	SCC
Number of Redundant Modules	30526		1			SCC, 1+N, 1+1
MMS Module Number	30527		1			N+1, 1+N, 1+1
Number of Modules in an MMS	30528		1			SCC, 1+N, 1+1
Module Output Breaker for Module 1 (MOB1)	30529		1		0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1
Module Output Breaker for Module 2 (MOB2)	30530		1		0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1
Module Output Breaker for Module 3 (MOB3)	30531		1		0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1
Module Output Breaker for Module 4 (MOB4)	30532		1		0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1
Module Output Breaker for Module 5 (MOB5)	30533		1		0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1
Module Output Breaker for Module 6 (MOB6)	30534		1		0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
Module Output Breaker for Module 7 (MOB7)	30535		1		0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1
Module Output Breaker for Module 8 (MOB8)	30536		1		0 = Open 1 = Close 2 = Not Installed	SCC, 1+N, 1+1
Bypass Isolation Breaker for Module 1 (BIB1)	30537		1		0 = Open 1 = Close 2 = Not Installed	1+N, 1+1
Bypass Isolation Breaker for Module 2 (BIB2)	30538		1		0 = Open 1 = Close 2 = Not Installed	1+N, 1+1
Bypass Isolation Breaker for Module 3 (BIB3)	30539		1		0 = Open 1 = Close 2 = Not Installed	1+N, 1+1
Bypass Isolation Breaker for Module 4 (BIB4)	30540		1		0 = Open 1 = Close 2 = Not Installed	1+N, 1+1
Bypass Isolation Breaker for Module 5 (BIB5)	30541		1		0 = Open 1 = Close 2 = Not Installed	1+N, 1+1
Bypass Isolation Breaker for Module 6 (BIB6)	30542		1		0 = Open 1 = Close 2 = Not Installed	1+N, 1+1
Bypass Isolation Breaker for Module 7 (BIB7)	30543		1		0 = Open 1 = Close 2 = Not Installed	1+N, 1+1
Bypass Isolation Breaker for Module 8 (BIB8)	30544		1		0 = Open 1 = Close 2 = Not Installed	1+N, 1+1
System Output Breaker (UOB)	30545		1		0 = Open 1 = Close 2 = Not Installed	SCC
System Load Bank Breaker (LBB)	30546		1		0 = Open 1 = Close 2 = Not Installed	SCC
System Isolation Output Breaker (IOB)	30547		1		0 = Open 1 = Close 2 = Not Installed	SCC
SCC Event Summary	30548		1		0 = None 1 = Alarm 2 = Fault	SCC
MMS UPS Battery Status	30549		1		1 = Unknown 2 = Normal 3 = Low 4 = Depleted	N+1, 1+N, 1+1
MMS UPS Output Source	30550		1		1 = Other 2 = Off 3 = Normal 4 = Bypass 5 = Battery 6 = Booster 7 = Reducer	SCC, 1+N, 1+1

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
ModuleList 1						
MMS Inter-Module Comm Status	30554		1		0 = Failed 1 = Normal	SCC, 1+N, 1+1
MMS Event Summary	30555		1		0 = None 1 = Alarm 2 = Fault	SCC, 1+N, 1+1
MMS Module Inverter Status	30556		1		0 = off 1 = on	1+N, 1+1
MMS Module Output Voltage Status	30557		1		0 = Fail 1 = Marginal Low 2 = Normal 3 = Marginal High	SCC, 1+N, 1+1
MMS Module Output Source	30558		1		0 = Off 1 = Normal 2 = Bypass 3 = Maintenance Bypass	SCC, 1+N, 1+1
MMS Module Total kW Output	30559		1		Units : kW	SCC
MMS Module Total kVA Output	30560		1		Units : kVA	SCC
MMS Module DC Bus Voltage	30561		1		Units : VDC	SCC
MMS Module Battery Current	30562		1		Units : A DC	SCC
MMS Module Battery Time Remaining	30563		1		Units : min	SCC
ModuleList 2						
MMS Inter-Module Comm Status	30567		1		0 = Failed 1 = Normal	SCC, 1+N, 1+1
MMS Event Summary	30568		1		0 = None 1 = Alarm 2 = Fault	SCC, 1+N, 1+1
MMS Module Inverter Status	30569		1		0 = off 1 = on	1+N, 1+1
MMS Module Output Voltage Status	30570		1		0 = Fail 1 = Marginal Low 2 = Normal 3 = Marginal High	SCC, 1+N, 1+1
MMS Module Output Source	30571		1		0 = Off 1 = Normal 2 = Bypass 3 = Maintenance Bypass	SCC, 1+N, 1+1
MMS Module Total kW Output	30572		1		Units : kW	SCC
MMS Module Total kVA Output	30573		1		Units : kVA	SCC
MMS Module DC Bus Voltage	30574		1		Units : VDC	SCC
MMS Module Battery Current	30575		1		Units : A DC	SCC
MMS Module Battery Time Remaining	30576		1		Units : min	SCC

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
Module List 8						
MMS Inter-Module Comm Status	30645		1		0 = Failed 1 = Normal	SCC, 1+N, 1+1
MMS Event Summary	30646		1		0 = None 1 = Alarm 2 = Fault	SCC, 1+N, 1+1
MMS Module Inverter Status	30647		1		0 = off 1 = on	1+N, 1+1
MMS Module Output Voltage Status	30648		1		0 = Fail 1 = Marginal Low 2 = Normal 3 = Marginal High	SCC, 1+N, 1+1
MMS Module Output Source	30649		1		0 = Off 1 = Normal 2 = Bypass 3 = Maintenance Bypass	SCC, 1+N, 1+1
MMS Module Total kW Output	30650		1		Units : kW	SCC
MMS Module Total kVA Output	30651		1		Units : kVA	SCC
MMS Module DC Bus Voltage	30652		1		Units : VDC	SCC
MMS Module Battery Current	30653		1		Units : A DC	SCC
MMS Module Battery Time Remaining	30654		1		Units : min	SCC
Intelligent Paralleling						
Intelligent Parallel Operation State	30658		1		0 = disabled 1 = enabled	SCC, N+1, 1+N, 1+1
Intelligent Parallel Mode	30659		1		1 = Disconnect (More Efficient)	SCC, N+1, 1+N, 1+1
Intelligent Paralleling Shutdown Delay	30660		1		Units : min	SCC, N+1, 1+N, 1+1
Intelligent Parallel Minimum Redundancy	30661		1			SCC, N+1, 1+N, 1+1
Intelligent Parallel Maximum Time in Standby	30662		1		Units : day	SCC, N+1, 1+N, 1+1
ECO Mode						
ECO Mode Operation State	30666	40666	1		0 = disabled 1 = enabled	SCC, 1+N, 1+1, SMS
Continuous Operation - ECO Mode	30667		1		0 = disabled 1 = enabled	SCC, 1+N, 1+1, SMS
Maximum Auto Suspensions - ECO Mode	30668		1			SCC, 1+N, 1+1, SMS
Restart Delay - ECO Mode	30669		1		Units : min	SCC, 1+N, 1+1, SMS
Time Remaining - ECO Mode	30670		1		Units : min	SCC, 1+N, 1+1, SMS

Table 52 Liebert NXL SA, SR, SN, MM, CD - Input and Holding (continued)

Data Label	Input Register	Holding Register	# of Regs	Scale	Units / Notes	NXL Types
EcoMode Schedule 1						
Schedule Operation State - ECO Mode	30674		1		0 = disabled 1 = enabled	SCC, 1+N, 1+1, SMS
Schedule Action - ECO Mode	30675		1		0 = stop 1 = start	SCC, 1+N, 1+1, SMS
Schedule Day of Week - ECO Mode	30676		1		0 = Unknown 1 = Monday 2 = Tuesday 3 = Wednesday 4 = Thursday 5 = Friday 6 = Saturday 7 = Sunday	SCC, 1+N, 1+1, SMS
Schedule Hour - ECO Mode	30677		1		Units : hr	SCC, 1+N, 1+1, SMS
Schedule Minute - ECO Mode	30678		1		Units : min	SCC, 1+N, 1+1, SMS
EcoModeSchedule 2						
Schedule Operation State - ECO Mode	30682		1		0 = disabled 1 = enabled	SCC, 1+N, 1+1, SMS
Schedule Action - ECO Mode	30683		1		0 = stop 1 = start	SCC, 1+N, 1+1, SMS
Schedule Day of Week - ECO Mode	30684		1		0 = Unknown 1 = Monday 2 = Tuesday 3 = Wednesday 4 = Thursday 5 = Friday 6 = Saturday 7 = Sunday	SCC, 1+N, 1+1, SMS
Schedule Hour - ECO Mode	30685		1		Units : hr	SCC, 1+N, 1+1, SMS
Schedule Minute - ECO Mode	30686		1		Units : min	SCC, 1+N, 1+1, SMS
EcoModeSchedule 16						
Schedule Operation State - ECO Mode	30794		1		0 = disabled 1 = enabled	SCC, 1+N, 1+1, SMS
Schedule Action - ECO Mode	30795		1		0 = stop 1 = start	SCC, 1+N, 1+1, SMS
Schedule Day of Week - ECO Mode	30796		1		0 = Unknown 1 = Monday 2 = Tuesday 3 = Wednesday 4 = Thursday 5 = Friday 6 = Saturday 7 = Sunday	SCC, 1+N, 1+1, SMS
Schedule Hour - ECO Mode	30797		1		Units : hr	SCC, 1+N, 1+1, SMS
Schedule Minute - ECO Mode	30798		1		Units : min	SCC, 1+N, 1+1, SMS

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 53 Liebert NXL™ SA, SR, SN, MM, CD - Glossary

Data Label	Data Description
Auto Restart In Progress	Auto restart is in progress
Auto Restart Inhibited - Ext	Auto restart inhibited due to an external signal
Automatic Restart Failed	Automatic restart failed
Backfeed Breaker Open	The backfeed breaker is in the open position
Backfeed Breaker	Backfeed breaker
Battery - External Monitor 1	External battery monitor 1 - battery maintenance required
Battery - External Monitor 2	External battery monitor 2 - battery maintenance required
Battery Amp-Hours Consumed This Discharge	Battery amp-hours withdrawn this discharge.
Battery Amp-Hours Consumed	Cumulative battery amp-hours withdrawn over the life of the battery
Battery Automatic Test Inhibited	Automatic (scheduled) battery tests are inhibited
Battery Capacity Low	Battery capacity is low
Battery Cell Count - Lead Acid	Battery cell count - lead acid
Battery Cell Count-Nickel Cadmium	Battery cell count - nickel cadmium
Battery Charging Error	The battery is not charging properly
Battery Charging Inhibited	Battery charging is inhibited due to an external inhibit signal
Battery Charging Reduced-Extrnl	Using a reduced battery charging algorithm due to an external signal
Battery Circuit Breaker 1 Open	Battery circuit breaker 1 is open
Battery Circuit Breaker 2 Open	Battery circuit breaker 2 is open
Battery Circuit Breaker 3 Open	Battery circuit breaker 3 is open
Battery Circuit Breaker 4 Open	Battery circuit breaker 4 is open
Battery Circuit Breaker 5 Open	Battery circuit breaker 5 is open
Battery Circuit Breaker 6 Open	Battery circuit breaker 6 is open
Battery Circuit Breaker 7 Open	Battery circuit breaker 7 is open
Battery Circuit Breaker 8 Open	Battery circuit breaker 8 is open
Battery Commission Date	Date and time when battery placed into service
Battery Discharge Power	Instantaneous battery power while discharging
Battery Discharge Time	The time on battery operation for this discharge
Battery Discharging	The battery is discharging
Battery Equalize	The rectifier output voltage is increased to equalize the battery voltage level.
Battery Ground Fault	Battery system ground fault amperage exceeds the threshold
Battery Last Discharge Date	The date and time of the last battery discharge
Battery Low Shutdown	Battery disconnect due to end-of-discharge.
Battery Low	The calculated battery time remaining has reached the low battery threshold
Battery Over Temperature	A battery temperature sensor is reporting a value above a threshold
Battery Percentage Charge	The percentage of battery charge
Battery Self Test	Battery self test is in progress
Battery Temperature for Cabinet	The battery temperature for a cabinet
Battery Temperature Imbalance	Excessive temperature differences between battery sensors detected
Battery Temperature Sensor Fault	A battery temperature sensor fault has been detected
Battery Test Failed	Battery test failed
Battery Time Remaining	The calculated available time on battery
Battery Total Discharge Time	The cumulative battery discharge time

Table 53 Liebert NXL™ SA, SR, SN, MM, CD - Glossary (continued)

Data Label	Data Description
Battery Volts at Main Disconnect	The voltage between the positive and the negative battery terminals of the common battery disconnect
Battery Volts for Cabinet	The voltage between the positive and negative battery terminals of a battery cabinet
BPSS Startup Inhibit	The Bypass Static Switch startup is inhibited
Bypass - Excess Auto Retransfers	The number of auto retransfers, from bypass to inverter, has exceeded the maximum for a specified time interval
Bypass - Manual Rexfr Inhibited	Manual transfer from bypass to inverter is inhibited.
Bypass - Manual Xfr Inhibited	Manual transfer from inverter to bypass is inhibited.
Bypass Auto Retransfer Failed	After performing a recoverable transfer to bypass, an attempt to auto retransfer from bypass to inverter failed
Bypass Auto Transfer Failed	An automatic transfer to static bypass failed
Bypass Excessive Pulse Parallel	The system has performed too many pulse parallel operations within a specified time interval
Bypass Frequency Error	The bypass frequency is outside the inverter synchronization limits
Bypass Input Frequency	The bypass input frequency
Bypass Input Voltage RMS A-B	The bypass input RMS voltage between phases A and B
Bypass Input Voltage RMS B-C	The bypass input RMS voltage between phases B and C
Bypass Input Voltage RMS C-A	The bypass input RMS voltage between phases C and A
Bypass Input Wire Configuration	Bypass input wire configuration
Bypass Isolation Breaker (BIB)	Bypass isolation breaker (BIB)
Bypass Isolation Breaker for Module 1 (BIB1)	Bypass isolation breaker for module 1 (BIB1)
Bypass Isolation Breaker for Module 2 (BIB2)	Bypass isolation breaker for module 2 (BIB2)
Bypass Isolation Breaker for Module 3 (BIB3)	Bypass isolation breaker for module 3 (BIB3)
Bypass Isolation Breaker for Module 4 (BIB4)	Bypass isolation breaker for module 4 (BIB4)
Bypass Isolation Breaker for Module 5 (BIB5)	Bypass isolation breaker for module 5 (BIB5)
Bypass Isolation Breaker for Module 6 (BIB6)	Bypass isolation breaker for module 6 (BIB6)
Bypass Isolation Breaker for Module 7 (BIB7)	Bypass isolation breaker for module 7 (BIB7)
Bypass Isolation Breaker for Module 8 (BIB8)	Bypass isolation breaker for module 8 (BIB8)
Bypass Nominal Voltage	Bypass nominal (or rated) voltage
Bypass Not Available	A problem associated with the bypass has been detected
Bypass Overload Phase A	An overload exists on output phase A while operating on the bypass
Bypass Overload Phase B	An overload exists on output phase B while operating on the bypass
Bypass Overload Phase C	An overload exists on output phase C while operating on the bypass
Bypass Qualification Status	bypass qualification status
Bypass Retransfer Time Remaining	Time remaining before an inverter overload or inverter fault can be cleared and auto retransfer from the bypass to the inverter can take place
Bypass SS Overload Time Remain	The calculated time remaining before bypass static switch shutdown due to the present overload condition
Bypass Static Switch Off Extrnl	Bypass static switch is off due to the state of an external signal
Bypass Static Switch Overload	Bypass off due to static switch overload
Bypass Static Switch Unavailable	The static bypass switch is off, and unable to operate

Table 53 Liebert NXL™ SA, SR, SN, MM, CD - Glossary (continued)

Data Label	Data Description
Bypass Sync Phase Difference	The phase angle difference between the inverter output and bypass source
Configuration Description	Configuration description
Continuous Operation - ECO Mode	This setting gives the user the ability to Enable/Disable ECO Mode continuous operation.
Controls Reset Required	A controls reset is required due to one or more critical settings changing
DC Bus Current	The current at the battery input terminals. In charging mode, the current will be a positive value. In discharging mode, the current will be a negative value
DC Bus Ground Fault - Negative	A ground fault has been detected on the negative DC Bus link
DC Bus Ground Fault - Positive	A ground fault has been detected on the positive DC Bus link
DC Bus Qualification Status	dc bus qualification status
DC Bus Voltage	The voltage between the positive and negative terminals of the DC bus at the battery input
ECO Mode Active	Conditions for Activation or Automatic Reactivation have been satisfied.
ECO Mode Operation State	This setting is used to enable or disable ECO Mode.
ECO Mode Suspended	ECO Mode session is suspended.
Equipment Over Temperature	Equipment over temperature summary event
Equipment Temperature Sensor Fail	One or more temperature sensors report a temperature outside of the range of expected operation.
Excess ECO Suspends	Number of automatic suspensions has exceeded the ECO Mode - Maximum Auto Suspensions setting.
Fuse Failure	A summary event indicating one or more fuse failures
Inlet Air Over Temperature	The inlet air exceeds the maximum temperature threshold
Inlet Air Temperature	The temperature of the inlet air
Input Breaker (CB1/RIB)	Input breaker (CB1/RIB)
Input Contact 01	The external input contact 1
Input Contact 02	The external input contact 2
Input Contact 03	The external input contact 3
Input Contact 04	The external input contact 4
Input Contact 05	The external input contact 5
Input Contact 06	The external input contact 6
Input Contact 07	The external input contact 7
Input Contact 08	The external input contact 8
Input Contact 09	The external input contact 9
Input Contact 10	The external input contact 10
Input Contact 11	The external input contact 11
Input Contact 12	The external input contact 12
Input Contact 13	The external input contact 13
Input Contact 14	The external input contact 14
Input Contact 15	The external input contact 15
Input Contact 16	The external input contact 16
Input Filter Cycle Lock	The input filter disconnect is open due to exceeding the maximum number of cycles.
Input Isolation Transformer	Input isolation transformer
Input Qualification Status	input qualification status
Intelligent Parallel Maximum Time in Standby	The maximum time a module can be in standby mode due to Intelligent Paralleling.

Table 53 Liebert NXL™ SA, SR, SN, MM, CD - Glossary (continued)

Data Label	Data Description
Intelligent Parallel Minimum Redundancy	This is the minimum Number of Redundant Modules that the system will allow before bringing one or more modules back to normal operation and terminating Intelligent Paralleling.
Intelligent Parallel Mode	This setting gives the user the ability to choose between different energy consumption modes while Intelligent Paralleling is active and module is in standby.
Intelligent Parallel Operation State	This setting is used to enable or disable Intelligent Paralleling.
Intelligent Paralleling Shutdown Delay	This is the length of time the conditions for module standby must remain satisfied before the module goes into standby.
Internal Bypass Breaker (CB3)	Internal bypass breaker (CB3)
Internal Communications Failure	The control has detected a communication failure of a component on the internal communication bus
Inverter Failure	Inverter failure - inverter output is off
Inverter Inhibit - External	Restart of the inverter is inhibited by an external signal
Inverter Off - External	Inverter is off (operation is inhibited) due to external signal state
Inverter On/Off State	inverter on/off state
Inverter Output Qualification Status	inverter output qualification status
Inverter Overload Phase A	Inverter is operating with an overload on phase A
Inverter Overload Phase B	Inverter is operating with an overload on phase B
Inverter Overload Phase C	Inverter is operating with an overload on phase C
Inverter Overload Time Remaining	The calculated time remaining before inverter shutdown
Inverter Shutdown - Overload	The inverter has shutdown due to a sustained overload
Inverter Static Switch SCR Short	The system has detected a short across one or more inverter static switch Silicon Controlled Rectifiers (SCR)
LBS Active - Master	This UPS system has been selected as the functional Master Load Bus Synchronization (LBS) system.
LBS Active - Slave	This UPS system is synchronized to the output bus of the UPS system that has been selected as the Master Load Bus Synchronization (LBS) system.
LBS Active	The Load Bus Sync option is active
LBS Inhibited	The system has detected that conditions to perform Load Bus Sync are not satisfied
Leading Power Factor	The leading output Power Factor has fallen below a specified value
Loss of Redundancy	The multi-module collection doesn't have enough modules to redundantly support the load
Main Battery Disconnect Open	Main battery disconnect is open
Main Controller Fault	A Main Controller fault has been detected.
Maintenance Bypass Breaker (MBB)	Maintenance bypass breaker (MBB)
Maintenance Isolation Breaker (MIB)	Maintenance isolation breaker (MIB)
Maximum Auto Suspensions - ECO Mode	This setting sets the maximum number of automatic ECO Mode suspensions in a session.
MMS Event Summary	Summary of any active user alarm or fault of this module in a multi-module system
MMS Inter-Module Comm Status	Inter-module communication status of this module in a multi-module system
MMS Loss of Sync Pulse	Multi-module system loss of sync pulse
MMS Low Battery Warning	Multi-module system low battery warning
MMS Module Alarm Active	Active alarm or fault of any module in a multi-module system
MMS Module Battery Current	Battery current of this module in a multi-module system

Table 53 Liebert NXL™ SA, SR, SN, MM, CD - Glossary (continued)

Data Label	Data Description
MMS Module Battery Time Remaining	Battery time remaining for this module in a multi-module system
MMS Module DC Bus Voltage	DC bus voltage of this module in a multi-module system
MMS Module Inverter Status	Multi-module inverter status of this module (on/off)
MMS Module Number	MMS module number
MMS Module Output Source	Module output source in a multi-module system (normal/bypass/maintenance bypass/off)
MMS Module Output Voltage Status	Output voltage status of this module in multi-module system
MMS Module Total kVA Output	Total kVA output of this module in a multi-module system
MMS Module Total kW Output	Total kW output of this module in a multi-module system
MMS On Battery	The multi-module system is on battery
MMS Output Apparent Power	The sum total apparent power of all system output modules
MMS Output Frequency	The multi-module system output frequency
MMS Output Pct Apparent Pwr (kVA) Phase A	The multi-module system output apparent power on phase A as a percentage of the rated capacity
MMS Output Pct Apparent Pwr (kVA) Phase B	The multi-module system output apparent power on phase B as a percentage of the rated capacity
MMS Output Pct Apparent Pwr (kVA) Phase C	The multi-module system output apparent power on phase C as a percentage of the rated capacity
MMS Output Pct Power Phase A	The multi-module system output power on phase A as a percentage of the rated capacity
MMS Output Pct Power Phase B	The multi-module system output power on phase B as a percentage of the rated capacity
MMS Output Pct Power Phase C	The multi-module system output power on phase C as a percentage of the rated capacity
MMS Output Power Factor Phase A	The multi-module system output power factor for phase A
MMS Output Power Factor Phase B	The multi-module system output power factor for phase B
MMS Output Power Factor Phase C	The multi-module system output power factor for phase C
MMS Output Power	The sum total power of all system output modules
MMS Overload	Multi-module system overload
MMS Power Sharing	A module is not sharing power with the other modules in a multi-module system.
MMS Retransfer Inhibit	The critical load can not be manually retransferred from bypass to inverter
MMS Transfer Inhibit	The critical load can not be manually transferred from inverter to bypass
MMS UPS Battery Status	Multi-module UPS battery status
MMS UPS Output Source	Multi-module UPS output source
Module In Standby - Intelligent Paralleling	Module is placed into standby operation per Intelligent Paralleling.
Module Output Breaker (MOB)	Module output breaker (MOB)
Module Output Breaker for Module 1 (MOB1)	Module output breaker for module 1 (MOB1)
Module Output Breaker for Module 2 (MOB2)	Module output breaker for module 2 (MOB2)
Module Output Breaker for Module 3 (MOB3)	Module output breaker for module 3 (MOB3)

Table 53 Liebert NXL™ SA, SR, SN, MM, CD - Glossary (continued)

Data Label	Data Description
Module Output Breaker for Module 4 (MOB4)	Module output breaker for module 4 (MOB4)
Module Output Breaker for Module 5 (MOB5)	Module output breaker for module 5 (MOB5)
Module Output Breaker for Module 6 (MOB6)	Module output breaker for module 6 (MOB6)
Module Output Breaker for Module 7 (MOB7)	Module output breaker for module 7 (MOB7)
Module Output Breaker for Module 8 (MOB8)	Module output breaker for module 8 (MOB8)
Multi-module System Output Voltage RMS A-B	Multi-module system output RMS voltage between phases A and B
Multi-module System Output Voltage RMS A-N	Multi-module system output RMS voltage between phase B and Neutral
Multi-module System Output Voltage RMS B-C	Multi-module system output RMS voltage between phases B and C
Multi-module System Output Voltage RMS B-N	Multi-module system output RMS voltage between phase B and Neutral
Multi-module System Output Voltage RMS C-A	Multi-module system output RMS voltage between phases C and A
Multi-module System Output Voltage RMS C-N	Multi-module system output RMS voltage between phase C and Neutral
Multiple Fan Failure	Multiple fan failure
Number of Modules in a MMS	The number of modules in a multi-module system
Number of Redundant Modules	The number of redundant modules in a multi-module collective.
On Generator	A generator is supplying the power to the system
Output Amp Over User Limit-Phs A	The phase A output has exceeded the user amperage threshold
Output Amp Over User Limit-Phs B	The phase B output has exceeded the user amperage threshold
Output Amp Over User Limit-Phs C	The phase C output has exceeded the user amperage threshold
Output Apparent Power Rating	Output apparent power rating
Output Breaker (CB2/IOB)	Output breaker (CB2/IOB)
Output Load on Maint. Bypass	The output power is supplied by the maintenance bypass
Output Of/Uf	The output frequency has exceeded a specified range for a specified period of time.
Output Qualification Status	output qualification status
Output Real Power Rating	Output real power rating
Output Series Static Switch	output series static switch
Output Wire Configuration	Output wire configuration
Parallel Comm Warning	Parallel communication bus warning
Power Supply Failure	Power supply failure
Rectifier Active Filter	Rectifier input active filter configuration
Rectifier Failure	Rectifier failure - rectifier is off
Rectifier Feed Breaker (RFB)	Rectifier feed breaker (RFB)
Rectifier Input Passive Filter	Rectifier input passive filter configuration
Rectifier Operation Inhibit-Ext	The operation of the rectifier is inhibited by an external signal
Rectifier Passive Filter Switch	Rectifier input passive filter switch configuration
Rectifier Pulse Count	Rectifier pulse count per cycle configuration

Table 53 Liebert NXL™ SA, SR, SN, MM, CD - Glossary (continued)

Data Label	Data Description
Rectifier Status	rectifier status
Restart Delay - ECO Mode	The time delay that the conditions to activate ECO Mode must be satisfied before ECO Mode can be reactivated during an active session.
SBS Load Disconnect	SBS load disconnect
SCC Event Summary	Summary of any active user alarms or faults on the SCC
Schedule Action - ECO Mode	This setting gives the user the ability to choose the action of a schedule entry to be either stop or start.
Schedule Day of Week - ECO Mode	This setting represents the day of the week when an associated ECO Mode schedule entry action will take effect.
Schedule Hour - ECO Mode	This setting represents the hour of the day when an associated schedule entry action will take effect.
Schedule Minute - ECO Mode	This setting represents the minute of the hour when an associated schedule entry action will take effect.
Schedule Operation State - ECO Mode	This setting gives the user the ability to either enable or disable a schedule entry if the action is Start.
Service Code Active	Service code is running
Static Bypass Switch	Static Bypass Switch state - On/Off
Static Switch Type	Static switch type configuration
Sum of MMS Output RMS Currents for Phase A	The sum of the multi-module system output RMS currents for phase A
Sum of MMS Output RMS Currents for Phase B	The sum of the multi-module system output RMS currents for phase B
Sum of MMS Output RMS Currents for Phase C	The sum of the multi-module system output RMS currents for phase C
System Breaker(s) Close Failure	One or more breakers in the system failed to close
System Breaker(s) Open Failure	One or more breakers in the system failed to open
System Comm Fail	Failure of a device on the multi-module system communication bus
System Controller Error	System controller internal error
System Date and Time	The system date and time
System Date and Time	The system date and time
System Fan Failure - Redundant	Redundant system fan failure
System Input Current Imbalance	System Input Currents are Imbalanced
System Input Current Limit	The RMS input current has reached the input current limit threshold
System Input Frequency	The system input frequency
System Input Nominal Frequency	The nominal (or rated) system input frequency
System Input Nominal Voltage	The nominal (or rated) system input voltage
System Input Phs Rotation Error	The power conductors on the input line are not wired to the UPS in the sequence preferred for the rectifier (A-B-C)
System Input Power Problem	The input is not qualified to provide power to the system
System Input Power Source	System input power source
System Input RMS A-B	The System Input RMS Voltage between Phase A and Phase B
System Input RMS B-C	The System Input RMS Voltage between Phase B and Phase C
System Input RMS C-A	The System Input RMS Voltage between Phase C and Phase A
System Input RMS Current Phase A	The system input RMS current for Phase A
System Input RMS Current Phase B	The system input RMS current for Phase B

Table 53 Liebert NXL™ SA, SR, SN, MM, CD - Glossary (continued)

Data Label	Data Description
System Input RMS Current Phase C	The system input RMS current for Phase C
System Isolation Output Breaker (IOB)	System isolation output breaker (IOB)
System Load Bank Breaker (LBB)	System load bank breaker (LBB)
System Output Apparent Power	The sum total apparent power of all system output phases
System Output Breaker (UOB)	System output breaker (UOB)
System Output Fault	A fault has been detected in the system output
System Output Frequency	The system output frequency
System Output Low Power Factor	The system output power factor is low, resulting in reduced output capacity
System Output Maximum Amp Rating	System output maximum amperage rating
System Output Nominal Frequency	The nominal (or rated) system output frequency
System Output Nominal Voltage	The nominal (or rated) system output voltage
System Output Off	The system output is off
System Output Pct Power Phase A	The system output power on phase A as a percentage of the rated capacity
System Output Pct Power Phase B	The system output power on phase B as a percentage of the rated capacity
System Output Pct Power Phase C	The system output power on phase C as a percentage of the rated capacity
System Output Pct Pwr (VA) Phs A	The system output apparent power on phase A as a percentage of the rated capacity
System Output Pct Pwr (VA) Phs B	The system output apparent power on phase B as a percentage of the rated capacity
System Output Pct Pwr (VA) Phs C	The system output apparent power on phase C as a percentage of the rated capacity
System Output Power Factor Phs A	The system output power factor of phase A
System Output Power Factor Phs B	The system output power factor of phase B
System Output Power Factor Phs C	The system output power factor of phase C
System Output Power	The sum total power of all system output phases
System Output RMS Current Phs A	The system output RMS current for Phase A
System Output RMS Current Phs B	The system output RMS current for Phase B
System Output RMS Current Phs C	The system output RMS current for Phase C
System Output Voltage RMS A-B	The system output RMS voltage between phases A and B
System Output Voltage RMS A-N	The system output RMS voltage between phases A and Neutral
System Output Voltage RMS B-C	The system output RMS voltage between phases B and C
System Output Voltage RMS B-N	The system output RMS voltage between phases B and Neutral
System Output Voltage RMS C-A	The system output RMS voltage between phases C and A
System Output Voltage RMS C-N	The system output RMS voltage between phases C and Neutral
System Shutdown - EPO	System shutdown due to Emergency Power Off (EPO)
System Shutdown - REPO	System shutdown due to Remote Emergency Power Off (REPO)

Table 53 Liebert NXL™ SA, SR, SN, MM, CD - Glossary (continued)

Data Label	Data Description
System Status	The operating status for the system
System UPS Module Count	Number of UPS modules in the system
Time Remaining - ECO Mode	Time remaining before current active ECO Mode session stops.
Total kW Hours Saved	Total kW hours saved by ECO Mode or Intelligent Paralleling.
Total System Operating Time	The cumulative operation time of the unit
Trap Filter Disconnect	Trap filter disconnect
UPS Battery Status	UPS battery status
UPS Module Type	UPS module type
UPS Output on Bypass	The output power is supplied by the bypass
UPS Output Source	UPS output source
UPS System Output Source	The UPS system's output power source

Table 54 Liebert PowerSure™ Interactive (before July 2008) - Status and Coil

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Audible Alarm Enabled	10002	2	1	-	-
Automatic Battery Test Enabled	10003	3	1	-	-
Battery Charge Compensation	10046	-	1	-	-
Inverter Ready	10047	-	1	-	-
Load Circuit 1 State	10057	-	1	-	-
Load Circuit 2 State	10058	-	1	-	-
Load Circuit 3 State	10059	-	1	-	-
Load Circuit 4 State	10060	-	1	-	-
Load Circuit 5 State	10061	-	1	-	-
Load Circuit 6 State	10062	-	1	-	-
Load Circuit 7 State	10063	-	1	-	-
Load Circuit 8 State	10064	-	1	-	-
Load Circuit 9 State	10065	-	1	-	-
Load Circuit 10 State	10066	-	1	-	-
Load Circuit 11 State	10067	-	1	-	-
Load Circuit 12 State	10068	-	1	-	-
Load Circuit 13 State	10069	-	1	-	-
Load Circuit 14 State	10070	-	1	-	-
Load Circuit 15 State	10071	-	1	-	-
Load Circuit 16 State	10072	-	1	-	-
Load On Inverter	10073	-	1	-	-
Boost Mode On	10075	-	1	-	-
Buck Mode On	10076	-	1	-	-
Battery Under Test	10082	-	1	-	-
Shutdown Reason - Over Temperature	10086	-	1	-	-
Shutdown Reason - Overload	10087	-	1	-	-
Shutdown - Output Short	10089	-	1	-	-
Shutdown Reason - Remote Shutdown	10093	-	1	-	-
Load On Battery	10128	-	1	-	-
Output Off Pending	10151	-	1	-	-

Table 54 Liebert PowerSure™ Interactive (before July 2008) - Status and Coil (continued)

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Low Battery - Shutdown Imminent	10152	-	1	-	-
Output Overload	10154	-	1	-	-
Over Temperature Warning	10171	-	1	-	-
Battery Over Temperature CB Trip	10172	-	1	-	-
Input Power Supply Fail	10186	-	1	-	-
Input Over Voltage	10187	-	1	-	-
Input Under Voltage	10188	-	1	-	-
Bad Input Frequency	10190	-	1	-	-
Output Under Voltage	10218	-	1	-	-
Output Over Voltage	10219	-	1	-	-

Table 55 Liebert PowerSure Interactive (before July 2008) - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Load Circuit Present	30013	40013	1	-	There are 16 possible Load Circuits. Each bit represents 1 load circuit. Load Circuit 1 is bit 0, Load Circuit 2 is bit 1 and so on. If the bit is 1, then the Load Circuit is supported.
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Auto Restart Delay	30051	40051	1	-	Seconds
Device Low Battery Time	30053	40053	1	-	Minutes
Load (Apparent Power)	30102	-	2	-	VA
Load / Capacity	30106	-	1	-	%
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%

Table 55 Liebert PowerSure Interactive (before July 2008) - Input and Holding (continued)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Battery Test Result	30130	-	1	-	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 7 - Inhibited
Input Voltage L1	30153	-	1	-	V
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Maximum Voltage L1	30180	-	1	-	V
Input Minimum Voltage L1	30181	-	1	-	V
Output Maximum Voltage L1	30182	-	1	-	V
Output Minimum Voltage L1	30183	-	1	-	V
Black Out Count	30301	-	1	-	-
Brown Out Count	30302	-	1	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 56 Liebert PowerSure Interactive 2 - Status and Coil

Applies only to PSI units manufactured before June 1, 2008 (Julian date 08153)

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Audible Alarm Enabled	10002	2	1	-	-
Automatic Battery Test Enabled	10003	3	1	-	-
DC-To-DC Converter On	10042	-	1	-	-
Battery Charger On	10044	-	1	-	-
Load Circuit 1 State	10057	-	1	-	-
Load Circuit 2 State	10058	-	1	-	-
Load Circuit 3 State	10059	-	1	-	-
Load Circuit 4 State	10060	-	1	-	-
Load Circuit 5 State	10061	-	1	-	-
Load Circuit 6 State	10062	-	1	-	-
Load Circuit 7 State	10063	-	1	-	-
Load Circuit 9 State	10065	-	1	-	-
Load Circuit 10 State	10066	-	1	-	-
Load Circuit 11 State	10067	-	1	-	-
Load Circuit 12 State	10068	-	1	-	-
Load Circuit 13 State	10069	-	1	-	-
Load Circuit 14 State	10070	-	1	-	-
Load Circuit 15 State	10071	-	1	-	-
Load Circuit 16 State	10072	-	1	-	-
Load On Inverter	10073	-	1	-	-
Boost Mode On	10075	-	1	-	-
Buck Mode On	10076	-	1	-	-
Replace Battery	10081	-	1	-	-
Battery Under Test	10082	-	1	-	-
Shutdown Reason - Over Temperature	10086	-	1	-	-
Shutdown Reason - Overload	10087	-	1	-	-
Shutdown Reason - Output Short	10089	-	1	-	-
Shutdown Reason - Line Neutral Swap	10090	-	1	-	-

Table 56 Liebert PowerSure Interactive 2 - Status and Coil (continued)*Applies only to PSI units manufactured before June 1, 2008 (Julian date 08153)*

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Shutdown Reason - Low Battery	10092	-	1	-	-
Shutdown Reason - Remote Shutdown	10093	-	1	-	-
Shutdown Reason - Input Under Voltage	10094	-	1	-	-
Shutdown Reason - Hardware	10096	-	1	-	-
Load On Battery	10128	-	1	-	-
Output Off Pending	10151	-	1	-	-
Low Battery - Shutdown Imminent	10152	-	1	-	-
Output Overload	10154	-	1	-	-
Over Temperature Warning	10171	-	1	-	-
Input Power Supply Fail	10186	-	1	-	-
Input Over Voltage	10187	-	1	-	-
Input Under Voltage	10188	-	1	-	-
Input BrownOut	10189	-	1	-	-
Bad Input Frequency	10190	-	1	-	-
Output Under Voltage	10218	-	1	-	-
Output Over Voltage	10219	-	1	-	-
Charger Failed	10234	-	1	-	-
Battery Under Voltage	10241	-	1	-	-
Battery Over Voltage	10242	-	1	-	-

Table 57 Liebert PowerSure Interactive 2 - Input and Holding*Applies only to PSI units manufactured before June 1, 2008 (Julian date 08153)*

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Load Circuit Present	30013	40013	1	-	There are 16 possible Load Circuits. Each bit represents 1 load circuit. Load Circuit 1 is bit 0, Load Circuit 2 is bit 1 and so on. If the bit is 1, then the Load Circuit is supported.
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Nominal Battery Capacity	30037	40037	1	-	Minutes
Nominal Battery Float Voltage	30038	40038	1	-	V
Auto Restart Delay	30051	40051	1	-	Seconds
Device Low Battery Time	30053	40053	1	-	Minutes
Ambient Temperature Warning Point	30069	40069	1	-	deg C
Over Temperature Limit Point	30072	40072	1	-	deg C
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W

Table 57 Liebert PowerSure Interactive 2 - Input and Holding (continued)*Applies only to PSI units manufactured before June 1, 2008 (Julian date 08153)*

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Load / Capacity	30106	-	1	-	%
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged 3 - Charging 4 - Discharging 5 - Float Charging 6 - Equalize Charging
Battery Voltage	30113	-	1	-	V
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Ambient Temperature	30119	-	1	-	deg C
Battery Test Result	30130	-	1	-	-
Input Voltage L1	30153	-	1	-	V
Input Current L1	30154	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Maximum Voltage L1	30180	-	1	-	V
Input Minimum Voltage L1	30181	-	1	-	V
Output Maximum Voltage L1	30182	-	1	-	V
Output Minimum Voltage L1	30183	-	1	-	V
Black Out Count	30301	-	1	-	-
Brown Out Count	30302	-	1	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 58 Liebert Series 300™ UPS - Status and Coil

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Automatic Restart Enabled	10001	1	1	-	-
Battery Charge Compensation	10046	-	1	-	-
Inverter Ready	10047	-	1	-	-
Load Circuit 1 State	10057	-	1	-	-
Load Circuit 2 State	10058	-	1	-	-
Load Circuit 3 State	10059	-	1	-	-
Load Circuit 4 State	10060	-	1	-	-
Load Circuit 5 State	10061	-	1	-	-
Load Circuit 6 State	10062	-	1	-	-
Load Circuit 7 State	10063	-	1	-	-
Load Circuit 8 State	10064	-	1	-	-
Load Circuit 9 State	10065	-	1	-	-
Load Circuit 10 State	10066	-	1	-	-
Load Circuit 11 State	10067	-	1	-	-
Load Circuit 12 State	10068	-	1	-	-
Load Circuit 13 State	10069	-	1	-	-
Load Circuit 14 State	10070	-	1	-	-
Load Circuit 15 State	10071	-	1	-	-

Table 58 Liebert Series 300™ UPS - Status and Coil (continued)

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Load Circuit 16 State	10072	-	1	-	-
Load On Inverter	10073	-	1	-	-
Bypass Active	10074	-	1	-	-
Buck On	10076	-	1	-	-
Replace Battery	10081	-	1	-	-
Battery Under Test	10082	-	1	-	-
Load On Battery	10128	-	1	-	-
Low Battery - Shutdown Imminent	10152	-	1	-	-
Output Overload	10154	-	1	-	-
Over Temperature Warning	10171	-	1	-	-
Battery Over Temperature CB Trip	10172	-	1	-	-
Input Power Supply Fail	10186	-	1	-	-
Input Over Voltage	10187	-	1	-	-
Input Under Voltage	10188	-	1	-	-
Bad Input Frequency	10190	-	1	-	-
Bypass Input Voltage/Frequency Fault	10202	-	1	-	-
Output Under Voltage	10218	-	1	-	-
Output Over Voltage	10219	-	1	-	-
Battery Charger Fail	10234	-	1	-	-

Table 59 Liebert Series 300 UPS - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Number of SubModules	30009	40009	1	-	-
Load Circuit Present	30013	40013	1	-	There are 16 possible Load Circuits. Each bit represents 1 Load Circuit. Load Circuit 1 is bit 0, Load Circuit 2 is bit 1 and so on. If the bit is 1, then the Load Circuit is supported.
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Input Frequency	30031	40031	1	10	Hz
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Device Low Battery Time	30053	40053	1	-	Minutes
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%

Table 59 Liebert Series 300 UPS - Input and Holding (continued)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Input Frequency	30107	-	1	10	Hz
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged
Battery Voltage	30113	-	1	-	V
Battery Current	30114	-	1	-	A
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Battery Test Result	30130	-	1	-	1 - Unknown 2 - Passed 3 - Failed 4 - In Progress 5 - System Failure 6 - Inhibited
Input Voltage L1	30153	-	1	-	V
Input Current	30154	-	1	-	A
Bypass Voltage L1	30159	-	1	-	V
Bypass Current L1	30160	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Voltage L2	30203	-	1	-	V
Input Current L2	30204	-	1	-	A
Bypass Voltage L2	30209	-	1	-	V
Bypass Current L2	30210	-	1	-	A
Output Voltage L2	30213	-	1	-	V
Output Current L2	30214	-	1	-	A
Input Voltage L3	30253	-	1	-	V
Input Current L3	30254	-	1	-	A
Bypass Voltage L3	30259	-	1	-	V
Bypass Current L3	30260	-	1	-	A
Output Voltage L3	30263	-	1	-	V
Output Current L3	30264	-	1	-	A
Black Out Count	30301	-	1	-	-
Brown Out Count	30302	-	1	-	-
Transient Count	30301	-	1	-	-
Silent Audible Alarm	-	40101	-	-	Any value
Battery Start	-	40102	1	-	1=Start, 0=Abort
Open UPS Output Switch	-	40104	-	-	Delay time in Seconds, last digit will be ignored
Reboot UPS Output Switch	-	40105	1	-	Delay time in Seconds, last digit will be ignored
Close UPS Output Switch	-	40106	-	-	Delay time in Seconds, last digit will be ignored
Transfer Load to Bypass	-	40107	1	-	Any value
Transfer Load to Inverter	-	40108	-	-	Any value
Reset UPS Statistic data	-	40111	1	-	Any value
Turn UPS Outlets On	-	40112	1	-	Bitmap mask for Outlet 1-16. All bits set to 1 will be turned On
Turn UPS Outlets Off	-	40113	1	-	Bitmap mask for Outlet 1-16. All bits set to 1 will be turned Off

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 60 Liebert Series 600™ UPS - Status and Coil

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Auto Retransfer Primed	10049	-	1	-	-
Load On Inverter	10073	-	1	-	-
Load On Bypass	10074	-	1	-	-
Battery data Buffer Full	10084	-	1	-	-
Shutdown Reason - Hardware	10096	-	1	-	-
Load On Battery	10128	-	1	-	-
Load On Bypass	10129	-	1	-	-
Manual Reset Transfer	10130	-	1	-	-
Emergency Transfer	10134	-	1	-	-
Battery Switch Open	10136	-	1	-	-
Input Switch Open	10137	-	1	-	-
Output Switch open	10138	-	1	-	-
SBS Unable	10148	-	1	-	-
Low Battery - Shutdown Imminent	10152	-	1	-	-
Output Frequency Off	10153	-	1	-	-
Output Overload	10154	-	1	-	-
System Emergency Off	10157	-	1	-	-
Reverse Power	10159	-	1	-	-
Fan Fail	10169	-	1	-	-
Over Temperature Warning	10171	-	1	-	-
Ambient Over Temperature	10173	-	1	-	-
Input Power Supply Fail	10186	-	1	-	-
Input Phase Rotation Error	10191	-	1	-	-
Bypass Input Voltage Fail	10202	-	1	-	-
Output Under Voltage	10218	-	1	-	-
Output Over Voltage	10219	-	1	-	-
DC Ground Fault	10233	-	1	-	-
DC Cap Fuse Blown	10252	-	1	-	-
Rectifier Fuse Blown	10257	-	1	-	-
Inverter Fuse Blown	10261	-	1	-	-
Customer Alarm 1	10313	-	1	-	-
Customer Alarm 2	10314	-	1	-	-
Customer Alarm 3	10315	-	1	-	-
Customer Alarm 4	10316	-	1	-	-
Customer Alarm 5	10317	-	1	-	-
Customer Alarm 6	10318	-	1	-	-
Customer Alarm 7	10319	-	1	-	-
Customer Alarm 8	10320	-	1	-	-

Table 61 Liebert Series 600 UPS - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Input Current	30030	40030	1	-	A
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Nominal Battery Voltage	30034	40034	1	-	V
Silence Alarm	-	40101	1	-	-
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Battery Charge Status	30112	-	1	-	1 - 100% Charged 2 - Less than 100% Charged
Battery Voltage	30113	-	1	-	V
Battery Current	30114	-	1	-	A
Battery Time Remaining	30115	-	1	-	Minutes
Battery Charge Percentage	30116	-	1	-	%
Input Voltage L1	30153	-	1	-	V
Input Current L1	30154	-	1	-	A
Bypass Voltage L1	30159	-	1	-	V
Bypass Current L1	30160	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Voltage L2	30203	-	1	-	V
Input Current L2	30204	-	1	-	A
Bypass Voltage L2	30209	-	1	-	V
Bypass Current L2	30210	-	1	-	A
Output Voltage L2	30213	-	1	-	V
Output Current L2	30214	-	1	-	A
Input Voltage L3	30253	-	1	-	V
Input Current L3	30254	-	1	-	A
Bypass Voltage L3	30259	-	1	-	V
Bypass Current L3	30260	-	1	-	A
Output Voltage L3	30263	-	1	-	V
Output Current L3	30264	-	1	-	A
Battery Discharge Count	30308	-	1	-	-
Battery Discharge duration	30309	-	1	-	Seconds
Battery Amp-Hour	30310	-	1	-	AH
Battery Watt-Hour	30311	-	2	-	WH

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 62 Liebert Series 610™ SCC UPS - Status and Coil

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Auto Retransfer Primed	10049	-	1	-	-
Load On Inverter	10073	-	1	-	-
Load On Bypass	10074	-	1	-	-
Load On Bypass	10129	-	1	-	-
Manual Reset Transfer	10130	-	1	-	-
Emergency Transfer	10134	-	1	-	-
Output Switch open	10138	-	1	-	-
SBS Unable	10148	-	1	-	-
Output Frequency Off	10153	-	1	-	-
Output Overload	10154	-	1	-	-
System Emergency Off	10157	-	1	-	-
Input Power Supply Fail	10186	-	1	-	-
Input Phase Rotation Error	10191	-	1	-	-
Bypass Input Voltage Fail	10202	-	1	-	-
Output Under Voltage	10218	-	1	-	-
Output Over Voltage	10219	-	1	-	-
Module Alarm Active	10304	-	1	-	-
Customer Alarm 1	10313	-	1	-	-
Customer Alarm 2	10314	-	1	-	-
Customer Alarm 3	10315	-	1	-	-
Customer Alarm 4	10316	-	1	-	-
Customer Alarm 5	10317	-	1	-	-
Customer Alarm 6	10318	-	1	-	-
Customer Alarm 7	10319	-	1	-	-
Customer Alarm 8	10320	-	1	-	-

Table 63 Liebert Series 610 SCC UPS - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Number of Input Lines	30004	40004	1	-	Bits 12 - 15
Number of Bypass Lines	30004	40004	1	-	Bits 4 - 7
Number of Output Lines	30004	40004	1	-	Bits 8 - 11
Nominal Power Rating	30021	40021	2	-	VA
Nominal Input Voltage	30027	40027	1	-	V
Nominal Output Voltage	30028	40028	1	-	V
Nominal Static Bypass Switch Voltage	30029	40029	1	-	V
Nominal Output Frequency	30032	40032	1	10	Hz
Nominal Power Factor	30033	40033	1	100	-
Silence Alarm	-	40101	1	-	-
Load (Apparent Power)	30102	-	2	-	VA
Load (Real Power)	30104	-	2	-	W
Load / Capacity	30106	-	1	-	%

Table 63 Liebert Series 610 SCC UPS - Input and Holding (continued)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Output Frequency	30108	-	1	10	Hz
Bypass Frequency	30109	-	1	10	Hz
Input Voltage L1	30153	-	1	-	V
Bypass Voltage L1	30159	-	1	-	V
Bypass Current L1	30160	-	1	-	A
Output Voltage L1	30163	-	1	-	V
Output Current L1	30164	-	1	-	A
Input Voltage L2	30203	-	1	-	V
Bypass Voltage L2	30209	-	1	-	V
Bypass Current L2	30210	-	1	-	A
Output Voltage L2	30213	-	1	-	V
Output Current L2	30214	-	1	-	A
Input Voltage L3	30253	-	1	-	V
Bypass Voltage L3	30259	-	1	-	V
Bypass Current L3	30260	-	1	-	A
Output Voltage L3	30263	-	1	-	V
Output Current L3	30264	-	1	-	A

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 64 Liebert HiPulse™, Liebert SICE 7200™ - Input and Holding - SMM/SSM

Controller	Multi Module Series - SMM				
Liebert Products	Liebert HiPulse; Liebert SICE 7200				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Output Voltage L1-L2	-	40001	1	-	V
Output Voltage L2-L3	-	40002	1	-	V
Output Voltage L3-L1	-	40003	1	-	V
Output Amps L1	-	40004	1	-	A
Output Amps L2	-	40005	1	-	A
Output Amps L3	-	40006	1	-	A
Power L1	-	40007	1	-	kW
Power L2	-	40008	1	-	kW
Power L3	-	40009	1	-	kW
Bypass Frequency	-	40010	1	10	Hz
Inverter Frequency	-	40011	1	10	Hz
Battery Voltage	-	40012	1	-	V
Battery Amperage	-	40013	1	-	A
Apparent Power L1	-	40014	1	-	kVA
Apparent Power L2	-	40015	1	-	kVA
Apparent Power L3	-	40016	1	-	kVA
% Load L1	-	40017	1	-	%
% Load L2	-	40018	1	-	%

Table 64 Liebert HiPulse™, Liebert SICE 7200™ - Input and Holding - SMM/SSM (continued)

Controller	Multi Module Series - SMM				
Liebert Products	Liebert HiPulse; Liebert SICE 7200				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
% Load L3	-	40019	1	-	%
% Battery Charge	-	40020	1	-	-
Battery Temperature	-	40021	1	-	deg C
Battery Time Remaining	-	40022	1	-	Minutes
Alarm Points					
Communications	-	40289	1	-	Bit 0
Bypass Switch Open	-	40289	1	-	Bit 1
Output Switch Open	-	40289	1	-	Bit 2
Rectifier Switch Open	-	40289	1	-	Bit 3
Battery CB Open	-	40289	1	-	Bit 4
Manual Bypass Closed	-	40289	1	-	Bit 5
Bypass Absent	-	40289	1	-	Bit 6
Bypass Overvoltage	-	40289	1	-	Bit 7
Bypass Undervoltage	-	40289	1	-	Bit 8
Bypass Frequency Error	-	40289	1	-	Bit 9
ByP Phase Rotation Error	-	40289	1	-	Bit 10
Bypass SCR Failure	-	40290	1	-	Bit 0
Bypass Off	-	40290	1	-	Bit 1
Bypass Off	-	40290	1	-	Bit 2
Load On Bypass	-	40290	1	-	Bit 3
Bypass Overtemperature	-	40290	1	-	Bit 4
Rectifier Under Voltage	-	40290	1	-	Bit 5
Rectifier Block	-	40290	1	-	Bit 6
Rectifier Block	-	40290	1	-	Bit 7
Rectifier Current Limit	-	40290	1	-	Bit 8
Rectifier Overtemperature	-	40290	1	-	Bit 9
Rectifier Fuse Failure	-	40290	1	-	Bit 10
Inverter Voltage Fault	-	40291	1	-	Bit 0
Inverter Disable	-	40291	1	-	Bit 1
Inverter Disable	-	40291	1	-	Bit 2
Inverter Current Limit	-	40291	1	-	Bit 3
Inverter Overtemperature	-	40291	1	-	Bit 4
Inverter Non Sync	-	40291	1	-	Bit 5
Inverter Overvoltage	-	40291	1	-	Bit 6
Inverter Undervoltage	-	40291	1	-	Bit 7
Inverter Fuse Failure	-	40291	1	-	Bit 8
Output Overvoltage	-	40291	1	-	Bit 9
Output Undervoltage	-	40291	1	-	Bit 10
Output Undervoltage	-	40292	1	-	Bit 0
Output Waveform Error	-	40292	1	-	Bit 1
Inverter Frequency Error	-	40292	1	-	Bit 2
Inverter Parallel Error	-	40292	1	-	Bit 3
Contacto Failure	-	40292	1	-	Bit 4

Table 64 Liebert HiPulse™, Liebert SICE 7200™ - Input and Holding - SMM/SSM (continued)

Controller	Multi Module Series - SMM				
Liebert Products	Liebert HiPulse; Liebert SICE 7200				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Battery Test	-	40292	1	-	Bit 5
Battery Test Failed	-	40292	1	-	Bit 6
Battery On Load	-	40292	1	-	Bit 7
Battery End of Discharge	-	40292	1	-	Bit 8
Boost Time Expired	-	40292	1	-	Bit 9
DC Overvoltage	-	40292	1	-	Bit 10
DC Undervoltage	-	40293	1	-	Bit 0
Battery Fuse Failure	-	40293	1	-	Bit 1
DC Overvoltage	-	40293	1	-	Bit 2
Transfer Count Block	-	40293	1	-	Bit 3
Overload Shutdown	-	40293	1	-	Bit 4
Overtemperature SD	-	40293	1	-	Bit 5
Emergency Stop	-	40293	1	-	Bit 6
Overload Present	-	40293	1	-	Bit 7
Overload Shutdown TO	-	40293	1	-	Bit 8
Display Error	-	40293	1	-	Bit 9
Display Error	-	40293	1	-	Bit 10
Inverter Over Capacity	-	40293	1	-	Bit 11
Bypass ECO Mode	-	40293	1	-	Bit 12
Fan Failure	-	40293	1	-	Bit 13

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 65 Liebert SICE 7200 - Input and Holding - SSC

Controller	System Control Cabinet - SSC				
Liebert Products	Liebert SICE 7200				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Output Voltage L1-L2	-	40001	1	-	V
Output Voltage L2-L3	-	40002	1	-	V
Output Voltage L3-L1	-	40003	1	-	V
Output Amps L1	-	40004	1	-	A
Output Amps L2	-	40005	1	-	A
Output Amps L3	-	40006	1	-	A
Power L1	-	40007	1	-	kW
Power L2	-	40008	1	-	kW
Power L3	-	40009	1	-	kW
Bypass Frequency	-	40010	1	10	Hz
Battery Voltage	-	40012	1	-	V
Battery Amperage	-	40013	1	-	A
Apparent Power L1	-	40014	1	-	kVA
Apparent Power L2	-	40015	1	-	kVA
Apparent Power L3	-	40016	1	-	kVA
% Load L1	-	40017	1	-	%
% Load L2	-	40018	1	-	%
% Load L3	-	40019	1	-	%
% Battery Charge	-	40020	1	-	%
Battery Temperature	-	40021	1	-	deg C
Battery Time Remaining	-	40022	1	-	Minutes
Communications	-	40289	1	-	Bit 0
Bypass Switch Open	-	40289	1	-	Bit 1
Output Switch Open	-	40289	1	-	Bit 2
Battery CB Open	-	40289	1	-	Bit 3
Manual Bypass Closed	-	40289	1	-	Bit 4
Bypass Absent	-	40289	1	-	Bit 5
Bypass Overvoltage	-	40289	1	-	Bit 6
Bypass Undervoltage	-	40289	1	-	Bit 7
Bypass Frequency Error	-	40289	1	-	Bit 8
Bypass Ph Rotation Error	-	40289	1	-	Bit 9
Bypass SCR Failure	-	40289	1	-	Bit 10
Bypass Off	-	40290	1	-	Bit 0
Bypass Off	-	40290	1	-	Bit 1
Load On Bypass	-	40290	1	-	Bit 2
Bypass Overtemperature	-	40290	1	-	Bit 3
Inverter Non Sync	-	40290	1	-	Bit 4
Output Overvoltage	-	40290	1	-	Bit 5
Output Undervoltage	-	40290	1	-	Bit 6

Table 65 Liebert SICE 7200 - Input and Holding - SSC (continued)

Controller		System Control Cabinet - SSC			
Liebert Products		Liebert SICE 7200			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Output Undervoltage	-	40290	1	-	Bit 7
Output Waveform Error	-	40290	1	-	Bit 8
Transfer Count Block	-	40290	1	-	Bit 9
Overload Shutdown	-	40290	1	-	Bit 10
Overtemperature Shutdown	-	40291	1	-	Bit 0
Emergency Stop	-	40291	1	-	Bit 1
Overload Present	-	40291	1	-	Bit 2
Overload Shutdown TO	-	40291	1	-	Bit 3
Display Error	-	40291	1	-	Bit 4
Display Error	-	40291	1	-	Bit 5
Inverter Over Capacity	-	40291	1	-	Bit 6
Parallel Bus Open	-	40291	1	-	Bit 7
Battery Ground Fault	-	40291	1	-	Bit 8
Bypass Backfeed	-	40291	1	-	Bit 9
Bypass Sync Inhibited	-	40291	1	-	Bit 10
Bypass ECO Mode	-	40291	1	-	Bit 11
Fan Failure	-	40291	1	-	Bit 12

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 66 Liebert NPower™ - Input and Holding - IMP

Controller		Single Module Series - SMS			
Liebert Products		Liebert NPower - SMS			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Status Points (View)					
Input Voltage A-B	-	40001	1	-	V
Input Voltage B-C	-	40002	1	-	V
Input Voltage C-A	-	40003	1	-	V
Bypass Voltage A-B	-	40004	1	-	V
Bypass Voltage B-C	-	40005	1	-	V
Bypass Voltage C-A	-	40006	1	-	V
Battery Voltage	-	40007	1	-	V
Battery Current	-	40008	1	10	A
Battery Temperature	-	40009	1	-	deg C
Output Voltage A-B	-	40010	1	-	V
Output Voltage B-C	-	40011	1	-	V
Output Voltage C-A	-	40012	1	-	V
Output Current A	-	40013	1	10	A
Output Current B	-	40014	1	10	A
Output Current C	-	40015	1	10	A
Output kVA A	-	40016	1	-	kVA

Table 66 Liebert NPower™ - Input and Holding - IMP (continued)

Controller	Single Module Series - SMS				
Liebert Products	Liebert NPower - SMS				
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Output kVA B	-	40017	1	-	kVA
Output kVA C	-	40018	1	-	kVA
Output kW A	-	40019	1	-	kW
Output kW B	-	40020	1	-	kW
Output kW C	-	40021	1	-	kW
Output Frequency	-	40022	1	10	Hz
Rated kVA Percentage	-	40023	1	-	%
Rated kW Percentage	-	40024	1	-	%
Alarm Points					
Communications Loss	-	40289	1	-	Bit 0
Battery Fuse Fail	-	40289	1	-	Bit 1
Battery Low Transfer	-	40289	1	-	Bit 2
DC Over Voltage Transient	-	40289	1	-	Bit 3
Input Phase Rotation Error	-	40289	1	-	Bit 4
Rectifier/Trap Fuse Fail	-	40289	1	-	Bit 5 Any of Rectifier / Trap Fuse
Bypass Frequency Error	-	40289	1	-	Bit 6
Bypass Overload Shutdown	-	40289	1	-	Bit 7
Bypass Phase Rotation Error	-	40289	1	-	Bit 8
Inverter Over Voltage Transfer	-	40289	1	-	Bit 9
Inverter Fuse Fail	-	40289	1	-	Bit 10
Output Over Voltage Transfer	-	40289	1	-	Bit 11
Output Under Voltage Transfer	-	40289	1	-	Bit 12
SBS SCR Open	-	40289	1	-	Bit 13
SBS SCR Short	-	40289	1	-	Bit 14
Inverter Over Current Transfer	-	40289	1	-	Bit 15
Equipment Over Temperature	-	40290	1	-	Bit 0 Any of Battery / Heatsink / Ambient / Timeout Shutdown
Battery Ground Fault CB Trip	-	40290	1	-	Bit 1
Power Supply Fail	-	40290	1	-	Bit 2 Any of Input / Bypass / Output / F1 / SWGR / MM / Option / Aux / EPO / LBS Power Fail
EPO Shutdown	-	40290	1	-	Bit 3
Rectifier Fail	-	40290	1	-	Bit 4
Inverter Fail	-	40290	1	-	Bit 5
Hardware Shutdown	-	40290	1	-	Bit 6
Battery Discharge	-	40290	1	-	Bit 7
Input Current Imbalance	-	40290	1	-	Bit 8
Input Line fail	-	40290	1	-	Bit 9
Input Under Voltage	-	40290	1	-	Bit 10
Input Over Voltage	-	40290	1	-	Bit 11
Input Over Current	-	40290	1	-	Bit 12
Battery CB Open	-	40290	1	-	Bit 13
Battery Sync Error	-	40290	1	-	Bit 14
Bypass Voltage Out of Tolerance	-	40290	1	-	Bit 15

Table 66 Liebert NPower™ - Input and Holding - IMP (continued)

Controller		Single Module Series - SMS			
Liebert Products		Liebert NPower - SMS			
Available Points					
Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Bypass Line Fail	-	40291	1	-	Bit 0
Inverter Over Current	-	40291	1	-	Bit 1
Output OF/UF	-	40291	1	-	Bit 2
Inverter Overload	-	40291	1	-	Bit 3 Any of Inverter Phase A / B / C Overload
Excessive Auto Retransfer	-	40291	1	-	Bit 4
Equipment Over Temperature Warning	-	40291	1	-	Bit 5 Any of Aux / Battery / Ambient / Heatsink / Inlet Over Temp Warning
Fan Fail	-	40291	1	-	Bit 6 Any of Power Pole Fan 1 / 2 / 3, Primary Fan 1 / 2 / 3 and System Fan Fail
SBS Unable	-	40291	1	-	Bit 7
Inverter Off By User	-	40291	1	-	Bit 8
Battery low Warning	-	40291	1	-	Bit 9
Battery Test Fail	-	40291	1	-	Bit 10
User Shutdown	-	40291	1	-	Bit 11
Load On Bypass	-	40291	1	-	Bit 12
Input Contact Alarms	-	40291	1	-	Bit 13 Any of Input Contact 1-8 Alarms
Generic Alarms	-	40291	1	-	Bit 14 Any other alarm conditions that are not mapped
Bypass Overload	-	40291	1	-	Bit 15 Any of Bypass A / B / C Overload

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

3.4 Battery Monitoring Products

Table 67 Liebert BDSU™ - Status and Coil

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Battery Entity					
Battery Discharging Battery 1 - 32	10001-10032	-	1	-	Active on Alarm
String Entity					
High Ambient Temperature String 1 - 32	10033-10064	-	1	-	Active on Alarm
Low Ambient Temperature String 1 - 32	10065-10096	-	1	-	Active on Alarm
Low Ambient Temperature Probe Two String 1 - 32	10097-10128	-	1	-	Active on Alarm
High Ambient Temperature Probe Two String 1 - 32	10129-10160	-	1	-	Active on Alarm
Low Overall Voltage String 1 - 32	10161-10192	-	1	-	Active on Alarm
High Overall Voltage String 1 - 32	10193-10224	-	1	-	Active on Alarm
High Battery String Current String 1 - 32	10225-10256	-	1	-	Active on Alarm
Low Battery String Float Current String 1 - 32	10257-10288	-	1	-	Active on Alarm
High Battery String Float Current String 1 - 32	10289-10320	-	1	-	Active on Alarm
High Battery String Ripple Current String 1 - 32	10321-10352	-	1	-	Active on Alarm
Battery String Discharge Detected String 1 - 32	10353-10384	-	1	-	Active on Alarm
Maximum Discharge Time Exceeded String 1 - 32	10385-10416	-	1	-	Active on Alarm
Discharge Low Overall Voltage String 1 - 32	10417-10448	-	1	-	Active on Alarm
Discharge Low Cell Voltage String 1 - 32	10449-10480	-	1	-	Active on Alarm
Discharge High Battery String Current String 1 - 32	10481-10512	-	1	-	Active on Alarm
Excessive Cell to Cell Temperature Deviation String 1 - 32	10513-10544	-	1	-	Active on Alarm
Excessive Cell to Ambient Temperature Deviation String 1 - 32	10545-10576	-	1	-	Active on Alarm
Thermal Runaway Detected String 1 - 32	10577-10608	-	1	-	Active on Alarm
Battery String Equalize String 1 - 32	10609-10640	-	1	-	Active on Alarm
Battery String Offline String 1 - 32	10641-10672	-	1	-	Active on Alarm
Cell Entity					
Low Cell Voltage Cell 1 - 320	10673-10992	-	1	-	Active on Alarm
High Cell Voltage Cell 1 - 320	10993-11312	-	1	-	Active on Alarm

Table 67 Liebert BDSU™ - Status and Coil (continued)

Data Description	Status	Coil	Number of Bits	Scale	Notes / Units
Low Cell Temperature Cell 1 - 320	11313-11632	-	1	-	Active on Alarm
High Cell Temperature Cell 1 - 320	11633-11952	-	1	-	Active on Alarm
Low Internal Resistance Cell 1 - 320	11953-12272	-	1	-	Active on Alarm
High Internal Resistance Cell 1 - 320	12273-12592	-	1	-	Active on Alarm
High Intercell Resistance Cell 1 - 320	12593-12912	-	1	-	Active on Alarm
Discharge Low Cell Voltage Cell 1 - 320	12913-13232	-	1	-	Active on Alarm

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

Table 68 Liebert BDSU - Input and Holding

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Battery Measurement and Control					
System Status 1	30385	-	1	-	1 = Normal Operation 2 = Startup 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation
Battery Entity					
Battery Name Battery 1 - 32	30386-31057	-	21	-	Each 16-bit register is a single Unicode character of a null terminated string
Battery Time Remaining Battery 1 - 32	31058-31121	-	2	-	sec
Battery Discharge Time Battery 1 - 32	31122-31185	-	2	-	sec
Battery Rating Battery 1 - 32	31186-31217	-	1	-	AH
Ordinal Position of Battery Battery 1 - 32	31218-31249	-	1	-	-
String Entity					
Battery String Name String 1 - 32	31250-31921	-	21	-	Each 16-bit register is a single Unicode character of a null terminated string
String Ambient Temperature 1 String 1 - 32	31922-31953	-	1	10	deg C
String Ambient Temperature 2 String 1 - 32	31954-31985	-	1	10	deg C
String Ambient Temperature 1 String 1 - 32	31986-32017	-	1	10	deg F
String Ambient Temperature 2 String 1 - 32	32018-32049	-	1	10	deg F
String Overall Voltage String 1 - 32	32050-32081	-	1	10	VDC
String Current String 1 - 32	32082-32113	-	1	-	A DC

Table 68 Liebert BDSU - Input and Holding (continued)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Float Current String 1 - 32	32114-32145	-	1	-	mA DC
Ripple Current String 1 - 32	32146-32177	-	1	-	A AC
Total Active Alarms on a Battery String String 1 - 32	32178-32209	-	1	-	-
Discharge State String 1 - 32	32210-32241	-	1	-	0 = Not In Progress 1 = In Progress
Battery String Time-To-Go String 1 - 32	32242-32305	-	2	-	min
Amp-Hours Remaining in Battery String String 1 - 32	32306-32337	-	1	-	AH
Battery String Discharge Time String 1 - 32	32338-32401	-	2	-	sec
Low Ambient Temperature Global Threshold String 1 - 32	32402-32433	-	1	10	deg C
Low Ambient Temperature Global Threshold String 1 - 32	32434-32465	-	1	10	deg F
High Ambient Temperature Global Threshold String 1 - 32	32466-32497	-	1	10	deg C
High Ambient Temperature Global Threshold String 1 - 32	32498-32529	-	1	10	deg F
Battery String Overall Voltage Low Threshold String 1 - 32	32530-32561	-	1	10	VDC
Battery String Overall Voltage High Threshold String 1 - 32	32562-32593	-	1	10	VDC
Battery String Current High Threshold String 1 - 32	32594-32625	-	1	-	A DC
Battery String Float Current Low Threshold String 1 - 32	32626-32657	-	1	-	mA DC
Battery String Float Current High Threshold String 1 - 32	32658-32689	-	1	-	mA DC
Battery String Ripple Current High Threshold String 1 - 32	32690-32721	-	1	-	A AC
Cell Voltage Low Global Threshold String 1 - 32	32722-32753	-	1	1000	VDC
Cell Voltage High Global Threshold String 1 - 32	32754-32785	-	1	1000	VDC
Cell Temperature Low Global Threshold String 1 - 32	32786-32817	-	1	10	deg C
Cell Temperature Low Global Threshold String 1 - 32	32818-32849	-	1	10	deg F
Cell Temperature High Global Threshold String 1 - 32	32850-32881	-	1	10	deg C
Cell Temperature High Global Threshold String 1 - 32	32882-32913	-	1	10	deg F
Internal Resistance Low Global Threshold String 1 - 32	32914-32945	-	1	-	microOhm
Internal Resistance High Global Threshold String 1 - 32	32946-32977	-	1	-	microOhm

Table 68 Liebert BDSU - Input and Holding (continued)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Intercell Resistance High Global Threshold String 1 - 32	32978- 33009	-	1	-	microOhm
Intertier Resistance High Global Threshold String 1 - 32	33010- 33041	-	1	-	microOhm
Cell to Cell Temperature Deviation Threshold String 1 - 32	33042- 33073	-	1	10	deg C
Cell to Cell Temperature Deviation Threshold String 1 - 32	33074- 33105	-	1	10	deg F
Cell to Ambient Temperature Deviation Threshold String 1 - 32	33106- 33137	-	1	10	deg C
Cell to Ambient Temperature Deviation Threshold String 1 - 32	33138- 33169	-	1	10	deg F
Installation Date String 1 - 32	33170- 33233	-	2	-	Secs since Epoch(UTC)
Cell/Monobloc Rating String 1 - 32	33234- 33265	-	1	-	AH
Discharge Low Cell Voltage Threshold String 1 - 32	33266- 33297	-	1	1000	VDC
Discharge Low Overall Voltage Threshold String 1 - 32	33298- 33329	-	1	10	VDC
Discharge Battery String Current High Threshold String 1 - 32	33330- 33361	-	1	-	A DC
Discharge Maximum Time String 1 - 32	33362- 33393	-	1	-	min
Startup Date String 1 - 32	33394- 33457	-	2	-	Secs since Epoch(UTC)
Battery String Commissioned Status String 1 - 32	33458- 33489	-	1	-	0 = Not Commissioned 1 = Commissioned
Battery String Alarm Reset or Acknowledge 1 String 1 - 32	-	43490- 43521	1	-	2 = Reset 4 = Acknowledge
Ordinal Position of String String 1 - 32	33522- 33553	-	1	-	-
Index of Parent Battery String 1 - 32	33554- 33585	-	1	-	-
Cell Entity					
Cell Voltage Cell 1 - 320	33586- 33905	-	1	1000	VDC
Cell Temperature Cell 1 - 320	33906- 34225	-	1	10	deg C
Cell Temperature Cell 1 - 320	34226- 34545	-	1	10	deg F
Internal Resistance Value Cell 1 - 320	34546- 34865	-	1	-	microOhm
Intercell Resistance Value Cell 1 - 320	34866- 35185	-	1	-	microOhm
Cell Voltage Low Threshold Cell 1 - 320	35186- 35505	-	1	1000	VDC
Cell Voltage High Threshold Cell 1 - 320	35506- 35825	-	1	1000	VDC
Cell Temperature Low Threshold Cell 1 - 320	35826- 36145	-	1	10	deg C

Table 68 Liebert BDSU - Input and Holding (continued)

Data Description	Input Register	Holding Register	# of Reg.	Scale	Notes / Units
Cell Temperature Low Threshold Cell 1 - 320	36146- 36465	-	1	10	deg F
Cell Temperature High Threshold Cell 1 - 320	36466- 36785	-	1	10	deg C
Cell Temperature High Threshold Cell 1 - 320	36786- 37105	-	1	10	deg F
Internal Resistance Low Threshold Cell 1 - 320	37106- 37425	-	1	-	microOhm
Internal Resistance High Threshold Cell 1 - 320	37426- 37745	-	1	-	microOhm
Intercell Resistance High Threshold Cell 1 - 320	37746- 38065	-	1	-	microOhm
Ordinal Position of Cell Cell 1 - 320	38066- 38385	-	1	-	-
Index of Parent String Cell 1 - 320	38386- 38705	-	1	-	-
Index of Parent Battery Cell 1 - 320	38706- 39025	-	1	-	-
Device Status and Control					
Group Status 1	39026	-	1	-	1 = Normal Operation 2 = Startup 4 = Unknown - No System Support for System Status 8 = Normal with Warning 16 = Normal with Alarm 32 = Abnormal Operation 64 = Unknown - Communication Failure
Linker Device					
System Date and Time	39998	49998	2	-	-

If the Scale column has a value for a Data Description, multiply the Modbus value by the value in the Scale column.

4.0 BACNET COMMUNICATIONS

4.1 BACnet Protocol Implementation Conformance Statement

The Liebert IntelliSlot Web IS-IPBML card provides BACnet IP to Emerson Network Power devices via the BACnet protocol. Data descriptions of the managed device are mapped to BACnet objects that are automatically created in the card when the device is discovered. The connection is a 10/100BaseT Ethernet port that supports device data access using BACnet IP and supports card configuration and administration through HTTP and Telnet. A DB-9 RS-232 port provides Service Terminal access for card configuration and administration.

Following is a listing of Services and Objects supported in this BACnet implementation.

4.1.1 Segmentation Capability

Not supported.

4.1.2 Supported Services

Service	Originate	Respond
Alarm and Event Services		
• AcknowledgeAlarm	-	-
• ConfirmedCOVNotification	x	-
• UnconfirmedCOVNotification	x	-
• ConfirmedEventNotification	-	-
• UnconfirmedEventNotification	-	-
• GetAlarmSummary	-	-
• GetEnrollmentSummary	-	-
• GetEventInformation	-	-
• LifeSafetyOperation	-	-
• SubscribeCOV	-	x
• SubscribeCOVProperty	-	-
File Access Services		
• AtomicReadFile	-	-
• AtomicWriteFile	-	-
Object Access Services		
• AddListElement	-	-
• RemoveListElement	-	-
• CreateObject	-	-
• DeleteObject	-	-
• ReadProperty	-	x
• ReadPropertyConditional	-	-
• ReadPropertyMultiple	-	x
• WriteProperty	-	x
• WritePropertyMultiple	-	x
• ReadRange	-	-
Remote Device Management Services		
• DeviceCommunicationControl	-	-
• ConfirmedPrivateTransfer	-	-
• UnconfirmedPrivateTransfer	-	-
• ReinitializeDevice	-	-
• ConfirmedTextMessage	-	-
• UnconfirmedTextMessage	-	-
• TimeSynchronization	-	x (IP-BML only)
• UTCTimeSynchronization	-	x (IP-BML only)
• Who-Has	-	x
• I-Have	x	-
• Who-Is	-	x
• I-Am	x	-
Virtual Terminal Services		
• VT-Open	-	-
• VT-Close	-	-
• VT-Data	-	-

4.1.3 Standard Object Types Supported

Object Type	X=Supported
Accumulator	-
Analog Input	x
Analog Output	x
Analog Value	x
Averaging	-
Binary Input	x
Binary Output	x
Binary Value	x
Calendar	-
Command	-
Device	x
Event Enrollment	-
File	-
Group	-
Life Safety Point	-
Life Safety Zone	-
Loop	-
Multistate Input	x
Multistate Output	x
Multistate Value	x
Notification Class	-
Program	-
Pulse Converter	-
Schedule	-
Trend Log	-
Access Door	-
Event Log	-
Load Control	-
Structured View	-
Trend Log Multiple	-

4.1.4 Object Properties

The following object properties are supported.



NOTE

*All properties are **read-only** unless otherwise noted*

Device Object

The Device object represents the agent (the card) rather than the managed device.

Device Object Property	Comments
Object_Identifier	The card must be configured with a unique Device Instance Number to avoid interference with other cards on the same BACnet network.
Object_Name	Writable. If the Device Object Name is changed from the default, the configured name must be unique to avoid interference with other cards on the same BACnet network.
Object_Type	-
System_Status	-
Vendor_Name	-
Vendor_Identifier	-
Model_Name	-
Firmware_Revision	-
Application_Software_Version	-
Location	-
Description	-
Protocol_Version	-
Protocol_Revision	-
Protocol_Services_Supported	-
Protocol_Object_Types_Supported	-
Object_List	-
Max_APDU_Length_Accepted	-
Segmentation_Supported	-
Local_Time	-
Local_Date	-
UTC_Offset	-
Daylight_Savings_Status	-
APDU_Timeout	Writable. Range: 1-65,535 ms. Default 3000 ms.
Number_Of_APDU_Retries	Writable. Range: 0-8. Default 3.
Device_Address_Binding	-
Database_Revision	-
Active_COV_Subscriptions	-

Analog Object

Analog Object Property	Analog Input	Analog Output	Analog Value	Comments
Object_Identifier	x	x	x	-
Object_Name	x	x	x	-
Object_Type	x	x	x	-
Present_Value	x	x	x	Writable if any of these conditions apply: <ul style="list-style-type: none"> • Object is Analog Output • Object is Analog Value and associated device Data Description is writable • Out_Of_Service is True
Description	x	x	x	-
Status_Flags	x	x	x	-
Event_State	x	x	x	-
Reliability	x	x	x	-
Out_Of_Service	x	x	x	Writable. Values: True/False. Default: False.
Units	x	x	x	See Units below this table.
Priority_Array		x	(x)	Support for this property on Analog Value objects is device-dependent.
Relinquish_Default		x	(x)	Support for this property on Analog Value objects is device-dependent. The value is equal to the Present_Value so that if all entries in the Priority_Array are relinquished, the Present_Value does not change.
COV_Increment	x	x	x	Writable. Default: 0.5.

Units

Possible values of the Units property includes the BACnet Engineering Units defined in the BACnet standard, plus these additional proprietary units values:

Value	Units
256	Ampere-Hours
257	MilliHertz (.001 Hertz)
258	GigaHertz (1,000,000,000 Hertz)
259	PSI - Absolute
260	Total Harmonic Distortion (%)
261	Microhms (.000001 Ohms)

Binary Object Properties

Binary Object Property	Binary Input	Binary Output	Binary Value	Comments
Object_Identifier	x	x	x	-
Object_Name	x	x	x	-
Object_Type	x	x	x	-
Present_Value	x	x	x	Writable if any of these conditions apply: <ul style="list-style-type: none"> Object is Binary Output Object is Binary Value and associated device Data Description is writable Out_Of_Service is True
Description	x	x	x	-
Status_Flags	x	x	x	-
Event_State	x	x	x	-
Reliability	x	x	x	-
Out_Of_Service	x	x	x	Writable. Values: True/False. Default: False.
Polarity	x	x		-
Inactive_Text	x	x	x	-
Active_text	x	x	x	-
Priority_Array		x	(x)	Support for this property on Binary Value objects is device-dependent.
Relinquish_Default		x	(x)	Support for this property on Binary Value objects is device-dependent. The value is equal to the Present_Value so that if all entries in the Priority_Array are relinquished, the Present_Value does not change.

Multistate Object Properties

Multistate Object Property	Multistate Input	Multistate Output	Multistate Value	Comments
Object_Identifier	x	x	x	-
Object_Name	x	x	x	-
Object_Type	x	x	x	-
Present_Value	x	x	x	Writable if any of these conditions apply: <ul style="list-style-type: none"> Object is Multistate Output Object is Multistate Value and associated device Data Description is writable Out_Of_Service is True
Description	x	x	x	-
Status_Flags	x	x	x	-
Event_State	x	x	x	-
Reliability	x	x	x	-
Out_Of_Service	x	x	x	Writable. Values: True/False. Default: False.
Number_Of_States	x	x	x	-
State_Text	x	x	x	-
Priority_Array	-	x	(x)	Support for this property on Multistate Value objects is device-dependent.
Relinquish_Default	-	x	(x)	Support for this property on Multistate Value objects is device-dependent. The value is equal to the Present_Value so that if all entries in the Priority_Array are relinquished, the Present_Value does not change.

4.2 Precision Cooling Products

Table 69 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Binary Data

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Air - Supply Air					
Supply Air Over Temperature	Binary_Value	1	5015_1_1	RD	-
Supply Air Under Temperature	Binary_Value	2	5019_1_1	RD	-
Supply Air Sensor Issue	Binary_Value	3	5026_1_1	RD	-
Air - Return Air					
Return Air Over Temperature	Binary_Value	14	5023_1_1	RD	-
Return Air Under Temperature	Binary_Value	15	5335_1_1	RD	-
Return Air Sensor Issue	Binary_Value	16	5147_1_1	RD	-
Air - External Sensors					
Ext Air Sensor A Over Temperature	Binary_Value	27	4601_1_1	RD	-
Ext Air Sensor A Under Temperature	Binary_Value	28	4608_1_1	RD	-
Ext Air Sensor A Issue	Binary_Value	29	4618_1_1	RD	-
Ambient Air Sensor Issue	Binary_Value	30	5060_1_1	RD	-
Humidity					
High Return Humidity	Binary_Value	41	5034_1	RD	-
Low Return Humidity	Binary_Value	42	5036_1	RD	-
Humidity - External Sensors					
Ext Air Sensor A High Humidity	Binary_Value	53	5349_1_1	RD	-
Ext Air Sensor A Low Humidity	Binary_Value	54	5351_1_1	RD	-
Compressors					
Ext Compressor Lockout	Binary_Value	65	5067_1	RD	-
Compressor Capacity Reduced	Binary_Value	66	5513_1	RD	-
Compressors - Compressor 1					
Compressor Hours Exceeded	Binary_Value	77	5269_1_1	RD	-
Compressor High Head Pressure	Binary_Value	78	5270_1_1	RD	-
Compressor Low Suction Pressure	Binary_Value	79	5271_1_1	RD	-
Compressor Short Cycle	Binary_Value	80	5352_1_1	RD	-
Compressor Pump Down Issue	Binary_Value	81	5146_1_1	RD	-
Compressor Thermal Overload	Binary_Value	82	5272_1_1	RD	-
Dig Scroll Comp Discharge Temp Sensor Issue	Binary_Value	83	5354_1_1	RD	-
Dig Scroll Comp Over Temp	Binary_Value	84	5355_1_1	RD	-
Compressor Low Pressure Transducer Issue	Binary_Value	85	5514_1_1	RD	-
Compressor High Pressure Transducer Issue	Binary_Value	86	5148_1_1	RD	-
Compressors - Compressor 2					
Compressor Hours Exceeded	Binary_Value	97	5269_1_2	RD	-
Compressor High Head Pressure	Binary_Value	98	5270_1_2	RD	-
Compressor Low Suction Pressure	Binary_Value	99	5271_1_2	RD	-
Compressor Short Cycle	Binary_Value	100	5352_1_2	RD	-
Compressor Pump Down Issue	Binary_Value	101	5146_1_2	RD	-
Compressor Thermal Overload	Binary_Value	102	5272_1_2	RD	-
Dig Scroll Comp Discharge Temp Sensor Issue	Binary_Value	103	5354_1_2	RD	-
Dig Scroll Comp Over Temp	Binary_Value	104	5355_1_2	RD	-
Compressor Low Pressure Transducer Issue	Binary_Value	105	5514_1_2	RD	-
Compressor High Pressure Transducer Issue	Binary_Value	106	5148_1_2	RD	-

Table 69 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Binary Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	
Free Cooling						
Free Cooling Valve Hours Exceeded	Binary_Value	117	5306_1	RD	-	
Ext Free Cooling Lockout	Binary_Value	118	5361_1	RD	-	
Free Cooling Temp Sensor Issue	Binary_Value	119	5362_1	RD	-	
Reheat						
Hot Water / Hot Gas Valve Hours Exceeded	Binary_Value	130	5365_1	RD	-	
Reheater Over Temperature	Binary_Value	131	5068_1	RD	-	
Ext Reheat Lockout	Binary_Value	132	5070_1	RD	-	
Reheat - Electric Reheater 1						
Electric Reheater Hours Exceeded	Binary_Value	143	5368_1_1	RD	-	
Reheat - Electric Reheater 2						
Electric Reheater Hours Exceeded	Binary_Value	154	5368_1_2	RD	-	
Reheat - Electric Reheater 3						
Electric Reheater Hours Exceeded	Binary_Value	165	5368_1_3	RD	-	
Humidifier						
Humidifier Hours Exceeded	Binary_Value	176	5037_1	RD	-	
Ext Humidifier Lockout	Binary_Value	177	5044_1	RD	-	
Humidifier Control Board Not Detected	Binary_Value	178	5045_1	RD	-	
Humidifier Cylinder Worn	Binary_Value	179	5042_1	RD	-	
Humidifier Issue	Binary_Value	180	5043_1	RD	-	
Humidifier Low Water	Binary_Value	181	5041_1	RD	-	
Humidifier Over Current	Binary_Value	182	5040_1	RD	-	
Humidifier Under Current	Binary_Value	183	5039_1	RD	-	
Dehumidifier						
Dehumidifier Hours Exceeded	Binary_Value	194	5038_1	RD	-	
Fan						
Fan Hours Exceeded	Binary_Value	205	5054_1	RD	-	
Main Fan Overload	Binary_Value	206	5376_1	RD	-	
Fan Issue	Binary_Value	207	4729_1	RD	-	
Condensers						
Condenser TVSS Issue	Binary_Value	218	5073_1	RD	-	
Condenser VFD Issue	Binary_Value	219	5072_1	RD	-	
Ext Condenser Pump High Water	Binary_Value	220	5106_1	RD	-	
Condensers - Condenser 1						
Condenser Issue	Binary_Value	231	5377_1_1	RD	-	
Condensers - Condenser 2						
Condenser Issue	Binary_Value	242	5377_1_2	RD	-	
System Events						
Customer Input 1	Binary_Value	253	4270_1	RD	-	
Customer Input 2	Binary_Value	254	4271_1	RD	-	
Customer Input 3	Binary_Value	255	4272_1	RD	-	
Customer Input 4	Binary_Value	256	4273_1	RD	-	
Ext Loss of Air Blower	Binary_Value	257	5415_1	RD	-	
Ext Loss of Flow	Binary_Value	258	5105_1	RD	-	
Ext Standby Glycol Pump On	Binary_Value	259	5107_1	RD	-	
BMS Communications Timeout	Binary_Value	260	5115_1	RD	-	

Table 69 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Binary Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Ext Standby Unit On	Binary_Value	261	5416_1	RD	-
Clogged Air Filter	Binary_Value	262	5118_1	RD	-
Loss of Air Flow	Binary_Value	263	5053_1	RD	-
Service Required	Binary_Value	264	4726_1	RD	-
Master Unit Communication Lost	Binary_Value	265	5120_1	RD	-
RAM Battery Issue	Binary_Value	266	5119_1	RD	-
Shutdown - Loss Of Power	Binary_Value	267	4714_1	RD	-
High Power Shutdown	Binary_Value	268	5121_1	RD	-
Smoke Detected	Binary_Value	269	4720_1	RD	-
Supply Chilled Water Loss of Flow	Binary_Value	270	4980_1	RD	-
Supply Chilled Water Over Temp	Binary_Value	271	4626_1	RD	-
Unit Code Missing	Binary_Value	272	5418_1	RD	-
Unit Communication Lost	Binary_Value	273	5419_1	RD	-
Water Leakage Detector Sensor Issue	Binary_Value	274	5114_1	RD	-
Water Under Floor	Binary_Value	275	4723_1	RD	-
Ext Over Temperature	Binary_Value	276	5104_1	RD	-
External Fire Detected	Binary_Value	277	5108_1	RD	-
System Events - Chilled Water Valve 1					
Chilled Water Control Valve Position	Binary_Value	288	4703_1_1	RD	-
System Events - Chilled Water Valve 2					
Chilled Water Control Valve Position	Binary_Value	299	4703_1_2	RD	-
System Events - Messages					
Unit Off	Binary_Value	310	5110_1_1	RD	-
Unit On	Binary_Value	311	5109_1_1	RD	-
Unit Partial Shutdown	Binary_Value	312	5112_1_1	RD	-
Unit Shutdown	Binary_Value	313	5113_1_1	RD	-
Unit Standby	Binary_Value	314	5111_1_1	RD	-
Maintenance Due	Binary_Value	315	5116_1_1	RD	-
Maintenance Completed	Binary_Value	316	5117_1_1	RD	-
System Events - iCOM DO Board 1					
Digital Output Board Not Detected	Binary_Value	327	5417_1_1	RD	-
System Events - iCOM DO Board 2					
Digital Output Board Not Detected	Binary_Value	338	5417_1_2	RD	-
System Events - iCOM DO Board 3					
Digital Output Board Not Detected	Binary_Value	349	5417_1_3	RD	-

Table 70 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Analog Data

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Air					
Air Temperature Set Point	Analog_Value	1	5008_1	RW	-
Air Temperature Proportional Band	Analog_Value	2	5325_1	RW	-
Air Temperature Dead Band	Analog_Value	3	5011_1	RW	-
Air Temperature Control Integration Time	Analog_Value	4	5326_1	RW	-
Today's High Air Temperature	Analog_Value	5	5327_1	RD	-
Today's High Air Temperature Time	Analog_Value	6	5328_1	RD	-
Today's Low Air Temperature	Analog_Value	7	5329_1	RD	-
Today's Low Air Temperature Time	Analog_Value	8	5330_1	RD	-
Air - Supply Air					
Supply Air Temperature	Analog_Value	19	5002_1_1	RD	-
Supply Air Temperature Set Point	Analog_Value	20	5331_1_1	RW	-
Air - Return Air					
Return Air Temperature	Analog_Value	31	4291_1_1	RD	-
Return Air Temperature Set Point	Analog_Value	32	5333_1_1	RW	-
Return Air Over Temp Threshold	Analog_Value	33	5022_1_1	RW	-
Return Air Under Temp Threshold	Analog_Value	34	5334_1_1	RW	-
Air - External Sensors					
Ext Air Sensor A Temperature	Analog_Value	45	4594_1_1	RD	-
Ext Air Sensor B Temperature	Analog_Value	46	4597_1_1	RD	-
Ext Air Sensor C Temperature	Analog_Value	47	5336_1_1	RD	-
Ext Air Sensor A Over Temp Threshold	Analog_Value	48	5337_1_1	RW	-
Ext Air Sensor A Under Temp Threshold	Analog_Value	49	5338_1_1	RW	-
Humidity					
Return Humidity	Analog_Value	60	5028_1	RD	-
Humidity Set Point	Analog_Value	61	5029_1	RW	-
Return Humidity Set Point	Analog_Value	62	5339_1	RW	-
Humidity Proportional Band	Analog_Value	63	5341_1	RW	-
Humidity Dead Band	Analog_Value	64	5032_1	RW	-
Humidity Proportional Control Integration Time	Analog_Value	65	5342_1	RW	-
High Return Humidity Threshold	Analog_Value	66	5033_1	RW	-
Low Return Humidity Threshold	Analog_Value	67	5035_1	RW	-
Today's High Humidity	Analog_Value	68	5343_1	RD	-
Today's High Humidity Time	Analog_Value	69	5344_1	RD	-
Today's Low Humidity	Analog_Value	70	5345_1	RD	-
Today's Low Humidity Time	Analog_Value	71	5346_1	RD	-
Humidity - External Sensors					
Ext Air Sensor A Humidity	Analog_Value	82	4595_1_1	RD	-
Ext Air Sensor B Humidity	Analog_Value	83	4598_1_1	RD	-
Ext Air Sensor C Humidity	Analog_Value	84	5347_1_1	RD	-
Ext Air Sensor A High Humidity Threshold	Analog_Value	85	5348_1_1	RW	-
Ext Air Sensor A Low Humidity Threshold	Analog_Value	86	5350_1_1	RW	-

Table 70 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Analog Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Compressors - Compressor 1					
Compressor Hours	Analog_Value	97	5267_1_1	RW	-
Compressor Hours Threshold	Analog_Value	98	5268_1_1	RW	-
Dig Scroll Comp Discharge Temp	Analog_Value	99	5353_1_1	RD	-
Compressors - Compressor 2					
Compressor Hours	Analog_Value	110	5267_1_2	RW	-
Compressor Hours Threshold	Analog_Value	111	5268_1_2	RW	-
Dig Scroll Comp Discharge Temp	Analog_Value	112	5353_1_2	RD	-
Free Cooling					
Free Cooling Internal Temperature Delta	Analog_Value	123	5356_1	RW	-
Free Cooling Fluid Temperature	Analog_Value	124	5358_1	RD	-
Minimum Chilled Water Temp Set Point	Analog_Value	125	5360_1	RW	-
Free Cooling Valve Hours	Analog_Value	126	5304_1	RW	-
Free Cooling Valve Hours Threshold	Analog_Value	127	5305_1	RW	-
Reheat					
Hot Water / Hot Gas Valve Hours	Analog_Value	138	5363_1	RW	-
Hot Water / Hot Gas Valve Hours Threshold	Analog_Value	139	5364_1	RW	-
Reheat - Electric Reheater 1					
Electric Reheater Hours	Analog_Value	150	5366_1_1	RW	-
Electric Reheater Hours Threshold	Analog_Value	151	5367_1_1	RW	-
Reheat - Electric Reheater 2					
Electric Reheater Hours	Analog_Value	162	5366_1_2	RW	-
Electric Reheater Hours Threshold	Analog_Value	163	5367_1_2	RW	-
Reheat - Electric Reheater 3					
Electric Reheater Hours	Analog_Value	174	5366_1_3	RW	-
Electric Reheater Hours Threshold	Analog_Value	175	5367_1_3	RW	-
Humidifier					
Humidifier Hours	Analog_Value	186	5369_1	RW	-
Humidifier Hours Threshold	Analog_Value	187	5370_1	RW	-
Infrared Humidifier Flush Rate	Analog_Value	188	5445_1	RW	-
Dehumidifier					
Dehumidifier Hours	Analog_Value	199	5371_1	RW	-
Dehumidifier Hours Threshold	Analog_Value	200	5372_1	RW	-
Fan					
Fan Speed Maximum Set Point	Analog_Value	211	5050_1	RW	-
Fan Hours	Analog_Value	212	5374_1	RW	-
Fan Hours Threshold	Analog_Value	213	5375_1	RW	-
Analog Inputs 1					
Analog Input Reading	Analog_Value	224	5378_1	RD	-
Analog Inputs 2					
Analog Input Reading	Analog_Value	235	5378_2	RD	-

Table 70 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Analog Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	
Analog Inputs 3						
Analog Input Reading	Analog_Value	246	5378_3	RD	-	
Analog Inputs 4						
Analog Input Reading	Analog_Value	257	5378_4	RD	-	
System Info						
BMS Timeout Period	Analog_Value	268	5075_1	RW	-	
Auto Restart Delay	Analog_Value	269	4710_1	RW	-	
System Operations						
Fan Speed	Analog_Value	280	5077_1	RD	-	
Compressor Utilization	Analog_Value	281	5078_1	RD	-	
Free Cooling Valve Open Position	Analog_Value	282	5379_1	RD	-	
Maintenance Ramp	Analog_Value	283	4870_1	RD	-	
Calculated Next Maintenance Month	Analog_Value	284	4868_1	RD	-	
Calculated Next Maintenance Year	Analog_Value	285	4869_1	RD	-	
Hot Water / Hot Gas Valve Open Position	Analog_Value	286	5380_1	RD	-	
Reheat Utilization	Analog_Value	287	5080_1	RD	-	
Humidifier Utilization	Analog_Value	288	5081_1	RD	-	
Dehumidifier Utilization	Analog_Value	289	5079_1	RD	-	
Time						
System Date and Time	Analog_Value	300	4293_1	RW	-	

Table 71 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Multistate Data

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	
Protocol						
Server Class	Multistate_Value	1	4553_1	RD	1 = UPS 2 = AIR 3 = PMP 4 = PDU	
Air						
Air Temperature Control Type	Multistate_Value	12	5324_1	RW	1 = Proportional 2 = Prop+Integral 3 = Intelligent	
Air - Supply Air						
Supply Air Temperature Sensor Control	Multistate_Value	23	5332_1_1	RW	1 = Disabled 2 = Limit 3 = Control 4 = Temp Only	
Humidity						
Humidity Proportional Control Type	Multistate_Value	34	5340_1	RW	1 = Relative 2 = Compensated 3 = Predictive	

Table 71 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Multistate Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	
Compressors - Compressor 1						
Compressor State	Multistate_Value	45	5264_1_1	RD	1 = Off / 2 = On	
Compressor Capacity Control State	Multistate_Value	46	5265_1_1	RD	1 = Off / 2 = On	
Compressors - Compressor 2						
Compressor State	Multistate_Value	57	5264_1_2	RD	1 = Off / 2 = On	
Compressor Capacity Control State	Multistate_Value	58	5265_1_2	RD	1 = Off / 2 = On	
Free Cooling						
Free Cooling Status	Multistate_Value	69	5302_1	RD	1 = Off / 2 = On 3 = No Support	
Free Cooling Internal Control Mode	Multistate_Value	70	5357_1	RW	1 = Disabled 2 = Contact 3 = Value	
Minimum Chilled Water Temp Set Point Enable	Multistate_Value	71	5359_1	RW	1 = Disabled 2 = Enabled	
Fan						
Fan Control Mode	Multistate_Value	82	5373_1	RW	1 = Auto 2 = Manual 3 = Economy 4 = Delta	
System Info						
System Status	Multistate_Value	93	4123_1	RD	1 = Normal Operation 2 = StartUp 3 = Normal with Warning 4 = Normal with Alarm 5 = Abnormal Operation	
System Operating State	Multistate_Value	94	4706_1	RD	1 = Off / 2 = On 3 = Standby	
System Control Mode	Multistate_Value	95	4707_1	RD	1 = Internal (Auto) 2 = External (Manual)	
System Operating State Reason	Multistate_Value	96	5074_1	RD	1 = Reason Unknown 2 = Network Display 3 = Alarm 4 = Schedule 5 = Remote System 6 = External Input 7 = Local Display	
System Operations						
Fan State	Multistate_Value	107	5381_1	RD	1 = Off / 2 = On	
Cooling State	Multistate_Value	108	5382_1	RD	1 = Off / 2 = On	
Free Cooling State	Multistate_Value	109	5383_1	RD	1 = Off / 2 = On	
Maintenance Tracking State	Multistate_Value	110	5384_1	RD	1 = Off / 2 = On	
Hot Water / Hot Gas State	Multistate_Value	111	5385_1	RD	1 = Off / 2 = On	
Electric Reheat State	Multistate_Value	112	5386_1	RD	1 = Off / 2 = On	
Dehumidifier State	Multistate_Value	113	5387_1	RD	1 = Off / 2 = On	
Humidifier State	Multistate_Value	114	5388_1	RD	1 = Off / 2 = On	
System On/Off Control	Multistate_Value	115	5143_1	RW	1 = Off / 2 = On	
System Event Configuration						

Table 71 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Customer Input 1 - Event Control	Multistate_Value	126	4718_1	RW	1 = Disabled 2 = Enabled
Customer Input 1 - Event Type	Multistate_Value	127	4719_1	RW	1 = Message 2 = Warning 3 = Alarm
Customer Input 2 - Event Control	Multistate_Value	128	5098_1	RW	1 = Disabled 2 = Enabled
Customer Input 2 - Event Type	Multistate_Value	129	5099_1	RW	1 = Message 2 = Warning 3 = Alarm
Customer Input 3 - Event Control	Multistate_Value	130	5100_1	RW	1 = Disabled 2 = Enabled
Customer Input 3 - Event Type	Multistate_Value	131	5101_1	RW	1 = Message 2 = Warning 3 = Alarm
Customer Input 4 - Event Control	Multistate_Value	132	5102_1	RW	1 = Disabled 2 = Enabled
Customer Input 4 - Event Type	Multistate_Value	133	5103_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Free Cooling Lockout - Event Control	Multistate_Value	134	5389_1	RW	1 = Disabled 2 = Enabled
Ext Free Cooling Lockout - Event Type	Multistate_Value	135	5390_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Condenser Pump High Water - Event Control	Multistate_Value	136	5122_1	RW	1 = Disabled 2 = Enabled
Ext Condenser Pump High Water - Event Type	Multistate_Value	137	5123_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Standby Glycol Pump On - Event Control	Multistate_Value	138	5129_1	RW	1 = Disabled 2 = Enabled
Ext Standby Glycol Pump On - Event Type	Multistate_Value	139	5130_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Standby Unit On - Event Control	Multistate_Value	140	5391_1	RW	1 = Disabled 2 = Enabled
Ext Standby Unit On - Event Type	Multistate_Value	141	5392_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Humidifier Lockout - Event Control	Multistate_Value	142	5086_1	RW	1 = Disabled 2 = Enabled
Ext Humidifier Lockout - Event Type	Multistate_Value	143	5087_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Loss of Flow - Event Control	Multistate_Value	144	5082_1	RW	1 = Disabled 2 = Enabled
Ext Loss of Flow - Event Type	Multistate_Value	145	5083_1	RW	1 = Message 2 = Warning 3 = Alarm

Table 71 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Ext Over Temperature - Event Control	Multistate_Value	146	5090_1	RW	1 = Disabled 2 = Enabled
Ext Over Temperature - Event Type	Multistate_Value	147	5091_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Reheat Lockout - Event Control	Multistate_Value	148	5084_1	RW	1 = Disabled 2 = Enabled
Ext Reheat Lockout - Event Type	Multistate_Value	149	5085_1	RW	1 = Message 2 = Warning 3 = Alarm
High Power Shutdown - Event Control	Multistate_Value	150	5141_1	RW	1 = Disabled 2 = Enabled
High Power Shutdown - Event Type	Multistate_Value	151	5142_1	RW	1 = Message 2 = Warning 3 = Alarm
Humidifier Issue - Event Control	Multistate_Value	152	5131_1	RW	1 = Disabled 2 = Enabled
Humidifier Issue - Event Type	Multistate_Value	153	5132_1	RW	1 = Message 2 = Warning 3 = Alarm
Master Unit Communication Lost - Event Control	Multistate_Value	154	5133_1	RW	1 = Disabled 2 = Enabled
Master Unit Communication Lost - Event Type	Multistate_Value	155	5134_1	RD	1 = Message 2 = Warning 3 = Alarm
Service Required - Event Control	Multistate_Value	156	4727_1	RW	1 = Disabled 2 = Enabled
Service Required - Event Type	Multistate_Value	157	4728_1	RW	1 = Message 2 = Warning 3 = Alarm
Shutdown - Loss Of Power - Event Control	Multistate_Value	158	4715_1	RD	1 = Disabled 2 = Enabled
Shutdown - Loss Of Power - Event Type	Multistate_Value	159	4716_1	RW	1 = Message 2 = Warning 3 = Alarm
Smoke Detected - Event Control	Multistate_Value	160	4721_1	RW	1 = Disabled 2 = Enabled
Smoke Detected - Event Type	Multistate_Value	161	4722_1	RW	1 = Message 2 = Warning 3 = Alarm
Water Under Floor - Event Control	Multistate_Value	162	4724_1	RW	1 = Disabled 2 = Enabled
Water Under Floor - Event Type	Multistate_Value	163	4725_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Compressor Lockout - Event Control	Multistate_Value	164	5088_1	RW	1 = Disabled 2 = Enabled
Ext Compressor Lockout - Event Type	Multistate_Value	165	5089_1	RW	1 = Message 2 = Warning 3 = Alarm

Table 71 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Clogged Air Filter - Event Control	Multistate_Value	166	5135_1	RW	1 = Disabled 2 = Enabled
Clogged Air Filter - Event Type	Multistate_Value	167	5136_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Loss of Air Blower - Event Control	Multistate_Value	168	5393_1	RW	1 = Disabled 2 = Enabled
Ext Loss of Air Blower - Event Type	Multistate_Value	169	5394_1	RW	1 = Message 2 = Warning 3 = Alarm
System Event Configuration - Compressor 1					
Compressor High Head Pressure - Event Control	Multistate_Value	180	5316_1_1	RW	1 = Disabled 2 = Enabled
Compressor High Head Pressure - Event Type	Multistate_Value	181	5317_1_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor Low Suction Pressure - Event Control	Multistate_Value	182	5318_1_1	RW	1 = Disabled 2 = Enabled
Compressor Low Suction Pressure - Event Type	Multistate_Value	183	5319_1_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor Pump Down Issue - Event Control	Multistate_Value	184	5395_1_1	RW	1 = Disabled 2 = Enabled
Compressor Pump Down Issue - Event Type	Multistate_Value	185	5396_1_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor Short Cycle - Event Control	Multistate_Value	186	5397_1_1	RW	1 = Disabled 2 = Enabled
Compressor Short Cycle - Event Type	Multistate_Value	187	5398_1_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor Thermal Overload - Event Control	Multistate_Value	188	5320_1_1	RW	1 = Disabled 2 = Enabled
Compressor Thermal Overload - Event Type	Multistate_Value	189	5321_1_1	RW	1 = Message 2 = Warning 3 = Alarm
Dig Scroll Comp Discharge Over Temp - Event Ctrl	Multistate_Value	190	5399_1_1	RW	1 = Disabled 2 = Enabled
Dig Scroll Comp Discharge Over Temp - Event Type	Multistate_Value	191	5400_1_1	RW	1 = Message 2 = Warning 3 = Alarm
System Event Configuration - Compressor 2					
Compressor High Head Pressure - Event Control	Multistate_Value	202	5316_1_2	RW	1 = Disabled 2 = Enabled
Compressor High Head Pressure - Event Type	Multistate_Value	203	5317_1_2	RW	1 = Message 2 = Warning 3 = Alarm
Compressor Low Suction Pressure - Event Control	Multistate_Value	204	5318_1_2	RW	1 = Disabled 2 = Enabled

Table 71 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Compressor Low Suction Pressure - Event Type	Multistate_Value	205	5319_1_2	RW	1 = Message 2 = Warning 3 = Alarm
Compressor Pump Down Issue - Event Control	Multistate_Value	206	5395_1_2	RW	1 = Disabled 2 = Enabled
Compressor Pump Down Issue - Event Type	Multistate_Value	207	5396_1_2	RW	1 = Message 2 = Warning 3 = Alarm
Compressor Short Cycle - Event Control	Multistate_Value	208	5397_1_2	RW	1 = Disabled 2 = Enabled
Compressor Short Cycle - Event Type	Multistate_Value	209	5398_1_2	RW	1 = Message 2 = Warning 3 = Alarm
Compressor Thermal Overload - Event Control	Multistate_Value	210	5320_1_2	RW	1 = Disabled 2 = Enabled
Compressor Thermal Overload - Event Type	Multistate_Value	211	5321_1_2	RW	1 = Message 2 = Warning 3 = Alarm
Dig Scroll Comp Discharge Over Temp - Event Ctrl	Multistate_Value	212	5399_1_2	RW	1 = Disabled 2 = Enabled
Dig Scroll Comp Discharge Over Temp - Event Type	Multistate_Value	213	5400_1_2	RW	1 = Message 2 = Warning 3 = Alarm
System Event Configuration - Air					
Ext Air Sensor A Event Control	Multistate_Value	224	5401_1_1	RW	1 = Disabled 2 = Enabled
Return Air Sensor Event Control	Multistate_Value	225	5402_1_1	RW	1 = Disabled 2 = Enabled
Ext Air Sensor A High Humidity - Event Control	Multistate_Value	226	5403_1_1	RW	1 = Disabled 2 = Enabled
Ext Air Sensor A High Humidity - Event Type	Multistate_Value	227	5404_1_1	RD	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor A Low Humidity - Event Control	Multistate_Value	228	5405_1_1	RW	1 = Disabled 2 = Enabled
Ext Air Sensor A Low Humidity - Event Type	Multistate_Value	229	5406_1_1	RD	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor A Over Temp - Event Control	Multistate_Value	230	4602_1_1	RW	1 = Disabled 2 = Enabled
Ext Air Sensor A Over Temp - Event Type	Multistate_Value	231	4603_1_1	RD	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor A Under Temp - Event Control	Multistate_Value	232	4609_1_1	RW	1 = Disabled 2 = Enabled
Ext Air Sensor A Under Temp - Event Type	Multistate_Value	233	4610_1_1	RD	1 = Message 2 = Warning 3 = Alarm
High Return Humidity - Event Control	Multistate_Value	234	5137_1_1	RW	1 = Disabled 2 = Enabled

Table 71 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
High Return Humidity - Event Type	Multistate_Value	235	5138_1_1	RD	1 = Message 2 = Warning 3 = Alarm
Low Return Humidity - Event Control	Multistate_Value	236	5139_1_1	RW	1 = Disabled 2 = Enabled
Low Return Humidity - Event Type	Multistate_Value	237	5140_1_1	RD	1 = Message 2 = Warning 3 = Alarm
Return Air Over Temp - Event Control	Multistate_Value	238	5024_1_1	RW	1 = Disabled 2 = Enabled
Return Air Over Temp - Event Type	Multistate_Value	239	5025_1_1	RD	1 = Message 2 = Warning 3 = Alarm
Return Air Under Temp - Event Control	Multistate_Value	240	5407_1_1	RW	1 = Disabled 2 = Enabled
Return Air Under Temp - Event Type	Multistate_Value	241	5408_1_1	RD	1 = Message 2 = Warning 3 = Alarm
System Event Configuration - Fan					
Fan Hours Exceeded - Event Control	Multistate_Value	252	5409_1_1	RW	1 = Disabled 2 = Enabled
Fan Hours Exceeded - Event Type	Multistate_Value	253	5410_1_1	RD	1 = Message 2 = Warning 3 = Alarm
Fan Issue - Event Control	Multistate_Value	254	4730_1_1	RW	1 = Disabled 2 = Enabled
Fan Issue - Event Type	Multistate_Value	255	4731_1_1	RW	1 = Message 2 = Warning 3 = Alarm
Main Fan Overload - Event Control	Multistate_Value	256	5411_1_1	RW	1 = Disabled 2 = Enabled
Main Fan Overload - Event Type	Multistate_Value	257	5412_1_1	RW	1 = Message 2 = Warning 3 = Alarm
System Event Configuration - Condenser 1					
Condenser Issue - Event Control	Multistate_Value	268	5413_1_1	RW	1 = Disabled 2 = Enabled
Condenser Issue - Event Type	Multistate_Value	269	5414_1_1	RW	1 = Message 2 = Warning 3 = Alarm
System Event Configuration - Condenser 2					
Condenser Issue - Event Control	Multistate_Value	280	5413_1_2	RW	1 = Disabled 2 = Enabled
Condenser Issue - Event Type	Multistate_Value	281	5414_1_2	RW	1 = Message 2 = Warning 3 = Alarm
System Events					
System Event Acknowledge/Reset	Multistate_Value	292	4717_1	WO	1 = Reset 2 = Acknowledge

Table 72 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary

Data Description	Description
Air Temperature Control Integration Time	Time value used when system is under integral air temperature control.
Air Temperature Control Type	Type of algorithm used to control the system's output air temperature.
Air Temperature Dead Band	Value that is divided evenly to form a temperature range above and below [Air Temperature Set Point]. If measured air temperature is within this range, no heating or cooling will occur.
Air Temperature Proportional Band	Value that is divided evenly to form proportional temperature control bands above and below [Air Temperature Set Point].
Air Temperature Set Point	Desired air temperature.
Ambient Air Sensor Issue	Ambient air sensor is disconnected or the signal is out of range.
Analog Input Reading	Generic analog input reading (unitless).
Auto Restart Delay	If power is lost, the control will delay this amount of time after power is restored before restarting the unit.
BMS Communications Timeout	Building Management System (or external monitoring system) has not communicated with the system within the expected time frame.
BMS Timeout Period	Time frame within which the Building Management System (or external monitoring system) must communicate with the system to avoid a timeout.
Calculated Next Maintenance Month	Calculated month of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Year].
Calculated Next Maintenance Year	Calculated year of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Month].
Chilled Water Control Valve Position	Chilled water valve out of position. Chilled water control valve position does not match expected value.
Clogged Air Filter - Event Control	Enable/disable the activation of the [Clogged Air Filter] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Clogged Air Filter - Event Type	The event type for the [Clogged Air Filter] event.
Clogged Air Filter	Air filter is dirty and needs to be (cleaned or) replaced.
Compressor Capacity Control State	Compressor capacity control state. When 'ON', the cooling capacity of the compressor has been reduced.
Compressor Capacity Reduced	Compressor capacity has been reduced.
Compressor High Head Pressure - Event Control	Enable/disable the activation of the [Compressor High Head Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor High Head Pressure - Event Type	The event type for the [Compressor High Head Pressure] event.
Compressor High Head Pressure	Compressor is shut down due to high head pressure.
Compressor High Pressure Transducer Issue	Compressor high pressure transducer is disconnected or the signal is out of range.
Compressor Hours Exceeded	[Compressor Hours] has exceeded [Compressor Hours Threshold].
Compressor Hours Threshold	Threshold value used in the [Compressor Hours Exceeded] event.
Compressor Hours	Operating hours for compressor since last reset of this value.
Compressor Low Pressure Transducer Issue	Compressor low pressure transducer is disconnected or the signal is out of range.
Compressor Low Suction Pressure - Event Control	Enable/disable the activation of the [Compressor Low Suction Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor Low Suction Pressure - Event Type	The event type for the [Compressor Low Suction Pressure] event.
Compressor Low Suction Pressure	Compressor is shut down due to low suction pressure.

Table 72 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Data Description	Description
Compressor Pump Down Issue - Event Control	Enable/disable the activation of the [Compressor Pump Down Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor Pump Down Issue - Event Type	The event type for the [Compressor Pump Down Issue] event.
Compressor Pump Down Issue	Unable to pump down suction-side pressure during compressor shutdown.
Compressor Short Cycle - Event Control	Enable/disable the activation of the [Compressor Short Cycle] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor Short Cycle - Event Type	The event type for the [Compressor Short Cycle] event.
Compressor Short Cycle	Compressor short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor State	Compressor operational state.
Compressor Thermal Overload - Event Control	Enable/disable the activation of the [Compressor Thermal Overload] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor Thermal Overload - Event Type	The event type for the [Compressor Thermal Overload] event.
Compressor Thermal Overload	Compressor is shut down due to thermal overload.
Compressor Utilization	Present compressor utilization expressed as a percentage of the maximum rated capacity.
Condenser Issue - Event Control	Enable/disable the activation of the [Condenser Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Condenser Issue - Event Type	The event type for the [Condenser Issue] event.
Condenser Issue	Condenser is not operating within its operational parameters.
Condenser TVSS Issue	The condenser Transient Voltage Surge Suppressor device has failed.
Condenser VFD Issue	The condenser fan Variable Frequency Drive is offline.
Cooling State	Cooling operational state.
Customer Input 1 - Event Control	Enable/disable the activation of the [Customer Input 1] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 1 - Event Type	The event type for the [Customer Input 1] event.
Customer Input 1	Customer Input 1.
Customer Input 2 - Event Control	Enable/disable the activation of the [Customer Input 2] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 2 - Event Type	The event type for the [Customer Input 2] event.
Customer Input 2	Customer Input 2.
Customer Input 3 - Event Control	Enable/disable the activation of the [Customer Input 3] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 3 - Event Type	The event type for the [Customer Input 3] event.
Customer Input 3	Customer Input 3.
Customer Input 4 - Event Control	Enable/disable the activation of the [Customer Input 4] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 4 - Event Type	The event type for the [Customer Input 4] event.
Customer Input 4	Customer Input 4.
Dehumidifier Hours Exceeded	Operating hours for the dehumidifier have exceeded the threshold.
Dehumidifier Hours Threshold	Threshold value used in the [Dehumidifier Hours Exceeded] event.

Table 72 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Data Description	Description
Dehumidifier Hours	Operating hours for dehumidifier since last reset of this value.
Dehumidifier State	Dehumidifier operational state.
Dehumidifier Utilization	Present dehumidifier utilization expressed as a percentage of the maximum rated capacity.
Dig Scroll Comp Discharge Over Temp - Event Ctrl	Enable/disable the activation of the [Dig Scroll Comp Discharge Over Temp] event.
Dig Scroll Comp Discharge Over Temp - Event Type	The event type for the [Dig Scroll Comp Discharge Over Temp] event.
Dig Scroll Comp Discharge Temp Sensor Issue	Digital scroll compressor discharge temperature sensor is disconnected or the signal is out of range.
Dig Scroll Comp Discharge Temp	Digital scroll compressor discharge temperature.
Dig Scroll Comp Over Temp	Digital scroll compressor is shut down due to head temperature exceeding an upper threshold.
Digital Output Board Not Detected	Digital output board is required to be connected, but no signal is detected.
Electric Reheat State	Electric reheater operational state.
Electric Reheater Hours Exceeded	[Electric Reheater Hours] has exceeded [Electric Reheater Hours Threshold].
Electric Reheater Hours Threshold	Threshold value used in the [Electric Reheater Hours Exceeded] event.
Electric Reheater Hours	Operating hours for electric reheater since last reset of this value.
Ext Air Sensor A Event Control	Enable/disable the activation of events related to measurements by the external air sensor A.
Ext Air Sensor A High Humidity - Event Control	Enable/disable the activation of the [Ext Air Sensor A High Humidity] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A High Humidity - Event Type	The event type for the [Ext Air Sensor A High Humidity] event.
Ext Air Sensor A High Humidity Threshold	Threshold value used in the [External Air Sensor A High Humidity] event.
Ext Air Sensor A High Humidity	[Ext Air Sensor A Humidity] has exceeded [Ext Air Sensor A High Humidity Threshold].
Ext Air Sensor A Humidity	Relative humidity as measured by external air sensor A.
Ext Air Sensor A Issue	The external air sensor A is disconnected or the signal is out of range.
Ext Air Sensor A Low Humidity - Event Control	Enable/disable the activation of the [Ext Air Sensor A Low Humidity] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Low Humidity - Event Type	The event type for the [Ext Air Sensor A Low Humidity] event.
Ext Air Sensor A Low Humidity Threshold	Threshold value used in the [External Air Sensor A Low Humidity] event.
Ext Air Sensor A Low Humidity	[Ext Air Sensor A Humidity] has dropped below [Ext Air Sensor A Low Humidity Threshold].
Ext Air Sensor A Over Temp - Event Control	Enable/disable the activation of the [External Air Sensor A Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Over Temp - Event Type	The event type for the [External Air Sensor A Over Temperature] event.
Ext Air Sensor A Over Temp Threshold	Threshold value used in the [External Air Sensor A Over Temperature] event.
Ext Air Sensor A Over Temperature	[Ext Air Sensor A Temperature] has exceeded [External Air Sensor A Over Temp Threshold].
Ext Air Sensor A Temperature	Air temperature as measured by external air sensor A.
Ext Air Sensor A Under Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor A Under Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.

Table 72 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Data Description	Description
Ext Air Sensor A Under Temp - Event Type	The event type for the [Ext Air Sensor A Under Temperature] event.
Ext Air Sensor A Under Temp Threshold	Threshold value used in the [External Air Sensor A Under Temperature] event.
Ext Air Sensor A Under Temperature	[Ext Air Sensor A Temperature] has dropped below [Ext Air Sensor A Under Temp Threshold].
Ext Air Sensor B Humidity	Relative humidity as measured by external air sensor B.
Ext Air Sensor B Temperature	Air temperature as measured by external air sensor B.
Ext Air Sensor C Humidity	Relative humidity as measured by external air sensor C.
Ext Air Sensor C Temperature	Air temperature as measured by external air sensor C.
Ext Compressor Lockout - Event Control	Enable/disable the activation of the [Ext Compressor Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Compressor Lockout - Event Type	The event type for the [Ext Compressor Lockout] event.
Ext Compressor Lockout	The compressor is shut down and disabled by an external input signal.
Ext Condenser Pump High Water - Event Control	Enable/disable the activation of the [Ext Condenser Pump High Water] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Condenser Pump High Water - Event Type	The event type for the [Ext Condenser Pump High Water] event.
Ext Condenser Pump High Water	High water is detected in the condenser, as indicated by an external input signal.
Ext Free Cooling Lockout - Event Control	Enable/disable the activation of the [Ext Free Cooling Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Free Cooling Lockout - Event Type	The event type for the [Ext Free Cooling Lockout] event.
Ext Free Cooling Lockout	Free cooling is disabled by an external input signal.
Ext Humidifier Lockout - Event Control	Enable/disable the activation of the [Ext Humidifier Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Humidifier Lockout - Event Type	The event type for the [Ext Humidifier Lockout] event.
Ext Humidifier Lockout	The humidifier is shut down and disabled by an external input signal.
Ext Loss of Air Blower - Event Control	Enable/disable the activation of the [Ext Loss of Air Blower] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Loss of Air Blower - Event Type	The event type for the [Ext Loss of Air Blower] event.
Ext Loss of Air Blower	Loss of air blower is detected, as indicated by an external input signal.
Ext Loss of Flow - Event Control	Enable/disable the activation of the [Ext Loss of Flow] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Loss of Flow - Event Type	The event type for the [Ext Loss of Flow] event.
Ext Loss of Flow	Loss of flow is detected, as indicated by an external input signal.
Ext Over Temperature - Event Control	Enable/disable the activation of the [Ext Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Over Temperature - Event Type	The event type for the [Ext Over Temperature] event.
Ext Over Temperature	A temperature has exceeded its threshold, as indicated by an external input signal.
Ext Reheat Lockout - Event Control	Enable/disable the activation of the [Ext Reheat Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Reheat Lockout - Event Type	The event type for the [Ext Reheat Lockout] event.
Ext Reheat Lockout	The reheater is shut down and disabled by an external input signal.

Table 72 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Data Description	Description
Ext Standby Glycol Pump On - Event Control	Enable/disable the activation of the [Ext Standby Glycol Pump On] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Standby Glycol Pump On - Event Type	The event type for the [Ext Standby Glycol Pump On] event.
Ext Standby Glycol Pump On	The standby glycol pump is on, as indicated by an external input signal.
Ext Standby Unit On - Event Control	Enable/disable the activation of the [Ext Standby Unit On] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Standby Unit On - Event Type	The event type for the [Ext Standby Unit On] event.
Ext Standby Unit On	Standby unit is on, as indicated by an external input signal.
External Fire Detected	Fire detected, as indicated by an external input signal.
Fan Control Mode	Fan control mode.
Fan Hours Exceeded - Event Control	Enable/disable the activation of the [Fan Hours Exceeded] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Fan Hours Exceeded - Event Type	The event type for the [Fan Hours Exceeded] event.
Fan Hours Exceeded	Operating hours for the unit blower fan have exceeded the threshold.
Fan Hours Threshold	Threshold value used in the [Fan Hours Exceeded] event.
Fan Hours	Operating hours for fan since last reset of this value.
Fan Issue - Event Control	Enable/disable the activation of the [Fan Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Fan Issue - Event Type	The event type for the [Fan Issue] event.
Fan Issue	One or more fans are not operating within their operational parameters.
Fan Speed Maximum Set Point	Maximum fan speed.
Fan Speed	Fan speed expressed as a percentage of the maximum rated speed.
Fan State	Fan operational state.
Free Cooling Fluid Temperature	Free cooling fluid temperature.
Free Cooling Internal Control Mode	Free cooling internal control mode.
Free Cooling Internal Temperature Delta	Minimum temperature delta required between supply fluid and internal ambient air temperatures in order to enable free cooling.
Free Cooling State	Free cooling operational state.
Free Cooling Status	Free cooling status.
Free Cooling Temp Sensor Issue	The free cooling fluid temperature sensor is disconnected or the signal is out of range.
Free Cooling Valve Hours Exceeded	[Free Cooling Valve Hours] has exceeded [Free Cooling Valve Hours Threshold].
Free Cooling Valve Hours Threshold	Threshold value used in the [Free Cooling Valve Hours Exceeded] event.
Free Cooling Valve Hours	Operating hours for free cooling valve since last reset of this value.
Free Cooling Valve Open Position	Free cooling valve open position.
High Power Shutdown - Event Control	Enable/disable the activation of the [High Power Shutdown] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
High Power Shutdown - Event Type	The event type for the [High Power Shutdown] event.
High Power Shutdown	Supply to high power components has been shutdown.
High Return Humidity - Event Control	Enable/disable the activation of the [High Return Humidity] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
High Return Humidity - Event Type	The event type for the [High Return Humidity] event.

Table 72 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Data Description	Description
High Return Humidity Threshold	Threshold value used in the [High Return Humidity] event.
High Return Humidity	[Return Humidity] has exceeded [High Return Humidity Threshold].
Hot Water / Hot Gas State	Hot water / hot gas operational state.
Hot Water / Hot Gas Valve Hours Exceeded	[Hot Water / Hot Gas Valve Hours] has exceeded [Hot Water / Hot Gas Valve Hours Threshold].
Hot Water / Hot Gas Valve Hours Threshold	Threshold value used in the [Hot Water / Hot Gas Valve Hours Exceeded] event.
Hot Water / Hot Gas Valve Hours	Operating hours for hot water / hot gas valve since last reset of this value.
Hot Water / Hot Gas Valve Open Position	Hot water / hot gas valve open position.
Humidifier Control Board Not Detected	Humidifier control board is required to be connected, but no signal is detected.
Humidifier Cylinder Worn	Humidifier cylinder is not operating properly and needs to be replaced.
Humidifier Hours Exceeded	Operating hours for the humidifier have exceeded the threshold.
Humidifier Hours Threshold	Threshold value used in the [Humidifier Hours Exceeded] event.
Humidifier Hours	Operating hours for humidifier since last reset of this value.
Humidifier Issue - Event Control	Enable/disable the activation of the [Humidifier Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Humidifier Issue - Event Type	The event type for the [Humidifier Issue] event.
Humidifier Issue	Humidifier issue detected, causing it to be locked out.
Humidifier Low Water	The water level in the humidifier has dropped below its threshold.
Humidifier Over Current	The electrical current to the humidifier has exceeded its upper threshold.
Humidifier State	Humidifier operational state.
Humidifier Under Current	The electrical current to the humidifier has dropped below its lower threshold.
Humidifier Utilization	Present humidifier utilization expressed as a percentage of the maximum rated capacity.
Humidity Dead Band	Value that is divided evenly to form a range above and below [Humidity Set Point]. If measured humidity is within this range, no humidification or dehumidification will occur.
Humidity Proportional Band	Value that is divided evenly to form proportional humidity control bands above and below [Humidity Set Point].
Humidity Proportional Control Integration Time	Time value used to add an integral term to proportional humidity control. If set to 0, time will not be a factor in the proportional control algorithm.
Humidity Proportional Control Type	Type of algorithm to use for proportional control of output humidity.
Humidity Set Point	Desired relative humidity.
Infrared Humidifier Flush Rate	A multiple of an internal time constant that determines the flush duration of the infrared humidifier water pan.
Loss of Air Flow	No air flow through the unit due to failure of all fans.
Low Return Humidity - Event Control	Enable/disable the activation of the [Low Return Humidity] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Low Return Humidity - Event Type	The event type for the [Low Return Humidity] event.
Low Return Humidity Threshold	Threshold value used in the [Low Return Humidity] event.
Low Return Humidity	[Return Humidity] has dropped below [Low Return Humidity Threshold].
Main Fan Overload - Event Control	Enable/disable the activation of the [Main Fan Overload] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Main Fan Overload - Event Type	The event type for the [Main Fan Overload] event.
Main Fan Overload	Main fan is shut down due to thermal overload.
Maintenance Completed	Maintenance has been completed on the unit.

Table 72 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Data Description	Description
Maintenance Due	The calculated maintenance date has been reached.
Maintenance Ramp	The ratio of operations performed to the calculated operations available between maintenance intervals.
Maintenance Tracking State	Maintenance tracking operational state.
Master Unit Communication Lost - Event Control	Enable/disable the activation of the [Master Unit Communication Lost] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Master Unit Communication Lost - Event Type	The event type for the [Master Unit Communication Lost] event.
Master Unit Communication Lost	Communication with master unit has been lost.
Minimum Chilled Water Temp Set Point Enable	Enable/disable the activation of [Minimum Chilled Water Temp Set Point].
Minimum Chilled Water Temp Set Point	Minimum desired chilled water temperature.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.
Reheat Utilization	Present reheating utilization expressed as a percentage of the maximum rated capacity.
Reheater Over Temperature	The temperature of the reheater has exceeded its threshold.
Return Air Over Temp - Event Control	Enable/disable the activation of the [Return Air Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Return Air Over Temp - Event Type	The event type for the [Return Air Over Temperature] event.
Return Air Over Temp Threshold	Threshold value used in the [Return Air Over Temperature] event.
Return Air Over Temperature	[Return Air Temperature] has exceeded [Return Air Over Temp Threshold].
Return Air Sensor Event Control	Enable/disable the activation of events related to measurements by the return air sensor.
Return Air Sensor Issue	The air sensor at the inlet of the unit is disconnected or the signal is out of range.
Return Air Temperature Set Point	Desired air temperature at the inlet of the unit.
Return Air Temperature	The temperature of the inlet air.
Return Air Under Temp - Event Control	Enable/disable the activation of the [Return Air Under Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Return Air Under Temp - Event Type	The event type for the [Return Air Under Temperature] event.
Return Air Under Temp Threshold	Threshold value used in the [Return Air Under Temperature] event.
Return Air Under Temperature	[Return Air Temperature] has dropped below [Return Air Under Temp Threshold].
Return Humidity Set Point	Desired relative humidity at the inlet of the unit.
Return Humidity	Relative humidity measured at the inlet of the unit.
Server Class	The general classification for this system.
Service Required - Event Control	Enable/disable the activation of the [Service Required] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Service Required - Event Type	The event type for the [Service Required] event.
Service Required	Unit requires servicing.
Shutdown - Loss Of Power - Event Control	Enable/disable the activation of the [Shutdown - Loss Of Power] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Shutdown - Loss Of Power - Event Type	The event type for the [Shutdown - Loss Of Power] event.
Shutdown - Loss Of Power	System lost power. This event becomes active when the unit is powered on following an unexpected loss of power.

Table 72 Liebert Challenger 3000, Liebert Challenger ITR, Liebert CW, Liebert Deluxe System/3, Liebert DS, Liebert HPM, Liebert PeX - Glossary (continued)

Data Description	Description
Smoke Detected - Event Control	Enable/disable the activation of the [Smoke Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Smoke Detected - Event Type	The event type for the [Smoke Detected] event.
Smoke Detected	Smoke detected.
Supply Air Over Temperature	[Supply Air Temperature] has exceeded [Supply Air Over Temp Threshold].
Supply Air Sensor Issue	The air sensor at the outlet of the unit is disconnected or the signal is out of range.
Supply Air Temperature Sensor Control	Control mode to be used with the supply air temperature sensor.
Supply Air Temperature Set Point	Desired supply air temperature.
Supply Air Temperature	Air temperature measured at the outlet of the unit.
Supply Air Under Temperature	[Supply Air Temperature] has dropped below [Supply Air Under Temp Threshold].
Supply Chilled Water Loss of Flow	Supply chilled water flow is too low.
Supply Chilled Water Over Temp	[Supply Chilled Water Temperature] has exceeded [Supply Chilled Water Over Temp Threshold].
System Control Mode	System control mode.
System Date and Time	The system date and time.
System Event Acknowledge/Reset	Reset and/or acknowledge all events.
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Status	The operating status for the system.
Today's High Air Temperature Time	[Today's High Air Temperature] was measured at this time.
Today's High Air Temperature	The highest external air temperature measured since midnight.
Today's High Humidity Time	[Today's High Humidity] was measured at this time.
Today's High Humidity	The highest external humidity measured since midnight.
Today's Low Air Temperature Time	[Today's Low Air Temperature] was measured at this time.
Today's Low Air Temperature	The lowest external air temperature measured since midnight.
Today's Low Humidity Time	[Today's Low Humidity] was measured at this time.
Today's Low Humidity	The lowest external humidity measured since midnight.
Unit Code Missing	Unit code has not been entered and saved.
Unit Communication Lost	Master has lost communication with one or more networked units.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.
Unit Partial Shutdown	An event has occurred requiring some system components to be shutdown and disabled.
Unit Shutdown	An event has occurred requiring the unit to be shutdown and disabled to prevent damage to the system.
Unit Standby	Unit was placed in standby mode.
Water Leakage Detector Sensor Issue	The water leakage detector sensor is disconnected or the signal is out of range.
Water Under Floor - Event Control	Enable/disable the activation of the [Water Under Floor] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Water Under Floor - Event Type	The event type for the [Water Under Floor] event.
Water Under Floor	Water under the floor is detected.

Table 73 Liebert CRV - Binary Data

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Air Temperature					
Supply Air Over Temperature	Binary_Value	1	5015_1	RD	Active on Alarm
Supply Air Under Temperature	Binary_Value	2	5019_1	RD	Active on Alarm
Return Air Over Temperature	Binary_Value	3	5023_1	RD	Active on Alarm
Supply Air Sensor Issue	Binary_Value	4	5026_1	RD	Active on Alarm
Return Air Sensor Issue	Binary_Value	5	5147_1	RD	Active on Alarm
Humidity					
High Return Humidity	Binary_Value	16	5034_1	RD	Active on Alarm
Low Return Humidity	Binary_Value	17	5036_1	RD	Active on Alarm
Humidifier Hours Exceeded	Binary_Value	18	5037_1	RD	Active on Alarm
Dehumidifier Hours Exceeded	Binary_Value	19	5038_1	RD	Active on Alarm
Humidifier Under Current	Binary_Value	20	5039_1	RD	Active on Alarm
Humidifier Over Current	Binary_Value	21	5040_1	RD	Active on Alarm
Humidifier Low Water	Binary_Value	22	5041_1	RD	Active on Alarm
Humidifier Cylinder Worn	Binary_Value	23	5042_1	RD	Active on Alarm
Humidifier Issue	Binary_Value	24	5043_1	RD	Active on Alarm
Ext Humidifier Lockout	Binary_Value	25	5044_1	RD	Active on Alarm
Humidifier Control Board Not Detected	Binary_Value	26	5045_1	RD	Active on Alarm
Return Humidity Out Of Proportional Band	Binary_Value	27	5046_1	RD	Active on Alarm
Fans					
Loss of Air Flow	Binary_Value	38	5053_1	RD	Active on Alarm
Fan Hours Exceeded	Binary_Value	39	5054_1	RD	Active on Alarm
Top Fan Issue	Binary_Value	40	5055_1	RD	Active on Alarm
Bottom Fan Issue	Binary_Value	41	5056_1	RD	Active on Alarm
Remote Sensors 1					
Remote Sensor Issue	Binary_Value	52	5060_1	RD	Active on Alarm
Remote Sensors 2					
Remote Sensor Issue	Binary_Value	63	5060_2	RD	Active on Alarm
Remote Sensors 3					
Remote Sensor Issue	Binary_Value	74	5060_3	RD	Active on Alarm
Remote Sensors 4					
Remote Sensor Issue	Binary_Value	85	5060_4	RD	Active on Alarm
Remote Sensors 5					
Remote Sensor Issue	Binary_Value	96	5060_5	RD	Active on Alarm
Remote Sensors 6					
Remote Sensor Issue	Binary_Value	107	5060_6	RD	Active on Alarm
Remote Sensors 7					
Remote Sensor Issue	Binary_Value	118	5060_7	RD	Active on Alarm
Remote Sensors 8					
Remote Sensor Issue	Binary_Value	129	5060_8	RD	Active on Alarm
Remote Sensors 9					
Remote Sensor Issue	Binary_Value	140	5060_9	RD	Active on Alarm

Table 73 Liebert CRV - Binary Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Remote Sensors 10					
Remote Sensor Issue	Binary_Value	151	5060_10	RD	Active on Alarm
Compressor					
Compressor 1 High Head Pressure	Binary_Value	162	4669_1	RD	Active on Alarm
Compressor 1 Low Suction Pressure	Binary_Value	163	5062_1	RD	Active on Alarm
Compressor 1 Hours Exceeded	Binary_Value	164	5063_1	RD	Active on Alarm
Dig Scroll Comp 1 Temp Sensor Issue	Binary_Value	165	5064_1	RD	Active on Alarm
Dig Scroll Comp 1 Over Temp	Binary_Value	166	5065_1	RD	Active on Alarm
Compressor 1 Low Pressure Transducer Issue	Binary_Value	167	5066_1	RD	Active on Alarm
Compressor 1 High Pressure Transducer Issue	Binary_Value	168	5148_1	RD	Active on Alarm
Ext Compressor Lockout	Binary_Value	169	5067_1	RD	Active on Alarm
Compressor 1 Short Cycle	Binary_Value	170	4681_1	RD	Active on Alarm
Compressor 1 Pump Down Issue	Binary_Value	171	5146_1	RD	Active on Alarm
Reheater					
Reheater Over Temperature	Binary_Value	182	5068_1	RD	Active on Alarm
Electric Reheater Hours Exceeded	Binary_Value	183	5069_1	RD	Active on Alarm
Ext Reheat Lockout	Binary_Value	184	5070_1	RD	Active on Alarm
Condenser					
Condenser 1 Issue	Binary_Value	195	5071_1	RD	Active on Alarm
Condenser VFD Issue	Binary_Value	196	5072_1	RD	Active on Alarm
Condenser TVSS Issue	Binary_Value	197	5073_1	RD	Active on Alarm
Chilled Water					
Supply Chilled Water Over Temp	Binary_Value	208	4626_1	RD	Active on Alarm
Chilled Water Control Valve Position	Binary_Value	209	4703_1	RD	Active on Alarm
Supply Chilled Water Loss of Flow	Binary_Value	210	4980_1	RD	Active on Alarm
System Events					
Customer Input 1	Binary_Value	221	4270_1	RD	Active on Alarm
Customer Input 2	Binary_Value	222	4271_1	RD	Active on Alarm
Customer Input 3	Binary_Value	223	4272_1	RD	Active on Alarm
Customer Input 4	Binary_Value	224	4273_1	RD	Active on Alarm
Smoke Detected	Binary_Value	225	4720_1	RD	Active on Alarm
Water Under Floor	Binary_Value	226	4723_1	RD	Active on Alarm
Service Required	Binary_Value	227	4726_1	RD	Active on Alarm
Shutdown - Loss Of Power	Binary_Value	228	4714_1	RD	Active on Alarm
Ext Over Temperature	Binary_Value	229	5104_1	RD	Active on Alarm
Ext Loss of Flow	Binary_Value	230	5105_1	RD	Active on Alarm
Ext Condenser Pump High Water	Binary_Value	231	5106_1	RD	Active on Alarm
Ext Standby Glycol Pump On	Binary_Value	232	5107_1	RD	Active on Alarm
External Fire Detected	Binary_Value	233	5108_1	RD	Active on Alarm
Unit On	Binary_Value	234	5109_1	RD	Active on Alarm
Unit Off	Binary_Value	235	5110_1	RD	Active on Alarm
Unit Standby	Binary_Value	236	5111_1	RD	Active on Alarm

Table 73 Liebert CRV - Binary Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Unit Partial Shutdown	Binary_Value	237	5112_1	RD	Active on Alarm
Unit Shutdown	Binary_Value	238	5113_1	RD	Active on Alarm
Water Leakage Detector Sensor Issue	Binary_Value	239	5114_1	RD	Active on Alarm
BMS Communications Timeout	Binary_Value	240	5115_1	RD	Active on Alarm
Maintenance Due	Binary_Value	241	5116_1	RD	Active on Alarm
Maintenance Completed	Binary_Value	242	5117_1	RD	Active on Alarm
Clogged Air Filter	Binary_Value	243	5118_1	RD	Active on Alarm
RAM Battery Issue	Binary_Value	244	5119_1	RD	Active on Alarm
Master Unit Communication Lost	Binary_Value	245	5120_1	RD	Active on Alarm
High Power Shutdown	Binary_Value	246	5121_1	RD	Active on Alarm
Supply Fluid Temp Sensor Issue	Binary_Value	247	4651_1	RD	Active on Alarm
Global Condenser					
Condenser Outside Air Temp Sensor Issue	Binary_Value	259	5535_1	RD	Active on Alarm
Condenser Outside Air Temp Out of Operating Range	Binary_Value	260	5536_1	RD	Active on Alarm
Condenser Control Board Issue	Binary_Value	261	5537_1	RD	Active on Alarm
Condenser Refrigerant Pressure Over Threshold	Binary_Value	262	5539_1	RD	Active on Alarm
Condenser Refrigerant Pressure Under Threshold	Binary_Value	263	5540_1	RD	Active on Alarm
Condenser Refrigerant Pressure Sensor Issue	Binary_Value	264	5541_1	RD	Active on Alarm
Condenser Supply Refrigerant Over Temp	Binary_Value	265	5542_1	RD	Active on Alarm
Condenser Supply Refrigerant Under Temp	Binary_Value	266	5543_1	RD	Active on Alarm
Condenser Supply Refrigerant Temp Sensor Issue	Binary_Value	267	5544_1	RD	Active on Alarm
Condenser Max Fan Speed Override	Binary_Value	268	5545_1	RD	Active on Alarm
Global Condenser - Fan 1					
Condenser Fan Issue	Binary_Value	280	5277_1_1	RD	Active on Alarm
Global Condenser - Fan 2					
Condenser Fan Issue	Binary_Value	292	5277_1_2	RD	Active on Alarm
Global Condenser - Fan 4					
Condenser Fan Issue	Binary_Value	316	5277_1_4	RD	Active on Alarm

Table 74 Liebert CRV - Analog Data

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Air Temperature					
Supply Air Temperature	Analog_Value	1	5002_1	RD	Units: deg C
Supply Air Temperature	Analog_Value	10001	5002_1	RD	Units: deg F
Return Air Temperature	Analog_Value	2	4291_1	RD	Units: deg C
Return Air Temperature	Analog_Value	10002	4291_1	RD	Units: deg F
Return Dew Point	Analog_Value	3	5004_1	RD	Units: deg C
Return Dew Point	Analog_Value	10003	5004_1	RD	Units: deg F
Remote Sensor Minimum Temperature	Analog_Value	4	5005_1	RD	Units: deg C
Remote Sensor Minimum Temperature	Analog_Value	10004	5005_1	RD	Units: deg F
Remote Sensor Maximum Temperature	Analog_Value	5	5006_1	RD	Units: deg C
Remote Sensor Maximum Temperature	Analog_Value	10005	5006_1	RD	Units: deg F
Remote Sensor Average Temperature	Analog_Value	6	5007_1	RD	Units: deg C
Remote Sensor Average Temperature	Analog_Value	10006	5007_1	RD	Units: deg F
Air Temperature Set Point	Analog_Value	7	5008_1	RW	Units: deg C
Air Temperature Set Point	Analog_Value	10007	5008_1	RW	Units: deg F
Cooling Proportional Band	Analog_Value	8	5009_1	RW	Units: deg C
Cooling Proportional Band	Analog_Value	10008	5009_1	RW	Units: deg F
Heating Proportional Band	Analog_Value	9	5010_1	RW	Units: deg C
Heating Proportional Band	Analog_Value	10009	5010_1	RW	Units: deg F
Air Temperature Dead Band	Analog_Value	10	5011_1	RW	Units: deg C
Air Temperature Dead Band	Analog_Value	10010	5011_1	RW	Units: deg F
Supply Air Over Temp Threshold	Analog_Value	11	5014_1	RW	Units: deg C
Supply Air Over Temp Threshold	Analog_Value	10011	5014_1	RW	Units: deg F
Supply Air Under Temp Threshold	Analog_Value	12	5018_1	RW	Units: deg C
Supply Air Under Temp Threshold	Analog_Value	10012	5018_1	RW	Units: deg F
Return Air Over Temp Threshold	Analog_Value	13	5022_1	RW	Units: deg C
Return Air Over Temp Threshold	Analog_Value	10013	5022_1	RW	Units: deg F
Humidity					
Supply Humidity	Analog_Value	24	5027_1	RD	Units: % RH
Return Humidity	Analog_Value	25	5028_1	RD	Units: % RH
Humidity Set Point	Analog_Value	26	5029_1	RW	Units: % RH
Humidification Proportional Band	Analog_Value	27	5030_1	RW	Units: % RH
Dehumidification Proportional Band	Analog_Value	28	5031_1	RW	Units: % RH
Humidity Dead Band	Analog_Value	29	5032_1	RW	Units: % RH
High Return Humidity Threshold	Analog_Value	30	5033_1	RW	Units: % RH
Low Return Humidity Threshold	Analog_Value	31	5035_1	RW	Units: % RH
Fans					
Fan Speed Proportional Band	Analog_Value	42	5048_1	RW	Units: deg C
Fan Speed Proportional Band	Analog_Value	10042	5048_1	RW	Units: deg F
Fan Speed Manual Set Point	Analog_Value	43	5049_1	RW	Units: %
Fan Speed Maximum Set Point	Analog_Value	44	5050_1	RW	Units: %
Fan Speed Minimum Set Point	Analog_Value	45	5051_1	RW	Units: %

Table 74 Liebert CRV - Analog Data (continued)

Controller	Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes
Remote Sensors 1					
Remote Sensor Temperature	Analog_Value	56	5059_1	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10056	5059_1	RD	Units: deg F
Remote Sensors 2					
Remote Sensor Temperature	Analog_Value	67	5059_2	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10067	5059_2	RD	Units: deg F
Remote Sensors 3					
Remote Sensor Temperature	Analog_Value	78	5059_3	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10078	5059_3	RD	Units: deg F
Remote Sensors 4					
Remote Sensor Temperature	Analog_Value	89	5059_4	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10089	5059_4	RD	Units: deg F
Remote Sensors 5					
Remote Sensor Temperature	Analog_Value	100	5059_5	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10100	5059_5	RD	Units: deg F
Remote Sensors 6					
Remote Sensor Temperature	Analog_Value	111	5059_6	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10111	5059_6	RD	Units: deg F
Remote Sensors 7					
Remote Sensor Temperature	Analog_Value	122	5059_7	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10122	5059_7	RD	Units: deg F
Remote Sensors 8					
Remote Sensor Temperature	Analog_Value	133	5059_8	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10133	5059_8	RD	Units: deg F
Remote Sensors 9					
Remote Sensor Temperature	Analog_Value	144	5059_9	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10144	5059_9	RD	Units: deg F
Remote Sensors 10					
Remote Sensor Temperature	Analog_Value	155	5059_10	RD	Units: deg C
Remote Sensor Temperature	Analog_Value	10155	5059_10	RD	Units: deg F
Chilled Water					
Supply Chilled Water Temperature	Analog_Value	166	4624_1	RD	Units: deg C
Supply Chilled Water Temperature	Analog_Value	10166	4624_1	RD	Units: deg F
Supply Chilled Water Over Temp Threshold	Analog_Value	167	4625_1	RW	Units: deg C
Supply Chilled Water Over Temp Threshold	Analog_Value	10167	4625_1	RW	Units: deg F
System Info					
BMS Timeout Period	Analog_Value	178	5075_1	RW	Units: min
Auto Restart Delay	Analog_Value	179	4710_1	RW	Units: sec

Table 74 Liebert CRV - Analog Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
System Operations					
Operating Efficiency	Analog_Value	190	5076_1	RD	Units: %
Fan Speed	Analog_Value	191	5077_1	RD	Units: %
Cooling Capacity (Primary)	Analog_Value	192	5078_1	RD	Units: %
Dehumidifier Utilization	Analog_Value	193	5079_1	RD	Units: %
Reheat Utilization	Analog_Value	194	5080_1	RD	Units: %
Humidifier Utilization	Analog_Value	195	5081_1	RD	Units: %
Calculated Next Maintenance Month	Analog_Value	196	4868_1	RD	Units: 0
Calculated Next Maintenance Year	Analog_Value	197	4869_1	RD	Units: 0
Maintenance Ramp	Analog_Value	198	4870_1	RD	Units: %
Operating Efficiency	Analog_Value	190	5076_1	RD	Units: %
Fan Speed	Analog_Value	191	5077_1	RD	Units: %
Time					
System Date and Time	Analog_Value	209	4293_1	RW	
Global Condenser					
Condenser Outside Air Temperature	Analog_Value	221	5534_1	RD	Units: deg C
Condenser Outside Air Temperature	Analog_Value	10221	5534_1	RD	Units: deg F
Global Condenser - Fan 1					
Condenser Fan Speed	Analog_Value	233	5276_1_1	RD	Units: %
Condenser Fan Power	Analog_Value	234	5538_1_1	RD	Units: kW
Global Condenser - Fan 2					
Condenser Fan Speed	Analog_Value	246	5276_1_2	RD	Units: %
Condenser Fan Power	Analog_Value	247	5538_1_2	RD	Units: kW
Global Condenser - Fan 4					
Condenser Fan Speed	Analog_Value	272	5276_1_4	RD	Units: %
Condenser Fan Power	Analog_Value	273	5538_1_4	RD	Units: kW
Global Condenser - Low Noise Mode					
Condenser Low Noise Mode Max Fan Speed	Analog_Value	285	5548_1_1	RW	Units: %
Condenser Normal Mode Max Fan Speed	Analog_Value	286	5549_1_1	RW	Units: %
Condenser Low Noise Mode - Interval Days	Analog_Value	287	5550_1_1	RW	1 = Monday 2 = Tuesday 4 = Wednesday 8 = Thursday 16 = Friday 32 = Saturday 64 = Sunday

Table 74 Liebert CRV - Analog Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Condenser Low Noise Mode - Full Days	Analog_Value	288	5551_1_1	RW	1 = Monday 2 = Tuesday 4 = Wednesday 8 = Thursday 16 = Friday 32 = Saturday 64 = Sunday
Condenser Low Noise Mode Start Time	Analog_Value	289	5552_1_1	RW	Units: Seconds since Midnight
Condenser Low Noise Mode Stop Time	Analog_Value	290	5553_1_1	RW	Units: Seconds since Midnight

Table 75 Liebert CRV - Multistate Data

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Protocol					
Server Class	Multistate_Value	1	4553_1	RD	1 = UPS 2 = AIR 3 = PMP 4 = PDU
Air Temperature					
Air Temperature Control Sensor	Multistate_Value	12	5012_1	RW	1 = Supply 2 = Remote 3 = Return
Remote Sensor Temperature Calculation	Multistate_Value	13	5013_1	RW	1 = Average 2 = Maximum
Fans					
Fan Control Mode	Multistate_Value	24	5047_1	RW	1 = Internal (Auto) 2 = External (Manual)
Fan Control Sensor	Multistate_Value	25	5052_1	RW	1 = Supply 2 = Remote 3 = Return
Remote Sensors 1					
Remote Sensor Function	Multistate_Value	36	5058_1	RW	1 = Disable 2 = Reference 3 = Control
Remote Sensors 2					
Remote Sensor Function	Multistate_Value	47	5058_2	RW	1 = Disable 2 = Reference 3 = Control
Remote Sensors 3					
Remote Sensor Function	Multistate_Value	58	5058_3	RW	1 = Disable 2 = Reference 3 = Control
Remote Sensors 4					
Remote Sensor Function	Multistate_Value	69	5058_4	RW	1 = Disable 2 = Reference 3 = Control
Remote Sensors 5					
Remote Sensor Function	Multistate_Value	80	5058_5	RW	1 = Disable 2 = Reference 3 = Control

Table 75 Liebert CRV - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Remote Sensors 6					
Remote Sensor Function	Multistate_Value	91	5058_6	RW	1 = Disable 2 = Reference 3 = Control
Remote Sensors 7					
Remote Sensor Function	Multistate_Value	102	5058_7	RW	1 = Disable 2 = Reference 3 = Control
Remote Sensors 8					
Remote Sensor Function	Multistate_Value	113	5058_8	RW	1 = Disable 2 = Reference 3 = Control
Remote Sensors 9					
Remote Sensor Function	Multistate_Value	124	5058_9	RW	1 = Disable 2 = Reference 3 = Control
Remote Sensors 10					
Remote Sensor Function	Multistate_Value	135	5058_10	RW	1 = Disable 2 = Reference 3 = Control
System Info					
System Status	Multistate_Value	146	4123_1	RD	1 = Normal Operation 2 = Startup 3 = Normal with Warning 4 = Normal with Alarm 5 = Abnormal Operation
System Operating State	Multistate_Value	147	4706_1	RD	1 = Off / 2 = On 3 = Standby
System Control Mode	Multistate_Value	148	4707_1	RD	1 = Internal (Auto) 2 = External (Manual)
System Operating State Reason	Multistate_Value	149	5074_1	RD	1 = Reason Unknown 2 = Network Display 3 = Alarm 4 = Schedule 5 = Remote System 6 = External Input 7 = Local Display
System Operations					
System On/Off Control	Multistate_Value	160	5143_1	RW	1 = Off / 2 = On
Event Configuration					
System Event Acknowledge/Reset	Multistate_Value	171	4717_1	WO	1 = Reset 2 = Acknowledge
Smoke Detected - Event Control	Multistate_Value	172	4721_1	RW	1 = Disabled 2 = Enabled
Smoke Detected - Event Type	Multistate_Value	173	4722_1	RW	1 = Message 2 = Warning 3 = Alarm
Water Under Floor - Event Control	Multistate_Value	174	4724_1	RW	1 = Disabled 2 = Enabled
Water Under Floor - Event Type	Multistate_Value	175	4725_1	RW	1 = Message 2 = Warning 3 = Alarm
Customer Input 1 - Event Control	Multistate_Value	176	4718_1	RW	1 = Disabled 2 = Enabled

Table 75 Liebert CRV - Multistate Data (continued)

Controller	Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes
Customer Input 1 - Event Type	Multistate_Value	177	4719_1	RW	1 = Message 2 = Warning 3 = Alarm
Customer Input 2 - Event Control	Multistate_Value	178	5098_1	RW	1 = Disabled 2 = Enabled
Customer Input 2 - Event Type	Multistate_Value	179	5099_1	RW	1 = Message 2 = Warning 3 = Alarm
Customer Input 3 - Event Control	Multistate_Value	180	5100_1	RW	1 = Disabled 2 = Enabled
Customer Input 3 - Event Type	Multistate_Value	181	5101_1	RW	1 = Message 2 = Warning 3 = Alarm
Customer Input 4 - Event Control	Multistate_Value	182	5102_1	RW	1 = Disabled 2 = Enabled
Customer Input 4 - Event Type	Multistate_Value	183	5103_1	RW	1 = Message 2 = Warning 3 = Alarm
Service Required - Event Control	Multistate_Value	184	4727_1	RW	1 = Disabled 2 = Enabled
Service Required - Event Type	Multistate_Value	185	4728_1	RW	1 = Message 2 = Warning 3 = Alarm
Shutdown - Loss Of Power - Event Control	Multistate_Value	186	4715_1	RW	1 = Disabled 2 = Enabled
Shutdown - Loss Of Power - Event Type	Multistate_Value	187	4716_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Loss of Flow - Event Control	Multistate_Value	188	5082_1	RW	1 = Disabled 2 = Enabled
Ext Loss of Flow - Event Type	Multistate_Value	189	5083_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Reheat Lockout - Event Control	Multistate_Value	190	5084_1	RW	1 = Disabled 2 = Enabled
Ext Reheat Lockout - Event Type	Multistate_Value	191	5085_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Humidifier Lockout - Event Control	Multistate_Value	192	5086_1	RW	1 = Disabled 2 = Enabled
Ext Humidifier Lockout - Event Type	Multistate_Value	193	5087_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Compressor Lockout - Event Control	Multistate_Value	194	5088_1	RW	1 = Disabled 2 = Enabled
Ext Compressor Lockout - Event Type	Multistate_Value	195	5089_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Over Temperature - Event Control	Multistate_Value	196	5090_1	RW	1 = Disabled 2 = Enabled
Ext Over Temperature - Event Type	Multistate_Value	197	5091_1	RW	1 = Message 2 = Warning 3 = Alarm
Condenser VFD Issue - Event Control	Multistate_Value	198	5092_1	RW	1 = Disabled 2 = Enabled

Table 75 Liebert CRV - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Condenser VFD Issue - Event Type	Multistate_Value	199	5093_1	RW	1 = Message 2 = Warning 3 = Alarm
Condenser TVSS Issue - Event Control	Multistate_Value	200	5094_1	RW	1 = Disabled 2 = Enabled
Condenser TVSS Issue - Event Type	Multistate_Value	201	5095_1	RW	1 = Message 2 = Warning 3 = Alarm
Condenser 1 Issue - Event Control	Multistate_Value	202	5096_1	RW	1 = Disabled 2 = Enabled
Condenser 1 Issue - Event Type	Multistate_Value	203	5097_1	RW	1 = Message 2 = Warning 3 = Alarm
Global Condenser					
Condenser Refrigerant Type	MultiState_Value	215	5533_1	RD	1 = R22 2 = R407C 3 = R410A
Global Condenser - Low Noise Mode					
Condenser Low Noise Mode State	MultiState_Value	227	5546_1_1	RD	1 = Inactive 2 = Active (Interval) 3 = Active (Full Day)
Condenser Low Noise Mode Schedule Control	MultiState_Value	228	5547_1_1	RW	1 = disabled 2 = enabled

Table 76 Liebert CRV - Glossary

Data Description	Description
Air Temperature Control Sensor	Sensor from which air temperature measurements will be used for cooling and heating control.
Air Temperature Dead Band	Value that is divided evenly to form a temperature range above and below [Air Temperature Set Point]. If measured air temperature is within this range, no heating or cooling will occur.
Air Temperature Set Point	Desired air temperature. This set point is dependent upon which sensor is selected for control.
Auto Restart Delay	If power is lost, the control will delay this amount of time after power is restored before restarting the unit.
BMS Communications Timeout	Building Management System (or external monitoring system) has not communicated with the system within the expected timeframe.
BMS Timeout Period	Timeframe within which the Building Management System (or external monitoring system) must communicate with the system to avoid a timeout.
Bottom Fan Issue	The bottom fan is not operating within its normal parameters.
Calculated Next Maintenance Month	Calculated month of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Year].
Calculated Next Maintenance Year	Calculated year of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Month].
Chilled Water Control Valve Failure	Chilled water valve out of position. Chilled water control valve position does not match expected value.
Clogged Air Filter	Air filter is dirty and needs to be (cleaned or) replaced.
Compressor 1 High Head Pressure	Compressor 1 high head pressure.
Compressor 1 High Pressure Transducer Issue	Compressor 1 high pressure transducer is disconnected or the signal is out of range.
Compressor 1 Hours Exceeded	Operating hours for compressor 1 have exceeded the threshold.

Table 76 Liebert CRV - Glossary (continued)

Data Description	Description
Compressor 1 Low Pressure Transducer Issue	Compressor 1 low pressure transducer is disconnected or the signal is out of range.
Compressor 1 Low Suction Pressure	Compressor 1 low suction pressure.
Compressor 1 Pump Down Issue	Unable to pump down suction-side pressure during compressor 1 shutdown.
Compressor 1 Short Cycle	Compressor 1 short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Condenser 1 Issue - Event Control	Enable/disable the activation of the [Condenser 1 Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Condenser 1 Issue - Event Type	The event type for the [Condenser 1 Issue] event.
Condenser 1 Issue	Condenser 1 is not operating within its normal parameters.
Condenser Control Board Issue	The condenser control board is reporting an issue.
Condenser Fan Issue	Condenser fan is not operating within its operational parameters.
Condenser Fan Power	Condenser fan's measured input power.
Condenser Fan Speed	Condenser fan speed expressed as a percentage of the maximum rated speed.
Condenser Low Noise Mode - Full Days	Days of the week selected for low noise mode full day scheduling.
Condenser Low Noise Mode - Interval Days	Days of the week selected for low noise mode interval scheduling.
Condenser Low Noise Mode Max Fan Speed	Maximum fan speed when condenser is placed in low noise mode.
Condenser Low Noise Mode Schedule Control	Enable/disable scheduled control of condenser low noise mode.
Condenser Low Noise Mode Start Time	The time of day at which the condenser will transition into low noise mode.
Condenser Low Noise Mode State	State of condenser low noise mode scheduler control.
Condenser Low Noise Mode Stop Time	The time of day at which the condenser will transition out of low noise mode.
Condenser Max Fan Speed Override	Fan speed exceeding the maximum set point in order to alleviate a high temperature or pressure condition.
Condenser Normal Mode Max Fan Speed	Maximum fan speed when condenser is not in low noise mode.
Condenser Outside Air Temp Out of Operating Range	[Condenser Outside Air Temperature] is either above an upper threshold or below a lower threshold.
Condenser Outside Air Temp Sensor Issue	Condenser outside air temperature sensor is disconnected or the signal is out of range.
Condenser Outside Air Temperature	Condenser ambient outside air temperature.
Condenser Refrigerant Pressure Over Threshold	Condenser refrigerant pressure has exceeded a threshold.
Condenser Refrigerant Pressure Sensor Issue	Condenser refrigerant pressure sensor is disconnected or the signal is out of range.
Condenser Refrigerant Pressure Under Threshold	Condenser refrigerant pressure has dropped below a threshold.
Condenser Refrigerant Type	Condenser refrigerant type.
Condenser Supply Refrigerant Over Temp	Condenser supply refrigerant temperature has exceeded a threshold.
Condenser Supply Refrigerant Temp Sensor Issue	Condenser supply refrigerant temperature sensor is disconnected or the signal is out of range.
Condenser Supply Refrigerant Under Temp	Condenser supply refrigerant temperature has dropped below a specified threshold.
Condenser TVSS Issue - Event Control	Enable/disable the activation of the [Condenser TVSS Issue] event (Transient Voltage Surge Suppressor). If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Condenser TVSS Issue - Event Type	The event type for the [Condenser TVSS Issue] event (Transient Voltage Surge Suppressor).

Table 76 Liebert CRV - Glossary (continued)

Data Description	Description
Condenser TVSS Issue	The condenser Transient Voltage Surge Suppressor device has failed.
Condenser VFD Issue - Event Control	Enable/disable the activation of the [Condenser VFD Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Condenser VFD Issue - Event Type	The event type for the [Condenser VFD Issue] event.
Condenser VFD Issue	The condenser fan Variable Frequency Drive is offline.
Cooling Capacity (Primary)	Compressor utilization or chilled water valve position, based on unit type.
Cooling Proportional Band	Temperature control band above [Air Temperature Set Point]. If measured air temperature is within this band, cooling operations are proportionally controlled.
Customer Input 1 - Event Control	Enable/disable the activation of the [Customer Input 1] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 1 - Event Type	The event type for the [Customer Input 1] event.
Customer Input 1	Customer Input 1.
Customer Input 2 - Event Control	Enable/disable the activation of the [Customer Input 2] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 2 - Event Type	The event type for the [Customer Input 2] event.
Customer Input 2	Customer input 2.
Customer Input 3 - Event Control	Enable/disable the activation of the [Customer Input 3] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 3 - Event Type	The event type for the [Customer Input 3] event.
Customer Input 3	Customer input 3.
Customer Input 4 - Event Control	Enable/disable the activation of the [Customer Input 4] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 4 - Event Type	The event type for the [Customer Input 4] event.
Customer Input 4	Customer input 4.
Dehumidification Proportional Band	Humidity control band above [Humidity Set Point]. If measured humidity is within this band, dehumidification operations are proportionally controlled.
Dehumidifier Hours Exceeded	Operating hours for the dehumidifier have exceeded the threshold.
Dehumidifier Utilization	Present dehumidifier utilization expressed as a percentage of the maximum rated capacity.
Dig Scroll Comp 1 Over Temp	Digital scroll compressor 1 shut off because its head temperature has exceeded the upper threshold.
Dig Scroll Comp 1 Temp Sensor Issue	Digital scroll compressor 1 temperature sensor is disconnected or the signal is out of range.
Electric Reheater Hours Exceeded	Operating hours for electric reheater have exceeded the threshold.
Ext Compressor Lockout - Event Control	Enable/disable the activation of the [Ext Compressor Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Compressor Lockout - Event Type	The event type for the [Ext Compressor Lockout] event.
Ext Compressor Lockout	The compressor is shut down and disabled by an external input signal.
Ext Condenser Pump High Water	High water is detected in the condenser, as indicated by an external input signal.
Ext Humidifier Lockout - Event Control	Enable/disable the activation of the [Ext Humidifier Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Humidifier Lockout - Event Type	The event type for the [Ext Humidifier Lockout] event.

Table 76 Liebert CRV - Glossary (continued)

Data Description	Description
Ext Humidifier Lockout	The humidifier is shut down and disabled by an external input signal.
Ext Loss of Flow - Event Control	Enable/disable the activation of the [Ext Loss of Flow] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Loss of Flow - Event Type	The event type for the [Ext Loss of Flow] event.
Ext Loss of Flow	Loss of flow is detected, as indicated by an external input signal.
Ext Over Temperature - Event Control	Enable/disable the activation of the [Ext Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Over Temperature - Event Type	The event type for the [Ext Over Temperature] event.
Ext Over Temperature	A temperature has exceeded its threshold, as indicated by an external input signal.
Ext Reheat Lockout - Event Control	Enable/disable the activation of the [Ext Reheat Lockout] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Reheat Lockout - Event Type	The event type for the [Ext Reheat Lockout] event.
Ext Reheat Lockout	The reheater is shut down and disabled by an external input signal.
Ext Standby Glycol Pump On	The standby glycol pump is on, as indicated by an external input signal.
External Fire Detected	Fire detected, as indicated by an external input signal.
Fan Control Mode	Fan control mode. Allowable modes are: (0) Auto - Fan speed is controlled via the selected fan control sensor, and, (1) Manual - Fan will operate at a fixed speed.
Fan Control Sensor	Sensor from which air temperature measurements will be used for fan speed control.
Fan Hours Exceeded	Operating hours for the unit blower fan have exceeded the threshold.
Fan Speed Manual Set Point	Manual fan speed.
Fan Speed Maximum Set Point	Maximum fan speed.
Fan Speed Minimum Set Point	Minimum fan speed.
Fan Speed Proportional Band	Temperature control band above the temperature set point calculated for proportional fan speed control. If measured air temperature is within this band, fan speed operations are proportionally controlled.
Fan Speed	Fan speed expressed as a percentage of the maximum rated speed.
Heating Proportional Band	Temperature control band below [Air Temperature Set Point]. If measured air temperature is within this band, heating operations are proportionally controlled.
High Power Shutdown	Supply to high power components has been shutdown.
High Return Humidity Threshold	Threshold value used in the [High Return Humidity] event.
High Return Humidity	Return air high humidity event.
Humidification Proportional Band	Humidity control band below [Humidity Set Point]. If measured humidity is within this band, humidification operations are proportionally controlled.
Humidifier Control Board Not Detected	Humidifier control board is required to be connected, but no signal is detected.
Humidifier Cylinder Worn	Humidifier cylinder is not operating properly and needs to be replaced.
Humidifier Hours Exceeded	Operating hours for the humidifier have exceeded the threshold.
Humidifier Issue	Humidifier issue detected, causing it to be locked out.
Humidifier Low Water	The water level in the humidifier has dropped below its threshold.
Humidifier Over Current	The electrical current to the humidifier has exceeded its upper threshold.
Humidifier Under Current	The electrical current to the humidifier has dropped below its lower threshold.

Table 76 Liebert CRV - Glossary (continued)

Data Description	Description
Humidifier Utilization	Present humidifier utilization expressed as a percentage of the maximum rated capacity.
Humidity Dead Band	Value that is divided evenly to form a range above and below [Humidity Set Point]. If measured humidity is within this range, no humidification or dehumidification will occur.
Humidity Set Point	Desired relative humidity.
Loss of Air Flow	No air flow through the unit due to failure of all fans.
Low Return Humidity Threshold	Threshold value used in the [Low Return Humidity] event.
Low Return Humidity	Return air low humidity event.
Maintenance Completed	Maintenance has been completed on the unit.
Maintenance Due	The calculated maintenance date has been reached.
Maintenance Ramp	The ratio of operations performed to the calculated operations available between maintenance intervals.
Master Unit Communication Lost	Communication with master unit has been lost.
Operating Efficiency	The ratio of cooling energy provided to the amount of total energy being used.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.
Reheat Utilization	Present reheating utilization expressed as a percentage of the maximum rated capacity.
Reheater Over Temperature	The temperature of the reheater has exceeded its threshold.
Remote Sensor Average Temperature	Average value of remote sensor temperature measurements.
Remote Sensor Function	Function assigned to remote sensor. Available values are: (0) Control - sensor will be used in calculation of remote sensor temperature that may be used for heating and cooling control, (1) Reference - sensor will not be used in calculation of remote sensor temperature, but is enabled, (2) Disable - sensor is disabled
Remote Sensor Issue	Remote sensor is disconnected or the signal is out of range.
Remote Sensor Maximum Temperature	Maximum value of remote sensor temperature measurements.
Remote Sensor Minimum Temperature	Minimum value of remote sensor temperature measurements.
Remote Sensor Temperature Calculation	Calculation method applied to temperature readings from the remote sensors to determine a single temperature measurement value for cooling and heating control.
Remote Sensor Temperature	Air temperature as measured by remote sensor.
Return Air Over Temp Threshold	Threshold value used in the [Return Air Over Temperature] event.
Return Air Over Temperature	Return air high temperature event.
Return Air Sensor Issue	The air sensor at the inlet of the unit is disconnected or the signal is out of range.
Return Air Temperature	The temperature of the inlet air
Return Dew Point	Dew point temperature measured at the inlet of the unit.
Return Humidity Out Of Proportional Band	[Return Humidity] has exceeded the upper limit of [Dehumidification Proportional Band], or has dropped below the lower limit of [Humidification Proportional Band] , for an extended period of time.
Return Humidity	Relative humidity measured at the inlet of the unit.
Server Class	The general classification for this system
Service Required - Event Control	Enable/disable the activation of the [Service Required] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Service Required - Event Type	The event type for the [Service Required] event.
Service Required	Unit requires servicing.

Table 76 Liebert CRV - Glossary (continued)

Data Description	Description
Shutdown - Loss Of Power - Event Control	Enable/disable the activation of the [Shutdown - Loss Of Power] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Shutdown - Loss Of Power - Event Type	The event type for the [Shutdown - Loss Of Power] event.
Shutdown - Loss Of Power	System lost power. This event becomes active when the unit is powered on following an unexpected loss of power. This event remains active for 90 minutes.
Smoke Detected - Event Control	Enable/disable the activation of the [Smoke Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Smoke Detected - Event Type	The event type for the [Smoke Detected] event.
Smoke Detected	Smoke detected.
Supply Air Over Temp Threshold	Threshold value used in the [Supply Air Over Temperature] event.
Supply Air Over Temperature	Supply air high temperature event.
Supply Air Sensor Issue	The air sensor at the outlet of the unit is disconnected or the signal is out of range.
Supply Air Temperature	Air temperature measured at the outlet of the unit.
Supply Air Under Temp Threshold	Threshold value used in the [Supply Air Under Temperature] event.
Supply Air Under Temperature	Supply air low temperature event.
Supply Chilled Water Loss of Flow	Supply chilled water flow is too low.
Supply Chilled Water Over Temp Threshold	Threshold value used in the [Supply Chilled Water Over Temp] event.
Supply Chilled Water Over Temp	[Supply Chilled Water Temperature] has exceeded [Supply Chilled Water Over Temp Threshold].
Supply Chilled Water Temperature	Supply chilled water temperature.
Supply Fluid Temp Sensor Issue	The supply fluid temperature sensor is disconnected or the signal is out of range.
Supply Humidity	Relative humidity at the outlet of the unit.
System Control Mode	System control mode.
System Date and Time	The system date and time
System Event Acknowledge/Reset	Reset and/or acknowledge all events.
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Status	The operating status for the system
Top Fan Issue	The top fan is not operating within its normal parameters.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.
Unit Partial Shutdown	An event has occurred requiring some system components to be shutdown and disabled.
Unit Shutdown	An event has occurred requiring the unit to be shutdown and disabled to prevent damage to the system.
Unit Standby	Unit was placed in standby mode.
Water Leakage Detector Sensor Issue	The water leakage detector sensor is disconnected or the signal is out of range.

Table 77 Liebert HPC - Binary Data

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	Extra Notes
Compressors						
Compressor Not Stopping	Binary_Value	1	5263_1	RD	Active on Alarm	1, 2
Compressor Superheat Over Threshold	Binary_Value	2	5604_1	RD	Active on Alarm	2
Compressors - Compressor 1						
Compressor Hours Exceeded	Binary_Value	12	5269_1_1	RD	Active on Alarm	1, 2
Compressor High Head Pressure	Binary_Value	13	5270_1_1	RD	Active on Alarm	1, 2
Compressor Low Suction Pressure	Binary_Value	14	5271_1_1	RD	Active on Alarm	1, 2
Compressor Thermal Overload	Binary_Value	15	5272_1_1	RD	Active on Alarm	1, 2
Compressor Low Oil Pressure	Binary_Value	16	5273_1_1	RD	Active on Alarm	1, 2
Compressor Loss of Differential Pressure	Binary_Value	17	5275_1_1	RD	Active on Alarm	1, 2
Compressor Capacity Reduced	Binary_Value	18	5513_1_1	RD	Active on Alarm	1, 2
Compressor Capacity Normal	Binary_Value	19	5773_1_1	RD	Active on Alarm	2
Compressor Contactor Issue	Binary_Value	20	5774_1_1	RD	Active on Alarm	2
Compressors - Compressor 2						
Compressor Hours Exceeded	Binary_Value	29	5269_1_2	RD	Active on Alarm	1, 2
Compressor High Head Pressure	Binary_Value	30	5270_1_2	RD	Active on Alarm	1, 2
Compressor Low Suction Pressure	Binary_Value	31	5271_1_2	RD	Active on Alarm	1, 2
Compressor Thermal Overload	Binary_Value	32	5272_1_2	RD	Active on Alarm	1, 2
Compressor Low Oil Pressure	Binary_Value	33	5273_1_2	RD	Active on Alarm	1, 2
Compressor Loss of Differential Pressure	Binary_Value	34	5275_1_2	RD	Active on Alarm	1, 2
Compressor Capacity Reduced	Binary_Value	35	5513_1_2	RD	Active on Alarm	1, 2
Compressor Capacity Normal	Binary_Value	36	5773_1_2	RD	Active on Alarm	2
Compressor Contactor Issue	Binary_Value	37	5774_1_2	RD	Active on Alarm	2

Table 77 Liebert HPC - Binary Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	Extra Notes
Compressors - Compressor 3						
Compressor Hours Exceeded	Binary_Value	245	5269_1_3	RD	Active on Alarm	2
Compressor High Head Pressure	Binary_Value	246	5270_1_3	RD	Active on Alarm	2
Compressor Low Suction Pressure	Binary_Value	247	5271_1_3	RD	Active on Alarm	2
Compressor Thermal Overload	Binary_Value	248	5272_1_3	RD	Active on Alarm	2
Compressor Low Oil Pressure	Binary_Value	249	5273_1_3	RD	Active on Alarm	2
Compressor Loss of Differential Pressure	Binary_Value	250	5275_1_3	RD	Active on Alarm	2
Compressor Capacity Reduced	Binary_Value	251	5513_1_3	RD	Active on Alarm	2
Compressor Capacity Normal	Binary_Value	252	5773_1_3	RD	Active on Alarm	2
Compressor Contactor Issue	Binary_Value	253	5774_1_3	RD	Active on Alarm	2
Compressors - Compressor 4						
Compressor Hours Exceeded	Binary_Value	263	5269_1_4	RD	Active on Alarm	2
Compressor High Head Pressure	Binary_Value	264	5270_1_4	RD	Active on Alarm	2
Compressor Low Suction Pressure	Binary_Value	265	5271_1_4	RD	Active on Alarm	2
Compressor Thermal Overload	Binary_Value	266	5272_1_4	RD	Active on Alarm	2
Compressor Low Oil Pressure	Binary_Value	267	5273_1_4	RD	Active on Alarm	2
Compressor Loss of Differential Pressure	Binary_Value	268	5275_1_4	RD	Active on Alarm	2
Compressor Capacity Reduced	Binary_Value	269	5513_1_4	RD	Active on Alarm	2
Compressor Capacity Normal	Binary_Value	270	5773_1_4	RD	Active on Alarm	2
Compressor Contactor Issue	Binary_Value	271	5774_1_4	RD	Active on Alarm	2
Condenser 1						
Condenser Fan Issue	Binary_Value	46	5277_1	RD	Active on Alarm	1, 2
Low Condenser Refrigerant Pressure	Binary_Value	47	5278_1	RD	Active on Alarm	1, 2
Condenser Max Fan Speed Override	Binary_Value	48	5545_1	RD	Active on Alarm	1, 2
Condenser 2						
Condenser Fan Issue	Binary_Value	59	5277_2	RD	Active on Alarm	1, 2

Table 77 Liebert HPC - Binary Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	Extra Notes
Low Condenser Refrigerant Pressure	Binary_Value	60	5278_2	RD	Active on Alarm	1, 2
Condenser Max Fan Speed Override	Binary_Value	61	5545_2	RD	Active on Alarm	1, 2
Condenser 3						
Condenser Fan Issue	Binary_Value	63	5277_3	RD	Active on Alarm	2
Low Condenser Refrigerant Pressure	Binary_Value	64	5278_3	RD	Active on Alarm	2
Condenser Max Fan Speed Override	Binary_Value	65	5545_3	RD	Active on Alarm	2
Condenser 4						
Condenser Fan Issue	Binary_Value	67	5277_4	RD	Active on Alarm	2
Low Condenser Refrigerant Pressure	Binary_Value	68	5278_4	RD	Active on Alarm	2
Condenser Max Fan Speed Override	Binary_Value	69	5545_4	RD	Active on Alarm	2
Fluid						
Low Fluid Pressure	Binary_Value	72	5280_1	RD	Active on Alarm	1, 2
Return Fluid Temp Sensor Issue	Binary_Value	73	5295_1	RD	Active on Alarm	1, 2
Fluid - Supply (Outlet) Fluid						
Supply Fluid Over Temp	Binary_Value	84	4645_1_1	RD	Active on Alarm	1, 2
Supply Fluid Under Temp	Binary_Value	85	4648_1_1	RD	Active on Alarm	1, 2
Supply Fluid Temp Sensor Issue	Binary_Value	86	4651_1_1	RD	Active on Alarm	1, 2
Pumps						
All Pumps Loss of Flow	Binary_Value	97	5297_1	RD	Active on Alarm	1, 2
Pump 1 Loss of Flow	Binary_Value	98	4656_1	RD	Active on Alarm	1, 2
Pump 2 Loss of Flow	Binary_Value	99	4659_1	RD	Active on Alarm	1, 2
Pumps - Pump 1						
Pump Hours Exceeded	Binary_Value	110	5300_1_1	RD	Active on Alarm	1, 2
Pumps - Pump 2						
Pump Hours Exceeded	Binary_Value	121	5300_1_2	RD	Active on Alarm	1, 2
Free Cooling						
Free Cooling Valve Hours Exceeded	Binary_Value	132	5306_1	RD	Active on Alarm	1, 2
Ambient Air Temperature Sensor Issue	Binary_Value	133	4618_1	RD	Active on Alarm	1, 2

Table 77 Liebert HPC - Binary Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	Extra Notes
Evaporators						
Evaporator Inlet Temp Sensor Issue	Binary_Value	144	5308_1	RD	Active on Alarm	1, 2
Evaporator Return Fluid Over Temp	Binary_Value	145	5559_1	RD	Active on Alarm	1, 2
Evaporator Return Fluid Under Temp	Binary_Value	146	5560_1	RD	Active on Alarm	1, 2
Evaporators - Evaporator 1						
Evaporator Fluid Freeze - Auto Reset	Binary_Value	157	5310_1_1	RD	Active on Alarm	1, 2
Evaporator Fluid Freeze - Manual Reset Required	Binary_Value	158	5311_1_1	RD	Active on Alarm	1, 2
Supply Refrigerant Temp Sensor Issue	Binary_Value	159	4640_1_1	RD	Active on Alarm	1, 2
Evaporators - Evaporator 2						
Evaporator Fluid Freeze - Auto Reset	Binary_Value	170	5310_1_2	RD	Active on Alarm	1, 2
Evaporator Fluid Freeze - Manual Reset Required	Binary_Value	171	5311_1_2	RD	Active on Alarm	1, 2
Supply Refrigerant Temp Sensor Issue	Binary_Value	172	4640_1_2	RD	Active on Alarm	1, 2
System Events						
Customer Input 1	Binary_Value	183	4270_1	RD	Active on Alarm	1, 2
Customer Input 2	Binary_Value	184	4271_1	RD	Active on Alarm	1, 2
Customer Input 3	Binary_Value	194	4272_1	RD	Active on Alarm	2
Customer Input 4	Binary_Value	195	4273_1	RD	Active on Alarm	2
Unit On	Binary_Value	185	5109_1	RD	Active on Alarm	1, 2
Unit Off	Binary_Value	186	5110_1	RD	Active on Alarm	1, 2
Master Unit Communication Lost	Binary_Value	187	5120_1	RD	Active on Alarm	1, 2
Subgroup Event Occurred During Communication Loss	Binary_Value	188	5315_1	RD	Active on Alarm	1, 2
Humidifier Control Board Not Detected	Binary_Value	189	5045_1	RD	Active on Alarm	1, 2
RAM Battery Issue	Binary_Value	190	5119_1	RD	Active on Alarm	1, 2
Unit Code Missing	Binary_Value	191	5418_1	RD	Active on Alarm	1, 2
Unspecified General Event	Binary_Value	192	5588_1	RD	Active on Alarm	2
Unit Shutdown Unspecified General Event	Binary_Value	193	5775_1	RD	Active on Alarm	2

1. This point is supported on iCOM_SC31
2. This point is supported on iCOM_SC100

Table 78 Liebert HPC - Analog Data

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	Extra Notes
Compressors						
Compressor Shut Down - Ambient Air Low Temp Limit	Analog_Value	1	5262_1	RW	Units: deg C	1, 2
Compressor Shut Down - Ambient Air Low Temp Limit	Analog_Value	10001	5262_1_deg_F	RW	Units: deg F	1, 2
Compressors - Compressor 1						
Compressor Head Pressure	Analog_Value	12	5266_1_1	RD	Units: bar	1, 2
Compressor Hours	Analog_Value	13	5267_1_1	RW	Units: hr	1, 2
Compressor Hours Threshold	Analog_Value	14	5268_1_1	RW	Units: hr	1, 2
Compressors - Compressor 2						
Compressor Head Pressure	Analog_Value	25	5266_1_2	RD	Units: bar	1, 2
Compressor Hours	Analog_Value	26	5267_1_2	RW	Units: hr	1, 2
Compressor Hours Threshold	Analog_Value	27	5268_1_2	RW	Units: hr	1, 2
Compressors - Compressor 3						
Compressor Head Pressure	Analog_Value	195	5266_1_3	RD	Units: bar	2
Compressor Hours	Analog_Value	196	5267_1_3	RW	Units: hr	2
Compressor Hours Threshold	Analog_Value	197	5268_1_3	RW	Units: hr	2
Compressors - Compressor 4						
Compressor Head Pressure	Analog_Value	215	5266_1_4	RD	Units: bar	2
Compressor Hours	Analog_Value	216	5267_1_4	RW	Units: hr	2
Compressor Hours Threshold	Analog_Value	217	5268_1_4	RW	Units: hr	2
Condensers 1						
Condenser Fan Speed	Analog_Value	38	5276_1	RD	Units: %	1, 2
Condensers 2						
Condenser Fan Speed	Analog_Value	49	5276_2	RD	Units: %	1, 2
Condenser 3						
Condenser Fan Speed	Analog_Value	52	5276_3	RD	Units: %	2
Condenser 4						
Condenser Fan Speed	Analog_Value	55	5276_4	RD	Units: %	2
Fluid						
Fluid Pressure	Analog_Value	60	5279_1	RD	Units: bar	1, 2
Fluid Cooling Proportional Band	Analog_Value	61	5281_1	RW	Units: deg C	1, 2
Fluid Cooling Proportional Band	Analog_Value	10061	5281_1_deg_F	RW	Units: deg F	1, 2
Fluid - Supply (Outlet) Fluid						
Supply Fluid Temp Set Point 1	Analog_Value	72	5283_1_1	RW	Units: deg C	1, 2
Supply Fluid Temp Set Point 1	Analog_Value	10072	5283_1_1_deg_F	RW	Units: deg F	1, 2
Supply Fluid Temp Set Point 2	Analog_Value	73	5284_1_1	RW	Units: deg C	1, 2
Supply Fluid Temp Set Point 2	Analog_Value	10073	5284_1_1_deg_F	RW	Units: deg F	1, 2
Supply Fluid Over Temp Alarm Threshold	Analog_Value	74	5285_1_1	RW	Units: deg C	1, 2
Supply Fluid Over Temp Alarm Threshold	Analog_Value	10074	5285_1_1_deg_F	RW	Units: deg F	1, 2
Supply Fluid Over Temp Warning Threshold	Analog_Value	75	4644_1_1	RW	Units: deg C	1, 2
Supply Fluid Over Temp Warning Threshold	Analog_Value	10075	4644_1_1_deg_F	RW	Units: deg F	1, 2

Table 78 Liebert HPC - Analog Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	Extra Notes
Supply Fluid Under Temp Warning Threshold	Analog_Value	76	5286_1_1	RW	Units: deg C	1, 2
Supply Fluid Under Temp Warning Threshold	Analog_Value	10076	5286_1_1_deg_F	RW	Units: deg F	1, 2
Supply Fluid Under Temp Alarm Threshold	Analog_Value	77	5287_1_1	RW	Units: deg C	1, 2
Supply Fluid Under Temp Alarm Threshold	Analog_Value	10077	5287_1_1_deg_F	RW	Units: deg F	1, 2
Pumps - Pump 1						
Pump Hours	Analog_Value	88	5298_1_1	RW	Units: hr	1, 2
Pump Hours Threshold	Analog_Value	89	5299_1_1	RW	Units: hr	1, 2
Pumps - Pump 2						
Pump Hours	Analog_Value	100	5298_1_2	RW	Units: hr	1, 2
Pump Hours Threshold	Analog_Value	101	5299_1_2	RW	Units: hr	1, 2
Free Cooling						
Free Cooling External Temperature Delta	Analog_Value	112	5301_1	RW	Units: deg C	1, 2
Free Cooling External Temperature Delta	Analog_Value	10112	5301_1_deg_F	RW	Units: deg F	1, 2
Free Cooling Valve Open Position	Analog_Value	113	5303_1	RD	Units: %	1, 2
Free Cooling Valve Hours	Analog_Value	114	5304_1	RW	Units: hr	1, 2
Free Cooling Valve Hours Threshold	Analog_Value	115	5305_1	RW	Units: hr	1, 2
Evaporators						
Evaporator Return Fluid Temperature	Analog_Value	126	5307_1	RD	Units: deg C	1, 2
Evaporator Return Fluid Temperature	Analog_Value	10126	5307_1_deg_F	RD	Units: deg F	1, 2
Evaporator Return Fluid Over Temp Alarm Threshold	Analog_Value	127	5555_1	RW	Units: deg C	1, 2
Evaporator Return Fluid Over Temp Alarm Threshold	Analog_Value	10127	5555_1_deg_F	RW	Units: deg F	1, 2
Evaporator Return Fluid Over Temp Warning Threshold	Analog_Value	128	5556_1	RW	Units: deg C	1, 2
Evaporator Return Fluid Over Temp Warning Threshold	Analog_Value	10128	5556_1_deg_F	RW	Units: deg F	1, 2
Evaporator Return Fluid Under Temp Warning Threshold	Analog_Value	129	5557_1	RW	Units: deg C	1, 2
Evaporator Return Fluid Under Temp Warning Threshold	Analog_Value	10129	5557_1_deg_F	RW	Units: deg F	1, 2
Evaporator Return Fluid Under Temp Alarm Threshold	Analog_Value	130	5558_1	RW	Units: deg C	1, 2
Evaporator Return Fluid Under Temp Alarm Threshold	Analog_Value	10130	5558_1_deg_F	RW	Units: deg F	1, 2
Brine						
Supply Brine Temp Set Point	Analog_Value	141	5312_1	RW	Units: deg C	1, 2
Supply Brine Temp Set Point	Analog_Value	10141	5312_1_deg_F	RW	Units: deg F	1, 2
Standby Units						
Standby Units	Analog_Value	152	5314_1	RW		1, 2
System Operations						
Return Fluid Temperature	Analog_Value	163	5288_1	RD	Units: deg C	1, 2
Return Fluid Temperature	Analog_Value	10163	5288_1_deg_F	RD	Units: deg F	1, 2

Table 78 Liebert HPC - Analog Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	Extra Notes
Supply Fluid Temperature	Analog_Value	164	4643_1	RD	Units: deg C	1, 2
Supply Fluid Temperature	Analog_Value	10164	4643_1_deg_F	RD	Units: deg F	1, 2
Actual Supply Fluid Temp Set Point	Analog_Value	165	5282_1	RD	Units: deg C	1, 2
Actual Supply Fluid Temp Set Point	Analog_Value	10165	5282_1_deg_F	RD	Units: deg F	1, 2
Condenser Inlet Water Temperature	Analog_Value	166	5517_1	RD	Units: deg C	1, 2
Condenser Inlet Water Temperature	Analog_Value	10166	5517_1_deg_F	RD	Units: deg F	1, 2
Condenser Outlet Water Temperature	Analog_Value	167	5518_1	RD	Units: deg C	1, 2
Condenser Outlet Water Temperature	Analog_Value	10167	5518_1_deg_F	RD	Units: deg F	1, 2
Supply Heated Water Temp Set Point	Analog_Value	168	5313_1	RW	Units: deg C	1, 2
Supply Heated Water Temp Set Point	Analog_Value	10168	5313_1_deg_F	RW	Units: deg F	1, 2
Free Cooling Utilization	Analog_Value	169	5519_1	RD	Units: %	1, 2
Reheat Utilization	Analog_Value	170	5080_1	RD	Units: %	1, 2
Compressor Utilization	Analog_Value	171	5078_1	RD	Units: %	1, 2
Ambient Air Temperature	Analog_Value	172	4594_1	RD	Units: deg C	1, 2
Ambient Air Temperature	Analog_Value	10172	4594_1_deg_F	RD	Units: deg F	1, 2
Compressor Economizer Utilization	Analog_Value	173	5520_1	RD	Units: %	1, 2
Condenser Adiabatic Cooling Utilization	Analog_Value	174	5521_1	RD	Units: %	1, 2
Time						
System Date and Time	Analog_Value	185	4293_1	RW		1, 2

1. This point is supported on iCOM_SC31
2. This point is supported on iCOM_SC100

Table 79 Liebert HPC - Multistate Data

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	Extra Notes
Protocol						
Server Class	MultiState_Value	1	4553_1	RD	1 = UPS 2 = AIR 3 = PMP 4 = PDU	1, 2
Compressors - Compressor 1						
Compressor State	MultiState_Value	12	5264_1_1	RD	1 = off 2 = on	1, 2
Compressor Capacity Control State	MultiState_Value	13	5265_1_1	RD	1 = off 2 = on	1, 2
Compressors - Compressor 2						
Compressor State	MultiState_Value	24	5264_1_2	RD	1 = off 2 = on	1, 2
Compressor Capacity Control State	MultiState_Value	25	5265_1_2	RD	1 = off 2 = on	1, 2
Compressors - Compressor 3						
Compressor State	MultiState_Value	226	5264_1_3	RD	1 = off 2 = on	2
Compressor Capacity Control State	MultiState_Value	227	5265_1_3	RD	1 = off 2 = on	2
Compressors - Compressor 4						
Compressor State	MultiState_Value	246	5264_1_4	RD	1 = off 2 = on	2
Compressor Capacity Control State	MultiState_Value	247	5265_1_4	RD	1 = off 2 = on	2
Free Cooling						
Free Cooling Status	MultiState_Value	36	5302_1	RD	1 = off 2 = on 3 = No Support	1, 2
System Events						
System Event Acknowledge/Reset	MultiState_Value	47	4717_1	WO	1 = Reset 2 = Acknowledge	1, 2
System Info						
System Status	MultiState_Value	58	4123_1	RD	1 = Normal Operation 2 = StartUp 3 = Normal with Warning 4 = Normal with Alarm 5 = Abnormal Operation	1, 2
System Operating State	MultiState_Value	59	4706_1	RD	1 = off 2 = on 3 = standby	1, 2
System Control Mode	MultiState_Value	60	4707_1	RD	1 = Internal (Auto) 2 = External (Manual)	1, 2
System Operating State Reason	MultiState_Value	61	5074_1	RD	1 = Reason Unknown 2 = Network Display 3 = Alarm 4 = Schedule 5 = Remote System 6 = External Input 7 = Local Display	1, 2
System On/Off Control	MultiState_Value	62	5143_1	RW	1 = off 2 = on	1, 2
System Operations						
Pump 1 State	MultiState_Value	73	4654_1	RD	1 = off 2 = on	1, 2
Pump 2 State	MultiState_Value	74	4655_1	RD	1 = off 2 = on	1, 2

1. This point is supported on iCOM_SC31
2. This point is supported on iCOM_SC100

Table 80 Liebert HPC - Glossary

Data Description	Description
Actual Supply Fluid Temp Set Point	The actual set point value being used for the desired fluid temperature at the outlet of the unit.
All Pumps Loss of Flow	System is shut down due to loss of flow in all available pumps.
Ambient Air Temperature Sensor Issue	The ambient air temperature sensor is disconnected or the signal is out of range.
Ambient Air Temperature	Ambient air temperature.
Compressor Capacity Control State	Compressor capacity control state. When 'ON', the cooling capacity of the compressor has been reduced.
Compressor Capacity Normal	Compressor has returned to normal load capacity.
Compressor Capacity Reduced	Compressor capacity has been reduced.
Compressor Contactor Issue	Compressor contactor is not closing during compressor startup or is not opening during compressor shutdown.
Compressor Economizer Utilization	Present compressor economizer utilization expressed as a percentage of the maximum.
Compressor Head Pressure	Compressor head pressure.
Compressor High Head Pressure	Compressor is shut down due to high head pressure.
Compressor Hours Exceeded	[Compressor Hours] has exceeded [Compressor Hours Threshold].
Compressor Hours Threshold	Threshold value used in the [Compressor Hours Exceeded] event.
Compressor Hours	Operating hours for compressor since last reset of this value.
Compressor Loss of Differential Pressure	Compressor is shut down due to low differential pressure.
Compressor Low Oil Pressure	Compressor low oil pressure.
Compressor Low Suction Pressure	Compressor is shut down due to low suction pressure.
Compressor Not Stopping	Compressor commanded to stop, but continues to run.
Compressor Shut Down - Ambient Air Low Temp Limit	When the temperature of ambient air falls below this lower threshold, the compressor will be shut off. Correct condensing pressure cannot be achieved when temperature is too low.
Compressor State	Compressor operational state.
Compressor Superheat Over Threshold	Compressor discharge refrigerant superheat temperature has exceeded an upper threshold.
Compressor Thermal Overload	Compressor is shut down due to thermal overload.
Compressor Utilization	Present compressor utilization expressed as a percentage of the maximum rated capacity.
Condenser Adiabatic Cooling Utilization	Present adiabatic cooling utilization expressed as a percentage of the maximum.
Condenser Fan Issue	Condenser fan is not operating within its operational parameters.
Condenser Fan Speed	Condenser fan speed expressed as a percentage of the maximum rated speed.
Condenser Inlet Water Temperature	For water cooled condensers, the temperature of the water entering the heat exchanger, before cooling the refrigerant.
Condenser Max Fan Speed Override	Fan speed exceeding the maximum set point in order to alleviate a high temperature or pressure condition.
Condenser Outlet Water Temperature	For water cooled condensers, the temperature of the water exiting the heat exchanger, after cooling the refrigerant.
Customer Input 1	Customer input 1.
Customer Input 2	Customer input 2.
Customer Input 3	Customer input 3.
Customer Input 4	Customer input 4.

Table 80 Liebert HPC - Glossary (continued)

Data Description	Description
Evaporator Fluid Freeze - Auto Reset	Evaporator outlet fluid temperature has dropped below the freeze threshold. Evaporator has been shut down, but will restart when the temperature rises above the threshold.
Evaporator Fluid Freeze - Manual Reset Required	Evaporator outlet fluid temperature has dropped below the freeze threshold. Evaporator has been shut down and requires a manual reset.
Evaporator Inlet Temp Sensor Issue	The evaporator inlet temperature sensor is disconnected or the signal is out of range.
Evaporator Return Fluid Over Temp Alarm Threshold	Alarm threshold value used in the [Evaporator Return Fluid Over Temp] event.
Evaporator Return Fluid Over Temp Warning Threshold	Warning threshold value used in the [Evaporator Return Fluid Over Temp] event.
Evaporator Return Fluid Over Temp	[Evaporator Return Fluid Temperature] has exceeded a threshold. The event is deactivated when the temperature drops below the threshold.
Evaporator Return Fluid Temperature	Fluid temperature measured at the inlet of the evaporator.
Evaporator Return Fluid Under Temp Alarm Threshold	Alarm threshold value used in the [Evaporator Return Fluid Under Temp] event.
Evaporator Return Fluid Under Temp Warning Threshold	Warning threshold value used in the [Evaporator Return Fluid Under Temp] event.
Evaporator Return Fluid Under Temp	[Evaporator Return Fluid Temperature] has dropped below a threshold. The event is deactivated when the temperature rises above the threshold.
Fluid Cooling Proportional Band	Temperature control band above [Actual Supply Fluid Temp Set Point]. If [Return Fluid Temperature] is within this band, fluid cooling operations are proportionally controlled.
Fluid Pressure	Fluid pressure. This is the pressure within a closed water/glycol circuit.
Free Cooling External Temperature Delta	Minimum temperature delta required between return fluid and external ambient air temperatures in order to enable free cooling.
Free Cooling Status	Free cooling status.
Free Cooling Utilization	Present free cooling utilization expressed as a percentage of the maximum.
Free Cooling Valve Hours Exceeded	[Free Cooling Valve Hours] has exceeded [Free Cooling Valve Hours Threshold].
Free Cooling Valve Hours Threshold	Threshold value used in the [Free Cooling Valve Hours Exceeded] event.
Free Cooling Valve Hours	Operating hours for free cooling valve since last reset of this value.
Free Cooling Valve Open Position	Free cooling valve open position.
Humidifier Control Board Not Detected	Humidifier control board is required to be connected, but no signal is detected.
Low Condenser Refrigerant Pressure	Refrigerant pressure in condenser coil is too low.
Low Fluid Pressure	[Fluid Pressure] has dropped below a specified threshold.
Master Unit Communication Lost	Communication with master unit has been lost.
Pump 1 Loss of Flow	Loss of flow is detected in pump 1. This condition occurs when no flow is detected through the flow switch.
Pump 1 State	Pump 1 operational state.
Pump 2 Loss of Flow	Loss of flow is detected in pump 2. This condition occurs when no flow is detected through the flow switch.
Pump 2 State	Pump 2 operational state.
Pump Hours Exceeded	[Pump Hours] has exceeded [Pump Hours Threshold].
Pump Hours Threshold	Threshold value used in the [Pump Hours Exceeded] event.
Pump Hours	Operating hours for pump since last reset of this value.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.
Reheat Utilization	Present reheating utilization expressed as a percentage of the maximum rated capacity.
Return Fluid Temp Sensor Issue	The return fluid temperature sensor is disconnected or the signal is out of range.

Table 80 Liebert HPC - Glossary (*continued*)

Data Description	Description
Return Fluid Temperature	Fluid temperature measured at the inlet of the unit.
Server Class	The general classification for this system
Standby Units	The number of standby units.
Subgroup Event Occurred During Communication Loss	While subgroup unit communication was lost, an event occurred on the subgroup unit. Please check subgroup unit event log.
Supply Brine Temp Set Point	Desired brine fluid temperature at the outlet of the unit.
Supply Fluid Over Temp Alarm Threshold	Threshold value used to generate a [Supply Fluid Over Temp] alarm.
Supply Fluid Over Temp Warning Threshold	Threshold value used to generate a [Supply Fluid Over Temp] warning.
Supply Fluid Over Temp	[Supply Fluid Temperature] has exceeded a specified threshold.
Supply Fluid Temp Sensor Issue	The supply fluid temperature sensor is disconnected or the signal is out of range.
Supply Fluid Temp Set Point 1	Set point 1 of desired fluid temperature at the outlet of the unit.
Supply Fluid Temp Set Point 2	Set point 2 of desired fluid temperature at the outlet of the unit.
Supply Fluid Temperature	Fluid temperature measured at the outlet of the unit.
Supply Fluid Under Temp Alarm Threshold	Threshold value used to generate a [Supply Fluid Under Temp] alarm.
Supply Fluid Under Temp Warning Threshold	Threshold value used to generate a [Supply Fluid Under Temp] warning.
Supply Fluid Under Temp	[Supply Fluid Temperature] has dropped below a specified threshold.
Supply Heated Water Temp Set Point	Desired heated water temperature at the outlet of the unit.
Supply Refrigerant Temp Sensor Issue	The supply refrigerant temperature sensor is disconnected or the signal is out of range.
System Control Mode	System control mode.
System Date and Time	The system date and time
System Event Acknowledge/Reset	Reset and/or acknowledge all events.
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Status	The operating status for the system
Unit Code Missing	Unit code has not been entered and saved.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.
Unit Shutdown Unspecified General Event	One or more unspecified unit shutdown events active. See local unit display for further details.
Unspecified General Event	One or more unspecified events active. See local unit display for further details.

Table 81 Liebert XDP, Liebert XDWP (XDP-W) - Binary Data

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
External Air					
Ext Air Sensor A Over Temperature	Binary_Value	1	4601_1	RD	Active on Alarm
Ext Air Sensor B Over Temperature	Binary_Value	2	4604_1	RD	Active on Alarm
Ext Air Sensor A Under Temperature	Binary_Value	3	4608_1	RD	Active on Alarm
Ext Air Sensor B Under Temperature	Binary_Value	4	4611_1	RD	Active on Alarm
Ext Dew Point Over Temperature	Binary_Value	5	4615_1	RD	Active on Alarm
Ext Air Sensor A Issue	Binary_Value	6	4618_1	RD	Active on Alarm
Ext Air Sensor B Issue	Binary_Value	7	4621_1	RD	Active on Alarm
Chilled Water					
Supply Chilled Water Over Temp	Binary_Value	18	4626_1	RD	Active on Alarm
Supply Chilled Water Temp Sensor Issue	Binary_Value	19	4629_1	RD	Active on Alarm
Chilled Water Control Valve Position	Binary_Value	20	4703_1	RD	Active on Alarm
Refrigerant					
Supply Refrigerant Over Temp	Binary_Value	31	4634_1	RD	Active on Alarm
Supply Refrigerant Under Temp	Binary_Value	32	4637_1	RD	Active on Alarm
Supply Refrigerant Temp Sensor Issue	Binary_Value	33	4640_1	RD	Active on Alarm
Fluid					
Supply Fluid Over Temp	Binary_Value	44	4645_1	RD	Active on Alarm
Supply Fluid Under Temp	Binary_Value	45	4648_1	RD	Active on Alarm
Supply Fluid Temp Sensor Issue	Binary_Value	46	4651_1	RD	Active on Alarm
Pumps					
Pump 1 Loss of Flow	Binary_Value	57	4656_1	RD	Active on Alarm
Pump 2 Loss of Flow	Binary_Value	58	4659_1	RD	Active on Alarm
Pump Short Cycle	Binary_Value	59	4662_1	RD	Active on Alarm
Pumps - Pump Hours 1					
Pump Hours Exceeded	Binary_Value	70	5300_1_1	RD	Active on Alarm
Pumps - Pump Hours 2					
Pump Hours Exceeded	Binary_Value	81	5300_1_2	RD	Active on Alarm
Compressors					
Compressor 1A High Head Pressure	Binary_Value	92	4669_1	RD	Active on Alarm
Compressor 1B High Head Pressure	Binary_Value	93	4672_1	RD	Active on Alarm
Compressor 2A High Head Pressure	Binary_Value	94	4675_1	RD	Active on Alarm
Compressor 2B High Head Pressure	Binary_Value	95	4678_1	RD	Active on Alarm
Compressor 1A Short Cycle	Binary_Value	96	4681_1	RD	Active on Alarm
Compressor 1B Short Cycle	Binary_Value	97	4684_1	RD	Active on Alarm
Compressor 2A Short Cycle	Binary_Value	98	4687_1	RD	Active on Alarm
Compressor 2B Short Cycle	Binary_Value	99	4690_1	RD	Active on Alarm
Circuit 1 Low Suction Pressure	Binary_Value	100	4693_1	RD	Active on Alarm
Circuit 2 Low Suction Pressure	Binary_Value	101	4696_1	RD	Active on Alarm
Ext Compressor Lockout	Binary_Value	102	5067_1	RD	Active on Alarm

Table 81 Liebert XDP, Liebert XDWP (XDP-W) - Binary Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
XD System 1					
Ext System Condensation Detected	Binary_Value	112	5492_1	RD	Active on Alarm
Ext Fan Issue	Binary_Value	113	5495_1	RD	Active on Alarm
Sensor Issue	Binary_Value	114	5060_1	RD	Active on Alarm
Ext Remote Shutdown	Binary_Value	115	5500_1	RD	Active on Alarm
Hot Aisle Temp Out of Range	Binary_Value	116	5505_1	RD	Active on Alarm
Cold Aisle Temp Out of Range	Binary_Value	117	5508_1	RD	Active on Alarm
XD System 2					
Ext System Condensation Detected	Binary_Value	128	5492_2	RD	Active on Alarm
Ext Fan Issue	Binary_Value	129	5495_2	RD	Active on Alarm
Sensor Issue	Binary_Value	130	5060_2	RD	Active on Alarm
Ext Remote Shutdown	Binary_Value	131	5500_2	RD	Active on Alarm
Hot Aisle Temp Out of Range	Binary_Value	132	5505_2	RD	Active on Alarm
Cold Aisle Temp Out of Range	Binary_Value	133	5508_2	RD	Active on Alarm
XD System 20					
Ext System Condensation Detected	Binary_Value	416	5492_20	RD	Active on Alarm
Ext Fan Issue	Binary_Value	417	5495_20	RD	Active on Alarm
Sensor Issue	Binary_Value	418	5060_20	RD	Active on Alarm
Ext Remote Shutdown	Binary_Value	419	5500_20	RD	Active on Alarm
Hot Aisle Temp Out of Range	Binary_Value	420	5505_20	RD	Active on Alarm
Cold Aisle Temp Out of Range	Binary_Value	421	5508_20	RD	Active on Alarm
System Events					
Customer Input 1	Binary_Value	432	4270_1	RD	Active on Alarm
System Condensation Detected	Binary_Value	433	4711_1	RD	Active on Alarm
Shutdown - Loss Of Power	Binary_Value	434	4714_1	RD	Active on Alarm
Smoke Detected	Binary_Value	435	4720_1	RD	Active on Alarm
Water Under Floor	Binary_Value	436	4723_1	RD	Active on Alarm
Service Required	Binary_Value	437	4726_1	RD	Active on Alarm
Fan Issue	Binary_Value	438	4729_1	RD	Active on Alarm
Unit Communication Lost	Binary_Value	439	5419_1	RD	Active on Alarm
RAM Battery Issue	Binary_Value	440	5119_1	RD	Active on Alarm
Master Unit Communication Lost	Binary_Value	441	5120_1	RD	Active on Alarm
Remote Shutdown	Binary_Value	442	5512_1	RD	Active on Alarm
Unit Code Missing	Binary_Value	443	5418_1	RD	Active on Alarm
System Events - Messages					
Unit On	Binary_Value	454	5109_1_1	RD	Active on Alarm
Unit Off	Binary_Value	455	5110_1_1	RD	Active on Alarm
Unit Standby	Binary_Value	456	5111_1_1	RD	Active on Alarm
Unit Partial Shutdown	Binary_Value	457	5112_1_1	RD	Active on Alarm
Unit Shutdown	Binary_Value	458	5113_1_1	RD	Active on Alarm
Maintenance Due	Binary_Value	459	5116_1_1	RD	Active on Alarm
Maintenance Completed	Binary_Value	460	5117_1_1	RD	Active on Alarm

Table 81 Liebert XDP, Liebert XDWP (XDP-W) - Binary Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Compressors - Compressor Hours 1					
Compressor Hours Exceeded	Binary_Value	472	5269_1_1	RD	Active on Alarm
Compressors - Compressor Hours 2					
Compressor Hours Exceeded	Binary_Value	484	5269_1_2	RD	Active on Alarm
Compressors - Compressor Hours 4					
Compressor Hours Exceeded	Binary_Value	508	5269_1_4	RD	Active on Alarm
Compressors - Tandem Pump Down 1					
Compressor Pump Down Issue	Binary_Value	520	5146_1_1	RD	Active on Alarm
Compressors - Tandem Pump Down 2					
Compressor Pump Down Issue	Binary_Value	532	5146_1_2	RD	Active on Alarm

Table 82 Liebert XDP, Liebert XDWP (XDP-W) - Analog Data

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
External Air					
Dew Point Temperature	Analog_Value	1	4867_1	RD	Units: deg C
Dew Point Temperature	Analog_Value	10001	4867_1	RD	Units: deg F
Minimum Room Temperature Set Point	Analog_Value	2	4709_1	RW	Units: deg C
Minimum Room Temperature Set Point	Analog_Value	10002	4709_1	RW	Units: deg F
Ext Air Sensor A Temperature	Analog_Value	3	4594_1	RD	Units: deg C
Ext Air Sensor A Temperature	Analog_Value	10003	4594_1	RD	Units: deg F
Ext Air Sensor A Humidity	Analog_Value	4	4595_1	RD	Units: % RH
Ext Air Sensor A Dew Point Temp	Analog_Value	5	4596_1	RD	Units: deg C
Ext Air Sensor A Dew Point Temp	Analog_Value	10005	4596_1	RD	Units: deg F
Ext Air Sensor B Temperature	Analog_Value	6	4597_1	RD	Units: deg C
Ext Air Sensor B Temperature	Analog_Value	10006	4597_1	RD	Units: deg F
Ext Air Sensor B Humidity	Analog_Value	7	4598_1	RD	Units: % RH
Ext Air Sensor B Dew Point Temp	Analog_Value	8	4599_1	RD	Units: deg C
Ext Air Sensor B Dew Point Temp	Analog_Value	10008	4599_1	RD	Units: deg F
Ext Air Over Temp Threshold	Analog_Value	9	4600_1	RW	Units: deg C
Ext Air Over Temp Threshold	Analog_Value	10009	4600_1	RW	Units: deg F
Ext Air Under Temp Threshold	Analog_Value	10	4607_1	RW	Units: deg C
Ext Air Under Temp Threshold	Analog_Value	10010	4607_1	RW	Units: deg F
Ext Dew Point Over Temp Threshold	Analog_Value	11	4614_1	RW	Units: deg C
Ext Dew Point Over Temp Threshold	Analog_Value	10011	4614_1	RW	Units: deg F
Chilled Water					
Supply Chilled Water Temperature	Analog_Value	22	4624_1	RD	Units: deg C
Supply Chilled Water Temperature	Analog_Value	10022	4624_1	RD	Units: deg F
Supply Chilled Water Over Temp Threshold	Analog_Value	23	4625_1	RW	Units: deg C
Supply Chilled Water Over Temp Threshold	Analog_Value	10023	4625_1	RW	Units: deg F

Table 82 Liebert XDP, Liebert XDWP (XDP-W) - Analog Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Refrigerant					
Supply Refrigerant Temperature	Analog_Value	34	4632_1	RD	Units: deg C
Supply Refrigerant Temperature	Analog_Value	10034	4632_1	RD	Units: deg F
Supply Refrig Over Temp Threshold	Analog_Value	35	4633_1	RW	Units: deg C
Supply Refrig Over Temp Threshold	Analog_Value	10035	4633_1	RW	Units: deg F
Fluid					
Supply Fluid Temperature	Analog_Value	46	4643_1	RD	Units: deg C
Supply Fluid Temperature	Analog_Value	10046	4643_1	RD	Units: deg F
Supply Fluid Over Temp Threshold	Analog_Value	47	4644_1	RW	Units: deg C
Supply Fluid Over Temp Threshold	Analog_Value	10047	4644_1	RW	Units: deg F
Pumps - Pump Hours 1					
Pump Hours	Analog_Value	58	5298_1_1	RW	Units: hr
Pump Hours Threshold	Analog_Value	59	5299_1_1	RW	Units: hr
Pumps - Pump Hours 2					
Pump Hours	Analog_Value	70	5298_1_2	RW	Units: hr
Pump Hours Threshold	Analog_Value	71	5299_1_2	RW	Units: hr
Hot Gas					
Hot Gas Valve 1 Open Position	Analog_Value	82	4699_1	RD	Units: %
Hot Gas Valve 2 Open Position	Analog_Value	83	4700_1	RD	Units: %
XD System 1					
Cooling Capacity	Analog_Value	94	5490_1	RD	Units: %
Cooling Capacity	Analog_Value	95	5491_1	RD	Units: kW
Hot Aisle Over Temp Threshold	Analog_Value	96	5503_1	RW	Units: deg C
Hot Aisle Over Temp Threshold	Analog_Value	10096	5503_1	RW	Units: deg F
Hot Aisle Under Temp Threshold	Analog_Value	97	5504_1	RW	Units: deg C
Hot Aisle Under Temp Threshold	Analog_Value	10097	5504_1	RW	Units: deg F
Cold Aisle Over Temp Threshold	Analog_Value	98	5506_1	RW	Units: deg C
Cold Aisle Over Temp Threshold	Analog_Value	10098	5506_1	RW	Units: deg F
Cold Aisle Under Temp Threshold	Analog_Value	99	5507_1	RW	Units: deg C
Cold Aisle Under Temp Threshold	Analog_Value	10099	5507_1	RW	Units: deg F
XD System 1 Temperature Sensor 1					
Sensor Temperature	Analog_Value	110	5059_1_1	RD	Units: deg C
Sensor Temperature	Analog_Value	10110	5059_1_1	RD	Units: deg F
XD System 1 Temperature Sensor 2					
Sensor Temperature	Analog_Value	121	5059_1_2	RD	Units: deg C
Sensor Temperature	Analog_Value	10121	5059_1_2	RD	Units: deg F
XD System 1 Temperature Sensor 4					
Sensor Temperature	Analog_Value	143	5059_1_4	RD	Units: deg C
Sensor Temperature	Analog_Value	10143	5059_1_4	RD	Units: deg F

Table 82 Liebert XDP, Liebert XDWP (XDP-W) - Analog Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
XD System 2					
Cooling Capacity	Analog_Value	154	5490_2	RD	Units: %
Cooling Capacity	Analog_Value	155	5491_2	RD	Units: kW
Hot Aisle Over Temp Threshold	Analog_Value	156	5503_2	RW	Units: deg C
Hot Aisle Over Temp Threshold	Analog_Value	10156	5503_2	RW	Units: deg F
Hot Aisle Under Temp Threshold	Analog_Value	157	5504_2	RW	Units: deg C
Hot Aisle Under Temp Threshold	Analog_Value	10157	5504_2	RW	Units: deg F
Cold Aisle Over Temp Threshold	Analog_Value	158	5506_2	RW	Units: deg C
Cold Aisle Over Temp Threshold	Analog_Value	10158	5506_2	RW	Units: deg F
Cold Aisle Under Temp Threshold	Analog_Value	159	5507_2	RW	Units: deg C
Cold Aisle Under Temp Threshold	Analog_Value	10159	5507_2	RW	Units: deg F
XD System 2 Temperature Sensor 1					
Sensor Temperature	Analog_Value	170	5059_2_1	RD	Units: deg C
Sensor Temperature	Analog_Value	10170	5059_2_1	RD	Units: deg F
XD System 2 Temperature Sensor 2					
Sensor Temperature	Analog_Value	181	5059_2_2	RD	Units: deg C
Sensor Temperature	Analog_Value	10181	5059_2_2	RD	Units: deg F
XD System 2 Temperature Sensor 4					
Sensor Temperature	Analog_Value	203	5059_2_4	RD	Units: deg C
Sensor Temperature	Analog_Value	10203	5059_2_4	RD	Units: deg F
XD System 20					
Cooling Capacity	Analog_Value	1234	5490_20	RD	Units: %
Cooling Capacity	Analog_Value	1235	5491_20	RD	Units: kW
Hot Aisle Over Temp Threshold	Analog_Value	1236	5503_20	RW	Units: deg C
Hot Aisle Over Temp Threshold	Analog_Value	11236	5503_20	RW	Units: deg F
Hot Aisle Under Temp Threshold	Analog_Value	1237	5504_20	RW	Units: deg C
Hot Aisle Under Temp Threshold	Analog_Value	11237	5504_20	RW	Units: deg F
Cold Aisle Over Temp Threshold	Analog_Value	1238	5506_20	RW	Units: deg C
Cold Aisle Over Temp Threshold	Analog_Value	11238	5506_20	RW	Units: deg F
Cold Aisle Under Temp Threshold	Analog_Value	1239	5507_20	RW	Units: deg C
Cold Aisle Under Temp Threshold	Analog_Value	11239	5507_20	RW	Units: deg F
XD System 20 Temperature Sensor 1					
Sensor Temperature	Analog_Value	1250	5059_20_1	RD	Units: deg C
Sensor Temperature	Analog_Value	11250	5059_20_1	RD	Units: deg F
XD System 20 Temperature Sensor 2					
Sensor Temperature	Analog_Value	1261	5059_20_2	RD	Units: deg C
Sensor Temperature	Analog_Value	11261	5059_20_2	RD	Units: deg F
XD System 20 Temperature Sensor 4					
Sensor Temperature	Analog_Value	1283	5059_20_4	RD	Units: deg C
Sensor Temperature	Analog_Value	11283	5059_20_4	RD	Units: deg F

Table 82 Liebert XDP, Liebert XDWP (XDP-W) - Analog Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
System Information					
Auto Restart Delay	Analog_Value	1294	4710_1	RW	Units: sec
Maintenance Ramp	Analog_Value	1295	4870_1	RD	Units: %
Calculated Next Maintenance Month	Analog_Value	1296	4868_1	RD	Units: 0
Calculated Next Maintenance Year	Analog_Value	1297	4869_1	RD	Units: 0
Time					
System Date and Time	Analog_Value	1308	4293_1	RW	
Compressors - Compressor Hours 1					
Compressor Hours	Analog_Value	1320	5267_1_1	RW	Units: hr
Compressor Hours Threshold	Analog_Value	1321	5268_1_1	RW	Units: hr
Compressors - Compressor Hours 2					
Compressor Hours	Analog_Value	1333	5267_1_2	RW	Units: hr
Compressor Hours Threshold	Analog_Value	1334	5268_1_2	RW	Units: hr
Compressors - Compressor Hours 4					
Compressor Hours	Analog_Value	1359	5267_1_4	RW	Units: hr
Compressor Hours Threshold	Analog_Value	1360	5268_1_4	RW	Units: hr

Table 83 Liebert XDP, Liebert XDWP (XDP-W) - Multistate Data

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
External Air					
Ext Air Sensor A Over Temp - Event Control	Multistate_Value	1	4602_1	RW	1 = Disabled 2 = Enabled
Ext Air Sensor A Over Temp - Event Type	Multistate_Value	2	4603_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor B Over Temp - Event Control	Multistate_Value	3	4605_1	RW	1 = Disabled 2 = Enabled
Ext Air Sensor B Over Temp - Event Type	Multistate_Value	4	4606_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor A Under Temp - Event Control	Multistate_Value	5	4609_1	RW	1 = Disabled 2 = Enabled
Ext Air Sensor A Under Temp - Event Type	Multistate_Value	6	4610_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Air Sensor B Under Temp - Event Control	Multistate_Value	7	4612_1	RW	1 = Disabled 2 = Enabled
Ext Air Sensor B Under Temp - Event Type	Multistate_Value	8	4613_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Dew Point Over Temp - Event Control	Multistate_Value	9	4616_1	RW	1 = Disabled 2 = Enabled
Ext Dew Point Over Temp - Event Type	Multistate_Value	10	4617_1	RW	1 = Message 2 = Warning 3 = Alarm

Table 83 Liebert XDP, Liebert XDWP (XDP-W) - Multistate Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	
Ext Air Sensor A Issue - Event Control	Multistate_Value	11	4619_1	RD	1 = Disabled 2 = Enabled	
Ext Air Sensor A Issue - Event Type	Multistate_Value	12	4620_1	RW	1 = Message 2 = Warning 3 = Alarm	
Ext Air Sensor B Issue - Event Control	Multistate_Value	13	4622_1	RD	1 = Disabled 2 = Enabled	
Ext Air Sensor B Issue - Event Type	Multistate_Value	14	4623_1	RW	1 = Message 2 = Warning 3 = Alarm	
Chilled Water						
Supply CW Over Temp - Event Control	Multistate_Value	25	4627_1	RD	1 = Disabled 2 = Enabled	
Supply CW Over Temp - Event Type	Multistate_Value	26	4628_1	RW	1 = Message 2 = Warning 3 = Alarm	
Supply CW Temp Sensor Issue - Event Control	Multistate_Value	27	4630_1	RD	1 = Disabled 2 = Enabled	
Supply CW Temp Sensor Issue - Event Type	Multistate_Value	28	4631_1	RW	1 = Message 2 = Warning 3 = Alarm	
Chilled Water Cntrl Valve Pos - Event Control	Multistate_Value	29	4704_1	RW	1 = Disabled 2 = Enabled	
Chilled Water Cntrl Valve Pos - Event Type	Multistate_Value	30	4705_1	RW	1 = Message 2 = Warning 3 = Alarm	
Refrigerant						
Supply Refrig Over Temp - Event Control	Multistate_Value	41	4635_1	RD	1 = Disabled 2 = Enabled	
Supply Refrig Over Temp - Event Type	Multistate_Value	42	4636_1	RW	1 = Message 2 = Warning 3 = Alarm	
Supply Refrig Under Temp - Event Control	Multistate_Value	43	4638_1	RD	1 = Disabled 2 = Enabled	
Supply Refrig Under Temp - Event Type	Multistate_Value	44	4639_1	RW	1 = Message 2 = Warning 3 = Alarm	
Supply Refrig Temp Sensor Issue - Event Control	Multistate_Value	45	4641_1	RD	1 = Disabled 2 = Enabled	
Supply Refrig Temp Sensor Issue - Event Type	Multistate_Value	46	4642_1	RW	1 = Message 2 = Warning 3 = Alarm	
Fluid						
Supply Fluid Over Temp - Event Control	Multistate_Value	57	4646_1	RD	1 = Disabled 2 = Enabled	
Supply Fluid Over Temp - Event Type	Multistate_Value	58	4647_1	RW	1 = Message 2 = Warning 3 = Alarm	
Supply Fluid Under Temp - Event Control	Multistate_Value	59	4649_1	RD	1 = Disabled 2 = Enabled	

Table 83 Liebert XDP, Liebert XDWP (XDP-W) - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Supply Fluid Under Temp - Event Type	Multistate_Value	60	4650_1	RW	1 = Message 2 = Warning 3 = Alarm
Supply Fluid Temp Sensor Issue - Event Control	Multistate_Value	61	4652_1	RD	1 = Disabled 2 = Enabled
Supply Fluid Temp Sensor Issue - Event Type	Multistate_Value	62	4653_1	RW	1 = Message 2 = Warning 3 = Alarm
Pumps					
Pump 1 State	Multistate_Value	73	4654_1	RD	1 = Off / 2 = On
Pump 2 State	Multistate_Value	74	4655_1	RD	1 = Off / 2 = On
Pump 1 Loss of Flow - Event Control	Multistate_Value	75	4657_1	RW	1 = Disabled 2 = Enabled
Pump 1 Loss of Flow - Event Type	Multistate_Value	76	4658_1	RW	1 = Message 2 = Warning 3 = Alarm
Pump 2 Loss of Flow - Event Control	Multistate_Value	77	4660_1	RW	1 = Disabled 2 = Enabled
Pump 2 Loss of Flow - Event Type	Multistate_Value	78	4661_1	RW	1 = Message 2 = Warning 3 = Alarm
Pump Short Cycle - Event Control	Multistate_Value	79	4663_1	RD	1 = Disabled 2 = Enabled
Pump Short Cycle - Event Type	Multistate_Value	80	4664_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressors					
Compressor 1A State	Multistate_Value	91	4665_1	RD	1 = Off / 2 = On
Compressor 1B State	Multistate_Value	92	4666_1	RD	1 = Off / 2 = On
Compressor 2A State	Multistate_Value	93	4667_1	RD	1 = Off / 2 = On
Compressor 2B State	Multistate_Value	94	4668_1	RD	1 = Off / 2 = On
Compressor 1A High Head Pressure - Event Control	Multistate_Value	95	4670_1	RW	1 = Disabled 2 = Enabled
Compressor 1A High Head Pressure - Event Type	Multistate_Value	96	4671_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor 1B High Head Pressure - Event Control	Multistate_Value	97	4673_1	RW	1 = Disabled 2 = Enabled
Compressor 1B High Head Pressure - Event Type	Multistate_Value	98	4674_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor 2A High Head Pressure - Event Control	Multistate_Value	99	4676_1	RW	1 = Disabled 2 = Enabled
Compressor 2A High Head Pressure - Event Type	Multistate_Value	100	4677_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor 2B High Head Pressure - Event Control	Multistate_Value	101	4679_1	RW	1 = Disabled 2 = Enabled
Compressor 2B High Head Pressure - Event Type	Multistate_Value	102	4680_1	RW	1 = Message 2 = Warning 3 = Alarm

Table 83 Liebert XDP, Liebert XDWP (XDP-W) - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Compressor 1A Short Cycle - Event Control	Multistate_Value	103	4682_1	RW	1 = Disabled 2 = Enabled
Compressor 1A Short Cycle - Event Type	Multistate_Value	104	4683_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor 1B Short Cycle - Event Control	Multistate_Value	105	4685_1	RW	1 = Disabled 2 = Enabled
Compressor 1B Short Cycle - Event Type	Multistate_Value	106	4686_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor 2A Short Cycle - Event Control	Multistate_Value	107	4688_1	RW	1 = Disabled 2 = Enabled
Compressor 2A Short Cycle - Event Type	Multistate_Value	108	4689_1	RW	1 = Message 2 = Warning 3 = Alarm
Compressor 2B Short Cycle - Event Control	Multistate_Value	109	4691_1	RW	1 = Disabled 2 = Enabled
Compressor 2B Short Cycle - Event Type	Multistate_Value	110	4692_1	RW	1 = Message 2 = Warning 3 = Alarm
Circuit 1 Low Suction Pressure - Event Control	Multistate_Value	111	4694_1	RW	1 = Disabled 2 = Enabled
Circuit 1 Low Suction Pressure - Event Type	Multistate_Value	112	4695_1	RW	1 = Message 2 = Warning 3 = Alarm
Circuit 2 Low Suction Pressure - Event Control	Multistate_Value	113	4697_1	RW	1 = Disabled 2 = Enabled
Circuit 2 Low Suction Pressure - Event Type	Multistate_Value	114	4698_1	RW	1 = Message 2 = Warning 3 = Alarm
Hot Gas					
Hot Gas Solenoid Valve 1 Position	Multistate_Value	125	4701_1	RD	1 = Closed 2 = Open
Hot Gas Solenoid Valve 2 Position	Multistate_Value	126	4702_1	RD	1 = Closed 2 = Open
XD System 1					
Communication Status	Multistate_Value	137	5486_1	RD	1 = Connected 2 = Not Connected
Fan On/Off Control	Multistate_Value	138	5487_1	RW	1 = Off / 2 = On
Primary Fan Group State	Multistate_Value	139	5509_1	RD	1 = Off / 2 = On 3 = Economy
Fan Button Control	Multistate_Value	140	5488_1	RW	1 = Enabled 2 = Disabled
Visual ID Control	Multistate_Value	141	5489_1	RW	1 = Disabled 2 = Enabled
Ext System Condensation Detected - Event Control	Multistate_Value	142	5493_1	RW	1 = Disabled 2 = Enabled
Ext System Condensation Detected - Event Type	Multistate_Value	143	5494_1	RW	1 = Message 2 = Warning 3 = Alarm
Ext Fan Issue - Event Control	Multistate_Value	144	5496_1	RW	1 = Disabled 2 = Enabled

Table 83 Liebert XDP, Liebert XDWP (XDP-W) - Multistate Data (continued)

Controller		Liebert iCOM v4				
Data Description	Object Type	Instance	Object Name	Access	Notes	
Ext Fan Issue - Event Type	Multistate_Value	145	5497_1	RW	1 = Message 2 = Warning 3 = Alarm	
Sensor Issue - Event Control	Multistate_Value	146	5498_1	RW	1 = Disabled 2 = Enabled	
Sensor Issue - Event Type	Multistate_Value	147	5499_1	RW	1 = Message 2 = Warning 3 = Alarm	
Ext Remote Shutdown - Event Control	Multistate_Value	148	5501_1	RW	1 = Disabled 2 = Enabled	
Ext Remote Shutdown - Event Type	Multistate_Value	149	5502_1	RW	1 = Message 2 = Warning 3 = Alarm	
XD System 1 Secondary Fans 1						
Fan State	Multistate_Value	160	5510_1_1	RD	1 = Off / 2 = On 3 = Economy	
Fan Economy Mode	Multistate_Value	161	5511_1_1	RW	1 = Disabled 2 = Automatic 3 = Manual	
XD System 2						
Communication Status	Multistate_Value	172	5486_2	RD	1 = Connected 2 = Not Connected	
Fan On/Off Control	Multistate_Value	173	5487_2	RW	1 = Off / 2 = On	
Primary Fan Group State	Multistate_Value	174	5509_2	RD	1 = Off / 2 = On 3 = Economy	
Fan Button Control	Multistate_Value	175	5488_2	RW	1 = Enabled 2 = Disabled	
Visual ID Control	Multistate_Value	176	5489_2	RW	1 = Disabled 2 = Enabled	
Ext System Condensation Detected - Event Control	Multistate_Value	177	5493_2	RW	1 = Disabled 2 = Enabled	
Ext System Condensation Detected - Event Type	Multistate_Value	178	5494_2	RW	1 = Message 2 = Warning 3 = Alarm	
Ext Fan Issue - Event Control	Multistate_Value	179	5496_2	RW	1 = Disabled 2 = Enabled	
Ext Fan Issue - Event Type	Multistate_Value	180	5497_2	RW	1 = Message 2 = Warning 3 = Alarm	
Sensor Issue - Event Control	Multistate_Value	181	5498_2	RW	1 = Disabled 2 = Enabled	
Sensor Issue - Event Type	Multistate_Value	182	5499_2	RW	1 = Message 2 = Warning 3 = Alarm	
Ext Remote Shutdown - Event Control	Multistate_Value	183	5501_2	RW	1 = Disabled 2 = Enabled	
Ext Remote Shutdown - Event Type	Multistate_Value	184	5502_2	RW	1 = Message 2 = Warning 3 = Alarm	
XD System 2 Secondary Fans 1						
Fan State	Multistate_Value	195	5510_2_1	RD	1 = Off / 2 = On 3 = Economy	

Table 83 Liebert XDP, Liebert XDWP (XDP-W) - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
Fan Economy Mode	Multistate_Value	196	5511_2_1	RW	1 = Disabled 2 = Automatic 3 = Manual
XD System 20					
Communication Status	Multistate_Value	802	5486_20	RD	1 = Connected 2 = Not Connected
Fan On/Off Control	Multistate_Value	803	5487_20	RW	1 = Off / 2 = On
Primary Fan Group State	Multistate_Value	804	5509_20	RD	1 = Off / 2 = On 3 = Economy
Fan Button Control	Multistate_Value	805	5488_20	RW	1 = Enabled 2 = Disabled
Visual ID Control	Multistate_Value	806	5489_20	RW	1 = Disabled 2 = Enabled
Ext System Condensation Detected - Event Control	Multistate_Value	807	5493_20	RW	1 = Disabled 2 = Enabled
Ext System Condensation Detected - Event Type	Multistate_Value	808	5494_20	RW	1 = Message 2 = Warning 3 = Alarm
Ext Fan Issue - Event Control	Multistate_Value	809	5496_20	RW	1 = Disabled 2 = Enabled
Ext Fan Issue - Event Type	Multistate_Value	810	5497_20	RW	1 = Message 2 = Warning 3 = Alarm
Sensor Issue - Event Control	Multistate_Value	811	5498_20	RW	1 = Disabled 2 = Enabled
Sensor Issue - Event Type	Multistate_Value	812	5499_20	RW	1 = Message 2 = Warning 3 = Alarm
Ext Remote Shutdown - Event Control	Multistate_Value	813	5501_20	RW	1 = Disabled 2 = Enabled
Ext Remote Shutdown - Event Type	Multistate_Value	814	5502_20	RW	1 = Message 2 = Warning 3 = Alarm
XD System 20 Secondary Fans 1					
Fan State	Multistate_Value	825	5510_20_1	RD	1 = Off / 2 = On 3 = Economy
Fan Economy Mode	Multistate_Value	826	5511_20_1	RW	1 = Disabled 2 = Automatic 3 = Manual
System Information					
System Status	Multistate_Value	837	4123_1	RD	1 = Normal Operation 2 = Startup 3 = Normal with Warning 4 = Normal with Alarm 5 = Abnormal Operation
System Operating State	Multistate_Value	838	4706_1	RD	1 = Off / 2 = On 3 = Standby

Table 83 Liebert XDP, Liebert XDWP (XDP-W) - Multistate Data (continued)

Controller		Liebert iCOM v4			
Data Description	Object Type	Instance	Object Name	Access	Notes
System Control Mode	Multistate_Value	839	4707_1	RD	1 = Internal (Auto) 2 = External (Manual)
System Operating State Reason	Multistate_Value	840	5074_1	RD	1 = Reason Unknown 2 = Network Display 3 = Alarm 4 = Schedule 5 = Remote System 6 = External Input 7 = Local Display
System On/Off Control	Multistate_Value	841	5143_1	RW	1 = Off / 2 = On
System Event Configuration					
Customer Input 1 - Event Control	Multistate_Value	852	4718_1	RW	1 = Disabled 2 = Enabled
Customer Input 1 - Event Type	Multistate_Value	853	4719_1	RW	1 = Message 2 = Warning 3 = Alarm
System Condensation Detected - Event Control	Multistate_Value	854	4712_1	RD	1 = Disabled 2 = Enabled
System Condensation Detected - Event Type	Multistate_Value	855	4713_1	RW	1 = Message 2 = Warning 3 = Alarm
Shutdown - Loss Of Power - Event Control	Multistate_Value	856	4715_1	RD	1 = Disabled 2 = Enabled
Shutdown - Loss Of Power - Event Type	Multistate_Value	857	4716_1	RW	1 = Message 2 = Warning 3 = Alarm
Smoke Detected - Event Control	Multistate_Value	858	4721_1	RW	1 = Disabled 2 = Enabled
Smoke Detected - Event Type	Multistate_Value	859	4722_1	RW	1 = Message 2 = Warning 3 = Alarm
Water Under Floor - Event Control	Multistate_Value	860	4724_1	RW	1 = Disabled 2 = Enabled
Water Under Floor - Event Type	Multistate_Value	861	4725_1	RW	1 = Message 2 = Warning 3 = Alarm
Service Required - Event Control	Multistate_Value	862	4727_1	RW	1 = Disabled 2 = Enabled
Service Required - Event Type	Multistate_Value	863	4728_1	RW	1 = Message 2 = Warning 3 = Alarm
Fan Issue - Event Control	Multistate_Value	864	4730_1	RW	1 = Disabled 2 = Enabled
Fan Issue - Event Type	Multistate_Value	865	4731_1	RW	1 = Message 2 = Warning 3 = Alarm
System Events					
System Event Acknowledge/Reset	Multistate_Value	876	4717_1	WO	1 = Reset 2 = Acknowledge

Table 84 Liebert XDP, Liebert XDWP (XDP-W) - Glossary

Data Description	Description
Auto Restart Delay	If power is lost, the control will delay this amount of time after power is restored before restarting the unit.
Calculated Next Maintenance Month	Calculated month of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Year].
Calculated Next Maintenance Year	Calculated year of the next scheduled maintenance. Used in conjunction with [Calculated Next Maintenance Month].
Chilled Water Cntrl Valve Pos - Event Control	Enable/disable the activation of the [Chilled Water Control Valve Position] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Chilled Water Cntrl Valve Pos - Event Type	The event type for the [Chilled Water Control Valve Position] event.
Chilled Water Control Valve Position	Chilled water valve out of position. Chilled water control valve position does not match expected value.
Circuit 1 Low Suction Pressure - Event Control	Enable/disable the activation of the [Circuit 1 Low Suction Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Circuit 1 Low Suction Pressure - Event Type	The event type for the [Circuit 1 Low Suction Pressure] event.
Circuit 1 Low Suction Pressure	Compressor circuit 1 low suction pressure.
Circuit 2 Low Suction Pressure - Event Control	Enable/disable the activation of the [Circuit 2 Low Suction Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Circuit 2 Low Suction Pressure - Event Type	The event type for the [Circuit 2 Low Suction Pressure] event.
Circuit 2 Low Suction Pressure	Compressor circuit 2 low suction pressure.
Cold Aisle Over Temp Threshold	Upper threshold value used in the [Cold Aisle Temp Out of Range] event.
Cold Aisle Temp Out of Range	The air temperature in the cold aisle is either above [Cold Aisle Over Temp Threshold] or below [Cold Aisle Under Temp Threshold].
Cold Aisle Under Temp Threshold	Lower threshold value used in the [Cold Aisle Temp Out of Range] event.
Communication Status	Communication status of remote device.
Compressor 1A High Head Pressure - Event Control	Enable/disable the activation of the [Compressor 1A High Head Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor 1A High Head Pressure - Event Type	The event type for the [Compressor 1A High Head Pressure] event.
Compressor 1A High Head Pressure	Compressor 1A high head pressure.
Compressor 1A Short Cycle - Event Control	Enable/disable the activation of the [Compressor 1A Short Cycle] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor 1A Short Cycle - Event Type	The event type for the [Compressor 1A Short Cycle] event.
Compressor 1A Short Cycle	Compressor 1A short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor 1A State	Compressor 1A operational state.
Compressor 1B High Head Pressure - Event Control	Enable/disable the activation of the [Compressor 1B High Head Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor 1B High Head Pressure - Event Type	The event type for the [Compressor 1B High Head Pressure] event.
Compressor 1B High Head Pressure	Compressor 1B high head pressure.

Table 84 Liebert XDP, Liebert XDWP (XDP-W) - Glossary (continued)

Data Description	Description
Compressor 1B Short Cycle - Event Control	Enable/disable the activation of the [Compressor 1B Short Cycle] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor 1B Short Cycle - Event Type	The event type for the [Compressor 1B Short Cycle] event.
Compressor 1B Short Cycle	Compressor 1B short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor 1B State	Compressor 1B operational state.
Compressor 2A High Head Pressure - Event Control	Enable/disable the activation of the [Compressor 2A High Head Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor 2A High Head Pressure - Event Type	The event type for the [Compressor 2A High Head Pressure] event.
Compressor 2A High Head Pressure	Compressor 2A high head pressure.
Compressor 2A Short Cycle - Event Control	Enable/disable the activation of the [Compressor 2A Short Cycle] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor 2A Short Cycle - Event Type	The event type for the [Compressor 2A Short Cycle] event.
Compressor 2A Short Cycle	Compressor 2A short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor 2A State	Compressor 2A operational state.
Compressor 2B High Head Pressure - Event Control	Enable/disable the activation of the [Compressor 2B High Head Pressure] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor 2B High Head Pressure - Event Type	The event type for the [Compressor 2B High Head Pressure] event.
Compressor 2B High Head Pressure	Compressor 2B high head pressure.
Compressor 2B Short Cycle - Event Control	Enable/disable the activation of the [Compressor 2B Short Cycle] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Compressor 2B Short Cycle - Event Type	The event type for the [Compressor 2B Short Cycle] event.
Compressor 2B Short Cycle	Compressor 2B short cycle. A short cycle is defined as turning on and off a number of times over a set time period.
Compressor 2B State	Compressor 2B operational state.
Compressor Hours Exceeded	[Compressor Hours] has exceeded [Compressor Hours Threshold].
Compressor Hours Threshold	Threshold value used in the [Compressor Hours Exceeded] event.
Compressor Hours	Operating hours for compressor since last reset of this value.
Compressor Pump Down Issue	Unable to pump down suction-side pressure during compressor shutdown.
Cooling Capacity	Cooling capacity in use, expressed as a percentage of the maximum rated capacity.
Cooling Capacity	Cooling capacity in use, expressed in kilowatts.
Customer Input 1 - Event Control	Enable/disable the activation of the [Customer Input 1] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Customer Input 1 - Event Type	The event type for the [Customer Input 1] event.
Customer Input 1	Customer input 1.
Dew Point Temperature	Dew point temperature, using the highest reading from all sensors.
Ext Air Over Temp Threshold	Threshold value used in the ([Ext Air Sensor A Over Temperature], [Ext Air Sensor B Over Temperature]...) events.

Table 84 Liebert XDP, Liebert XDWP (XDP-W) - Glossary (continued)

Data Description	Description
Ext Air Sensor A Dew Point Temp	Dew point temperature as measured by external air sensor A.
Ext Air Sensor A Humidity	Relative humidity as measured by external air sensor A.
Ext Air Sensor A Issue - Event Control	Enable/disable the activation of the [Ext Air Sensor A Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Issue - Event Type	The event type for the [Ext Air Sensor A Issue] event.
Ext Air Sensor A Issue	The external air sensor A is disconnected or the signal is out of range.
Ext Air Sensor A Over Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor A Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Over Temp - Event Type	The event type for the [Ext Air Sensor A Over Temperature] event.
Ext Air Sensor A Over Temperature	[Ext Air Sensor A Temperature] has exceeded [Ext Air Over Temp Threshold].
Ext Air Sensor A Temperature	Air temperature as measured by external air sensor A.
Ext Air Sensor A Under Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor A Under Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor A Under Temp - Event Type	The event type for the [Ext Air Sensor A Under Temperature] event.
Ext Air Sensor A Under Temperature	[Ext Air Sensor A Temperature] has dropped below [Ext Air Under Temp Threshold].
Ext Air Sensor B Dew Point Temp	Dew point temperature as measured by external air sensor B.
Ext Air Sensor B Humidity	Relative humidity as measured by external air sensor B.
Ext Air Sensor B Issue - Event Control	Enable/disable the activation of the [Ext Air Sensor B Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor B Issue - Event Type	The event type for the [Ext Air Sensor B Issue] event.
Ext Air Sensor B Issue	The external air sensor B is disconnected or the signal is out of range.
Ext Air Sensor B Over Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor B Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor B Over Temp - Event Type	The event type for the [Ext Air Sensor B Over Temperature] event.
Ext Air Sensor B Over Temperature	[Ext Air Sensor B Temperature] has exceeded [Ext Air Over Temp Threshold].
Ext Air Sensor B Temperature	Air temperature as measured by external air sensor B.
Ext Air Sensor B Under Temp - Event Control	Enable/disable the activation of the [Ext Air Sensor B Under Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Air Sensor B Under Temp - Event Type	The event type for the [Ext Air Sensor B Under Temperature] event.
Ext Air Sensor B Under Temperature	[Ext Air Sensor B Temperature] has dropped below [Ext Air Under Temp Threshold].
Ext Air Under Temp Threshold	Threshold value used in the ([Ext Air Sensor A Under Temperature], [Ext Air Sensor B Under Temperature]...) events.
Ext Compressor Lockout	The compressor is shut down and disabled by an external input signal.
Ext Dew Point Over Temp - Event Control	Enable/disable the activation of the [Ext Dew Point Over Temperature] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.

Table 84 Liebert XDP, Liebert XDWP (XDP-W) - Glossary (continued)

Data Description	Description
Ext Dew Point Over Temp - Event Type	The event type for the [Ext Dew Point Over Temperature] event.
Ext Dew Point Over Temp Threshold	Threshold value used in the [Ext Dew Point Over Temperature] event.
Ext Dew Point Over Temperature	At least one dew point temperature reading ([Ext Air Sensor A Dew Point Temp], [Ext Air Sensor B Dew Point Temp]...) has exceeded [Ext Dew Point Over Temp Threshold].
Ext Fan Issue - Event Control	Enable/disable the activation of the [Ext Fan Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Fan Issue - Event Type	The event type for the [Ext Fan Issue] event.
Ext Fan Issue	One or more fans are not operating within their operational parameters.
Ext Remote Shutdown - Event Control	Enable/disable the activation of the [Remote Shutdown] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext Remote Shutdown - Event Type	The event type for the [Remote Shutdown] event.
Ext Remote Shutdown	Unit is shut down by a remote signal.
Ext System Condensation Detected - Event Control	Enable/disable the activation of the [Ext System Condensation Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Ext System Condensation Detected - Event Type	The event type for the [Ext System Condensation Detected] event.
Ext System Condensation Detected	External system condensation detected.
Fan Button Control	Enable or disable the buttons from controlling the state of the fans.
Fan Economy Mode	Mode in which system secondary fans are to be controlled.
Fan Issue - Event Control	Enable/disable the activation of the [Fan Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Fan Issue - Event Type	The event type for the [Fan Issue] event.
Fan Issue	One or more fans are not operating within their operational parameters.
Fan On/Off Control	Turn system fans on or off.
Fan State	Current operational state of a group of fans.
Hot Aisle Over Temp Threshold	Upper threshold value used in the [Hot Aisle Temp Out of Range] event.
Hot Aisle Temp Out of Range	The air temperature in the Hot aisle is either above [Hot Aisle Over Temp Threshold] or below [Hot Aisle Under Temp Threshold].
Hot Aisle Under Temp Threshold	Lower threshold value used in the [Hot Aisle Temp Out of Range] event.
Hot Gas Solenoid Valve 1 Position	Hot gas solenoid valve 1 position.
Hot Gas Solenoid Valve 2 Position	Hot gas solenoid valve 2 position
Hot Gas Valve 1 Open Position	Hot gas valve 1 open position.
Hot Gas Valve 2 Open Position	Hot gas valve 2 open position.
Maintenance Completed	Maintenance has been completed on the unit.
Maintenance Due	The calculated maintenance date has been reached.
Maintenance Ramp	The ratio of operations performed to the calculated operations available between maintenance intervals.
Master Unit Communication Lost	Communication with master unit has been lost.
Minimum Room Temperature Set Point	Minimum desired room air temperature. If the room air temperature falls below this set point, the unit will reduce the cooling.
Primary Fan Group State	Current operational state of the primary fan group.

Table 84 Liebert XDP, Liebert XDWP (XDP-W) - Glossary (continued)

Data Description	Description
Pump 1 Loss of Flow - Event Control	Enable/disable the activation of the [Pump 1 Loss of Flow] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Pump 1 Loss of Flow - Event Type	The event type for the [Pump 1 Loss of Flow] event.
Pump 1 Loss of Flow	Loss of flow is detected in pump 1. The loss of flow condition occurs when no differential pressure is detected across the pump.
Pump 1 State	Pump 1 operational state.
Pump 2 Loss of Flow - Event Control	Enable/disable the activation of the [Pump 2 Loss of Flow] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Pump 2 Loss of Flow - Event Type	The event type for the [Pump 2 Loss of Flow] event.
Pump 2 Loss of Flow	Loss of flow is detected in pump 2. The loss of flow condition occurs when no differential pressure is detected across the pump.
Pump 2 State	Pump 2 operational state.
Pump Hours Exceeded	[Pump Hours] has exceeded [Pump Hours Threshold].
Pump Hours Threshold	Threshold value used in the [Pump Hours Exceeded] event.
Pump Hours	Operating hours for pump since last reset of this value.
Pump Short Cycle - Event Control	Enable/disable the activation of the [Pump Short Cycle] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Pump Short Cycle - Event Type	The event type for the [Pump Short Cycle] event.
Pump Short Cycle	Pumps have short cycled. A short cycle is defined as turning on and off a number of times over a set time period.
RAM Battery Issue	RAM or RAM backup battery is not operating correctly.
Remote Shutdown	Unit is shut down by a remote signal.
Sensor Issue - Event Control	Enable/disable the activation of the [Sensor Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Sensor Issue - Event Type	The event type for the [Sensor Issue] event.
Sensor Issue	One or more sensors are disconnected or the signals are out of range.
Sensor Temperature	Temperature as measured by sensor.
Service Required - Event Control	Enable/disable the activation of the [Service Required] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Service Required - Event Type	The event type for the [Service Required] event.
Service Required	Unit requires servicing.
Shutdown - Loss Of Power - Event Control	Enable/disable the activation of the [Shutdown - Loss Of Power] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Shutdown - Loss Of Power - Event Type	The event type for the [Shutdown - Loss Of Power] event.
Shutdown - Loss Of Power	System lost power. This event becomes active when the unit is powered on following an unexpected loss of power.
Smoke Detected - Event Control	Enable/disable the activation of the [Smoke Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Smoke Detected - Event Type	The event type for the [Smoke Detected] event.
Smoke Detected	Smoke detected.
Supply Chilled Water Over Temp Threshold	Threshold value used in the [Supply Chilled Water Over Temp] event.
Supply Chilled Water Over Temp	[Supply Chilled Water Temperature] has exceeded [Supply Chilled Water Over Temp Threshold].

Table 84 Liebert XDP, Liebert XDWP (XDP-W) - Glossary (continued)

Data Description	Description
Supply Chilled Water Temp Sensor Issue	The supply chilled water temperature sensor is disconnected or the signal is out of range.
Supply Chilled Water Temperature	Supply chilled water temperature.
Supply CW Over Temp - Event Control	Enable/disable the activation of the [Supply Chilled Water Over Temp] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply CW Over Temp - Event Type	The event type for the [Supply Chilled Water Over Temp] event.
Supply CW Temp Sensor Issue - Event Control	Enable/disable the activation of the [Supply Chilled Water Temp Sensor Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply CW Temp Sensor Issue - Event Type	The event type for the [Supply Chilled Water Temp Sensor Issue] event.
Supply Fluid Over Temp - Event Control	Enable/disable the activation of the [Supply Fluid Over Temp] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply Fluid Over Temp - Event Type	The event type for the [Supply Fluid Over Temp] event.
Supply Fluid Over Temp Threshold	Threshold value used in the [Supply Fluid Over Temp] event.
Supply Fluid Over Temp	[Supply Fluid Temperature] has exceeded [Supply Fluid Over Temp Threshold].
Supply Fluid Temp Sensor Issue - Event Control	Enable/disable the activation of the [Supply Fluid Temp Sensor Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply Fluid Temp Sensor Issue - Event Type	The event type for the [Supply Fluid Temp Sensor Issue] event.
Supply Fluid Temp Sensor Issue	The supply fluid temperature sensor is disconnected or the signal is out of range.
Supply Fluid Temperature	Supply fluid temperature.
Supply Fluid Under Temp - Event Control	Enable/disable the activation of the [Supply Fluid Under Temp] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply Fluid Under Temp - Event Type	The event type for the [Supply Fluid Under Temp] event.
Supply Fluid Under Temp	[Supply Fluid Temperature] has dropped below a specified threshold.
Supply Refrig Over Temp - Event Control	Enable/disable the activation of the [Supply Refrigerant Over Temp] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply Refrig Over Temp - Event Type	The event type for the [Supply Refrigerant Over Temp] event.
Supply Refrig Over Temp Threshold	Threshold value used in the [Supply Refrigerant Over Temp] event.
Supply Refrig Temp Sensor Issue - Event Control	Enable/disable the activation of the [Supply Refrigerant Temp Sensor Issue] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply Refrig Temp Sensor Issue - Event Type	The event type for the [Supply Refrigerant Temp Sensor Issue] event.
Supply Refrig Under Temp - Event Control	Enable/disable the activation of the [Supply Refrigerant Under Temp] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Supply Refrig Under Temp - Event Type	The event type for the [Supply Refrigerant Under Temp] event.
Supply Refrigerant Over Temp	Event that is activated when [Supply Refrigerant Temperature] exceeds [Supply Refrig Over Temp Threshold]. The event is deactivated when the temperature drops below the threshold.

Table 84 Liebert XDP, Liebert XDWP (XDP-W) - Glossary (continued)

Data Description	Description
Supply Refrigerant Temp Sensor Issue	The supply refrigerant temperature sensor is disconnected or the signal is out of range.
Supply Refrigerant Temperature	Supply refrigerant temperature.
Supply Refrigerant Under Temp	[Supply Refrigerant Temperature] has dropped below a specified threshold.
System Condensation Detected - Event Control	Enable/disable the activation of the [System Condensation Detected] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
System Condensation Detected - Event Type	The event type for the [System Condensation Detected] event.
System Condensation Detected	System condensation detected.
System Control Mode	System control mode.
System Date and Time	The system date and time
System Event Acknowledge/Reset	Reset and/or acknowledge all events.
System On/Off Control	Turn system functionality on or off.
System Operating State Reason	The reason the system is in the current operating state.
System Operating State	Current operating state of the system.
System Status	The operating status for the system
Unit Code Missing	Unit code has not been entered and saved.
Unit Communication Lost	Master has lost communication with one or more networked units.
Unit Off	Unit was turned off.
Unit On	Unit was turned on.
Unit Partial Shutdown	An event has occurred requiring some system components to be shutdown and disabled.
Unit Shutdown	An event has occurred requiring the unit to be shutdown and disabled to prevent damage to the system.
Unit Standby	Unit was placed in standby mode.
Visual ID Control	Visual identification control to display an LED flashing sequence, allowing it to be visually located.
Water Under Floor - Event Control	Enable/disable the activation of the [Water Under Floor] event. If set to 'disabled', the event will not be annunciated. This implies that the event will not be placed in any active event list or in any event history list.
Water Under Floor - Event Type	The event type for the [Water Under Floor] event.
Water Under Floor	Water under the floor is detected.

Table 85 Liebert DataMate, Liebert Mini-Mate2 - MM2

Controller	MM2	
Liebert Products	Liebert DataMate Liebert Mini-Mate2	
Data Description	BACnet Instance	Notes
Status Points (View)		
Temperature	BS01_x	-
Humidity	BS02_x	-
Cooling	BS03_x	1=On / 0=Off
Heating	BS04_x	1=On / 0=Off
Humidification	BS05_x	1=On / 0=Off
Dehumidification	BS06_x	1=On / 0=Off
Econ-o-Cycle	BS07_x	1=On / 0=Off

Table 85 Liebert DataMate, Liebert Mini-Mate2 - MM2

Controller	MM2	
Liebert Products	Liebert DataMate Liebert Mini-Mate2	
Data Description	BACnet Instance	Notes
Stages	BS08_x	-
% Capacity	BS09_x	-
Unit On/Off	BS18_x	1=On / 0=Off
Alarm Points		
Communications	BA01_x:00	-
Local Off	BA01_x:01	-
Remote Off	BA01_x:02	-
High Head Pressure 1	BA01_x:03	-
Loss of Airflow	BA01_x:05	-
Standby Glycol Unit On	BA01_x:06	-
Change Filters	BA01_x:07	-
High Temperature	BA01_x:08	-
Low Temperature	BA01_x:09	-
High Humidity	BA02_x:00	-
Low Humidity	BA02_x:01	-
Humidifier Problem	BA02_x:02	-
Smoke Detected	BA02_x:08	-
Loss of Water Flow	BA02_x:09	-
Standby Unit On	BA02_x:10	-
Short Cycle	BA03:01	-
Loss of Power	BA03:02	-
Local Alarm 1	BA03:06	-
Local Alarm 2	BA03:07	-
High Water	BA03:08	-
Local Alarm 4	BA03:09	-
Setpoints (View)		
Temperature	BS10_x	-
Humidity	BS12_x	-
Control Points (Set)		
Remote On/Off	BC01_x	Bit 0 On=unit Off; Bit 1 On=unit On
Temperature Setpoint	BC02_x	-
Humidity Setpoint	BC03_x	-

Table 86 Liebert Mini-Mate2 8 Ton - L8T

Controller	L8T	
Liebert Products	Liebert Mini-Mate2 8 Ton	
Data Description	BACnet Instance	Notes
Status Points (View)		
Temperature	BS01_x	-
Humidity	BS02_x	-
Cooling	BS03_x	1=On / 0=Off
Heating	BS04_x	1=On / 0=Off

Table 86 Liebert Mini-Mate2 8 Ton - L8T

Controller	L8T	
Liebert Products	Liebert Mini-Mate2 8 Ton	
Data Description	BACnet Instance	Notes
Humidification	BS05_x	1=On / 0=Off
De-humidification	BS06_x	1=On / 0=Off
Econ-O-Cycle	BS07_x	1=On / 0=Off
Stages	BS08_x	-
% Capacity	BS09_x	-
Unit Status (On / Off)	BS18_x	1=On / 0=Off
Alarm Points		
Communications	BA01_x:00	-
Local Off	BA01_x:01	-
Remote Off	BA01_x:02	-
High Head Pressure 1	BA01_x:03	-
High Head Pressure 2	BA01_x:04	-
Loss of Airflow	BA01_x:05	-
Standby Glycol Unit On	BA01_x:06	-
Change Filters	BA01_x:08	-
High Temperature	BA01_x:09	-
Low Temperature	BA01_x:10	-
High Humidity	BA02_x00	-
Low Humidity	BA02_x01	-
Humidifier Problem	BA02_x02	-
Smoke Detected	BA02_x:08	-
Loss of Water	BA02_x:09	-
Standby Unit On	BA02_x:10	-
Short Cycle	BA03_x:01	-
Loss of Power	BA03_x:02	-
Local Alarm 1	BA03_x:06	-
Local Alarm 2	BA03_x:07	-
High Water Humidifier Pan	BA03_x:08	-
Setpoints (View)		
Temperature Setpoint	BS10_x	-
Humidity Setpoint	BS12_x	-
Control Points (Set)		
Unit On / Off	BC01_x	Bit 0 On=unit Off; Bit 1 On=unit On
Temperature Setpoint	BC02_x	-
Temperature Tolerance	BC02_x	Multiply desired value by 1000
Humidity Setpoint	BC03_x	-
Humidity Tolerance	BC03_x	Multiply desired value by 1000
Reheat Lockout	BC01_x	Bit 2 on=RH off Bit 3 on=RH on
Humidifier Lockout	BC01_x	Bit 4 on=HL off Bit 5 on=HL on

4.3 UPS Systems

Table 87 Liebert APM - Binary Data

Data Description	Object Type	Instance	Object Name	Access	Notes
System Status					
Battery Auto Test In Progress	Binary_Value	1	4172_1	RD	Active on Alarm
Battery Equalize	Binary_Value	2	4170_1	RD	Active on Alarm
Battery Charging Inhibited	Binary_Value	3	4200_1	RD	Active on Alarm
On Generator	Binary_Value	4	4315_1	RD	Active on Alarm
System Events					
System Input Power Problem	Binary_Value	15	4122_1	RD	Active on Alarm
Rectifier Failure	Binary_Value	16	4295_1	RD	Active on Alarm
Inverter Failure	Binary_Value	17	4233_1	RD	Active on Alarm
Bypass Not Available	Binary_Value	18	4135_1	RD	Active on Alarm
Battery Low	Binary_Value	19	4162_1	RD	Active on Alarm
LBS Inhibited	Binary_Value	20	4758_1	RD	Active on Alarm
System Fan Failure	Binary_Value	21	4311_1	RD	Active on Alarm
Equipment Over Temperature	Binary_Value	22	4310_1	RD	Active on Alarm
System Shutdown - EPO	Binary_Value	23	4213_1	RD	Active on Alarm
Bypass Static Switch Unavailable	Binary_Value	24	4143_1	RD	Active on Alarm
Bypass - Excess Auto Retransfers	Binary_Value	25	4139_1	RD	Active on Alarm
Parallel Comm Warning	Binary_Value	26	4823_1	RD	Active on Alarm
Power Supply Failure	Binary_Value	27	4314_1	RD	Active on Alarm
Battery Over Temperature	Binary_Value	28	4219_1	RD	Active on Alarm
System Input Phs Rotation Error	Binary_Value	29	4146_1	RD	Active on Alarm
Fuse Failure	Binary_Value	30	4440_1	RD	Active on Alarm
Inverter Overload Phase A	Binary_Value	31	4234_1	RD	Active on Alarm
Inverter Overload Phase B	Binary_Value	32	4235_1	RD	Active on Alarm
Inverter Overload Phase C	Binary_Value	33	4236_1	RD	Active on Alarm
MMS Overload	Binary_Value	34	4831_1	RD	Active on Alarm
Inverter Shutdown - Overload	Binary_Value	35	4290_1	RD	Active on Alarm
System Output Fault	Binary_Value	36	4389_1	RD	Active on Alarm
Internal Communications Failure	Binary_Value	37	4300_1	RD	Active on Alarm
Battery Charging Error	Binary_Value	38	4164_1	RD	Active on Alarm
System Input Current Imbalance	Binary_Value	39	4382_1	RD	Active on Alarm
Main Battery Disconnect Open	Binary_Value	40	4173_1	RD	Active on Alarm
Inverter Static Switch SCR Short	Binary_Value	41	4391_1	RD	Active on Alarm
Battery Not Qualified	Binary_Value	42	5149_1	RD	Active on Alarm
Battery Terminals Reversed	Binary_Value	43	5150_1	RD	Active on Alarm
Battery Converter Failure	Binary_Value	44	5151_1	RD	Active on Alarm
Inverter SCR Open	Binary_Value	45	5152_1	RD	Active on Alarm
Load Sharing Fault	Binary_Value	46	5153_1	RD	Active on Alarm
DC Bus Abnormal	Binary_Value	47	5154_1	RD	Active on Alarm
Mains Input Neutral Lost	Binary_Value	48	5155_1	RD	Active on Alarm
Load Impact Transfer	Binary_Value	49	5156_1	RD	Active on Alarm

Table 87 Liebert APM - Binary Data (continued)

Data Description	Object Type	Instance	Object Name	Access	Notes
User Operation Invalid	Binary_Value	50	5157_1	RD	Active on Alarm
Power Sub Module Fault	Binary_Value	51	5158_1	RD	Active on Alarm
Battery Discharging	Binary_Value	52	4168_1	RD	Active on Alarm
UPS Output on Bypass	Binary_Value	53	4298_1	RD	Active on Alarm
Output Load on Maint. Bypass	Binary_Value	54	4299_1	RD	Active on Alarm
Battery Capacity Low	Binary_Value	55	4166_1	RD	Active on Alarm
MMS On Battery	Binary_Value	56	4834_1	RD	Active on Alarm
Loss of Redundancy	Binary_Value	57	4825_1	RD	Active on Alarm
Top Outlet Fan Fault	Binary_Value	58	5770_1	RD	Active on Alarm
MMS Over Capacity	Binary_Value	59	5771_1	RD	Active on Alarm

Table 88 Liebert APM - Analog Data

Data Description	Object Type	Instance	Object Name	Access	Notes
Input					
System Input RMS A-B	Analog_Value	1	4097_1	RD	Units: VAC
System Input RMS B-C	Analog_Value	2	4099_1	RD	Units: VAC
System Input RMS C-A	Analog_Value	3	4101_1	RD	Units: VAC
System Input RMS Current Phase A	Analog_Value	4	4113_1	RD	Units: A AC
System Input RMS Current Phase B	Analog_Value	5	4114_1	RD	Units: A AC
System Input RMS Current Phase C	Analog_Value	6	4115_1	RD	Units: A AC
System Input Frequency	Analog_Value	7	4105_1	RD	Units: Hz
System Input RMS A-N	Analog_Value	8	4096_1	RD	Units: VAC
System Input RMS B-N	Analog_Value	9	4098_1	RD	Units: VAC
System Input RMS C-N	Analog_Value	10	4100_1	RD	Units: VAC
System Input Power Factor Phs A	Analog_Value	11	4116_1	RD	
System Input Power Factor Phs B	Analog_Value	12	4117_1	RD	
System Input Power Factor Phs C	Analog_Value	13	4118_1	RD	
Bypass					
Bypass Input Voltage RMS A-N	Analog_Value	24	4128_1	RD	Units: VAC
Bypass Input Voltage RMS B-N	Analog_Value	25	4129_1	RD	Units: VAC
Bypass Input Voltage RMS C-N	Analog_Value	26	4130_1	RD	Units: VAC
Bypass Input Frequency	Analog_Value	27	4131_1	RD	Units: Hz

Table 88 Liebert APM - Analog Data (continued)

Data Description	Object Type	Instance	Object Name	Access	Notes
Battery					
Battery Time Remaining	Analog_Value	38	4150_1	RD	Units: min
Battery Volts for Cabinet	Analog_Value	39	4155_1	RD	Units: VDC
Battery Temperature for Cabinet	Analog_Value	40	4156_1	RD	Units: deg C
Battery Temperature for Cabinet	Analog_Value	10040	4156_1_deg_F	RD	Units: deg F
Inlet Air Temperature	Analog_Value	41	4291_1	RD	Units: deg C
Inlet Air Temperature	Analog_Value	10041	4291_1_deg_F	RD	Units: deg F
DC Bus Current	Analog_Value	42	4149_1	RD	Units: A DC
Output					
System Output Voltage RMS A-N	Analog_Value	53	4385_1	RD	Units: VAC
System Output Voltage RMS B-N	Analog_Value	54	4386_1	RD	Units: VAC
System Output Voltage RMS C-N	Analog_Value	55	4387_1	RD	Units: VAC
System Output RMS Current Phs A	Analog_Value	56	4204_1	RD	Units: A AC
System Output RMS Current Phs B	Analog_Value	57	4205_1	RD	Units: A AC
System Output RMS Current Phs C	Analog_Value	58	4206_1	RD	Units: A AC
System Output Frequency	Analog_Value	59	4207_1	RD	Units: Hz
System Output Voltage RMS A-B	Analog_Value	60	4201_1	RD	Units: VAC
System Output Voltage RMS B-C	Analog_Value	61	4202_1	RD	Units: VAC
System Output Voltage RMS C-A	Analog_Value	62	4203_1	RD	Units: VAC
System Output Power Factor Phs A	Analog_Value	63	4210_1	RD	
System Output Power Factor Phs B	Analog_Value	64	4211_1	RD	
System Output Power Factor Phs C	Analog_Value	65	4212_1	RD	
System Output Pct Power Phase A	Analog_Value	66	4223_1	RD	Units: %
System Output Pct Power Phase B	Analog_Value	67	4224_1	RD	Units: %
System Output Pct Power Phase C	Analog_Value	68	4225_1	RD	Units: %
MMS Output Apparent Power	Analog_Value	69	4812_1	RD	Units: kVA
MMS Output Power	Analog_Value	70	4811_1	RD	Units: kW
System Output Apparent Power	Analog_Value	71	4209_1	RD	Units: kVA

Table 88 Liebert APM - Analog Data (continued)

Data Description	Object Type	Instance	Object Name	Access	Notes
System Output Power	Analog_Value	72	4208_1	RD	Units: kW
Output Current Crest Factor Phs A	Analog_Value	73	5159_1	RD	
Output Current Crest Factor Phs B	Analog_Value	74	5160_1	RD	
Output Current Crest Factor Phs C	Analog_Value	75	5161_1	RD	
System Configuraton					
System Date and Time	Analog_Value	86	4293_1	RW	

Table 89 Liebert APM - Multistate Data

Data Description	Object Type	Instance	Object Name	Access	Notes
UPS Battery1 Status	MultiState_Value	1	4871_1	RD	1 = Unknown 2 = Normal 3 = Low 4 = Depleted
Inverter On/Off State	MultiState_Value	12	4746_1	RD	1 = off 2 = on
Maintenance Bypass Breaker (MBB)	MultiState_Value	13	4772_1	RD	1 = Open 2 = Close 3 = Not Installed
UPS Output Source	MultiState_Value	14	4872_1	RD	1 = Other 2 = Off 3 = Normal 4 = Bypass 5 = Battery 6 = Booster 7 = Reducer
System Status	MultiState_Value	15	4123_1	RD	1 = Normal Operation 2 = StartUp 3 = Normal with Warning 4 = Normal with Alarm 5 = Abnormal Operation
ECO Mode Operation State	MultiState_Value	16	5454_1	RD	1 = disabled 2 = enabled

Table 90 Liebert APM - Glossary

Data Description	Description
Battery Auto Test In Progress	Automatic battery test is in progress
Battery Capacity Low	Battery capacity is low
Battery Charging Error	The battery is not charging properly
Battery Charging Inhibited	Battery charging is inhibited due to an external inhibit signal
Battery Converter Failure	Battery converter failure. This is a summary event caused by one or more power sub-modules in a UPS module.
Battery Discharging	The battery is discharging
Battery Equalize	The rectifier output voltage is increased to equalize the battery voltage level.
Battery Low	The calculated battery time remaining has reached the low battery threshold
Battery Not Qualified	The UPS battery voltage is not qualified. This event will be detected even in the absence of battery disconnect or when it is open.
Battery Over Temperature	A battery temperature sensor is reporting a value above a threshold

Table 90 Liebert APM - Glossary

Data Description	Description
Battery Temperature for Cabinet	The battery temperature for a cabinet
Battery Terminals Reversed	The measured battery voltage is a negative value due to reverse battery terminal connections.
Battery Time Remaining	The calculated available time on battery
Battery Volts for Cabinet	The voltage between the positive and negative battery terminals of a battery cabinet
Bypass - Excess Auto Retransfers	The number of auto retransfers, from bypass to inverter, has exceeded the maximum for a specified time interval
Bypass Input Frequency	The bypass input frequency
Bypass Input Voltage RMS A-N	The bypass input RMS voltage between phase A and Neutral
Bypass Input Voltage RMS B-N	The bypass input RMS voltage between phase B and Neutral
Bypass Input Voltage RMS C-N	The bypass input RMS voltage between phase C and Neutral
Bypass Not Available	A problem associated with the bypass has been detected
Bypass Static Switch Unavailable	The static bypass switch is off, and unable to operate
DC Bus Abnormal	The system has detected an abnormal DC Bus Voltage.
DC Bus Current	The current at the battery input terminals. In charging mode, the current will be a positive value. In discharging mode, the current will be a negative value
ECO Mode Operation State	This setting is used to enable or disable ECO Mode.
Equipment Over Temperature	Equipment over temperature summary event
Fuse Failure	A summary event indicating one or more fuse failures
Inlet Air Temperature	The temperature of the inlet air
Internal Communications Failure	The control has detected a communication failure of a component on the internal communication bus
Inverter Failure	Inverter failure - inverter output is off
Inverter On/Off State	inverter on/off state
Inverter Overload Phase A	Inverter is operating with an overload on phase A
Inverter Overload Phase B	Inverter is operating with an overload on phase B
Inverter Overload Phase C	Inverter is operating with an overload on phase C
Inverter SCR Open	The system has detected an open across one or more inverter static switch Silicon Controlled Rectifiers.
Inverter Shutdown - Overload	The inverter has shutdown due to a sustained overload
Inverter Static Switch SCR Short	The system has detected a short across one or more inverter static switch Silicon Controlled Rectifiers (SCR)
LBS Inhibited	The system has detected that conditions to perform Load Bus Sync are not satisfied
Load Impact Transfer	On bypass as result of load impact.
Load Sharing Fault	Difference between any phase inverter current of unit and the relevant average output current of parallel system is more than a specific percent of nominal current.
Loss of Redundancy	The multi-module collection doesn't have enough modules to redundantly support the load
Main Battery Disconnect Open	Main battery disconnect is open
Mains Input Neutral Lost	Loss of neutral in the input source is detected.
Maintenance Bypass Breaker (MBB)	Maintenance bypass breaker (MBB)
MMS On Battery	The multi-module system is on battery
MMS Output Apparent Power	The sum total apparent power of all system output modules
MMS Output Power	The sum total power of all system output modules

Table 90 Liebert APM - Glossary

Data Description	Description
MMS Over Capacity	The multi-module system load is larger than the apparent power limit setting.
MMS Overload	Multi-module system overload
On Generator	A generator is supplying the power to the system
Output Current Crest Factor Phs A	Output current crest factor of Phase A.
Output Current Crest Factor Phs B	Output current crest factor of Phase B.
Output Current Crest Factor Phs C	Output current crest factor of Phase C.
Output Load on Maint. Bypass	The output power is supplied by the maintenance bypass
Parallel Comm Warning	Parallel communication bus warning
Power Sub Module Fault	One or more failures detected in power module, inverter or rectifier.
Power Supply Failure	Power supply failure
Rectifier Failure	Rectifier failure - rectifier is off
System Date and Time	The system date and time
System Fan Failure	System fan failure - one or more fans have failed
System Input Current Imbalance	System Input Currents are Imbalanced
System Input Frequency	The system input frequency
System Input Phs Rotation Error	The power conductors on the input line are not wired to the UPS in the sequence preferred for the rectifier (A-B-C)
System Input Power Factor Phs A	The system input power factor for Phase A
System Input Power Factor Phs B	The system input power factor for Phase B
System Input Power Factor Phs C	The system input power factor for Phase C
System Input Power Problem	The input is not qualified to provide power to the system
System Input RMS A-B	The System Input RMS Voltage between Phase A and Phase B
System Input RMS A-N	The System Input RMS Voltage between Phase A and Neutral
System Input RMS B-C	The System Input RMS Voltage between Phase B and Phase C
System Input RMS B-N	The System Input RMS Voltage between Phase B and Neutral
System Input RMS C-A	The System Input RMS Voltage between Phase C and Phase A
System Input RMS C-N	The System Input RMS Voltage between Phase C and Neutral
System Input RMS Current Phase A	The system input RMS current for Phase A
System Input RMS Current Phase B	The system input RMS current for Phase B
System Input RMS Current Phase C	The system input RMS current for Phase C
System Output Apparent Power	The sum total apparent power of all system output phases
System Output Fault	A fault has been detected in the system output
System Output Frequency	The system output frequency
System Output Pct Power Phase A	The system output power on phase A as a percentage of the rated capacity
System Output Pct Power Phase B	The system output power on phase B as a percentage of the rated capacity
System Output Pct Power Phase C	The system output power on phase C as a percentage of the rated capacity
System Output Power Factor Phs A	The system output power factor of phase A
System Output Power Factor Phs B	The system output power factor of phase B
System Output Power Factor Phs C	The system output power factor of phase C
System Output Power	The sum total power of all system output phases
System Output RMS Current Phs A	The system output RMS current for Phase A
System Output RMS Current Phs B	The system output RMS current for Phase B
System Output RMS Current Phs C	The system output RMS current for Phase C
System Output Voltage RMS A-B	The system output RMS voltage between phases A and B

Table 90 Liebert APM - Glossary

Data Description	Description
System Output Voltage RMS A-N	The system output RMS voltage between phases A and Neutral
System Output Voltage RMS B-C	The system output RMS voltage between phases B and C
System Output Voltage RMS B-N	The system output RMS voltage between phases B and Neutral
System Output Voltage RMS C-A	The system output RMS voltage between phases C and A
System Output Voltage RMS C-N	The system output RMS voltage between phases C and Neutral
System Shutdown - EPO	System shutdown due to Emergency Power Off (EPO)
System Status	The operating status for the system
Top Outlet Fan Fault	Top outlet fan fault - one or more top outlet fans have failed.
UPS battery1 status	UPS battery status
UPS Output on Bypass	The output power is supplied by the bypass
UPS Output Source	UPS output source
User Operation Invalid	User attempted an invalid operation.

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