Pixel BACnet Implementation

Pixel BACnet Interface

Pixel elevator controllers will communicate to any BACnet enabled BMS (Build Management Systems) via Serial Mod Buss to BACnet through a BACnet gateway unit. This BACnet interface unit will be provided by Elevator Controls and is to be included with the controller. The BACnet gateway unit will provide real-time controller information via the BACnet protocol from a Pixel simplex to up to a 8 car, multi car Pixel Groupless system through a single BACnet gateway unit device.

1. BACnet Properties to be Provided per Simplex or car in a Multi-Car-Groupless

The properties listed below for car 1 are provided for a simplex car and subsequently for each car in a multi-car – groupless system, starting for car 2 from ID 21 through 40, car 3 ID 41 through 60, car 4 ID 61 through 80, car 5 ID 81 through 100, car 6 ID 101 through 120 car 7 ID 121 through 140, car 8 ID 141 through 160.

ID #	Name Data	Range
1	Car Number 1	1 to 7
2	Online	1-0 → Yes- No
3	In Group	1-0 → Yes- No
4	Class of Operation	Refer to enumeration 1 below
5	Mode of Operation	Refer to enumeration 2 below
6	Front Door State	Refer to enumeration 3 below
7	Rear Door State	Refer to enumeration 3 below
8	Car PI Landing	1 to 0x80, landing 1 to 128
9	Car Landing PI Label	Refer to enumeration 4 below
10	Car Faulted	1-0 → Faulted- Not Faulted
11	Active Fault Number	Refer to enumeration 5 below
12	Car Moving	0-1-2 → Stopped, Moving Up, Moving Down
13	Car Direction Arrows	0-1-2 → No arrows, Up Direction Arrow, Down Direction Arrow
14	Any Inspection Input active	1-0 → Yes- No
15	Independent Input Active	1-0 → Yes- No
16	Any Fire Service mode active	1-0 → Yes- No
17	Spare	Binary
18	Spare	Binary
19	Spare	Binary
20	Spare	Binary

21 – 40 (same as above but for Car 2)
41 – 60 (same as above but for Car 3)
61 – 80 (same as above but for Car 4)
81 – 100 (same as above but for Car 5)
101 –120 (same as above but for Car 6)
121 – 140(same as above but for Car 7)
141 – 160 (same as above but for Car 8)

199   System Emergency Power   Refer to enumeration 6 below
End of Proprieties list

2. Enumeration Values

1 – Class of Operation

```
UNKNOWN = 0
CONSTRUCTION = 0x01
INSPECTION = 0x02
AUTOMATIC = 0x03
```

2 – Mode of Operation

```
UNKNOWN = 0x00
CONSTRUCTION = 0x01
INSPECTION_MR = 0x02
INSPECTION_CT = 0x03
INSPECTION_IC = 0x04
INSPECTION_ACC = 0x05
FAULTED = 0x06
NON-FAULTED = 0x07
FIRE_PHASE_1 = 0x08
FIRE_PHASE_2 = 0x09
INDP_SERVICE = 0x010
EARTHQUAKE = 0x011
EMT_PHASE_1 = 0x012
EMT_PHASE_2 = 0x013
HOSPITAL_PHASE_1 = 0x014
HOSPITAL_PHASE_2 = 0x015
CAR TO LOBBY = 0x016
```

3- Door State

```
UNKNOWN = 0x00
CLOSED = 0x01
CLOSED_WITH_POWER = 0x02
OPENING = 0x03
OPEN = 0x04
OPEN_WITH_POWER = 0x05
CLOSING = 0x06
NUDGING = 0x07
LOCKED = 0x08
STALLED = 0x09
NO DOOR INSTALLED = 0x09
```

4 – Car Landing PI Label

This is two ASCII characters represented as an integer value using the following formula.

(1st ASCII Character) * 256 + (2nd ASCII character)

5 - Active Fault Number

Fault numbers range 00 through 0xFF, 00= No fault active, a fault number enumeration/fault description cross reference to be provided in a separate document.

6 – System Emergency Power

```
NOT On EMERGENCY POWER= 0x00
EMERGENCY POWER RECALL = 0x01
EMERGENCY POWER PHASE 2= 0x02
EMERGENCY POWER PRE-TRANSFER= 0x03
```