

## Protocol Implementation Conformance Statement (PICS) – BACnet/IP

<b>Date:</b>	<b>29<sup>th</sup> July 2021</b>
<b>Vendor Name:</b>	<b>Fluke (parent of Irisys)</b>
<b>Product Name:</b>	<b>Vector 4D</b>
<b>Product Model Number:</b>	<b>IRC6637-AW (and related family)</b>
<b>Software Version:</b>	<b>2.0.133 onwards</b>
<b>Statement Revision</b>	<b>1.1</b>

### Product Description:

This document covers the Vector footfall and occupancy counting device, in terms of BACnet support. The device is an IoT product, that tracks people within the field-of-view, and uses this to calculate footfall (number of people who cross a virtual line), occupancy (number of people within a defined area, or as the difference between the number entering and exiting a larger space where the threshold to the space is represented by a virtual line), and other attributes of these metrics (e.g. dwell time, height of entrants, differentiation between staff/non-staff etc.).

The device can be configured to output these metrics using its own internal ‘registers’ – for example, a register for IN count, a register for OUT count, etc. -and the BACnet implementation merely exposes those registers for third party consumption.

### BACnet Standardized Device Profiles Supported (Annex L):

BACnet Smart Sensor (B-SS)

### BACnet Interoperability Building Blocks Supported (Annex K):

N/A

### Segmentation Capability:

- Able to transmit segmented messages      Window Size \_\_\_\_\_
- Able to receive segmented messages      Window Size \_\_\_\_\_

### Standard Object Types Supported:

None of the object types support dynamic creation or deletion.

None of the object types supported have writeable properties at this time.

Since no properties are writeable, all range restrictions are implemented within the product configuration – see product documentation for more info.

## 1) Object Type: DEVICE

The DEVICE object is exposed as in the following example:

DEVICE properties	
Apdu Timeout	3000
Application Software Version	1.0
Database Revision	2
Daylight Savings Status	False
Description	Irisys Vector4D PeopleCounter
Device Address Binding	
Firmware Revision	ulmage: 2.0.127, Rft: 9.0.0.13
Local Date	31/03/2021
Local Time	09:54:20
Location	Glyn's Office
Max Apdu Length Accepted	1476
Model Name	IRC6637SAW
Number Of Apdu Retries	3
Object Identifier	OBJECT_DEVICE:663700
Object List	Object[] Array
Object Name	Hector
Object Type	8 : Object Device
Protocol Object Types Supported	00000000100000000000000000000000
Protocol Revision	17
Protocol Services Supported	000010000001011110010000010101011
Protocol Version	1
Segmentation Supported	3 : None
Serial Number	V4D-19090088
System Status	0 : Operational
Utc Offset	0
Vendor Identifier	1170
Vendor Name	Fluke

## 2) Object Type: NETWORK\_PORT

The NETWORK\_PORT object is exposed as in the following example:

NETWORK_PORT properties	
<b>Apdu Length</b>	<b>1476</b>
Bacnet Ip Mode	0 : Normal
Bacnet Ip Udp Port	47808
Bbmd Accept Fd Registrations	False
Bbmd Broadcast Distribution Table	ERROR_CLASS_PROPERTY: ERRC
Bbmd Foreign Device Table	ERROR_CLASS_PROPERTY: ERRC
Changes Pending	True
Ip Address	Byte[] Array
Ip Default Gateway	Byte[] Array
Ip Dns Server	Object[] Array
Ip Subnet Mask	Byte[] Array
Link Speed	0
Mac Address	Byte[] Array
Network Number	0
Network Number Quality	0 : Unknown
Network Type	5 : Ipv4
Object Identifier	OBJECT_NETWORK_PORT:1
Object Name	BACnet/IP Port
Object Type	56 : Object Network Port
Out Of Service	False
Protocol Level	2 : Bacnet Application
Reliability	0 : No Fault Detected
Status Flags	0000

### 3) Object Type: ANALOG\_VALUE

The product exposes up to 32 ANALOG\_VALUE objects that represent the ‘register values’ as configured in the product. These ‘register values’ can change their meaning depending on configuration, and refer to for example, number of people that have crossed a specific line, or number of people in a specific defined area. Since the number of lines and areas are dependent on how the product is configured in its environment, the ANALOG\_VALUE objects exposed reflect this configuration.

Each of these 32 ANALOG\_VALUE objects have an identifier corresponding with the register number, for example: Object Identifier = ANALOG\_VALUE:1 up to ANALOG\_VALUE:32 correspond to registers 0 – 31 respectively.

Since not all registers have to be configured in the product (by default, only 2 registers are configured to represent the default In/Out footfall lines), registers that have been created will have a corresponding object created and show as in-service (i.e. the object property “Out of service” = false).

Please refer to the product documentation for the configuration and further explanation of the registers.

#### **BACnet Data Link Layer Options:**

BACnet IP, (Annex J) only at this release

#### **Device Address Binding:**

N/A

#### **Networking Options:**

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
- Annex H, BACnet Tunneling Router over IP

#### **Character Sets Supported:**

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

- ISO 10646 (UTF-8)
- IBM™/Microsoft™ DBCS
- ISO 8859-1
- ISO 10646 (UCS-2)
- ISO 10646 (UCS-4)
- JIS X 0208

#### **Gateway Options:**

If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:

N/A

**If this product is a communication gateway which presents a network of virtual BACnet devices, a separate PICS shall be provided that describes the functionality of the virtual BACnet devices. That PICS shall describe a superset of the functionality of all types of virtual BACnet devices that can be presented by the gateway.**