kaiterra

Kaiterra Sensedge BACnet Protocol Implementation Conformance Statement (PICS)

February 2024

Date:	February 27 2024
Vendor Name:	Kaiterra
Product Name:	Sensedge Smart Air Quality Monitor
Product Model Number:	SE-100
Product Firmware Version:	1.15.12
Firmware Revision:	1.0
BACnet Protocol Revision:	14

Product Description:

The Sensedge is a sophisticated, commercial grade monitor that is optimized to meet the air quality needs of any indoor space. It provides accurate, secure, and continuous monitoring for commercial interiors, like offices, schools, hospitals, retails, and residences. The Sensedge offers 24/7, real-time monitoring of your indoor air quality. Color-coded displays and indices of various pollutants allow for quick, at-a-glance readings.

The Sensedge supports Wi-Fi (2.4G), Ethernet, and communication including an API from the cloud, as well as BACnet compatibility (depending on the version and firmware).

The Sensedge supports the BACnet/IP protocol, and supports both IPv4 and IPv6.2.
The UDP port is 47808(0xBAC0).

BACnet Standardized Device Profile (Annex L):

☐ BACnet Operator Workstation (B-OWS)
☐ BACnet Advanced Operator Workstation (B-AWS)
☐ BACnet Operator Display (B-OD)
☐ BACnet Building Controller (B-BC)
☐ BACnet Advanced Application Controller (B-AAC)
☐ BACnet Application Specific Controller (B-ASC)
■ BACnet Smart Sensor (B-SS)
☐ BACnet Smart Actuator (B-SA)

List all BACnet Interoperability Building Blocks Supported (Annex K):

DS-RP-B DS-WP-B DS-RPM-B DM-DDB-B DM-DOB-B DS-COV-B

Segmentation Capability:

☐ Able to transmit segmented messages Window Size: n/a
☐ Able to receive segmented messages Window Size: n/a

Standard Object Types Supported:

The Sensedge exposes the following Analog Input objects. All objects support COV Increment.

1. Analog Input

Object Type	ID	Object Name
AnalogInput	0	PM2.5
AnalogInput	1	PM10
AnalogInput	2	TVOC
AnalogInput	3	Temperature
AnalogInput	4	Humidity
AnalogInput	5	CO2
AnalogInput	6	Unassigned
AnalogInput	7	KM10X Module Lifespan
AnalogInput	8	KM10X Module Lifespan

Dynamically Creatable: YES
Dynamically Deletable: YES

Optional Properties Supported:

Description
COV Increment
Reliability

Writable Properties:

Units
COV_Increment

2. Device

Object Type	ID	Object Name
Device:	<user-specified-id>	“Sensedge”

Dynamically Creatable: No
Dynamically Deletable: No

Optional Properties Supported:
Description
Location
Active_COV_Subscriptions

Writable Properties:
Object_Identifier
Object_Name
Description
Location
APDU_Timeout
Number_Of_APDU_Retries

Data Link Layer Options:

■ BACnet IP, (Annex J)
■ BACnet IP, (Annex J), Foreign Device
☐ ISO 8802-3, Ethernet (Clause 7)
☐ ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
☐ ATA 878.1, EIA-485 ARCNET (Clause 8), baud rate(s) _____
☐ MS/TP master (Clause 9), baud rate(s):
☐ MS/TP slave (Clause 9), baud rate(s):
☐ Point-To-Point, EIA 232 (Clause 10), baud rate(s):
☐ Point-To-Point, modem, (Clause 10), baud rate(s):
☐ LonTalk, (Clause 11), medium: _____
☐ BACnet/ZigBee (ANNEX O)
☐ Other: _____

Device Address Binding:

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) ☐ Yes ■ No

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