



Verkada Air Quality Sensors

BACnet Protocol Implementation Conformance Statement (PICS)

June 2023



Date: 06/16/2023

Vendor: Verkada, Inc. (<https://verkada.com>)

Vendor ID: 1412

Product Name: Verkada SV20 Series Air Quality Sensors

Product Model Number: SV21, SV23, SV25

Application Software Version: G

Firmware Revision: 1.0

BACnet Protocol Revision: 21

Product Description

Verkada's SV20 Series Air Quality Sensors are all-in-one sensors for corporate and education customers looking to monitor basic air quality indicators. Simple to install, scale and customize, Verkada's SV20 Series Air Quality Sensors give you everything you need to ensure safe air quality and elevate building performance.

The SV21 is an easy-to-deploy, scalable sensor that monitors air quality essentials across environments. Great for CO₂, temperature and humidity monitoring in offices, classrooms and other high-traffic areas.

The SV23 air quality monitors can measure PM2.5, TVOC, CO₂, temperature, humidity, among many other readings.

The SV25 is a versatile indoor sensor that is great for indoor air quality monitoring, vape detection and more. The SV25 is a robust sensor for maintaining indoor health and safety through air, motion and light monitoring. Great for tracking health and safety conditions in laboratories and physical workspaces. Verkada's SV25 monitors total volatile organic compounds, carbon monoxide, ambient light, motion, AQI, formaldehyde and more.



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

DM-DDB-B

DM-DOB-B

Segmentation Capability

- Segmented requests supported: No Window Size
- Segmented responses supported: No Window Size



Standard Object Types Supported:

An object type is supported if it is present in the device.

Analog Input

Supported Models	Name	Object Type	Instance	Units
SV23, SV25	Vape Index	AnalogInput	1	No Units
SV21, SV23, SV25	Temperature (C)	AnalogInput	2	Degrees Celsius
SV21, SV23, SV25	Humidity	AnalogInput	3	% Relative Humidity
SV21, SV23, SV25	CO ₂	AnalogInput	4	ppm
SV25	Carbon Monoxide	AnalogInput	5	ppm
SV23, SV25	Noise	AnalogInput	6	dB
SV23, SV25	AQI	AnalogInput	7	No Units
SV23, SV25	TVOC Index	AnalogInput	8	No Units
SV23, SV25	PM 2.5	AnalogInput	9	µg/m ³
SV21, SV23, SV25	Tamper	AnalogInput	10	No Units
SV23, SV25	Motion	AnalogInput	11	No Units
SV25	Light	AnalogInput	12	Lux
SV25	Pressure	AnalogInput	13	Hectopascal
SV25	Formaldehyde	AnalogInput	14	ppb
SV23, SV25	PM 4.0	AnalogInput	15	µg/m ³
SV23, SV25	PM 10.0	AnalogInput	16	µg/m ³

Device

Object Type	ID	Object Name
Device:	<user-specified-id-in-command>	<device-serial-number>

- Dynamically Creatable: No
- Dynamically Deletable: No



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 |