



BACnet Protocol Implementation Conformance Statement

Date: 27th November 2018
Vendor Name: Microtrol Limited
Product Names: Black Pear MB-50, Black Pear MB-50D
Black Pear TB-64, Black Pear TB-64D
Black Pear PB-64, Black Pear PB-64D
Black Pear DB-64, Black Pear DB-64D
Product Version: 2.00 and later
BACnet Protocol Version: 1
BACnet Protocol Revision: 4

Product Description:

The Black Pear BACnet server interfaces provide a gateway between HVAC systems (Mitsubishi Electric, Toshiba, Panasonic/Sanyo and Daikin) and a BACnet/IP network. It allows for the direct control and monitoring of up to 50 units on a Mitsubishi system, and up to 64 units on a Toshiba, Panasonic/Sanyo or Daikin system.

BACnet Standardized Device Profile (Annex L):

- BACnet Operator Workstation (B-OWS)
- 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)

BACnet Interoperability Building Block Supported:

- Data Sharing-ReadProperty-A (DS-RP-A)
- Data Sharing-ReadProperty-B (DS-RP-B)
- Data Sharing-ReadPropertyMultiple-A (DS-RPM-A)
- Data Sharing-ReadPropertyMultiple-B (DS-RPM-B)
- Data Sharing-ReadPropertyConditional-A (DS-RPC-A)
- Data Sharing-ReadPropertyConditional-B (DS-RPC-B)
- Data Sharing-WriteProperty-A (DS-WP-A)
- Data Sharing-WriteProperty-B (DS-WP-B)
- Data Sharing-WritePropertyMultiple-A (DS-WPM-A)
- Data Sharing-WritePropertyMultiple-B (DS-WPM-B)
- Data Sharing-COV-A (DS-COV-A)
- Data Sharing-COV-B (DS-COV-B)
- Data Sharing-COVP-A (DS-COVP-A)
- Data Sharing-COVP-B (DS-COVP-B)
- Data Sharing-COV-Unsolicited-A (DS-COVU-A)
- Data Sharing-COV-Unsolicited-B (DS-COVU-B)

Segmentation Capability: None



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BACnet Standard Object Types Supported:

None of the objects are dynamically creatable or deletable

Object Type	Properties Supported	Writeable Properties
Analogue Input	object-identifier object-name object-type present-value status-flags event-state out-of-service units	None
Analogue Output	object-identifier object-name object-type present-value status-flags event-state out-of-service units priority-array relinquish-default	present-value
Binary Input	object-identifier object-name object-type present-value status-flags event-state out-of-service polarity	None
Binary Output	object-identifier object-name object-type present-value status-flags event-state out-of-service priority-array relinquish-default	present-value
Binary Value	object-identifier object-name object-type present-value status-flags event-state out-of-service priority-array relinquish-default	present-value



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Object Type	Properties Supported	Writeable Properties
Device	object-identifier object-name object-type system-status vendor-name vendor-identifier model-name firmware-revision application-software-version protocol-version protocol-services-supported protocol-object-types-supported object-list max-APDU-length-supported segmentation-supported apdu-timeout number-of-APDU-retries device-address-binding database-revision	None
Multi-State Input	object-identifier object-name object-type present-value status-flags event-state out-of-service number-of-states state-text	None
Multi-State Output	object-identifier object-name object-type present-value status-flags event-state out-of-service number-of-states state-text priority-array relinquish-default	present-value



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Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7) (10Base2, 10Base5, 10 BaseT, Fiber)
- ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ANSI/ATA 878.1, RS-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)
- LON Talk (Clause 11), medium:
- Other:

Device Address Binding:

- Support for Static Address Binding

Network Options:

- Router
- Annex H, BACnet Tunnelling
- BACnet/IP Broadcast Management Device (BBMD)
- BBMD support of registrations by foreign devices

Character Sets Supported:

- ANSI X3.4

non-BACnet Equipment Supported by this Unit:

The Black Pear device can be connected directly to HVAC communications networks provided by Mitsubishi Electric, Toshiba, Panasonic/Sanyo and Daikin.

MB-50 and MB-50D are compatible with Mitsubishi Electric.

TB-64 and TB-64D are compatible with Toshiba.

PB-64 and PB-64D are compatible with Panasonic/Sanyo.

DB-64 and DB-64D are compatible with Daikin.