

BACnet Protocol Implementation Conformance Statement

Date	December 2022
BACnet Vendor Name	MSA Safety
BACnet Vendor ID	37
Product Name	QuickServer, ProtoCessor, ProtoCarrier, ProtoNode, ProtoAir, EZ Gateway
Product Model Number	QuickServer (FS-QS-XXXX), ProtoNode (FPC-NXX), ProtoCarrier (FPC-CXX), ProtoCessor FFP (FPC-ED2), ProtoAir (FPA-XXX), EZ Gateway (FS-EZX-XXX-XXX)
Product Description	This software product will provide bi-directional communication between various RTU, DCS, SCADA and PLC using most common protocols and a BACnet system. The FieldServer can perform protocol conversion (as opposed to routing) between the different BACnet Data Link Layer options. This is arranged by way of static mappings.
Protocol Conversions	See MSA Safety's list of protocol drivers to determine available protocol conversions.
BACnet Protocol Version	Version 1 Revision 16

BACnet Standardized Device Profile (Annex L)

X	BACnet Application Specific Controller (B-ASC)
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BACnet Interoperability Building Blocks Supported (Annex K)

X	K.1.1 BIBB - Data Sharing - ReadProperty-A (DS-RP-A)*
X	K.1.2 BIBB - Data Sharing - ReadProperty-B (DS-RP-B)
X	K.1.3 BIBB - Data Sharing - ReadPropertyMultiple-A (DS-RPM-A) *
X	K.1.4 BIBB - Data Sharing - ReadPropertyMultiple-B (DS-RPM-B)
X	K.1.7 BIBB - Data Sharing - WriteProperty-A (DS-WP-A)
X	K.1.8 BIBB - Data Sharing - WriteProperty-B (DS-WP-B)
X	K.1.9 BIBB - Data Sharing - WritePropertyMultiple-A (DS-WPM-A)*
X	K.1.10 BIBB - Data Sharing - WritePropertyMultiple-B (DS-WPM-B)
X	K.1.11 BIBB - Data Sharing - COV-A (DS-COV-A)*
X	K.1.12 BIBB - Data Sharing - COV-B (DS-COV-B)
X	K.2.2 BIBB - Alarm and Event-Notification Internal-B (AE-N-I-B)
X	K.2.5 BIBB - Alarm and Event-ACK-B(AE-ACK-B)
X	K.2.11 BIBB - Alarm and Event-Information-B (AE-INFO-B)
X	K.4.2 BIBB - Trending - Viewing and Modifying Trends Internal-B (T-VMT-I-B)
X	K.4.5 BIBB - Trending - Automated Trend Retrieval-B (T-ATR-B)
X	K.5.1 BIBB - Device Management - Dynamic Device Binding-A (DM-DDB-A)
X	K.5.2 BIBB - Device Management - Dynamic Device Binding-B (DM-DDB-B)
X	K.5.3 BIBB - Device Management - Dynamic Object Binding-A (DM-DOB-A)*
X	K.5.4 BIBB - Device Management - Dynamic Object Binding-B (DM-DOB-B)
X	K.5.6 BIBB - Device Management - DeviceCommunicationControl-B (DM-DCC-B)
X	K.5.12 BIBB - Device Management - TimeSynchronization-B (DM-TS-B)
X	K.5.16 BIBB - Device Management-ReinitializeDevice-B (DM-RD-B)
X	K.5.20 BIBB - Device Management-Restart-B (DM-R-B)
X	K.5.22 BIBB - Device Management - List Manipulation-B (DM-LM-B)
X	K.5.38 BIBB - Network Management-BBMD Configuration-B (NM-BBMD-C-B)

* Client functionality not part of B-ASC profile tested by BTL.

Segmentation Capability

None

Object Types and Optional Properties Supported

Object Type	Optional Properties Supported
Device Object	Location, Description, UTC Offset, Active COV Subscriptions, Database Revision
Analog Input	Reliability, Description
Analog Output	Reliability, Description, Max_Pres_Value, Min_Pres_Value
Analog Value	Reliability, Description
Binary Input	Reliability, Description, Active_Text, Inactive_Text
Binary Output	Reliability, Description, Active_Text, Inactive_Text
Binary Value	Reliability, Description, Active_Text, Inactive_Text
Multi State Input	Reliability, Description, State_Text
Multi State Output	Reliability, Description, State_Text
Multi State Value	Reliability, Description, State_Text
Notification Class Object	
Trend Log	Description, Log_Interval
Life Safety Point	Description

Object Type	Optional Writable Properties
Device Object	Object_Name
Analog Input	Object_Name
Analog Output	Object_Name
Analog Value	Object_Name
Binary Input	Object_Name
Binary Output	Object_Name
Binary Value	Object_Name
Multi State Input	Object_Name
Multi State Output	Object_Name
Multi State Value	Object_Name
Notification Class Object	Object_Name
Life Safety Point	Object_Name
Trend Log	Object_Name

Unsupported Properties and Restrictions

- Does not support BACnet CreateObject
- Does not support BACnet DeleteObject
- Does not support any optional properties
- No additional writeable properties exist
- No proprietary properties exist
- No range restrictions exist
- Client Driver can only read Present Value property

Data Link Layer Options

X	BACnet/IP, (Annex J)
X	ANSI/ATA 878.1, 2.5 Mb, ARCNET (Clause 8)
X	Point-to-Point, EIA 232 (Clause 10), baud rate up to 57.6 Kbps
X	ISO 8802-3, Ethernet (Clause 7)
X	MS/TP master (Clause 9), baud rate up to 76.8 Kbps
X	MS/TP slave (Clause 9), baud rate up to 76.8 Kbps

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Device Address Binding

Not supported

Networking Options

	Router, Clause 6 – List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
	Annex H, BACnet Tunneling Router over IP
X	Annex H.2, Multiple “Virtual” BACnet Devices in a Single Physical Device
X	BACnet/IP Broadcast Management Device (BBMD)
X	Registrations by Foreign Devices

BACnet IP Broadcast Level

In BACnet/IP, broadcast responses typically operate at Layer 3 (L3) in the OSI model, meaning they use IP-based broadcasts. According to the BACnet/IP BTL (BACnet Testing Laboratories) specifications, BACnet/IP leverages UDP/IP for communication, which inherently functions at the IP (network) layer, hence making it Layer 3.

The FieldServer uses Directed Broadcasts, these are L3 Broadcasts when working with BACnet/IP.

Character Sets Supported

Where support for multiple character sets is indicated, this does not imply that they can all be supported simultaneously.

X	ISO 10646 (UTF-8) ANSI X3.4
	ISO 10646 (UCS-2)
	IBM/Microsoft DBCS
	ISO 10646 (ICS-4)
	ISO 8859-1
	JIS C

Non-BACnet Equipment/Networks Supported

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

- Modbus RTU
- Modbus TCP/IP
- LonWorks
- Metasys N2
- SNMP
- DNP 3.0 serial and Ethernet
- XML
- GE-EGD
- GE-SRTP
- OPC
- Allen Bradley DF1
- Allen Bradley CSP
- Autocall (by Johnson Controls)
- Canatal
- Carrier
- Caterpillar MSX
- DataAire
- EST3 ECP
- EST QuickStart
- Fike Cheetah
- Gamewell-FCI
- GE-SNP
- JBus
- Lutron
- McQuay
- Mircom
- Notifier Fire Panels
- Russelectric
- Secutron
- Siemens Fire Safety
- Silent Knight
- Simplex (by Johnson Controls)
- Spectronics
- Stulz
- Veeder-Root

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