

BACnet Protocol Implementation Conformance Statement

Date: 13.11.2024
Vendor Name: METZ CONNECT GmbH
Product Name: BMT-RTR/SC
Product Model Number: 110 881 01
Application Software Version: 1.4
Firmware Revision: 2.6
BACnet Protocol Revision: 18

Product Description:

BACnet/IP, BACnet/SC or BACnet Ethernet to BACnet MS/TP Router.

BACnet Standardized Device Profile (Annex L):

- BACnet Router (B-RTR)
- BACnet Broadcast Management Device (B-BBMD)

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

Data Sharing-ReadProperty-A	(DS-RP-A)
Data Sharing-ReadProperty-B	(DS-RP-B)
Data Sharing-WriteProperty-B	(DS-WP-B)
Device Management-Dynamic Device Binding-B	(DM-DDB-B)
Device Management-Dynamic Object Binding-B	(DM-DOB-B)
Device Management-DeviceCommunicationControl-B	(DM-DCC-B, optional Password)
Device Management-ReinitializeDevice-B	(DM-RD-B, optional Password)
Device Management-List Manipulation-B	(DM-LM-B)
Device Management-Slave Proxy-B	(DM-SP-B)
Network Management-Router Configuration-B	(NM-RC-B)
Network Management-BBMD Configuration-B	(NM-BBMD-C-B)
Network Management-Foreign Device Registration-A	(NM-FDR-A)
Network Management-Secure Connect Direct Connect-B	(NM-SCDC-B)

Segmentation Capability:

- Able to transmit segmented messages Window Size _____
- Able to receive segmented messages Window Size _____

Standard Object Types Supported:

An object type is supported if it may be present in the device.
For each standard Object Type supported provide the following data:

- 1) Whether objects of this type are dynamically creatable using the CreateObject service: None
- 2) Whether objects of this type are dynamically deletable using the DeleteObject service: None
- 3) List of the optional properties supported
- 4) List of all properties that are writable where not otherwise required by this standard
- 5) List of all properties that are conditionally writable where not otherwise required by this standard: None
- 6) List of proprietary properties and for each its property identifier, datatype, and meaning: None
- 7) List of any property range restrictions

Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), BACnet Broadcast Management Device (BBMD)
- Ethernet, ISO 8802-3 (Clause 7)
- MS/TP master (Clause 9)
 - Isolated transceiver
 - Local bias resistors: 390 Ohm
 - Transceiver unit loading: 1/8
 - Data rates: 9600, 19200, 38400, 57600, 76800, 115200
- BACnet Secure Connect (Annex AB)
 - BACnet Secure Connect Node
 - Maximum number of simultaneous direct connections accepted: 5

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

Networking Options:

- Router, Clause 6 - List all routing configurations
 - BACnet/SC - MS/TP
 - BACnet/IP - MS/TP
 - Ethernet - MS/TP
 - BACnet/SC - BACnet IP
 - BACnet/SC - Ethernet
 - Ethernet – BACnet/IP
- Annex H.3, BACnet Tunneling Router over IP

Character Sets Supported:

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

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> ISO 10646 (UTF-8) | <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input checked="" type="checkbox"/> ISO 8859-1 |
| <input checked="" type="checkbox"/> ISO 10646 (UCS-2) | <input checked="" type="checkbox"/> ISO 10646 (UCS-4) | <input type="checkbox"/> JIS X 0208 |

Strings entered at the web interface and default strings implemented in the objects use UTF-8. Default strings can be restored by writing an empty string.

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

- Yes No
-

Device Object

Property	Remark / Value	RW
Object_Type	DEVICE (8)	R
Object_Identifier	device, default instance: 421000, default may be restored by writing 4194303	RW-E
Object_Name	max. 63 Bytes, default "BMT_RTR_00"	RW-E
Property_List		R
Description	max. 127 Bytes, default ""	RW-E
Location	max. 63 Bytes, default ""	RW-E
Vendor_Name	"METZ CONNECT GmbH"	R
Vendor_Identifier	421	R
Model_Name	"BMT-RTR/SC"	R
Firmware_Revision	"2.6"	R
Application_Software_Version	"1.1"	R
Protocol_Version	1	R
Protocol_Revision	18	R
Protocol_Services_Supported	read-property, write-property, read-range, add-list-element, remove-list-element, who-has, who-is, atomic-read-file, atomic-write-file, device-communication-control, reinitialize-device	R
Protocol_Object_Types_Supported	DEVICE, NETWORK_PORT	R
Object_List	device, network-port 1...5, file 1...2	R
Max_APDU_Length_Accepted	1476	R
Segmentation_Supported	NO_SEGMENTATION (3)	R
System_Status	OPERATIONAL (0)	R
APDU_Timeout	1...65535, default 6000	RW-E
Number_Of_APDU_Retries	0	R
Device_Address_Binding	-	R
Database_Revision	0...65535, default 0	R-E
Max_Master	0...127, default 127	RW-E
Max_Info_Frames	1...255, default 100	RW-E
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

The writing of properties may be disabled as a security option in the web interface.

Network Port Object 1

Property	Remark / Value	RW
Object_Type	NETWORK_PORT (56)	R
Object_Identifier	network-port, instance 1	R
Object_Name	max. 42 Bytes, default "B/IP-Port"	RW-E
Property_List		R
Description	max. 84 Bytes, default ""	RW-E
Network_Number	0 ... 65534, default 1 *1	RW-E
Network_Number_Quality	CONFIGURED (3)	R
Changes_Pending	FALSE (0) / TRUE (1) see footnote *1	R
Status_Flags	IN_ALARM: 0 FAULT: 0 OVERRIDDEN: 0 OUT_OF_SERVICE: 0 / 1	R
Reliability	NO_FAULT_DETECTED (0)	R
Out_Of_Service	FALSE (0, default) / TRUE (1)	R
Protocol_Level	BACNET_APPLICATION (2)	R
Network_Type	IPV4 (5)	R
MAC_Address		R
APDU_Length	1476	R
Link_Speed	10 Mbit/s, 100 Mbit/s	R
BACnet_IP_Mode	NORMAL (0, default) / FOREIGN (1) / BBMD (2) *1	RW-E
IP_Address	default 192.168.0.112 *1	RW-E
BACnet_IP_UDP_Port	default 0xBAC0 *1	RW-E
IP_Subnet_Mask	default 255.255.255.0 *1	RW-E
IP_Default_Gateway	default 192.168.0.1 *1	RW-E
IP_DNS_Server	array[1], default 0.0.0.0 *1	RW-E
IP_DHCP_Enable	FALSE (0, default) / TRUE (1) *1	RW-E
BBMD_Broadcast_Distribution_Table	*1	RW-E
BBMD_Accept_FD_Registrations	FALSE (0, default) / TRUE (1) *1	RW-E
BBMD_Foreign_Device_Table		R
FD_BBMD_Address	*1	RW-E
FD_Subscription_Lifetime	default 600 seconds *1	RW-E
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

*1 Writing stores values temporarily and sets property Changes_Pending to true.
Changes are activated together by service Reinitialize-Device / Warmstart or Activate_Changes.

Changes are discarded by service Reinitialize-Device / Coldstart or power-down.

The writing of properties may be disabled as a security option in the web interface.

Network Port Object 2

Property	Remark / Value	RW
Object_Type	NETWORK_PORT (56)	R
Object_Identifier	network-port, instance 2	R
Object_Name	max. 42 Bytes, default "Ethernet-Port"	RW-E
Property_List		R
Description	max. 84 Bytes, default ""	RW-E
Network_Number	0 ... 65534, default 3 *1	RW-E
Network_Number_Quality	CONFIGURED (3)	R
Changes_Pending	FALSE (0) / TRUE (1) see footnote *1	R
Status_Flags	IN_ALARM: 0 FAULT: 0 OVERRIDDEN: 0 OUT_OF_SERVICE: 0 / 1	R
Reliability	NO_FAULT_DETECTED (0)	R
Out_Of_Service	FALSE (0) / TRUE (1, default)	R
Protocol_Level	BACNET_APPLICATION (2)	R
Network_Type	ETHERNET (0)	R
MAC_Address		R
APDU_Length	1476	R
Link_Speed	10 Mbit/s, 100 Mbit/s	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

*1 Writing stores values temporarily and sets property Changes_Pending to true.
Changes are activated together by service Reinitialize-Device / Warmstart or Activate_Changes.
Changes are discarded by service Reinitialize-Device / Coldstart or power-down.

The writing of properties may be disabled as a security option in the web interface.

Network Port Object 3

Property	Remark / Value	RW
Object_Type	NETWORK_PORT (56)	R
Object_Identifier	network-port, instance 3	R
Object_Name	max. 42 Bytes, default "MS/TP-Port"	RW-E
Property_List		R
Description	max. 84 Bytes, default ""	RW-E
Network_Number	0 ... 65534, default 2 *1	RW-E
Network_Number_Quality	CONFIGURED (3)	R
Changes_Pending	FALSE (0) / TRUE (1) see footnote *1	R
Status_Flags	IN_ALARM: 0 FAULT: 0 OVERRIDDEN: 0 OUT_OF_SERVICE: 0	R
Reliability	NO_FAULT_DETECTED (0)	R
Out_Of_Service	FALSE (0)	R
Protocol_Level	BACNET_APPLICATION (2)	R
Network_Type	MSTP (2)	R
MAC_Address	0...Max_Master, default 0 *1	RW-E
APDU_Length	480	R
Link_Speed	default 9600 *1	RW-E
Link_Speeds	9600, 19200, 38400, 57600, 76800, 115200	R
Max_Master	0...127, default 127 *1	RW-E
Max_Info_Frames	1...255, default 100 *1	RW-E
Slave_Proxy_Enable	FALSE (0, default) / TRUE (1)	RW-E
Manual_Slave_Address_Binding		RW-E
Auto_Slave_Discovery	FALSE (0) / TRUE (1, default)	RW-E
Slave_Address_Binding		R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

- *1 Writing stores values temporarily and sets property Changes_Pending to true.
Changes are activated together by service Reinitialize-Device / Warmstart or Activate_Changes.
Changes are discarded by service Reinitialize-Device / Coldstart or power-down.

The writing of properties may be disabled as a security option in the web interface.

Network Port Object 5

Property	Remark / Value	RW
Object_Type	NETWORK_PORT (56)	R
Object_Identifier	network-port, instance 5	R
Object_Name	max. 42 Bytes, default "B/SC-Port"	RW-E
Property_List		R
Description	max. 84 Bytes, default ""	RW-E
Network_Number	0 ... 65534, default 5 *1	RW-E
Network_Number_Quality	CONFIGURED (3)	R
Changes_Pending	FALSE (0) / TRUE (1) see footnote *1	R
Status_Flags	IN_ALARM: 0 FAULT: 0 OVERRIDDEN: 0 OUT_OF_SERVICE: 0 / 1	R
Reliability	NO_FAULT_DETECTED (0)	R
Out_Of_Service	FALSE (0, default) / TRUE (1)	R
Protocol_Level	BACNET_APPLICATION (2)	R
Network_Type	64	R
MAC_Address		R
APDU_Length	1476	R
Link_Speed	10 Mbit/s, 100 Mbit/s	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		

- *1 Writing stores values temporarily and sets property Changes_Pending to true.
Changes are activated together by service Reinitialize-Device / Warmstart or Activate_Changes.
Changes are discarded by service Reinitialize-Device / Coldstart or power-down.

The writing of properties may be disabled as a security option in the web interface.

File Object 1...2

Property	Remark / Value	RW
Object_Type	FILE (10)	R
Object_Identifier	file, instance 1...2	R
Object_Name	max. 42 Bytes, default "Operational_Certificate", "Issuer_Certificate"	RW
Property_List		R
Description	max. 84 Bytes, default "Operational_Certificate", "Issuer_Certificate"	RW
File_Type	max. 42 Bytes, default "application/octet-stream"	RW
File_Size	max. 2000	R
Modification_Date		R
Archive	FALSE (0, default) / TRUE (1)	RW
Read_Only	FALSE (0)	R
File_Access_Method	FILE_ACCESS_STREAM (1)	R
R: Read Property, W: Write Property, -E: Storage in EEPROM / Flash		