

ROUTER-BC

SE-Elektronic GmbH

February 13, 2015

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1 Protocol Implementation Conformance Statement (PICS)

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

Date	February 13, 2015
Vendor Name	SE-Elektronik GmbH
Product Name:	ROUTER-BC
Application Software Version:	— (Project dependent)
Firmware Revision:	03.06.05
Product Model Number:	G 02 93 00
BACnet Protocol Revision:	Version 1, Revision 12, (135-2010)
Product Description:	The Router BC is a Router for general Use. The routing contains the routing between BACnet MS/TP, PTP and IP, the transmission of BACnet-Broadcasts over IP-networks with several subnets. With the additional Functions of the existing RTOS the router is also intended to use for MODEM-IP-Routing as a MODEM-access for IP-Networks (BACnet over IP) and for transfer of an error message over SMS, Email or BACnet-PTP.

1.1 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)

1.2 BACnet interoperability building blocks supported (Annex K)

1.2.1 Data Sharing

Data Sharing	
BIBB	Description
DS-RP-A	ReadProperty-A
DS-RP-B	ReadProperty-B
DS-RPM-A	ReadPropertyMultiple-A
DS-RPM-B	ReadPropertyMultiple-B
DS-WP-A	WriteProperty-A
DS-WP-B	WriteProperty-B
DS-WPM-A	WritePropertyMultiple-A
DS-WPM-B	WritePropertyMultiple-B
DS-COV-A	ChangeofValue-A
DS-COV-B	ChangeofValue-B
DS-COVP-A	ChangeofValueProperty-A
DS-COVP-B	ChangeofValueProperty-B
DS-COVU-A	ChangeofValue-Unsolicited-A
DS-COVU-B	ChangeofValue-Unsolicited-B
DS-RR-B	Read Range-B

1.2.2 Alarm and Event Management

Alarm and Event Management	
BIBB	Description
AE-N-A	Notification-A
AE-N-I-B	Notification Internal-B
AE-N-E-B	Notification External-B
AE-ACK-B	ACK-B
AE-ASUM-B	Alarm Summary-B
AE-ESUM-B	Enrollment Summary-B
AE-INFO-B	Information-B
AE-EL-I-B	Event Log - Internal - B
AE-EL-E-B	Event Log - Extenal - B

1.2.3 Scheduling

Scheduling	
BIBB	Description
SCHED-I-B	Scheduling-Internal-B
SCHED-E-B	Scheduling-External-B

1.2.4 Trending

Trending	
BIBB	Description
T-VMT-I-B	Viewing and Modifying Internal-B
T-VMT-E-B	Viewing and Modifying External-B
T-ATR-B	Automated Trend Retrieval-B
T-VMMV-I-B	Viewing and Modifying Multiple Values Internal-B
T-VMMV-E-B	Viewing and Modifying Multiple Values External-B
T-AMVR-B	Automated Multiple Value Retrieval-B

1.2.5 Device and Network Management

Device and Network Management	
BIBB	Description
DM-DDB-A	Dynamic Device Binding-A
DM-DDB-B	Dynamic Device Binding-B
DM-DOB-A	Dynamic Object Binding-A
DM-DOB-B	Dynamic Object Binding-B
DM-DCC-B	DeviceCommunicationControl-B
DM-TS-A	TimeSynchronization-A
DM-TS-B	TimeSynchronization-B
DM-UTC-A	UTCTimeSynchronization-A
DM-UTC-B	UTCTimeSynchronization-B
DM-RD-B	ReinitializeDevice-B
DM-BR-B	Backup and Restore-B
DM-R-B	Restart-B
DM-LM-B	List Manipulation-B
DM-OCD-B	Object Creation and Deletion-B
NM-CE-A	Connection Establishment-A
NM-CE-B	Connection Establishment-B
NM-RC-B	Router Configuration-B
DM-ATS-A	Automatic Time Synchronization-A
DM-MTS-A	Manual Time Synchronization-A

1.3 BACnet object types supported

BACnet object types supported		
Object Type	Dynamically Creatable	Dynamically Deletable
AnalogInput (AI)	-	-
AnalogOutput (AO)	-	-
AnalogValue (AV)	-	-
BinaryInput (BI)	-	-
BinaryOutput (BO)	-	-
BinaryValue (BV)	-	-
Calendar (CAL)	X	X
Command (CMD)	X	X
Device (DEV)	-	-
EventEnrollment (EE)	X	X
File (FIL)	-	X
Group (GRP)	X	X
Loop (LOO)	-	-
MultiStateInput (MI)	-	-
MultiStateOutput (MO)	-	-
NotificationClass (NC)	X	X
Program (PRG)	-	-
Schedule (SCH)	X	X
Averaging (AVG)	-	-
MultiStateValue (MV)	-	-
TrendLog (TL)	X	X
Accumulator (ACU)	-	-
PulseConverter (PC)	-	-
EventLog (EVL)	X	X
TrendLogMultiple (TLM)	X	X
LoadControl (LDC)	-	-
StructuredView (SV)	X	X
AccessDoor (ACD)	-	-
BitstringValue (BIT)	-	-
DateValue (DA)	-	-
IntegerValue (INT)	-	-
PositiveIntegerValue (POS)	-	-
TimeValue (TI)	-	-

1.3.1 AnalogInput

Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Cov_Increment	REAL	W	-
Deadband	REAL	W	-
Description	CharacterString	W	0 .. 255 Bytes
Device_Type	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
High_Limit	REAL	W	-
Limit_Enable	BIT STRING	W	-
Low_Limit	REAL	W	-
Max_Pres_Value	REAL	W	-
Min_Pres_Value	REAL	W	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	REAL	W	-
Reliability	ENUMERATED	W	-
Resolution	REAL	R	-
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Units	ENUMERATED	W	-
Update_Interval	Unsigned	R	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Dp_Kind [522]	ENUMERATED	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Min_Dp_Value [546]	INTEGER	R	-
159-Max_Dp_Value [547]	INTEGER	R	-
159-Min_Obj_Value [548]	REAL	R	-
159-Max_Obj_Value [549]	REAL	R	-
159-Attenuation_Dp [550]	Unsigned	W	-
159-Reliability_Range [556]	Unsigned	R	-
159-Offset [560]	REAL	W	-

1.3.2 AnalogOutput

Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Cov_Increment	REAL	W	-
Deadband	REAL	W	-
Description	CharacterString	W	0 .. 255 Bytes
Device_Type	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
High_Limit	REAL	W	-
Limit_Enable	BIT STRING	W	-
Low_Limit	REAL	W	-
Max_Pres_Value	REAL	W	-
Min_Pres_Value	REAL	W	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	REAL	W	-
Priority_Array	BACnetPriorityArray	R	-
Reliability	ENUMERATED	W	-
Relinquish_Default	REAL	W	-
Resolution	REAL	R	-
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Units	ENUMERATED	W	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Overridden [515]	Unsigned	R	-
159-Dpref_Reliability [516]	Unsigned	R	-
159-Dp_Kind [522]	ENUMERATED	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Min_Dp_Value [546]	INTEGER	R	-
159-Max_Dp_Value [547]	INTEGER	R	-
159-Min_Obj_Value [548]	REAL	R	-
159-Max_Obj_Value [549]	REAL	R	-
159-Reliability_Range [556]	Unsigned	R	-
159-Offset [560]	REAL	W	-

1.3.3 AnalogValue

Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Cov_Increment	REAL	W	-
Deadband	REAL	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
High_Limit	REAL	W	-
Limit_Enable	BIT STRING	W	-
Low_Limit	REAL	W	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	REAL	W	-
Priority_Array	BACnetPriorityArray	R	not available if Profile_Name 159-1
Reliability	ENUMERATED	W	-
Relinquish_Default	REAL	W	not available if Profile_Name 159-1
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Units	ENUMERATED	W	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Dp_Kind [522]	ENUMERATED	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Min_Dp_Value [546]	INTEGER	R	-
159-Max_Dp_Value [547]	INTEGER	R	-
159-Min_Obj_Value [548]	REAL	R	-
159-Max_Obj_Value [549]	REAL	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.4 BinaryInput

Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Active_Text	CharacterString	W	0 .. 255 Bytes
Alarm_Value	ENUMERATED	W	-
Change_Of_State_Count	Unsigned	W	only 0 writeable
Change_Of_State_Time	BACnetDateTime	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Device_Type	CharacterString	W	0 .. 255 Bytes
Elapsed_Active_Time	Unsigned	W	only 0 writeable
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Inactive_Text	CharacterString	W	0 .. 255 Bytes
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Polarity	ENUMERATED	W	-
Present_Value	ENUMERATED	W	-
Reliability	ENUMERATED	W	-
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Time_Of_Active_Time_Reset	BACnetDateTime	R	-
Time_Of_State_Count_Reset	BACnetDateTime	R	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.5 BinaryOutput

Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Active_Text	CharacterString	W	0 .. 255 Bytes
Change_Of_State_Count	Unsigned	W	only 0 writeable
Change_Of_State_Time	BACnetDateTime	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Device_Type	CharacterString	W	0 .. 255 Bytes
Elapsed_Active_Time	Unsigned	W	only 0 writeable
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Feedback_Value	ENUMERATED	R	-
Inactive_Text	CharacterString	W	0 .. 255 Bytes
Minimum_Off_Time	Unsigned	W	-
Minimum_On_Time	Unsigned	W	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Polarity	ENUMERATED	W	-
Present_Value	ENUMERATED	W	-
Priority_Array	BACnetPriorityArray	R	-
Reliability	ENUMERATED	W	-
Relinquish_Default	ENUMERATED	W	-
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Time_Of_Active_Time_Reset	BACnetDateTime	R	-
Time_Of_State_Count_Reset	BACnetDateTime	R	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Overridden [515]	Unsigned	R	-
159-Dpref_Reliability [516]	Unsigned	R	-
159-Dpref_Feedback [517]	Unsigned	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.6 BinaryValue

Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Active_Text	CharacterString	W	0 .. 255 Bytes
Alarm_Value	ENUMERATED	W	-
Change_Of_State_Count	Unsigned	W	only 0 writeable
Change_Of_State_Time	BACnetDateTime	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Elapsed_Active_Time	Unsigned	W	only 0 writeable
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Inactive_Text	CharacterString	W	0 .. 255 Bytes
Minimum_Off_Time	Unsigned	W	not available if Profile_Name 159-1
Minimum_On_Time	Unsigned	W	not available if Profile_Name 159-1
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	ENUMERATED	W	-
Priority_Array	BACnetPriorityArray	R	not available if Profile_Name 159-1
Reliability	ENUMERATED	W	-
Relinquish_Default	ENUMERATED	W	not available if Profile_Name 159-1
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Time_Of_Active_Time_Reset	BACnetDateTime	R	-
Time_Of_State_Count_Reset	BACnetDateTime	R	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.7 Calendar

Calendar			
Property	Datatype	W	Restrictions
Date_List	ListOfBACnetCalendarEntry	W	0 .. 32
Description	CharacterString	W	0 .. 255 Bytes
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Present_Value	BOOLEAN	R	-
Profile_Name	CharacterString	R	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.8 Command

Command Property	Datatype	W	Restrictions
Action	ArrayOfBACnetActionList	W	12x 11 Actions
Action_Text	ArrayOfCharacterString	W	12x 0 .. 255 Bytes
All_Writes_Successful	BOOLEAN	R	-
Description	CharacterString	W	0 .. 255 Bytes
In_Process	BOOLEAN	R	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Present_Value	Unsigned	W	-
Profile_Name	CharacterString	R	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.9 Device

Device Property	Datatype	W	Restrictions
Apdu_Segment_Timeout	Unsigned	W	-
Apdu_Timeout	Unsigned	W	-
Application_Software_Version	CharacterString	R	0 .. 255 Bytes
Daylight_Savings_Status	BOOLEAN	R	-
Description	CharacterString	W	0 .. 255 Bytes
Device_Address_Binding	ListOfBACnetAddressBinding	R	-
Firmware_Revision	CharacterString	R	0 .. 255 Bytes
Local_Date	Date	R	-
Local_Time	Time	R	-
Location	CharacterString	W	0 .. 255 Bytes
Max_Apdu_Length_Accepted	Unsigned	R	-
Max_Info_Frames	Unsigned	W	1 .. 10
Max_Master	Unsigned	W	1 .. 127
Model_Name	CharacterString	R	0 .. 255 Bytes
Number_Of_APDU_Retries	Unsigned	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_List	ArrayOfBACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Protocol_Object_Types_Supported	BIT STRING	R	-
Protocol_Services_Supported	BIT STRING	R	-
Protocol_Version	Unsigned	R	-
Segmentation_Supported	ENUMERATED	R	-
System_Status	ENUMERATED	R	-
Time_Synchronization_Recipients	ListOfBACnetRecipient	W	-
Utc_Offset	INTEGER	R	-780 .. +780
Vendor_Identifier	Unsigned	R	-
Vendor_Name	CharacterString	R	0 .. 255 Bytes
Protocol_Revision	Unsigned	R	-
Active_Cov_Subscriptions	ListOfBACnetCovSubscription	W	-
Backup_Failure_Timeout	Unsigned	W	1 .. 65535
Configuration_Files	ArrayOfBACnetObjectIdentifier	R	-
Database_Revision	Unsigned	R	-
Last_Restore_Time	BACnetTimeStamp	R	-
Max_Segments_Accepted	Unsigned	R	-
Profile_Name	CharacterString	R	-
Align_Intervals	BOOLEAN	W	resolution 1s
Interval_Offset	Unsigned	W	resolution 1s
Last_Restart_Reason	ENUMERATED	R	-
Restart_Notification_Recipients	ListOfBACnetRecipient	W	0 .. 32
Time_Of_Device_Restart	BACnetTimeStamp	R	-
Time_Synchronization_Interval	Unsigned	W	-
Utc_Time_Synchronization_Recipients	ListOfBACnetRecipient	W	0 .. 32
Structured_Object_List	ArrayOfBACnetObjectIdentifier	W	-
Backup_And_Restore_State	ENUMERATED	R	-
Backup_Preparation_Time	Unsigned	R	-
Restore_Completion_Time	Unsigned	R	-
Restore_Preparation_Time	Unsigned	R	-
159-Latitude [520]	REAL	W	-
159-Longitude [521]	REAL	W	-
159-Vlt_Support [523]	BOOLEAN	R	-
159-Object_List_Oos [537]	ArrayOfBACnetObjectIdentifier	R	-
159-Serial_Number [555]	CharacterString	R	0 .. 255 Bytes
159-Languages [557]	ArrayOfCharacterString	R	0 .. 255 Bytes

... **Device** continued

Property	Datatype	W	Restrictions
159-Elevation [559]	REAL	W	-
159-Ack_All [561]	BOOLEAN	W	-

1.3.10 EventEnrollment

EventEnrollment			
Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Event_Type	ENUMERATED	R	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Property_Reference	BACnetDeviceObjectPropertyReference	W	-
Object_Type	ENUMERATED	R	-
Event_Parameters	BACnetEventParameter	W	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Object_Flags [544]	BIT STRING	R	-

1.3.11 File

File			
Property	Datatype	W	Restrictions
Archive	BOOLEAN	W	-
Description	CharacterString	W	0 .. 255 Bytes
File_Access_Method	ENUMERATED	R	-
File_Size	Unsigned	W	0 writeable only during restore
File_Type	CharacterString	R	0 .. 255 Bytes
Modification_Date	BACnetDateTime	R	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	R	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Read_Only	BOOLEAN	R	-
Profile_Name	CharacterString	R	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.12 Group

Group			
Property	Datatype	W	Restrictions
Description	CharacterString	W	0 .. 255 Bytes
List_Of_Group_Members	ListOfBACnetReadAccessSpecification	W	64 Objects with 4 Properties
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Present_Value	ListOfBACnetReadAccessResult	R	-
Profile_Name	CharacterString	W	-
159-Id [536]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.13 Loop

Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Action	ENUMERATED	W	-
Bias	REAL	W	-
Notification_Class	Unsigned	W	-
Controlled_Variable_Reference	BACnetObjectPropertyReference	W	-
Controlled_Variable_Units	ENUMERATED	R	-
Controlled_Variable_Value	REAL	R	-
Cov_Increment	REAL	W	-
Deadband	REAL	W	-
Derivative_Constant	REAL	W	-
Derivative_Constant_Units	ENUMERATED	R	-
Description	CharacterString	W	0 .. 255 Bytes
Error_Limit	REAL	W	-
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Integral_Constant	REAL	W	-
Integral_Constant_Units	ENUMERATED	R	-
Manipulated_Variable_Reference	BACnetObjectPropertyReference	W	-
Maximum_Output	REAL	W	-
Minimum_Output	REAL	W	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Output_Units	ENUMERATED	R	-
Present_Value	REAL	W	-
Priority_For_Writing	Unsigned	W	-
Proportional_Constant	REAL	W	-
Proportional_Constant_Units	ENUMERATED	W	-
Reliability	ENUMERATED	R	-
Setpoint	REAL	W	-
Setpoint_Reference	BACnetSetpointReference	W	-
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Update_Interval	Unsigned	W	100 .. 1000 ms
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	W	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Comment [535]	CharacterString	R	0 .. 255 Bytes
159-Covu_Nc [538]	Unsigned	W	-
159-Integral_Stop [542]	BOOLEAN	W	-
159-Neutralize [543]	BOOLEAN	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Derivative_Filter_Constant [551]	REAL	W	-
159-Integral_High_Limit [552]	REAL	W	-
159-Integral_Low_Limit [553]	REAL	W	-
159-Deviation_Deadband [554]	REAL	W	-

1.3.14 MultiStateInput

MultiStateInput Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Alarm_Values	ListOfUnsigned	W	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Device_Type	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Fault_Values	ListOfUnsigned	W	-
Notify_Type	ENUMERATED	W	-
Number_Of_States	Unsigned	R	up to 128
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	Unsigned	W	-
Reliability	ENUMERATED	W	-
State_Text	ArrayOfCharacterString	W	up to 128x 0 .. 255 Bytes
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Dp_Kind [522]	ENUMERATED	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.15 MultiStateOutput

MultiStateOutput Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Device_Type	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Feedback_Value	Unsigned	R	-
Notify_Type	ENUMERATED	W	-
Number_Of_States	Unsigned	R	up to 128
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	Unsigned	W	-
Priority_Array	BACnetPriorityArray	R	-
Reliability	ENUMERATED	W	-
Relinquish_Default	Unsigned	W	-
State_Text	ArrayOfCharacterString	W	up to 128x 0 .. 255 Bytes
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Overridden [515]	Unsigned	R	-
159-Dpref_Reliability [516]	Unsigned	R	-
159-Dpref_Feedback [517]	Unsigned	R	-
159-Dp_Kind [522]	ENUMERATED	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.16 NotificationClass

NotificationClass			
Property	Datatype	W	Restrictions
Ack_Required	BIT STRING	W	-
Notification_Class	Unsigned	R	-
Description	CharacterString	W	0 .. 255 Bytes
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Priority	ArrayOfUnsigned	W	-
Recipient_List	ListOfBACnetDestination	W	-
Profile_Name	CharacterString	R	-
159-Covu_Period [539]	Unsigned	W	-
159-Covu_Referenced_Objects [540]	ArrayOfBACnetObjectIdentifier	R	-
159-Nc_Referenced_Objects [541]	ArrayOfBACnetObjectIdentifier	R	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.17 Program

Property	Datatype	W	Restrictions
Description	CharacterString	W	0 .. 255 Bytes
Description_Of_Halt	CharacterString	R	0 .. 255 Bytes
Instance_Of	CharacterString	W	0 .. 255 Bytes
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Program_Change	ENUMERATED	W	-
Program_Location	CharacterString	W	0 .. 255 Bytes
Program_State	ENUMERATED	R	-
Reason_For_Halt	ENUMERATED	R	-
Reliability	ENUMERATED	R	-
Status_Flags	BIT STRING	R	-
Profile_Name	CharacterString	W	-
159-Comment [535]	CharacterString	R	0 .. 255 Bytes
159-Id [536]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Internal_State [558]	CharacterString	R	0 .. 255 Bytes

1.3.18 Schedule

Schedule			
Property	Datatype	W	Restrictions
Description	CharacterString	W	0 .. 255 Bytes
Effective_Period	BACnetDateRange	W	-
Exception_Schedule	ArrayOfBACnetSpecialEvent	W	0 .. 10 x 1 .. 32 entries
List_Of_Object_Property_References	ListOfBACnetDeviceObjectPropertyReference	W	1 .. 16
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	any primitive	W	-
Priority_For_Writing	Unsigned	W	-
Reliability	ENUMERATED	R	-
Status_Flags	BIT STRING	R	-
Weekly_Schedule	ArrayOfBACnetDailySchedule	W	0 .. 32 per day
Profile_Name	CharacterString	R	-
Schedule_Default	any primitive	W	-
159-Next_Exec_Time [518]	Time	R	-
159-Next_Exec_Val [519]	any primitive	R	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.19 Averaging

Averaging			
Property	Datatype	W	Restrictions
Description	CharacterString	W	0 .. 255 Bytes
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Property_Reference	BACnetDeviceObjectPropertyReference	W	local device only
Object_Type	ENUMERATED	R	-
Attempted_Samples	Unsigned	W	only 0 writeable
Average_Value	REAL	R	-
Maximum_Value	REAL	R	-
Minimum_Value	REAL	R	-
Valid_Samples	Unsigned	R	-
Window_Interval	Unsigned	W	-
Window_Samples	Unsigned	W	1 .. 580
Maximum_Value_Timestamp	BACnetDateTime	R	-
Minimum_Value_Timestamp	BACnetDateTime	R	-
Profile_Name	CharacterString	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.20 MultiStateValue

MultiStateValue			
Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Alarm_Values	ListOfUnsigned	W	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Fault_Values	ListOfUnsigned	W	-
Notify_Type	ENUMERATED	W	-
Number_Of_States	Unsigned	R	up to 128
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	Unsigned	W	-
Priority_Array	BACnetPriorityArray	R	not available if Profile_Name 159-1
Reliability	ENUMERATED	W	-
Relinquish_Default	Unsigned	W	not available if Profile_Name 159-1
State_Text	ArrayOfCharacterString	W	up to 128x 0 .. 255 Bytes
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Dp_Kind [522]	ENUMERATED	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.21 TrendLog

TrendLog			
Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Reliability	ENUMERATED	R	-
Status_Flags	BIT STRING	R	-
Buffer_Size	Unsigned	W	power of 2; 64 .. 262144
Client_Cov_Increment	BACnetClientCOV	W	-
Cov_Resubscription_Interval	Unsigned	W	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Log_Buffer	ListOfBACnetLogRecord	R	-
Log_Device_Object_Property	BACnetDeviceObjectPropertyReference	W	-
Enable	BOOLEAN	W	-
Log_Interval	Unsigned	W	0; 100ms .. 48h
Notification_Threshold	Unsigned	W	-
Records_Since_Notification	Unsigned	R	-
Record_Count	Unsigned	W	only 0 writeable
Start_Time	BACnetDateTime	W	-
Stop_Time	BACnetDateTime	W	-
Stop_When_Full	BOOLEAN	W	-
Total_Record_Count	Unsigned	R	-
Profile_Name	CharacterString	R	-
Last_Notify_Record	Unsigned	R	-
Align_Intervals	BOOLEAN	W	resolution 1s
Interval_Offset	Unsigned	W	resolution 1s
Logging_Type	ENUMERATED	W	-
Trigger	BOOLEAN	W	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Last_Read_Sequence [531]	ArrayOfBACnetSeLastReadSequence	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.22 Accumulator

Accumulator			
Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Device_Type	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
High_Limit	Unsigned	W	-
Limit_Enable	BIT STRING	W	-
Low_Limit	Unsigned	W	-
Max_Pres_Value	Unsigned	R	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	Unsigned	W	-
Reliability	ENUMERATED	W	-
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Units	ENUMERATED	W	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Limit_Monitoring_Interval	Unsigned	W	-
Logging_Object	BACnetObjectIdentifier	W	-
Logging_Record	BACnetAccumulatorRecord	R	-
Prescale	BACnetPrescale	W	-
Pulse_Rate	Unsigned	W	-
Scale	BACnetScale	W	-
Value_Before_Change	Unsigned	R	-
Value_Set	Unsigned	W	-
Value_Change_Time	BACnetDateTime	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.23 PulseConverter

PulseConverter		W	Restrictions
Property	Datatype		
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Cov_Increment	REAL	W	-
Deadband	REAL	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
High_Limit	REAL	W	-
Limit_Enable	BIT STRING	W	-
Low_Limit	REAL	W	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	REAL	W	-
Reliability	ENUMERATED	W	-
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Units	ENUMERATED	W	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Adjust_Value	REAL	W	-
Count	Unsigned	R	-
Count_Before_Change	Unsigned	R	-
Count_Change_Time	BACnetDateTime	R	-
Cov_Period	Unsigned	W	-
Input_Reference	BACnetObjectPropertyReference	W	Accumulator Present_Value
Scale_Factor	REAL	W	-
Update_Time	BACnetDateTime	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.24 EventLog

EventLog Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Reliability	ENUMERATED	R	-
Status_Flags	BIT STRING	R	-
Buffer_Size	Unsigned	W	power of 2; 64 .. 262144
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Log_Buffer	ListOfBACnetEventLogRecord	R	-
Enable	BOOLEAN	W	-
Notification_Threshold	Unsigned	W	-
Records_Since_Notification	Unsigned	R	-
Record_Count	Unsigned	W	only 0 writeable
Start_Time	BACnetDateTime	W	-
Stop_Time	BACnetDateTime	W	-
Stop_When_Full	BOOLEAN	W	-
Total_Record_Count	Unsigned	R	-
Profile_Name	CharacterString	R	-
Last_Notify_Record	Unsigned	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Last_Read_Sequence [531]	ArrayOfBACnetSeLastReadSequence	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.25 TrendLogMultiple

TrendLogMultiple			
Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Reliability	ENUMERATED	R	-
Status_Flags	BIT STRING	R	-
Buffer_Size	Unsigned	W	power of 2; 64 .. 262144
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Log_Buffer	ListOfBACnetLogMultiRecord	R	-
Log_Device_Object_Property	ArrayOfBACnetDeviceObjectPropertyReference	W	-
Enable	BOOLEAN	W	-
Log_Interval	Unsigned	W	0; 100ms .. 48h
Notification_Threshold	Unsigned	W	-
Records_Since_Notification	Unsigned	R	-
Record_Count	Unsigned	W	only 0 writeable
Start_Time	BACnetDateTime	W	-
Stop_Time	BACnetDateTime	W	-
Stop_When_Full	BOOLEAN	W	-
Total_Record_Count	Unsigned	R	-
Profile_Name	CharacterString	R	-
Last_Notify_Record	Unsigned	R	-
Align_Intervals	BOOLEAN	W	resolution 1s
Interval_Offset	Unsigned	W	resolution 1s
Logging_Type	ENUMERATED	W	-
Trigger	BOOLEAN	W	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Last_Read_Sequence [531]	ArrayOfBACnetSeLastReadSequence	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.26 LoadControl

LoadControl			
Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Present_Value	ENUMERATED	R	-
Reliability	ENUMERATED	R	-
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Enable	BOOLEAN	W	-
Start_Time	BACnetDateTime	W	-
Profile_Name	CharacterString	R	-
Actual_Shed_Level	BACnetShedLevel	R	-
Duty_Window	Unsigned	W	-
Expected_Shed_Level	BACnetShedLevel	R	-
Full_Duty_Baseline	REAL	W	-
Requested_Shed_Level	BACnetShedLevel	W	-
Shed_Duration	Unsigned	W	-
Shed_Level_Descriptions	ArrayOfCharacterString	W	0 .. 255 Bytes
Shed_Levels	ArrayOfUnsigned	W	-
State_Description	CharacterString	R	0 .. 255 Bytes
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.27 StructuredView

StructuredView			
Property	Datatype	W	Restrictions
Description	CharacterString	W	0 .. 255 Bytes
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Profile_Name	CharacterString	W	-
Node_Subtype	CharacterString	W	0 .. 255 Bytes
Node_Type	ENUMERATED	W	-
Subordinate_Annotations	ArrayOfCharacterString	W	up to 128x 0 .. 255 Bytes
Subordinate_List	ArrayOfBACnetDeviceObjectReference	W	up to 128
159-Subordinate_Instance [524]	BOOLEAN	W	-
159-Object_Flags [544]	BIT STRING	R	-

1.3.28 AccessDoor

AccessDoor			
Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Alarm_Values	ListOfENUMERATED	W	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Fault_Values	ListOfENUMERATED	W	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	ENUMERATED	W	-
Priority_Array	BACnetPriorityArray	R	not available if Profile_Name 159-1
Reliability	ENUMERATED	W	-
Relinquish_Default	ENUMERATED	W	not available if Profile_Name 159-1
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Maintenance_Required	ENUMERATED	R	-
Profile_Name	CharacterString	R	-
Door_Alarm_State	ENUMERATED	W	-
Door_Extended_Pulse_Time	Unsigned	W	-
Door_Members	ArrayOfBACnetDeviceObjectReference	R	-
Door_Open_Too_Long_Time	Unsigned	W	-
Door_Pulse_Time	Unsigned	W	-
Door_Status	ENUMERATED	W	-
Door_Unlock_Delay_Time	Unsigned	W	-
Lock_Status	ENUMERATED	W	-
Masked_Alarm_Values	ListOfENUMERATED	W	-
Secured_Status	ENUMERATED	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.29 BitstringValue

Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Alarm_Values	ArrayOfBIT STRING	W	-
Notification_Class	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	BIT STRING	W	-
Priority_Array	BACnetPriorityArray	R	not available if Profile_Name 159-1
Reliability	ENUMERATED	W	-
Relinquish_Default	BIT STRING	W	not available if Profile_Name 159-1
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Bit_Mask	BIT STRING	W	-
Bit_Text	ArrayOfCharacterString	W	0 .. 255 Bytes
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.30 DateValue

DateValue			
Property	Datatype	W	Restrictions
Description	CharacterString	W	0 .. 255 Bytes
Event_State	ENUMERATED	R	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	Date	W	-
Priority_Array	BACnetPriorityArray	R	not available if Profile_Name 159-1
Reliability	ENUMERATED	W	-
Relinquish_Default	Date	W	not available if Profile_Name 159-1
Status_Flags	BIT STRING	R	-
Profile_Name	CharacterString	R	-
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.31 IntegerValue

IntegerValue Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Cov_Increment	Unsigned	W	-
Deadband	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
High_Limit	INTEGER	W	-
Limit_Enable	BIT STRING	W	-
Low_Limit	INTEGER	W	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	INTEGER	W	-
Priority_Array	BACnetPriorityArray	R	not available if Profile_Name 159-1
Reliability	ENUMERATED	W	-
Relinquish_Default	INTEGER	W	not available if Profile_Name 159-1
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Units	ENUMERATED	W	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.32 PositiveIntegerValue

Property	Datatype	W	Restrictions
Acked_Transitions	BIT STRING	R	-
Notification_Class	Unsigned	W	-
Cov_Increment	Unsigned	W	-
Deadband	Unsigned	W	-
Description	CharacterString	W	0 .. 255 Bytes
Event_Enable	BIT STRING	W	-
Event_State	ENUMERATED	R	-
High_Limit	Unsigned	W	-
Limit_Enable	BIT STRING	W	-
Low_Limit	Unsigned	W	-
Notify_Type	ENUMERATED	W	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	Unsigned	W	-
Priority_Array	BACnetPriorityArray	R	not available if Profile_Name 159-1
Reliability	ENUMERATED	W	-
Relinquish_Default	Unsigned	W	not available if Profile_Name 159-1
Status_Flags	BIT STRING	R	-
Time_Delay	Unsigned	W	0 .. 6553 s
Units	ENUMERATED	W	-
Event_Time_Stamps	ArrayOfBACnetTimeStamp	R	-
Profile_Name	CharacterString	R	-
Event_Message_Texts	ArrayOfCharacterString	R	3x 0 .. 255 Bytes
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.3.33 TimeValue

TimeValue			
Property	Datatype	W	Restrictions
Description	CharacterString	W	0 .. 255 Bytes
Event_State	ENUMERATED	R	-
Object_Identifier	BACnetObjectIdentifier	R	-
Object_Name	CharacterString	W	1 .. 255 Bytes
Object_Type	ENUMERATED	R	-
Out_Of_Service	BOOLEAN	W	-
Present_Value	Time	W	-
Priority_Array	BACnetPriorityArray	R	not available if Profile_Name 159-1
Reliability	ENUMERATED	W	-
Relinquish_Default	Time	W	not available if Profile_Name 159-1
Status_Flags	BIT STRING	R	-
Profile_Name	CharacterString	R	-
159-Dpref_Value [514]	Unsigned	W	DP Value
159-Dpref_Reliability [516]	Unsigned	R	-
159-Covu_Nc [538]	Unsigned	W	-
159-Object_Flags [544]	BIT STRING	R	-
159-Reliability_Range [556]	Unsigned	R	-

1.4 Segmentation capability

Segmented requests supported Windows Size:	4
Segmented responses supported Windows Size:	16

1.5 Data Link Layer options

The simultaneously supported Data Link Layers of a product are listed with the product model number.

Data Link Layer options

BACnet IP, (Annex J)	Ethernet 10/100 MB/s, USB 10 MB/s
BACnet IP, (Annex J), Foreign Device	-
ISO 8802-3, Ethernet (Clause 7)	-
ANSI/ATA 878.1,2.6 Mb. ARCNET (Clause 8)	-
ANSI/ATA 878.1,RS-485 ARCNET (Clause 8)	-
MS/TP Master (clase 9), baud rates:	9600, 19200, 38400, 57600, 76800, 115200
MS/TP Slave (clase 9), baud rates:	-
Point-To-Point, EIA 232 (Clause 10), baud rates:	9600, 19200, 38400, 57600, 76800, 115200
Point-To-Point, modem (Clause 10), baud rates:	9600, 19200, 38400, 57600, 76800, 115200
LonTalk, (Clause 11), medium: ... TF/FT-10	-

1.6 Device address binding

Is static device binding supported? Yes

1.7 Networking options

Networking options

Router, Clause 6 - List all routing configurations	IP-MS/TP, PTP-MS/TP, IP-PTP
Annex H, BACnet Tunneling Router over IP	-
BACnet/IP Broadcast Management Device (BBMD)	✓
- Number of BDT entries	32
- Number of FDT entries	8
Does the BBMD support registrations by Foreign Devices?	✓

1.8 Character sets supported

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

Character sets supported

ANSI X3.4	✓
ISO 10646 (UCS-2)	✓
IBM™/Microsoft™ DBCS	-
ISO 10646 (UCS-4)	✓
ISO 8859-1	✓
JIS C 6226	-
UTF-8	✓

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