

SIEMENS



DESIGO™ V4 BACnet Protocol Implementation Conformance Statement (PICS) Basic documentation

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1 Revision history

This document fully replaces document CM110665en_01 dated 15 July 2006 and document CM110665en_02 dated 30 April 2007

The changes are as follows:

Changes	Section	Pages
Integration with SX OPEN	3	14
Sections in revised order	everything	
DESIGO PX V4	cap 2, exchanged	
DESIGO INSGHT V3	cap 4, exchanged	
DESIGO S7	cap 7, new	
DESIGO PX-WEB controller	cap 6, deleted	
BIBB overview	cap 9, deleted	

2 DESIGO PX automation station

Date	: 28 February 2009
Vendor name	: Siemens Building Technologies (Vendor ID 7)
Product name	: DESIGO PX automation station
Product model number	: PX... (see table below)
BACnet protocol version	: 1.5
Application software version	–
Firmware revision	: V4.00.xxx

2.1 Product model number

The DESIGO PX automation station is a range of products based on the same software. The PICS are the same for all products listed below. The simultaneously supported Data Link Layers of a product are different and also listed.

Product	Description	Data Link Layer
PXC00-E.D	Modular automation station	IP
PXC00.D	Modular automation station	LON
PXC100-E.D	Modular automation station	IP
PXC100.D	Modular automation station	LON
PXC200-E.D	Modular automation station	IP
PXC200.D	Modular automation station	LON
PXC12-E.D	Compact automation station	IP
PXC12-T.D	Compact automation station	LON, PTP
PXC12.D	Compact automation station	LON
PXC22-E.D	Compact automation station	IP
PXC22-T.D	Compact automation station	LON, PTP
PXC36-E.D	Compact automation station	IP
PXC36-T.D	Compact automation station	LON, PTP
PXC52	Compact automation station	LON
PXC-NRUF	Compact automation station	LON
PXC00-U	Modular automation station	LON/IP ¹⁾ , PTP ²⁾
PXC64-U	Modular automation station	LON/IP ¹⁾ , PTP ²⁾
PXC128-U	Modular automation station	LON/IP ¹⁾ , PTP ²⁾

¹⁾ Only LON or IP possible, depends on configuration and extension modules.

²⁾ Additional PTP for half-router function possible, depends on configuration and extension modules.

2.2 Product description

The DESIGO PXC is a freely configurable process unit with focus on HVAC. The process unit as a system platform can be used in the DESIGO product range as a stand-alone or network device with BACnet communication.

2.3 BACnet standardized device profile (Annex L)

- | | | |
|-------------------------------------|--|---------|
| <input type="checkbox"/> | BACnet Operator Workstation | (B-OWS) |
| <input checked="" type="checkbox"/> | BACnet Building Controller | (B-BC) |
| <input type="checkbox"/> | BACnet Advanced Application Controller | (B-AAC) |
| <input type="checkbox"/> | BACnet Application Specific Controller | (B-ASC) |
| <input type="checkbox"/> | BACnet Smart Sensor | (B-SS) |
| <input type="checkbox"/> | BACnet Smart Actuator | (B-SA) |

2.4 BACnet interoperability building blocks supported (Annex K)

Data sharing	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 – WriteProperty-A	DS-WP-A
	Data Sharing – WriteProperty-B	DS-WP-B
	Data Sharing – WritePropertyMultiple-B	DS-WPM-B
	Data Sharing – COV-A	DS-COV-A
	Data Sharing – COV-B	DS-COV-B
	Data Sharing – COVP-B	DS-COVP-B
	Data Sharing – COVP-A	DS-COVP-A
Alarm and event management	Alarm and Event – Notification Internal-B	AE-N-I-B
	Alarm and Event – ACK-B	AE-ACK- B
	Alarm- and Event – Enrollment Summary-B	AE-ESUM-B
	Alarm and Event – Information-B	AE-INFO-B
Scheduling	Scheduling – Internal-B	SCHED-I-B
	Scheduling – External-B	SCHED-E-B
Trending	Trending – Viewing and Modifying Trends-Internal-B	T-VMT-I-B
	Trending – Viewing and Modifying Trends-External-B	T-VMT-E-B
	Trending – Automated Trend Retrieval-B	T-ATR-B
Device management	Device Management – Dynamic Device Binding-A	DM-DDB-A
	Device Management – Dynamic Device Binding-B	DM-DDB-B
	Device Management – Dynamic Object Binding-A	DM-DOB-A
	Device Management – Dynamic Object Binding-B	DM-DOB-B
	Device Management – DeviceCommunicationControl-B	DM-DCC-B
	Device Management – Private Transfer-A	DM-PT-A
	Device Management – Private Transfer-B	DM-PT-B
	Device Management – TimeSynchronization-B ¹⁾	DM-TS-B
	Device Management – UTCTimeSynchronization-A	DM-UTC-A
	Device Management – UTCTimeSynchronization-B ¹⁾	DM-UTC-B
	Device Management – ReinitializeDevice-B	DM-RD-B
	Device Management – Backup and Restore-B	DM-BR-B
¹⁾ if primary server		
Network management	Network Management-Connection Establishment-A	NM-CE-A ¹⁾
	Network Management – Connection Establishment-B	NM-CE-B ²⁾
	¹⁾ establish connection only	
	²⁾ if product supports PTP	

2.5 Standard object types supported

Object type	Supported	Can be created dynamically	Can be deleted dynamically
Analog Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analog Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analog Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calendar	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Command	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Device	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Event Enrollment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
File	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loop	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-State Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-State Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-State Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notification Class	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schedule	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Averaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trend Log	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life-Safety-Point	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life-Safety-Zone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accumulator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pulse-Converter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Structured-View	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Details

Notes on the specification of the following object types:

Writable properties are read only if they are under program control.

Variants of object types (different set of properties) are possible in the case of value objects (e.g. Analog Value). The variants are distinguished by the object tag. The object tag is listed as additional information in the EDE file.

Analog Input

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
Resolution		
COV_Increment		
Time_Delay	Time_Delay	
Notification_Class		
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Deadband	Deadband	0 .. maxReal
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Analog Output

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
Resolution		
	Relinquish_Default	
COV_Increment		
Time_Delay	Time_Delay	
Notification_Class		
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Deadband	Deadband	0 .. maxReal
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Analog Value
(object tag = 4)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
Priority_Array		
Relinquish_Default	Relinquish_Default	
COV_Increment		
Time_Delay	Time_Delay	
Notification_Class		
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Deadband	Deadband	0 .. maxReal
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Analog Value
(object tag =
2 or 51 or 66)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
COV_Increment		
Profile_Name		

**Analog Value
(object tag = 67)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
COV_Increment		
Priority_Array		
Relinquish_Default		
Profile_Name		

Binary Input

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
	Polarity	
Inactive_Text		
Active_Text		
Elapsed_Active_Time	Elapsed_Active_Time	
Time_Of_Active_TimeReset		
Time_Delay	Time_Delay	
Notification_Class		
Alarm_Value	Alarm_Value	
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Binary Output

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
	Polarity	
Inactive_Text		
Active_Text		
Elapsed_Active_Time	Elapsed_Active_Time	
Time_Of_Active_TimeReset		
Minimum_Off_Time	Minimum_Off_Time	0 ... 65535
Minimum_On_Time	Minimum_On_Time	0 ... 65535
	Relinquish_Default	
Time_Delay	Time_Delay	
Notification_Class		
Feedback_Value		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Binary Value
(object tag = 9)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
Inactive_Text		
Active_Text		
Elapsed_Active_Time	Elapsed_Active_Time	
Time_Of_Active_Time_Reset		
Minimum_Off_Time	Minimum_Off_Time	0 ... 65535
Minimum_On_Time	Minimum_On_Time	0 ... 65535
Priority_Array		
Relinquish_Default	Relinquish_Default	
Time_Delay	Time_Delay	
Notification_Class		
Alarm_Value	Alarm_Value	
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Binary Value (object tag
= 7 or 52)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Inactive_Text		
Active_Text		
Profile_Name		

Calendar

Optional properties supported	Writable properties	Property range restrictions
Description		
	Date_List	max 30
Profile_Name		

Device	Optional properties supported	Writable properties	Property range restrictions
	Location		
	Description		
	Max_Segments_Accepted		
	Local_Time		
	Local_Date		
	UTC_Offset	UTC_Offset	-780 .. 780
	Daylight_Savings_Status		
	APDU_Segment_Timeout		
	Active_COV_Subscriptions		
	Configuration_Files		
	Last_Restore_Time		
	Backup_Failure_Timeout	Backup_Failure_Timeout	0..65535
	Profile_Name		

File	Optional properties supported	Writable properties	Property range restrictions
	Description		
		Archive	
	Profile_Name		

Loop	Optional properties supported	Writable properties	Property range restrictions
	Description		
	Reliability		
		Out_Of_Service Action	
	Proportional_Constant	Proportional_Constant	0 .. maxReal
	Proportional_Constant_Units		
	Integral_Constant		
	Integral_Constant_Units		
	Derivative_Constant		
	Derivative_Constant_Units		
	Bias	Bias	0..100 (configurable)
	Maximum_Output	Maximum_Output	0..100 (configurable)
	Minimum_Output	Minimum_Output	0..100 (configurable)
	COV_Increment		
	Profile_Name		

Multistate Input

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	1 ... Number_Of_States
Description		
Reliability		
	Out_Of_Service	
State_Text		
Time_Delay	Time_Delay	
Notification_Class		
Alarm_Values	Alarm_Values	Max. 5
Fault_Values		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Multistate Output

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	1 .. Number_Of_States
Description		
Reliability		
	Out_Of_Service	
State_Text		
	Relinquish_Default	1 .. Number_Of_States
Time_Delay	Time_Delay	
Notification_Class		
Feedback_Value		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Multistate Value
(object tag = 14)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	1 .. Number_Of_States
Description		
Reliability		
	Out_Of_Service	
State_Text		
Priority_Array		
Relinquish_Default	Relinquish_Default	1 .. Number_Of_States
Time_Delay	Time_Delay	
Notification_Class		
Alarm_Values	Alarm_Values	max 5
Fault_Values		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Multistate Value (object tag = 12 or 53)

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	1 .. Number_Of_States
Description		
State_Text		
Profile_Name		

Notification Class

Optional properties supported	Writable properties	Property range restrictions
Description		
	Priority	
	Recipient_List	Max. 20
Profile_Name		

Schedule

Optional properties supported	Writable properties	Property range restrictions
Description		
	Effective_Period	
Weekly_Schedule	Weekly_Schedule	Max. 10 per day
Exception_Schedule	Exception_Schedule	Max. 20
	Schedule_Default	
	Priority_For_Writing	1 ... 16
	Out_Of_Service	
Profile_Name		

Trend Log

Optional properties supported	Writable properties	Property range restrictions
Description		
Start_Time	Start_Time	
Stop_Time	Stop_Time	
Log_Device_Object_Property		
Log_Interval	Log_Interval	0, 100 ... 259200000 (720h) Hundredths of seconds are set to 0 (120->100).
COV_Resubscription_Interval		
	Stop_When_Full	
	Buffer_Size	0 ... 5000
Notification_Treshold	Notification_Treshold	
Records_Since_Notification		
Previous_Notify_Time		
Current_Notify_Time		
Notification_Class		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Accumulator

Optional properties supported	Writable properties	Property range restrictions
Description		
Reliability		
	Out_Of_Service	
Prescale		
Value_Change_Time		
Value_Before_Change		
Value_Set	Value_Set	
Pulse_Rate		
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Limit_Monitoring_Interval	Limit_Monitoring_Interval	0..65535
Notification_Class		
Time_Delay	Time_Delay	0..65535
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Optional properties supported	Writable properties	Property range restrictions
Description		
Reliability		
	Out_Of_Service	
	Scale_Factor	
	Adjust_Value	
COV_Increment		
COV_Period	COV_Period	0..65535
Notification_Class		
Time_Delay	Time_Delay	0..65535
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Deadband	Deadband	0..maxReal
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

2.6 Segmentation capability

- Able to transmit segmented messages Window size 4
- Able to receive segmented messages Window size 4

2.7 Data Link Layer options

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

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- 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) : 38400
- Point-To-Point, modem, (Clause 10), baud rate(s) : 38400
- LonTalk, (Clause 11), medium : TP/FT-10
- Other :

2.8 Device address binding

Is static device binding supported? Yes No

2.9 Networking options

- Router, Clause 6 (remote management functionality/BACnet PTP)
- Annex H, BACnet Tunnelling Router over IP
- BACnet/IP Broadcast Management Device (BBMD) ¹⁾
Number of BDT entries: 50
Number of FDT entries: 50
- Does the BBMD support registrations by foreign devices? Yes No
- 1) if product supports IP

2.10 Character sets supported

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

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

Note

- Outgoing character strings are communicated in the selected character set.
- Incoming character strings with character sets other than ISO 8859-1 will be mapped to ISO8859-1 internally. If the mapping is not possible, the character string is not accepted.

3 SX OPEN

Date	: June 10 th 2005
Vendor name	: Siemens Building Technologies (Vendor ID 7)
Product name	: SX OPEN
Product model number	: –
BACnet protocol version	: 1.2
Application software version	: –
Firmware revision	: V1.xx

3.1 Product Description

SX OPEN is a generic framework to develop gateways from several field buses to BACnet in an efficient way. SX OPEN provides server-functionality but act as BACnet-client as well for real peer-to-peer communication.

3.2 BACnet Standardized Device Profile (Annex L)

<input type="checkbox"/>	BACnet Operator Workstation	(B-OWS)
<input type="checkbox"/>	BACnet Building Controller	(B-BC)
<input type="checkbox"/>	BACnet Advanced Application Controller	(B-AAC)
<input type="checkbox"/>	BACnet Application Specific Controller	(B-ASC)
<input type="checkbox"/>	BACnet Smart Sensor	(B-SS)
<input type="checkbox"/>	BACnet Smart Actuator	(B-SA)

3.3 Additional BACnet interoperability building blocks supported (Annex K)

Data sharing	Data Sharing – ReadProperty-A	DS-RP-A
	Data Sharing – ReadProperty-B	DS-RP-B
	Data Sharing – ReadPropertyMultiple-B	DS-RPM-B
	Data Sharing – WriteProperty-A	DS-WP-A
	Data Sharing – WriteProperty-B	DS-WP-B
	Data Sharing – COV-A	DS-COV-A
	Data Sharing – COVP-A	DS-COVP-A
	Alarm and event management	Alarm and Event – Notification-B
Alarm and Event – ACK-A/E- Notifications-B		AE-ACK-B
Alarm and Event – Alarm Summary-B		AE-ASUM-B
Alarm and Event – Enrollment Summary-B		AE-ESUM-B
Alarm and Event – Information-B		AE-INFO-B
Scheduling	–	–
Trending	Trending – Viewing and Modifying Trends Internal-B	T-VMT-I-B
	Trending – Automated Trend Retrieval-B	T-ATR-B

Device management	Device Management – Dynamic Device Binding-A	DM-DDB-A
	Device Management – Dynamic Device Binding-B	DM-DDB-B
	Device Management – Dynamic Object Binding-A	DM-DOB-A
	Device Management – Dynamic Object Binding-B	DM-DOB-B
	Device Management – TimeSynchronization-B	DM-TS-B
	Device Management – List Manipulation-B	DM-LM-B
Network management	Network management – Connection Establishment-B	NM-CE-B
	Network management – Router Configuration-B	NM-RC-B

3.4 Standard object types supported

Object type	Supported	Can be created dynamically	Can be deleted dynamically
Accumulator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analog Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analog Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analog Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Averaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calendar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Command	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Device	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Event Enrollment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
File	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life-Safety-Point	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life-Safety-Zone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-State Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-State Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-State Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notification Class	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pulse converter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trend Log	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Structured-View	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Analog Input

Optional Property Supported	Writable Properties	Property Range Restriction
Description Reliability Min_Pres_Value Max_Pres_Value COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Out_Of_Service Min_Pres_Value Max_Pres_Value COV_Increment High_Limit Low_Limit Limit_Enable	

Analog Output

Optional Property Supported	Writable Properties	Property Range Restriction
Description Reliability COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Out_Of_Service COV_Increment High_Limit Low_Limit Limit_Enable	

Analog Value

Optional Property Supported	Writable Properties	Property Range Restriction
Description Reliability	Present_Value	
Priority_Array Relinquish_Default COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Out_Of_Service COV_Increment High_Limit Low_Limit Limit_Enable	

Binary Input

Optional Property Supported	Writable Properties	Property Range Restriction
Description Reliability	Present_Value	
Inactive_Text Active_Text Time_Delay Notification_Class Alarm_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Out_Of_Service	

Binary Output

Optional Property Supported	Writable Properties	Property Range Restriction
Description Reliability	Present_Value	
Inactive_Text Active_Text Time_Delay Notification_Class Feedback_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Out_Of_Service	

Binary Value

Optional Property Supported	Writable Properties	Property Range Restriction
Description Reliability Inactive_Text Active_Text Priority_Array Relinquish_Default Time_Delay Notification_Class Feedback_Value Alarm_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Out_Of_Service	

Device

Optional Property Supported	Writable Properties	Property Range Restriction
Location Description Local_Time Local_Date UTC_Offset Daylight_Savings_Status APDU_Segment_Timeout		

Multistate Input

Optional Property Supported	Writable Properties	Property Range Restriction
Description Reliability State_Text Time_Delay Notification_Class Alarm_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Out_Of_Service	1 .. Number_Of_States

Multistate Output

Optional Property Supported	Writable Properties	Property Range Restriction
Description Reliability State_Text Time_Delay Notification_Class Alarm_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Out_Of_Service	1 .. Number_Of-States

Multistate Value

Optional Property Supported	Writable Properties	Property Range Restriction
Description Reliability State_Text Priority_Array Relinquish_Default Time_Delay Notification_Class Alarm_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Out_Of_Service	1 .. Number_Of-States

Notification Class

Optional Property Supported	Writable Properties	Property Range Restriction
Description	Recipient_List Ack_Required	

Trend Log

Optional Property Supported	Writable Properties	Property Range Restriction
Description	Log_Enable	
Start_Time		
Stop_Time		
Log_DeviceObjectProperty		
Log_Interval	Log_Interval	
Notification_Threshold		
Records_Since_Notification		
Previous_Notify_Time		
Current_Notify_Time		
Notification_Class		
Event_Enable		
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		

3.5 Segmentation Capability

- Segmented requests supported Window size 4
- Segmented responses supported Window size 4

3.6 Data Link Layer options

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ASTM 878.1, 2.5Mb. ARCNET (Clause 8)
- ASTM 878.1, RS485 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
- Other

3.7 Device address binding

Is static device binding supported? Yes No

3.8 Networking Options

- Router, Clause 6 – Routing configurations: _____
- Annex H, BACnet Tunnelling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)

3.9 Character sets supported

- | | | |
|---|---|-------------------------------------|
| <input checked="" type="checkbox"/> ANSI X3.4 | <input type="checkbox"/> IBM / Microsoft DBCS | <input type="checkbox"/> ISO 8859-1 |
| <input type="checkbox"/> ISO 10646 (UCS-2) | <input type="checkbox"/> ISO 10646 (UCS-4) | <input type="checkbox"/> JIS C 6226 |

4 DESIGO INSIGHT

Date	: 28 February 2009
Vendor name	: Siemens Building Technologies (Vendor ID 7)
Product name	: DESIGO INSIGHT
Product model number	: –
BACnet protocol version	: 1.5
Application software version	: –
Firmware revision	: V4.00.0xx (Baselevel xx >022)

4.1 Product description

DESIGO INSIGHT is the BACnet management station for the DESIGO system. DESIGO INSIGHT is represented in the network as a BACnet device, which contains a device object only.

4.2 BACnet standardized device profile (Annex L)

<input type="checkbox"/>	BACnet Operator Workstation	(B-OWS)
<input type="checkbox"/>	BACnet Building Controller	(B-BC)
<input type="checkbox"/>	BACnet Advanced Application Controller	(B-AAC)
<input type="checkbox"/>	BACnet Application Specific Controller	(B-ASC)
<input type="checkbox"/>	BACnet Smart Sensor	(B-SS)
<input type="checkbox"/>	BACnet Smart Actuator	(B-SA)

4.3 BACnet interoperability building blocks supported (Annex K)

Data sharing

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 – WriteProperty-A	DS-WP-A
Data Sharing – WriteProperty-B	DS-WP-B
Data Sharing – COV-A	DS-COV-A
Data Sharing – COVP-A	DS-COVP-A

Alarm and event management	Alarm and Event – Notification-A	AE-N-A
	Alarm and Event – ACK-A	AE-ACK-A
	Alarm and Event – Alarm Summary-A	AE-ASUM-A
	Alarm and Event – Enrollment Summary-A	AE-ESUM-A
	Alarm and Event – Information-A	AE-INFO-A
Scheduling	Scheduling-A	SCHED-A
Trending	Trending – Viewing and Modifying Trends-A	T-VMT-A
	Trending – Automated Trend Retrieval-A	T-ATR-A
Device management	Device Management – Dynamic Device Binding-A	DM-DDB-A
	Device Management – Dynamic Device Binding-B	DM-DDB-B
	Device Management – Dynamic Object Binding-A	DM-DOB-A
	Device Management – Dynamic Object Binding-B	DM-DOB-B
	Device Management – TimeSynchronization-A	DM-TS-A
	Device Management – UTCTimeSynchronization-A	DM-UTC-A
	Device Management – DeviceCommunicationControl-A	DM-DCC-A
	Device Management – ReinitializeDevice-A	DM-RD-A
Network management	–	

4.4 Standard object types supported

Only the device object is supported.
Dynamic creation or deletion of objects is not supported.

Device	Optional properties supported	Writable properties	Property range restrictions
	Location		
Description			
Max_Segments_Accepted			
APDU_Segment_Timeout			

4.5 Segmentation capability

<input checked="" type="checkbox"/>	Able to transmit segmented messages	Window size	4
<input checked="" type="checkbox"/>	Able to receive segmented messages	Window size	4

4.6 Data Link Layer options

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- 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) : max 38400
- Point-To-Point, modem, (Clause 10), baud rate(s) : max 38400
- LonTalk, (Clause 11), medium: : TP/FT-10
- Other :

4.7 Device address binding

Is static device binding supported? Yes No

4.8 Networking options

- Router, Clause 6
- Annex H, BACnet Tunnelling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)
Does the BBMD support registrations by Foreign Devices? Yes No

4.9 Character sets supported

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

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

Note

- Outgoing character strings are communicated in the selected character set.
- Incoming character strings with character sets other than ISO 8859-1 will be mapped to ISO8859-1 internally. If the mapping is not possible, the character string is not accepted.

5 DESIGO PXM20 operator unit

Date	: 28 February 2009
Vendor name	: Siemens Building Technologies (Vendor ID 7)
Product name	: DESIGO PXM20 operator unit
Product model number	: PXM20, PXM20-E
BACnet protocol version	: 1.5
Application software version	: –
Firmware revision	: V4.00.xxx

5.1 Product description

The DESIGO PXM20 operator unit ensures the convenient display and operation of DESIGO PXC automation stations via BACnet network communication. The graphics-based display with clear text and direct access via the keyboard ensure a most user-friendly operation.

All values visible in the system can be displayed in accordance with the defined operator profile. Typical displays: display of current values, setpoint and parameter settings, maintenance and error messages, alarm lists and single alarm messages with acknowledgement option and/or reset, definition of time schedulers (7-day schedules and exception programs), plant switching, login and password inputs. An integrated common alarm message system with acoustic and visual indication is provided.

5.2 BACnet standardized device profile (Annex L)

<input type="checkbox"/>	BACnet Operator Workstation	(B-OWS)
<input type="checkbox"/>	BACnet Building Controller	(B-BC)
<input type="checkbox"/>	BACnet Advanced Application Controller	(B-AAC)
<input type="checkbox"/>	BACnet Application Specific Controller	(B-ASC)
<input type="checkbox"/>	BACnet Smart Sensor	(B-SS)
<input type="checkbox"/>	BACnet Smart Actuator	(B-SA)

5.3 BACnet interoperability building blocks supported (Annex K)

Data sharing	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 – WriteProperty-A	DS-WP-A
	Data Sharing – WriteProperty-B	DS-WP-B
	Data Sharing – COV-A	DS-COV-A
	Data Sharing – COVP-A	DS-COVP-A
Alarm and event management	Alarm and Event – Notification-A	AE-N-A
	Alarm and Event – ACK-A	AE-ACK-A
	Alarm and Event – Information-A	AE-INFO-A
Scheduling	Scheduling-A	SCHED-A
Trending	–	–
Device management	Device Management – Dynamic Device Binding-A	DM-DDB-A
	Device Management – Dynamic Device Binding-B	DM-DDB-B
	Device Management – Dynamic Object Binding-A	DM-DOB-A
	Device Management – Dynamic Object Binding-B	DM-DOB-B
	Device Management – UTCTimeSynchronization-A	DM-UTC-A
Network management	–	–

5.4 Standard object types supported

Only the device object is supported.
Dynamical creation or deletion of objects is not supported.

Device	Optional properties supported	Writable properties	Property range restrictions
	Location		
	Description		
	Max_Segments_Accepted		
	APDU_Segment_Timeout		

5.5 Segmentation capability

<input checked="" type="checkbox"/>	Able to transmit segmented messages	Window size	4
<input checked="" type="checkbox"/>	Able to receive segmented messages	Window size	4

5.6 Data Link Layer options

PXM20	PXM20-E		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	BACnet IP, (Annex J)	
<input type="checkbox"/>	<input type="checkbox"/>	BACnet IP, (Annex J), Foreign Device	
<input type="checkbox"/>	<input type="checkbox"/>	ISO 8802-3, Ethernet (Clause 7)	
<input type="checkbox"/>	<input type="checkbox"/>	ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)	
<input type="checkbox"/>	<input type="checkbox"/>	ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s)	
<input type="checkbox"/>	<input type="checkbox"/>	MS/TP master (Clause 9), baud rate(s)	:
<input type="checkbox"/>	<input type="checkbox"/>	MS/TP slave (Clause 9), baud rate(s)	:
<input type="checkbox"/>	<input type="checkbox"/>	Point-To-Point, EIA 232 (Clause 10), baud rate(s)	:
<input type="checkbox"/>	<input type="checkbox"/>	Point-To-Point, modem, (Clause 10), baud rate(s)	:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	LonTalk, (Clause 11), medium	: TP/FT-10
<input type="checkbox"/>	<input type="checkbox"/>	Other	:

5.7 Device address binding

Is static device binding supported? Yes No

5.8 Networking options

<input type="checkbox"/>	Router, Clause 6	
<input type="checkbox"/>	Annex H, BACnet Tunnelling Router over IP	
<input type="checkbox"/>	BACnet/IP Broadcast Management Device (BBMD)	
	Does the BBMD support registrations by Foreign Devices?	<input type="checkbox"/> Yes <input type="checkbox"/> No

5.9 Character sets supported

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

<input checked="" type="checkbox"/>	ANSI X3.4	<input type="checkbox"/>	IBM / Microsoft DBCS	<input checked="" type="checkbox"/>	ISO 8859-1
<input checked="" type="checkbox"/>	ISO 10646 (UCS-2)	<input type="checkbox"/>	ISO 10646 (UCS-4)	<input type="checkbox"/>	JIS C 6226

Note

- Outgoing character strings are communicated in the selected character set.
- Incoming character strings with character sets other than ISO 8859-1 will be mapped to ISO8859-1 internally. If the mapping is not possible, the character string is not accepted.

6 DESIGO PX BACnet router

Date	: 14 Jan 2005
Vendor name	: Siemens Building Technologies (Vendor ID 7)
Product name	: DESIGO PX BACnet Router
Product model number	: PXG80-N
BACnet protocol version	: 1.2
Application software version	: –
Firmware revision	: V2.10.xxx

6.1 Product description

The DESIGO PXG80-N BACnet router transmits the BACnet protocol from LON to Ethernet/IP. This means that the two sides form a BACnet network each.

In addition, the BACnet router supports the functionality of the BBMD (BACnet Broadcast Management Device) in order to distribute the BACnet broadcast messages across the IP routers.

The BACnet router contains a device object and can be operated by a BACnet client (PXM20, DESIGO TOOLSET or DESIGO INSIGHT). The current operating state, date and time as well as the statistics for the sent packages are stored in the device object. These values can be read from the device object via simple read services.

6.2 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)

6.3 BACnet interoperability building blocks supported (Annex K)

Data sharing	Data Sharing – ReadProperty-B	DS-RP-B
	Data Sharing – ReadPropertyMultiple-B	DS-RPM-B
	Data Sharing – WriteProperty-B	DS-WP-B
	Data Sharing – WritePropertyMultiple-B	DS-WPM-B
Alarm and event management	–	–
Scheduling	–	–
Trending	–	–
Device management	Device Management – Dynamic Device Binding-B	DM-DDB-B
	Device Management – Dynamic Object Binding-B	DM-DOB-B
	Device Management – UTCTimeSynchronization-B	DM-UTC-B
Network management	Network Management – Router Configuration-B	NM-RC-B

6.4 Standard object types supported

Only the device object is supported.

Dynamical creation or deletion of objects is not supported.

Device

Optional properties supported	Writable properties	Property range restrictions
Location	Location	
Description	Description	
APDU_Segment_Timeout		
Local_Time	Local_Time	
Local_Date	Local_Date	
UTC_Offset	UTC_Offset	
Daylight_Saving_Status		

6.5 Segmentation capability

<input checked="" type="checkbox"/>	Able to transmit segmented messages	Window size	1
<input checked="" type="checkbox"/>	Able to receive segmented messages	Window size	1

6.6 Data Link Layer options

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- 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) :
- LonTalk, (Clause 11), medium : TP/FT-10
- Other :

6.7 Device address binding

Is static device binding supported? Yes No

6.8 Networking options

- Router, Clause 6, Ethernet/IP LonTalk
 - Annex H, BACnet Tunnelling Router over IP
 - BACnet/IP Broadcast Management Device (BBMD)
 - Number of BDT entries: 10
 - Number of FDT entries: 10
- Does the BBMD support registrations by Foreign Devices? Yes No

6.9 Character sets supported

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

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

Note

- Object names will be communicated in ANSI X3.4
- Incoming character strings with character sets other than ISO 8859-1 will be mapped to ISO8859-1 internally. If the mapping is not possible, the character string is not accepted.

7 DESIGO S7 automation station

Date	: 28 February 2009
Vendor name	: Siemens Building Technologies (Vendor ID 7)
Product name	: DESIGO S7 automation station SIMATIC S7300 Series with CP 343-1 BACnet
Product model number	: (see table below)
BACnet protocol version	: 1.5
Application software version	: CP – V1.0.xxx
Firmware revision	: T1.0.xx

7.1 Product model number

The DESIGO S7 automation station is a range of products based on the same software. A DESIGO S7 automation station includes one of the system controllers listed below and the CP 343-1 BACnet communication processor. The PICS are the same for all DESIGO S7 automation stations products listed below.

7.2 Product description

Product	Description
S7-314	System controller
S7-315	System controller
S7-316	System controller
S7-317	System controller
S7-319	System controller
CP 343-1 BACnet	Communication Processor

The DESIGO S7 automation station is a freely configurable process unit with focus on HVAC. The process unit as a system platform can be used in the SIMATIC product range as a stand-alone or network device with S7 or BACnet communication.

Important Notice

The DESIGO S7 Solution Package does not support the H/F Systems from the SIMATIC Product Family

7.3 BACnet standardized device profile (Annex L)

<input type="checkbox"/>	BACnet Operator Workstation	(B-OWS)
<input type="checkbox"/>	BACnet Building Controller	(B-BC)
<input checked="" type="checkbox"/>	BACnet Advanced Application Controller	(B-AAC)
<input type="checkbox"/>	BACnet Application Specific Controller	(B-ASC)
<input type="checkbox"/>	BACnet Smart Sensor	(B-SS)
<input type="checkbox"/>	BACnet Smart Actuator	(B-SA)

7.4 BACnet interoperability building blocks supported (Annex K)

Data sharing	Data Sharing – ReadProperty-A	DS-RP-A
	Data Sharing – ReadProperty-B	DS-RP-B
	Data Sharing – ReadPropertyMultiple-B	DS-RPM-B
	Data Sharing – ListManagement	DS-LM-B
	Data Sharing – WriteProperty-A	DS-WP-A
	Data Sharing – WriteProperty-B	DS-WP-B
	Data Sharing – WritePropertyMultiple-B	DS-WPM-B
	Data Sharing – COV – A	DS-COV-A
	Data Sharing – COVP – A	DS-COVP-A
	Data Sharing – COV – B	DS-COV-B
	Data Sharing – COVP – B	DS-COVP-B
	Alarm and event management	Alarm and Event – Notification Internal-B
Alarm and Event – ACK-B		AE-ACK-B
Alarm and Event – Information-B		AE-INFO-B
Scheduling	Scheduling – Internal-B ¹⁾	SCHED-I-B
	¹⁾ Scheduling – internal-B (SCHED-I-B) for BOOLEAN, REAL, and Multistate Values supported	
Trending	Trending – Viewing and Modifying Trends-Internal-B	T-VMT-I-B
	Trending – Automated Trend Retrieval-B	T-ATR-B
Device management	Device Management – Dynamic Device Binding-A	DM-DDB-A
	Device Management – Dynamic Device Binding-B	DM-DDB-B
	Device Management – Dynamic Object Binding-A	DM-DOB-A
	Device Management – Dynamic Object Binding-B	DM-DOB-B
	Device Management – DeviceCommunicationControl-B	DM-DCC-B
	Device Management – TimeSynchronization-B	DM-TS-B
	Device Management – UTCTimeSynchronization-B	DM-UTC-B
	Device Management – ReinitializeDevice-B	DM-RD-B

7.5 Standard object types supported

Object type	Supported	Can be created dynamically	Can be deleted dynamically
Accumulator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analog Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analog Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analog Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Averaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calendar	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Command	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Device	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Event Enrollment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
File	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loop	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life-Safety-Point	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life-Safety-Zone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-State Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-State Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-State Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notification Class	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pulse converter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schedule	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trend Log	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Structured-View	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Analog Input

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
Resolution		
COV_Increment		
Time_Delay	Time_Delay	
Notification_Class		
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Deadband	Deadband	0 .. maxReal
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		

Optional properties supported	Writable properties	Property range restrictions
-------------------------------	---------------------	-----------------------------

Profile_Name

Analog Output

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
Resolution		
	Relinquish_Default	
COV_Increment		
Time_Delay	Time_Delay	
Notification_Class		
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Deadband	Deadband	0 .. maxReal
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Analog Value
(object tag = 4)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
Priority_Array		
Relinquish_Default	Relinquish_Default	
COV_Increment		
Time_Delay	Time_Delay	
Notification_Class		
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Deadband	Deadband	0 .. maxReal
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Analog Value
(object tag =
2 or 51 or 66)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
COV_Increment		
Profile_Name		

**Analog Value
(object tag = 67)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
COV_Increment		
Priority_Array		
Relinquish_Default		
Profile_Name		

Binary Input

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
	Polarity	
Inactive_Text		
Active_Text		
Elapsed_Active_Time	Elapsed_Active_Time	
Time_Of_Active_TimeReset		
Time_Delay	Time_Delay	
Notification_Class		
Alarm_Value	Alarm_Value	
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Binary Output

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
	Polarity	
Inactive_Text		
Active_Text		
Elapsed_Active_Time	Elapsed_Active_Time	
Time_Of_Active_TimeReset		
Minimum_Off_Time	Minimum_Off_Time	0 ... 65535
Minimum_On_Time	Minimum_On_Time	0 ... 65535
	Relinquish_Default	
Time_Delay	Time_Delay	
Notification_Class		
Feedback_Value		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Binary Value
(object tag = 9)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Reliability		
	Out_Of_Service	
Inactive_Text		
Active_Text		
Elapsed_Active_Time	Elapsed_Active_Time	
Time_Of_Active_Time_Reset		
Minimum_Off_Time	Minimum_Off_Time	0 ... 65535
Minimum_On_Time	Minimum_On_Time	0 ... 65535
Priority_Array		
Relinquish_Default	Relinquish_Default	
Time_Delay	Time_Delay	
Notification_Class		
Alarm_Value	Alarm_Value	
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Binary Value (object tag
= 7 or 52)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	
Description		
Inactive_Text		
Active_Text		
Profile_Name		

Calendar

Optional properties supported	Writable properties	Property range restrictions
Description		
	Date_List	max 30
Profile_Name		

Device

Optional properties supported	Writable properties	Property range restrictions
Location		
Description		
Max_Segments_Accepted		
Local_Time		
Local_Date		
UTC_Offset	UTC_Offset	-780 .. 780
Daylight_Savings_Status		
APDU_Segment_Timeout		
Active_COV_Subscriptions		
Configuration_Files		
Last_Restore_Time		
Backup_Failure_Timeout	Backup_Failure_Timeout	0..65535
Profile_Name		

Loop

Optional properties supported	Writable properties	Property range restrictions
Description		
Reliability		
	Out_Of_Service Action	
Proportional_Constant	Proportional_Constant	0 .. maxReal
Proportional_Constant_Units		
Integral_Constant		
Integral_Constant_Units		
Derivative_Constant		
Derivative_Constant_Units		
Bias	Bias	0..100 (configurable)
Maximum_Output	Maximum_Output	0..100 (configurable)
Minimum_Output	Minimum_Output	0..100 (configurable)
COV_Increment		
Profile_Name		

Multistate Input

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	1 ... Number_Of_States
Description		
Reliability		
	Out_Of_Service	
State_Text		
Time_Delay	Time_Delay	
Notification_Class		
Alarm_Values	Alarm_Values	Max. 5
Fault_Values		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Multistate Output

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	1 .. Number_Of_States
Description		
Reliability		
	Out_Of_Service	
State_Text		
	Relinquish_Default	1 .. Number_Of_States
Time_Delay	Time_Delay	
Notification_Class		
Feedback_Value		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Multistate Value
(object tag = 14)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	1 .. Number_Of_States
Description		
Reliability		
	Out_Of_Service	
State_Text		
Priority_Array		
Relinquish_Default	Relinquish_Default	1 .. Number_Of_States
Time_Delay	Time_Delay	
Notification_Class		
Alarm_Values	Alarm_Values	max 5
Fault_Values		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

**Multistate Value (object
tag = 12 or 53)**

Optional properties supported	Writable properties	Property range restrictions
	Present_Value	1 .. Number_Of_States
Description		
State_Text		
Profile_Name		

Notification Class

Optional properties supported	Writable properties	Property range restrictions
Description		
	Priority	
	Recipient_List	Max. 30
Profile_Name		

Schedule

Optional properties supported	Writable properties	Property range restrictions
Description		
	Effective_Period	
Weekly_Schedule	Weekly_Schedule	Max. 10 per day
Exception_Schedule	Exception_Schedule	Max. 20
	Schedule_Default	
	Priority_For_Writing	1 ... 16
	Out_Of_Service	
Profile_Name		

Trend Log

Optional properties supported	Writable properties	Property range restrictions
Description		
Start_Time	Start_Time	
Stop_Time	Stop_Time	
Log_Device_Object_Property		
Log_Interval	Log_Interval	0, 100 ... 259200000 (720h) Hundredths of seconds are set to 0 (120->100).
COV_Resubscription_Interval		
	Stop_When_Full	
	Buffer_Size	2 ... 4000
Notification_Treshold	Notification_Treshold	
Records_Since_Notification		
Previous_Notify_Time		
Current_Notify_Time		
Notification_Class		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Accumulator

Optional properties supported	Writable properties	Property range restrictions
Description		
Reliability		
	Out_Of_Service	
Prescale		
Value_Change_Time		
Value_Before_Change		
Value_Set	Value_Set	
Pulse_Rate		
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Limit_Monitoring_Interval	Limit_Monitoring_Interval	0..65535
Notification_Class		
Time_Delay	Time_Delay	0..65535
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Optional properties supported	Writable properties	Property range restrictions
Description		
Reliability		
	Out_Of_Service	
	Scale_Factor	
	Adjust_Value	
COV_Increment		
COV_Period	COV_Period	0..65535
Notification_Class		
Time_Delay	Time_Delay	0..65535
High_Limit	High_Limit	
Low_Limit	Low_Limit	
Deadband	Deadband	0..maxReal
Limit_Enable		
Event_Enable	Event_Enable	
Acked_Transitions		
Notify_Type		
Event_Time_Stamps		
Profile_Name		

Details

7.6 Segmentation capability

- Able to transmit segmented messages Window size 4
- Able to receive segmented messages Window size 4

7.7 Data Link Layer options

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

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- 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) : 38400
- Point-To-Point, modem, (Clause 10), baud rate(s) : 38400
- LonTalk, (Clause 11), medium : TP/FT-10
- Other :

7.8 Device address binding

Is static device binding supported? Yes No

7.9 Networking options

- Router, Clause 6 (remote management functionality/BACnet PTP)
- Annex H, BACnet Tunnelling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)
Number of BDT entries: 50
Number of FDT entries: 32
- Does the BBMD support registrations by foreign devices? Yes No

7.10 Character sets supported

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

- ANSI X3.4 IBM / Microsoft DBCS ISO 8859-1¹⁾
- ISO 10646 (UCS-2) ISO 10646 (UCS-4) JIS C 6226

¹⁾ Object names are communicated in ANSI X3.4

Note

- Outgoing character strings are communicated in the selected character set.
- Incoming character strings with character sets other than ISO 8859-1 will be mapped to ISO8859-1 internally. If the mapping is not possible, the character string is not accepted.