SIEMENS

Climatix™
BACnet Protocol Implementation Conformance Statement (PICS)
Basic documentation

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Building Technologies

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1 About this document

1.1 Revision history

Version	Date	Changes	Section	Pages
01	08.11.2008	First edition		
02	27.02.2009	Reworked for VVS8		
03	14.07.2009	Added data for Trend Log	2.5, 2.6, 2.7	8, 9, 18
04	22.10.2009	Removed Unsolicited COVs Limit of Max_Master changed to 127	2.5 2.7	8 15

1.2 Reference documents

Ref.	Document titel	Type of document	Document No.

1.3 Before you start

Trademark

The trademark used in this document is listed together with it's legal owner in the following table. The use of this trademark is subject to international and national statutory provisions.

Trademark	Legal owner
BACnet™	American National Standard (ANSI/ASHRAE 135-1995)

Further to the note in this section, and to facilitate the reading of the text, this trademark will not be indicated elsewhere in the text (e.g. by use of symbol ™).

Copyright

Quality assurance

The document has been prepared with great care.

- The contents is checked at regular intervals.
- Any corrections necessary are included in subsequent versions.

Please ensure that you are aware of the latest revision date of the documentation.
If you find any lack of clarity while using this document, or if you have any criticisms or suggestions, please contact the product manager in your nearest branch office, or write directly to the support team at Headquarters in Zug (see below).

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2 Climatix PICS

2.1 Product information

Date : 19. August 2008
Vendor name : Siemens Building Technologies (Vendor ID 7)
Product name : Climatix
Product model number : (see table below)
BACnet protocol version : 1.4
Application software version –
Firmware revision :1.2

2.2 Product model number

Product	Description	Data Link Layer
Pol908.00	Communiction Module IP	IP
Pol904.00	Communiction Module MS/TP	MS/TP

2.3 Product description

The Climatix is a freely configurable process unit with focus on HVAC.

2.4 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)

2.5 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
	Data Sharing – COV-B	DS-COV-B
	Data Sharing – ReadProperty-A	DS-RP-A
	Data Sharing – WriteProperty-A	DS-WP-A
	Data Sharing – COV-A	DS-COV-A
Alarm and event management	Alarm and Event – Notification Internal-B	AE-N-I-B
	Alarm and Event – AcknowledgeAlarm-B	AE-ACK- B
	Alarm and Event – Information-B	AE-INFO-B
Scheduling	Scheduling – Internal-B	SCHED-I-B
Trending	Trends – Viewing and Modifying – I-B	T-VMT-I-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-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
	Device Management – List Manipulation-B	DM-LM-B
Network management		

2.6 Standard object types supported

Object type	Supported	Can be created dynamically	Can be deleted dynamically
Analog Input	☒	☐	☐
Analog Output	☒	☐	☐
Analog Value	☒	☐	☐
Binary Input	☒	☐	☐
Binary Output	☒	☐	☐
Binary Value	☒	☐	☐
Calendar	☒	☐	☐
Command	☐	☐	☐
Device	☒	☐	☐
Event Enrollment	☐	☐	☐
File	☐	☐	☐
Group	☐	☐	☐
Loop	☐	☐	☐
Multi-State Input	☒	☐	☐
Multi-State Output	☒	☐	☐
Multi-State Value	☒	☐	☐
Notification Class	☒	☐	☐
Program	☐	☐	☐
Schedule	☒	☐	☐
Averaging	☐	☐	☐
Trend Log	☒	☐	☐
Life-Safety-Point	☐	☐	☐
Life-Safety-Zone	☐	☐	☐
Accumulator	☐	☐	☐
Pulse-Converter	☐	☐	☐

2.7 Standard object types description

Analog Input

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Units		
Present_Value	(X)	
Status_Flags		
High_Limit	X	Min_Pres_Value <= x <=Max_Pres_Value And High_Limit > Low_Limit
Low_Limit	X	Min_Pres_Value <= x <=Max_Pres_Value And High_Limit > Low_Limit
COV_Increment	X	
Out_Of_Service	X	
Event_State		
Notification_Class		
Reliability	(X)	
Max_Pres_Value		
Min_Pres_Value		
Deadband	X	0 .. maxReal
Acked_Transitions		
Event_Enable	X	
Notify_Type		
Limit_Enable	X	
Time_Delay		
Event_Time_Stamps		

Analog Output

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Units		
Present_Value	X	
Max_Pres_Value		
Min_Pres_Value		
Status_Flags		
High_Limit	X	Min_Pres_Value <= x <=Max_Pres_Value And High_Limit > Low_Limit
Low_Limit	X	Min_Pres_Value <= x <=Max_Pres_Value And High_Limit > Low_Limit
COV_Increment	X	
Out_Of_Service	X	
Event_State		
Priority_Array		
Relinquish_Default	X	
Notification_Class		
Reliability	(X)	
Deadband	X	0 .. maxReal
Acked_Transitions		
Event_Enable	X	
Notify_Type		
Limit_Enable	X	
Time_Delay		
Event_Time_Stamps		

Analog Value

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Units		
Present_Value	X	Depends on the Unit
Status_Flags		
High_Limit	X	Min_Pres_Value <= x <=Max_Pres_Value And High_Limit > Low_Limit
Low_Limit	X	Min_Pres_Value <= x <=Max_Pres_Value And High_Limit > Low_Limit
COV_Increment	X	
Out_Of_Service	X	
Event_State		
Priority_Array		
Relinquish_Default	X	
Notification_Class		
Reliability	(X)	
Deadband	X	0 .. maxReal
Acked_Transitions		
Event_Enable	X	
Notify_Type		
Limit_Enable	X	
Time_Delay		
Event_Time_Stamps		

Analog Value

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Units		
Present_Value	(X)	Depends on the Unit
Status_Flags		
COV_Increment	X	
Out_Of_Service	(X)	
Event_State		

Binary Input

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Present_Value	(X)	
Status_Flags		
Out_Of_Service	X	
Event_State		
Inactive_Text		
Active_Text		
Polarity	X	
Notification_Class		
Reliability	(X)	
Acked_Transitions		
Event_Enable	X	
Alarm_Value	X	
Notify_Type		
Time_Delay		
Event_Time_Stamps		

Binary Output

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Present_Value	X	
Status_Flags		
Out_Of_Service	X	
Event_State		
Inactive_Text		
Active_Text		
Notification_Class		
Reliability	(X)	
Acked_Transitions		
Event_Enable	X	
Notify_Type		
Time_Delay		
Event_Time_Stamps		
Polarity	X	
Feedback_Value		
Priority_Array		
Relinquish_Default	X	

Binary Value

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Present_Value	X	
Status_Flags		
Out_Of_Service	X	
Event_State		
Inactive_Text		
Active_Text		
Priority_Array		
Relinquish_Default	X	
Notification_Class		
Reliability	(X)	
Acked_Transitions		
Event_Enable	X	
Alarm_Value	X	
Notify_Type		
Time_Delay		
Event_Time_Stamps		

Calendar

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Present_Value		
Date_List	X	max 10

Device

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
System_Status		
Vendor_Name		
Vendor_Identifier		
Model_Name		
Firmware_Revision		
Application_Software_Version		
Location	X	
Description	X	
Protocol_Version		
Protocol_Revision		
Protocol_Services_Supported		
Protocol_Obj_Types_Supported		
Object_List		
Max_APDU_Length_Accepted	X	1476>= x >=50
Segmentation_Supported	X	
APDU_Segment_Timeout	X	>100
APDU_Timeout	X	>100
Number_Of_APDU_Retries	X	
Local_Time		
Local_Date		
UTC_Offset	X	-780 .. 780
Daylight_Savings_Status		
Max_Segments_Accepted	X	
Device_Address_Binding		
Database_Revision		
Active_COV_Subscriptions		<=50
Only For MS/TP		
Max_Master	X	1 <= x <=127
Max_Info_Frames	X	1 <= x <=32

Multistate Input

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Present_Value	(X)	1 … Number_Of_States
Number_Of_States		
Status_Flags		
Out_Of_Service	X	
Event_State		
Notification_Class		
Reliability	(X)	
Acked_Transitions		
Event_Enable	X	
Alarm_Values	X	Max. 5
Fault_Values	X	Max. 5
Notify_Type		
Time_Delay		
Event_Time_Stamps		
State_Text		

Multistate Output

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Present_Value	X	1 .. Number_Of_States
Feedback_Value		
Number_Of_States		
Status_Flags		
Out_Of_Service	X	
Event_State		
Priority_Array		
Relinquish_Default	X	1 .. Number_Of_States
Notification_Class		
Reliability	(X)	
Acked_Transitions		
Event_Enable	X	
Notify_Type		
Time_Delay		
Event_Time_Stamps		
State_Text		

Multistate Value

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Present_Value	X	1 .. Number_Of_States
Number_Of_States		
Status_Flags		
Out_Of_Service	X	
Event_State		
Priority_Array		
Relinquish_Default	X	1 .. Number_Of_States
Notification_Class		
Reliability	(X)	
Acked_Transitions		
Event_Enable	X	
Alarm_Values	X	max 5
Fault_Values	X	max 5
Notify_Type		
Time_Delay		
Event_Time_Stamps		
State_Text		

Multistate Value

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Present_Value	X	1 .. Number_Of_States
Number_Of_States		
Status_Flags		
Out_Of_Service	X	
Event_State		
State_Text		

Notification Class

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Notification_Class		
Priority	X	
Ack_Required	X	
Recipient_List	X	Max. 20

Schedule

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Present_Value	(X)	Multistate, Analog
Schedule_Default	X	
Effective_Period	X	
Weekly_Schedule	X	Max. 6 per day
List_Of_Object_Property_References		
Priority_For_Writing	X	1 … 16
Status_Flags		
Reliability		
Out_Of_Service	X	

Trend Log

Properties supported	Writable properties X = Writeable (X) = Writeable if Out_Of_Service=True	Property range restrictions
Object_Identifier		
Object_Name		
Object_Type		
Description		
Log_Enable		
Stop_When_Full		
Buffer_Size		
Log_Buffer		
Record_Count		
Total_Record_Count		
Event_State		

2.8 Segmentation capability

☒	Able to transmit segmented messages	Window size	4 for IP and 1 for MS/TP
☒	Able to receive segmented messages	Window size	4 for IP and 1 for MS/TP

2.9 Data Link Layer options

Only one Data Link Layer supportet, see 2.2 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)	9600,19200,38400, 76800
☒	MS/TP slave (Clause 9), baud rate(s)	9600,19200,38400, 76800
☐	Point-To-Point, EIA 232 (Clause 10), baud rate(s)	
☐	Point-To-Point, modem, (Clause 10), baud rate(s)	
☐	LonTalk, (Clause 11), medium	
☐	Other	:

2.10 Device address binding

Is static device binding supported? ☐ Yes ☒ No

2.11 Networking options

☐ Router, Clause 6 (remote management functionality/BACnet PTP)

☐ Annex H, BACnet Tunneling Router over IP

☒ BACnet/IP Broadcast Management Device (BBMD) [1)]

Number of BDT entries: 10

Does the BBMD support registrations by foreign devices? ☒ Yes ☐ No

[1)] if product supports IP

2.12 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[1)]
☒ ISO 10646 (UCS-2)	☐ ISO 10646 (UCS-4)	☐ JIS C 6226

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