

Swegon GOLD BACnet PICS

BACnet Protocol Implementation Conformance Statement

Date: October 11, 2012
Vendor Name: Swegon AB (Vendor-Identifier: 300)
Product Name: GOLD
Product Model Number: Version C,D
Application Software Version: 1.1
Firmware Revision: 1.1
BACnet Protocol Revision: 5

Product Description:

This BACnet driver is implemented in GOLD PV 6.08 and provides the function of monitoring and operating the air handling unit. The supported Data Link Layer Options are BACnet / IP.

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)

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

Data Sharing	DS-RP-B	Data Sharing-Read Property-B
	DS-RPM-B	Data Sharing-Read Property Multiple-B
	DS-WP-B	Data Sharing-Write Property-B
	DS-WPM-B	Data Sharing-Write Property Multiple-B
	DS-COV-B	Data Sharing-COV-B
	DS-COVP-B	Data Sharing-COV Property-B
Alarm&Event Management	AE-N-I-B	Alarm&Event-Notification Internal-B
	AE-ACK-B	Alarm&Event-Acknowledge Alarm-B
	AE-ASUM-B	Alarm&Event-Alarm Summary-B
	AE-ESUM-B	Alarm&Event-Enrollment Summary -B
	AE-INFO-B	Alarm&Event-Event Information-B
Device Management	DM-DDB-B	Device Management-Dynamic Device Binding-B
	DM-DOB-B	Device Management-Dynamic Object Binding-B
	DM-DCC-B	Device Management-Dynamic Communication Control-B
	DM-RD-B	Device Management-Reinitialize Device-B

Segmentation Capability:

- Segmented requests supported Window Size: 16
- Segmented responses supported Window Size: 16

Standard Object Types Supported:

The CreateObject and DeleteObject services are not supported, so no objects are dynamically creatable or deletable through BACnet service requests.

Device Object Type

Property Identifier	Property Datatype	Conformance Code Standard	Conformance Code GOLD
Object_Identifier	BACnetObjectIdentifier	R	R
Object_Name	CharacterString	R	R
Object_Type	BACnetObjectType	R	R
System_Status	BACnetDeviceStatus	R	R
Vendor_Name	CharacterString	R	R
Vendor_Identifier	Unsigned16	R	R
Model_Name	CharacterString	R	R
Firmware_Revision	CharacterString	R	R
Application_Software_Version	CharacterString	R	R
Location	CharacterString	O	R
Description	CharacterString	O	R
Protocol_Version	Unsigned	R	R
Protocol_Revision	Unsigned	R	R
Protocol_Services_Supported	BACnetServicesSupported	R	R
Protocol_Object_Types_Supported	BACnetObjectTypesSupported	R	R
Object_List	BACnetARRAY[N]of BACnetObjectIdentifier	R	R
Structured_Object_List	BACnetARRAY[N]of BACnetObjectIdentifier	O	n/a
Max_APDU_Length_Accepted	Unsigned	R	R
Segmentation_Supported	BACnetSegmentation	R	R
Max_Segments_Accepted	Unsigned	O ¹	R
VT_Classes_Supported	List of BACnetVTClass	O ²	n/a
Active_VT_Sessions	List of BACnetVTSession	O ²	n/a
Local_Time	Time	O ^{3,4,15}	n/a
Local_Date	Date	O ^{3,4,15}	n/a
UTC_Offset	INTEGER	O ⁴	n/a
Daylight_Savings_Status	BOOLEAN	O ⁴	n/a
APDU_Segment_Timeout	Unsigned	O ¹	R
APDU_Timeout	Unsigned	R	R
Number_Of_APDU_Retries	Unsigned	R	R
Time_Synchronization_Recipients	List of BACnetRecipient	O ⁵	n/a
Max_Master	Unsigned(1..127)	O ⁶	n/a
Max_Info_Frames	Unsigned	O ⁶	n/a
Device_Address_Binding	List of BACnetAddressBinding	R	R
Database_Revision	Unsigned	R	R
Configuration_Files	BACnetARRAY[N] of BACnetObjectIdentifier	O ⁷	n/a
Last_Restore_Time	BACnetTimeStamp	O ⁷	n/a
Backup_Failure_Timeout	Unsigned16	O ⁸	n/a
Backup_Preparation_Time	Unsigned16	O	n/a
Restore_Preparation_Time	Unsigned16	O	n/a
Restore_Completion_Time	Unsigned16	O	n/a
Backup_And_Restore_State	BACnetBackupState	O	n/a
Active_COV_Subscriptions	List of BACnetCOVSubscription	O ⁹	R
Slave_Proxy_Enable	BACnetARRAY[N] of BOOLEAN	O ¹⁰	n/a
Manual_Slave_Address_Binding	List of BACnetAddressBinding	O ¹⁰	n/a
Auto_Slave_Discovery	BACnetARRAY[N] of BOOLEAN	O ¹¹	n/a
Slave_Address_Binding	List of BACnetAddressBinding	O ¹²	n/a
Last_Restart_Reason	BACnetRestartReason	O ¹³	n/a
Time_Of_Device_Restart	BACnetTimeStamp	O ¹³	n/a
Restart_Notification_Recipients	List of BACnetRecipient	O ¹³	n/a
UTC_Time_Synchronization_Recipients	List of BACnetRecipient	O ⁵	n/a
Time_Synchronization_Interval	Unsigned	O ¹⁴	n/a
Align_Intervals	BOOLEAN	O ¹⁴	n/a
Interval_Offset	Unsigned	O ¹⁴	n/a
Profile_Name	CharacterString	O	n/a

1 Required if segmentation of any kind is supported.

2 If one of the properties VT_Classes_Supported or Active_VT_Sessions is present, then both of these properties shall be present. Both properties are required if support for VT Services is indicated in the PICS.

3 If the device supports the execution of the TimeSynchronization service, then these properties shall be present.

- 4 If the device supports the execution of the UTCTimeSynchronization service, then these properties shall be present.
- 5 If this property is present, then Time_Synchronization_Interval, Align_Intervals and Interval_Offset shall be present. If present, this property shall be writable.
- 6 These properties are required if the device is an MS/TP master node.
- 7 These properties are required if the device supports execution of the backup and restore procedures.
- 8 This property shall be present and writable if the device supports the backup and restore procedures.
- 9 This property is required if the device supports execution of either the SubscribeCOV or SubscribeCOVProperty service.
- 10 This property shall be present and writable if the device is capable of being a Slave-Proxy device.
- 11 This property shall be present if the device is capable of being a Slave-Proxy device that implements automatic discovery of slaves.
- 12 This property shall be present if the device is capable of being a Slave-Proxy device.
- 13 These properties are required if the device supports the restart procedure as described in Clause 19.3.
- 14 If either Time_Synchronization_Recipients or UTC_Time_Synchronization_Recipients is present, then this property shall be present and writable.
- 15 These properties shall be present if the device is capable of tracking date and time.

Analog-Input Object Type

Property Identifier	Property Datatype	Conformance Code Standard	Conformance Code GOLD
Object_Identifier	BACnetObjectIdentifier	R	R
Object_Name	CharacterString	R	R
Object_Type	BACnetObjectType	R	R
Present_Value	REAL	R ¹	R ¹
Description	CharacterString	O	R
Device_Type	CharacterString	O	n/a
Status_Flags	BACnetStatusFlags	R	R
Event_State	BACnetEventState	R	R
Reliability	BACnetReliability	O	R
Out_Of_Service	BOOLEAN	R	R
Update_Interval	Unsigned	O	n/a
Units	BACnetEngineeringUnits	R	R
Min_Pres_Value	REAL	O	R
Max_Pres_Value	REAL	O	R
Resolution	REAL	O	n/a
COV_Increment	REAL	O ²	R
Time_Delay	Unsigned	O ³	n/a
Notification_Class	Unsigned	O ³	n/a
High_Limit	REAL	O ³	n/a
Low_Limit	REAL	O ³	n/a
Deadband	REAL	O ³	n/a
Limit_Enable	BACnetLimitEnable	O ³	n/a
Event_Enable	BACnetEventTransitionBits	O ³	n/a
Acked_Transitions	BACnetEventTransitionBits	O ³	n/a
Notify_Type	BACnetNotifyType	O ³	n/a
Event_Time_Stamps	BACnetARRAY[3] of BACnetTimeStamp	O ³	n/a
Event_Message_Texts	BACnetARRAY[3] of CharacterString	O ⁴	n/a
Profile_Name	CharacterString	O	n/a

¹ This property is required to be writable when Out_Of_Service is TRUE.

² This property is required if the object supports COV reporting.

³ These properties are required if the object supports intrinsic reporting.

⁴ This property, if present, is required to be read only.

Analog-Value Object Type

Property Identifier	Property Datatype	Conformance Code Standard	Conformance Code GOLD
Object_Identifier	BACnetObjectIdentifier	R	R
Object_Name	CharacterString	R	R
Object_Type	BACnetObjectType	R	R
Present_Value	REAL	R ⁴	R ⁴
Description	CharacterString	O	R
Status_Flags	BACnetStatusFlags	R	R
Event_State	BACnetEventState	R	R
Reliability	BACnetReliability	O	R
Out_Of_Service	BOOLEAN	R	R
Units	BACnetEngineeringUnits	R	R
Priority_Array	BACnetPriorityArray	O ¹	R
Relinquish_Default	REAL	O ¹	R
COV_Increment	REAL	O ²	R
Time_Delay	Unsigned	O ³	n/a
Notification_Class	Unsigned	O ³	n/a
High_Limit	REAL	O ³	n/a
Low_Limit	REAL	O ³	n/a
Deadband	REAL	O ³	n/a
Limit_Enable	BACnetLimitEnable	O ³	n/a
Event_Enable	BACnetEventTransitionBits	O ³	n/a
Acked_Transitions	BACnetEventTransitionBits	O ³	n/a
Notify_Type	BACnetNotifyType	O ³	n/a
Event_Time_Stamps	BACnetARRAY[3] of BACnetTimeStamp	O ³	n/a
Event_Message_Texts	BACnetARRAY[3] of CharacterString	O ⁵	n/a
Profile_Name	CharacterString	O	n/a

¹ If Present_Value is commandable, then both of these properties shall be present.

² This property is required if the object supports COV reporting.

³ These properties are required if the object supports intrinsic reporting.

⁴ If Present_Value is commandable, then it is required to be writable. This property is required to be writable when Out_Of_Service is TRUE.

⁵ This property, if present, is required to be read only.

Binary-Input Object Type

Property Identifier	Property Datatype	Conformance Code Standard	Conformance Code GOLD
Object_Identifier	BACnetObjectIdentifier	R	R
Object_Name	CharacterString	R	R
Object_Type	BACnetObjectType	R	R
Present_Value	BACnetBinaryPV	R ¹	R ¹
Description	CharacterString	O	R
Device_Type	CharacterString	O	n/a
Status_Flags	BACnetStatusFlags	R	R
Event_State	BACnetEventState	R	R
Reliability	BACnetReliability	O	R
Out_Of_Service	BOOLEAN	R	R
Polarity	BACnetPolarity	R	R
Inactive_Text	CharacterString	O ²	n/a
Active_Text	CharacterString	O ²	n/a
Change_Of_State_Time	BACnetDateTime	O ³	n/a
Change_Of_State_Count	Unsigned	O ³	n/a
Time_Of_State_Count_Reset	BACnetDateTime	O ³	n/a
Elapsed_Active_Time	Unsigned32	O ⁴	n/a
Time_Of_Active_Time_Reset	BACnetDateTime	O ⁴	n/a
Time_Delay	Unsigned	O ⁵	R [*]
Notification_Class	Unsigned	O ⁵	R [*]
Alarm_Value	BACnetBinaryPV	O ⁵	R [*]
Event_Enable	BACnetEventTransitionBits	O ⁵	R [*]
Acked_Transitions	BACnetEventTransitionBits	O ⁵	R [*]
Notify_Type	BACnetNotifyType	O ⁵	R [*]
Event_Time_Stamps	BACnetARRAY[3] of BACnetTimeStamp	O ⁵	R [*]
Event_Message_Texts	BACnetARRAY[3] of CharacterString	O ⁶	n/a
Profile_Name	CharacterString	O	n/a

1 This property is required to be writable when Out_Of_Service is TRUE.

2 If one of the optional properties Inactive_Text or Active_Text is present, then both of these properties shall be present.

3 If one of the optional properties Change_Of_State_Time, Change_Of_State_Count, or Time_Of_State_Count_Reset is present, then all of these properties shall be present.

4 If one of the optional properties Elapsed_Active_Time or Time_Of_Active_Time_Reset is present, then both of these properties shall be present.

5 These properties are required if the object supports intrinsic reporting.

6 This property, if present, is required to be read only.

* Alarms are supported for the max. 200 alarming parameters, All other Binary Input objects do not support Intrinsic Reporting.

Binary-Value Object Type

Property Identifier	Property Datatype	Conformance Code Standard	Conformance Code GOLD
Object_Identifier	BACnetObjectIdentifier	R	R
Object_Name	CharacterString	R	R
Object_Type	BACnetObjectType	R	R
Present_Value	BACnetBinaryPV	R ¹	R ¹
Description	CharacterString	O	R
Status_Flags	BACnetStatusFlags	R	R
Event_State	BACnetEventState	R	R
Reliability	BACnetReliability	O	R
Out_Of_Service	BOOLEAN	R	R
Inactive_Text	CharacterString	O ²	n/a
Active_Text	CharacterString	O ²	n/a
Change_Of_State_Time	BACnetDateTime	O ³	n/a
Change_Of_State_Count	Unsigned32	O ³	n/a
Time_Of_State_Count_Reset	BACnetDateTime	O ³	n/a
Elapsed_Active_Time	Unsigned32	O ⁴	n/a
Time_Of_Active_Time_Reset	BACnetDateTime	O ⁴	n/a
Minimum_Off_Time	Unsigned32	O	n/a
Minimum_On_Time	Unsigned32	O	n/a
Priority_Array	BACnetPriorityArray	O ⁵	n/a
Relinquish_Default	BACnetBinaryPV	O ⁵	n/a
Time_Delay	Unsigned	O ⁶	n/a
Notification_Class	Unsigned	O ⁶	n/a
Alarm_Value	BACnetBinaryPV	O ⁶	n/a
Event_Enable	BACnetEventTransitionBits	O ⁶	n/a
Acked_Transitions	BACnetEventTransitionBits	O ⁶	n/a
Notify_Type	BACnetNotifyType	O ⁶	n/a
Event_Time_Stamps	BACnetARRAY[3] of BACnetTimeStamp	O ⁶	n/a
Event_Message_Texts	BACnetARRAY[3] of CharacterString	O ⁷	n/a
Profile_Name	CharacterString	O	n/a

1 If Present_Value is commandable, then it is required to be writable. This property is required to be writable when Out_Of_Service is TRUE.

2 If one of the optional properties Inactive_Text or Active_Text is present, then both of these properties shall be present.

3 If one of the optional properties Change_Of_State_Time, Change_Of_State_Count, or Time_Of_State_Count_Reset is present, then all of these properties shall be present.

4 If one of the optional properties Elapsed_Active_Time or Time_Of_Active_Time_Reset is present, then both of these properties shall be present.

5 If Present_Value is commandable, then both of these properties shall be present.

6 These properties are required if the object supports intrinsic reporting.

7 This property, if present, is required to be read only.

Notification Class Object Type

Property Identifier	Property Datatype	Conformance Code Standard	Conformance Code Gold
Object_Identifier	BACnetObjectIdentifier	R	R
Object_Name	CharacterString	R	R
Object_Type	BACnetObjectType	R	R
Description	CharacterString	O	R
Notification_Class	Unsigned	R	R
Priority	BACnetARRAY[3] of Unsigned	R	R
Ack_Required	BACnetEventTransitionBits	R	R
Recipient_List	List of BACnetDestination	R	R
Profile_Name	CharacterString	O	n/a

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: _____
- Other: _____

Device Address Binding:

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) Yes No

Networking Options:

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
- Annex H, BACnet Tunneling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)
Does the BBMD support registrations by Foreign Devices? Yes No

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

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

Not applicable.