

# BACnet Protocol Implementation Conformance Statement

**Date:** 08.12.2014

**Vendor Name:** Ingenieurgesellschaft N.Hartleb mbH

**Product:**

Name	Model Number	Application Software Version	Firmware Version	BACnet Protocol Revision
BACnet Gateway SMARTi	BACnGTW-SMARTi	1.000	4.0.1.2958	135-2008, 1.7
BACnet Gateway ALIX2	BACnGTW-Alix2	1.000	4.0.1.2958	135-2008, 1.7

**Product Description:**

The BACnet Gateway is a communication gateway; it integrates standard and proprietary protocols and provides access to BACnet as a server and client.

**BACnet Standardized Device Profile:**

BACnet Gateway (B-GW, equal to B-BC)

**BACnet Interoperability Building Blocks Supported:**

*(grey marked BIBBs are generally supported in firmware; at Application Software on request)*

**Data Sharing BIBBs**

Data Sharing ReadProperty-A .....	DS-RP-A
Data Sharing ReadProperty-B .....	DS-RP-B
<b>Data Sharing ReadPropertyMultiple-A .....</b>	<b>DS-RPM-A</b>
Data Sharing ReadPropertyMultiple-B .....	DS-RPM-B
Data Sharing WriteProperty-A .....	DS-WP-A
Data Sharing WriteProperty-B .....	DS-WP-B
<b>Data Sharing WritePropertyMultiple-A .....</b>	<b>DS-WPM-A</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-A .....	DS-COVP-A
Data Sharing COVP-B .....	DS-COVP-B
Data Sharing COV-Unsolicited-A .....	DS-COVU-A
Data Sharing COV-Unsolicited-B .....	DS-COVU-B

**Alarm and Event BIBBs**

Alarm and Event Notification-A .....	AE-N-A
Alarm and Event Notification Internal-B .....	AE-N-I-B
Alarm and Event Notification External-B .....	AE-N-E-B
<b>Alarm and Event ACK-A .....</b>	<b>AE-ACK-A</b>

Alarm and Event ACK-B .....	AE-ACK-B
Alarm and Event Alarm Summary-A .....	AE-ASUM-A
Alarm and Event Alarm Summary-B .....	AE-ASUM-B
Alarm and Event Enrollment Summary-A .....	AE-ESUM-A
Alarm and Event Enrollment Summary-B .....	AE-ESUM-B
Alarm and Event Information-A .....	AE-INFO-A
Alarm and Event Information-B .....	AE-INFO-B
Alarm and Event LifeSafety-A .....	AE-LS-A
Alarm and Event LifeSafety-B .....	AE-LS-B

### Scheduling BIBBs

Scheduling-A .....	SCHED-A
Scheduling-Internal-B .....	SCHED-I-B
Scheduling-External-B .....	SCHED-E-B

### Trending BIBBs

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

### Device Management BIBBs

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 Text Message-A .....	DM-TM-A
Device Management Text Message-B .....	DM-TM-B
Device Management TimeSynchronization-A .....	DM-TS-A
Device Management TimeSynchronization-B .....	DM-TS-B
Device Management UTCTimeSynchronization-A .....	DM-UTC-A
Device Management UTCTimeSynchronization-B .....	DM-UTC-B
Device Management ReinitializeDevice-B .....	DM-RD-B
Device Management Backup and Restore-B .....	DM-BR-B
Device Management List Manipulation-A .....	DM-LM-A
Device Management List Manipulation-B .....	DM-LM-B
Device Management Object Creation and Deletion-A .....	DM-OCD-A
Device Management Object Creation and Deletion-B .....	DM-OCD-B

### Network Management BIBBs

Network Management Connection Establishment-A .....	NM-CE-A
Network Management Connection Establishment-B .....	NM-CE-B

### Segmentation Capability:

Segmentation requests supported .....	configurable, default 16
Segmentation responses supported .....	configurable, default 16

**Standard Object Types Supported:**

Object Type	Dynamically Createable	Dynamically Deleteable
Accumulator	No	No
Analog Input	No	No
Analog Output	No	No
Analog Value	No	No
Averaging	Yes	Yes
Binary Input	No	No
Binary Output	No	No
Binary Value	No	No
Calendar	Yes	Yes
Command	Yes	Yes
Device	No	No
Event Enrollment	Yes	Yes
File	No	No
Group	Yes	Yes
Live Savety Point	No	No
Live Savety Zone	No	No
Loop	Yes	Yes
Multistate Input	No	No
Multistate Output	No	No
Multistate Value	No	No
Notification Class	Yes	Yes
Program	No	No
Pulse Converter	No	No
EventLog	Yes	Yes
Schedule	Yes	Yes
Trendlog	Yes	Yes
Trendlog Multiple	Yes	Yes
Load Control	No	No
Structured View	Yes	Yes
Access Door	No	No

Accumulator	
Optional Properties Supported	Writeable Properties
Description Device_Type Reliability Prescale Value_Change_Time Value_Before_Change Value_Set Puls_Rate High_Limit Limit_Monitoring_Interval Notification_Class Limit_Enable Event_Enable Acked_Transitions Notify_Type	Description Reliability Out_Of_Service Max_Pres_Value Value_Set High_Limit Limit_Monitoring_Interval Notification_Class Limit_Enable Event_Enable Notify_Type

Analog Input	
Optional Properties Supported	Writeable Properties
All	Present_Value Description Reliability Out_Of_Service Update_interval Units Min_Pres_Value Max_Pres_Value Resolution COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Notify_Type

Analog Output	
Optional Properties Supported	Writeable Properties
All	Present_Value Description Reliability Out_Of_Service Update_interval Units Min_Pres_Value Max_Pres_Value Resolution Relinquish_Default

	COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Notify_Type
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Analog Value	
Optional Properties Supported	Writeable Properties
All	Present_Value Description Reliability Out_Of_Service Update_interval Units Min_Pres_Value Max_Pres_Value Resolution Relinquish_Default COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Notify_Type

Averaging	
Optional Properties Supported	Writeable Properties
All	Description Object_Property_Reference Attempted_Samples Window_Intervall Window_samples

Binary Input	
Optional Properties Supported	Writeable Properties
All	Description Reliability Present_Value Out_of_Service Polarity Inactive_Text Active_Text Change_of_State_Count

	Elapsed_Acticve_Time TimeDelay Notification_Class Alarm_Value Event_Enable NotifyType
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Binary Output	
Optional Properties Supported	Writeable Properties
All	Description Reliability Present_Value Out_of_Service Polarity Inactive_Text Active_Text Change_of_State_Count Elapsed_Acticve_Time Minimum_Off_Time Minimum_On_Time Relinquish_Default TimeDelay Notification_Class Alarm_Value Event_Enable NotifyType

Binary Value	
Optional Properties Supported	Writeable Properties
All	Description Reliability Present_Value Out_of_Service Polarity Inactive_Text Active_Text Change_of_State_Count Elapsed_Acticve_Time Minimum_Off_Time Minimum_On_Time Relinquish_Default TimeDelay Notification_Class Alarm_Value Event_Enable NotifyType

Calendar	
Optional Properties Supported	Writeable Properties
All	Description

	Object_Property_Reference Date_List
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Command	
Optional Properties Supported	Writeable Properties
All	Description Present_Value Action_Text Action

Device	
Optional Properties Supported	Writeable Properties
Location Description Local_Time Local_Date UTC_Offset Daylight_Saving_Status APDU_Segement_Timeout APDU_Timeout Number_Of_APDU_Retries Time_Synchronisation_Recipients Configuration_Files Backup_Failure_Timeout Active_COV_Subscriptions	Description APDU_Segment_Timeout APDU_Timeout Number_Of_APDU_Retries Time_Synchronisation_Recipients Backup_Failure_Timeout

Event Enrollment	
Optional Properties Supported	Writeable Properties
Description Notification_Class Profile_Name	Description Notification_Class Object_Property_Reference

File	
Optional Properties Supported	Writeable Properties
Description Profile_Name	Description

Group	
Optional Properties Supported	Writeable Properties
All	Description List_Of_Group_Members

Life Safety Point	
Optional Properties Supported	Writeable Properties
All	Description Reliability Mode Out_of_Service Units Mode Member_Of Time_Delay Notification_Class Event_Enable Notify_Type Alarm_Values Fault_Values Life_Safety_Alarm_Values

Life Safety Zone	
Optional Properties Supported	Writeable Properties
All	Description Reliability Mode Out_of_Service Units Mode Member_Of Time_Delay Notification_Class Event_Enable Notify_Type Alarm_Values Fault_Values Life_Safety_Alarm_Values

Loop	
Optional Properties Supported	Writeable Properties
All	Description Reliability Present_Value Out_Of_Service Update_Interval Output_units Manipulated_Variable_Reference Controlled_Variable_Reference Controlled_Variable_Units Setpoint Action Proportional_Constant Proportional_Constant_Units Integral_Constant Integral_Constant_Units Derivative_Constant



	Derivative_Constant_Units Bias Maximum_Output Minimum_Output Priority_For_Writing COV_increment Time_Delay Notification_Class Error_limit Event_Enable Notify_Type
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Multistate Input	
Optional Properties Supported	Writeable Properties
All	Description Device_Type Reliability Present_Value Out_of_Service Polarity Number_Of_States State_Text Change_of_State_Count Elapsed_Acticve_Time TimeDelay Notification_Class Alarm_Values Fault_Values Event_Enable NotifyType

Multistate Output	
Optional Properties Supported	Writeable Properties
All	Description Reliability Present_Value Out_of_Service Polarity Number_Of_States State_Text Relinquish_Default Change_of_State_Count Elapsed_Acticve_Time TimeDelay Notification_Class Event_Enable NotifyType

Multistate Value	
Optional Properties Supported	Writeable Properties
All	Description Reliability Present_Value Out_of_Service Number_Of_States State_Text Relinquish_Default Change_of_State_Count Elapsed_Acticve_Time TimeDelay Notification_Class Alarm_Values Fault_Values Event_Enable NotifyType

Notification Class	
Optional Properties Supported	Writeable Properties
All	Description Recipient_List Ack_Required

Program	
Optional Properties Supported	Writeable Properties
Program_Location Description Instance_Of	Description Reliability Program_Change

Pulse Converter	
Optional Properties Supported	Writeable Properties
All	Description Present_Value Out_of_Service Reliability Units Scale_Factor Adjust_Value Count COV_Increment Notification_Class Time_Delay High_Limit Low_Limit Deadband Limit_Enable Event_Enable Notify_Type

Schedule	
Optional Properties Supported	Writeable Properties
All	Description Present_Value Out_of_Service Effective_Period Weekly_Schedule Exeption_Schedule List_of_Object_Property_Reference Priority_For_Writing Reliability

Trendlog	
Optional Properties Supported	Writeable Properties
Description Start_Time Stop_Time Log_Device_Object_Property Notification_Theshold Records_Since_Notification Reliability Trigger Align_Intervals Interval_Offset Notification_Class Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps Profile_Name LastNotifyRecord	Description Log_Enable Start_Time Stop_Time Log_Device_Object_Property Buffer_Size Reliability Trigger Align_Intervals Interval_Offset Record_Count Notification_Theshold Notification_Class Notify_Type Event_Enable

Trendlog Multiple	
Optional Properties Supported	Writeable Properties
Description Start_Time Stop_Time Log_Device_Object_Property Notification_Theshold Records_Since_Notification Reliability Trigger Align_Intervals Interval_Offset Notification_Class Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps Profile_Name Last_Notify_Record	Description Log_Enable Start_Time Stop_Time Log_Device_Object_Property Buffer_Size Reliability Trigger Align_Intervals Interval_Offset Record_Count Notification_Theshold Notification_Class Notify_Type Event_Enable

Eventlog	
Optional Properties Supported	Writeable Properties
Description Start_Time Stop_Time Notification_Theshold Notification_Class Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps Profile_Name Records_Since_Notification Last_Notify_Record	Description Enable Start_Time Stop_Time Buffer_Size Reliability Record_Count Notification_Theshold Notification_Class Notify_Type Event_Enable

Load Control	
Optional Properties Supported	Writeable Properties
All	Description Reliability Notification_Class Event_Enable Notify_Type Time_Delay

Structured View	
Optional Properties Supported	Writeable Properties
All	Description Node_Subtype Subordinate_Annotations

Access Door	
Optional Properties Supported	Writeable Properties
All	Description Present_Value Reliability Out_of_Service Door_Status Lock_Status Secured_Status Door_Members Door_Unlock_Delay_Time Door_Alarm_State Masked_Alarm_Values Maintanance_Required Notification_Class Time_Delay Alarm_Values

	Fault_Values Event_Enable Notify_Type
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**Data Link Layer Options:**

BACnet IP (Annex J)  
BACnet IP (Annex J) Foreign Device  
Ethernet (ISO 8803-3)  
MS/TP Master: ..., 9600, 19200, 38400, 57600, 76800, 115200 (SMARTi only)  
Point-To-Point (PTP)

**Device Address Binding:**

Static device address binding is supported

**Networking Options:**

Router (BACnet-IP, BACnet-MS/TP)  
BACnet/IP Broadcast Management Device (BBMD)  
Supports registrations by Foreign Devices

**Character Sets Supported:**

ANSI X3.4  
IBM Microsoft DBCS  
ISO 8859-1

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

- Modbus RTU RS232/RS485 and Ethernet TCP/ UDP
- SNMP SimpleNetworkManagementProtocol
- SIMATIC S7 with MPI Adaptor and ISO-TCP RFC1006
- Frako EMP1100 Energymanagment
- KNX/EIB with SIM-KNX Onboard, TP-Serial Adaptor and Ethernet IP
- Landis&Gyr EKL-X/PRV and Siemens PRV2/BPS with COLBAS
- other RS232/RS485/Ethernet programmable (LUA, C/C++) OEM