

BACnet Protocol Implementation Conformance Statement

Date: September 19, 2016
 Vendor Name: DEOS AG (Vendor ID: 142)
 Product Name: OPEN 600 EMS, OPEN 810 EMS,
 OPEN 4100 EMS
 Product Model Number: DS-OPEN 600/0 EMS, DS-OPEN 600/5 EMS,
 DS-OPEN 600H/0 EMS, DS-600H/5 OPEN,
 DS-OPEN 810/5 EMS, DS-OPEN 810/12 EMS,
 DS-OPEN 810/32 EMS
 DS-OPEN 4100 EMS C1, DS-OPEN 4100 EMS C2

Applications Software Version: n.a.
 Firmware Revision: 1.052_3
 BACnet Protocol Revision: 12

Product Description:

OPEN EMS Native BACnet Controllers are freely programmable building automation controllers.

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)

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-COV-Unsolicited-A	DS-COVU-A
Data Sharing-COV-Unsolicited-B	DS-COVU-B

Alarm / Event

Alarm and Event-Notification Internal-B	AE-N-I-B
Alarm and Event-Notification External-B	AE-N-E-B
Alarm and Event-ACK-B	AE-ACK-B
Alarm and Event-Alarm Summary-B	AE-ASUM-B
Alarm and Event EnrollmentSummary-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-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-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-AutomaticTimeSynchronization-A	DM-ATS-A
Device Management-ReinitializeDevice-B	DM-RD-B
Device Management-Backup and Restore-B	DM-BR-B
Device Management-Restart-B	DM-R-B
Device Management-List Manipulation-B	DM-LM-B
Device Management-Object Creation and Deletion-B	DM-OCD-B

Network Management

Network Management-Connection Establishment-A	NM-CE-A
Network Management-Connection Establishment-B	NM-CE-B
Network Management-Router Configuration-A	NM-RC-A
Network Management-Router Configuration-B	NM-RC-B

Segmentation Capability:

<input checked="" type="checkbox"/> Segmented requests	supported Window Size:	5
<input checked="" type="checkbox"/> Segmented responses	supported Window Size:	5

Standard Object Types Supported:

The following object types are supported and present in the device. Each standard Object Type is supported with following data:

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Analog Input	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Device_Type (o) Status_Flags Event_State Reliability (o) Out_Of_Service Update_Interval (o) Units Min_Pres_Value (o) Max_Pres_Value (o) Resolution (o) COV_Increment (o) Time_Delay (o) Notification_Class (o) High_Limit (o) Low_Limit (o) Deadband (o) Limit_Enable (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Out_Of_Service COV_Increment Time_Delay High_Limit Low_Limit Deadband Limit_Enable Event_Enable Notification_Class Notify_Type

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Analog Output	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Device_Type (o) Status_Flags Event_State Reliability (o) Out_Of_Service Units Min_Pres_Value (o) Max_Pres_Value (o) Resolution (o) Priority_Array Relinquish_Default COV_Increment (o) Time_Delay (o) Notification_Class (o) High_Limit (o) Low_Limit (o) Deadband (o) Limit_Enable (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Out_Of_Service Present_Value Relinquish_Default COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Notify_Type
Analog Value	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Status_Flags Event_State Reliability (o) Out_Of_Service Units Priority_Array (o) Relinquish_Default (o) COV_Increment (o) Time_Delay (o) Notification_Class (o) High_Limit (o) Low_Limit (o) Deadband (o) Limit_Enable (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Out_Of_Service Present_Value Relinquish_Default COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Notify_Type

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Binary Input	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Device_Type (o) Status_Flags Event_State Reliability (o) Out_Of_Service Polarity Inactive_Text (o) Active_Text (o) ChangeOfStateTime (o) ChangeOfStateCount (o) TimeOfStateCountReset (o) ElapsedActiveTime (o) TimeOfActiveTimeReset (o) Time_Delay (o) Notification_Class (o) Alarm_Value (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Out_Of_Service ChangeOfStateCount ElapsedActiveTime Time_Delay Notification_Class Alarm_Value Event_Enable Notify_Type

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Binary Output	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Device_Type (o) Status_Flags Event_State Reliability (o) Out_Of_Service Polarity Inactive_Text (o) Active_Text (o) ChangeOfStateTime (o) ChangeOfStateCount (o) TimeOfStateCountReset (o) ElapsedActiveTime (o) TimeOfActiveTimeReset (o) Minimum_Off_Time (o) Minimum_On_Time (o) Priority_Array Relinquish_Default Time_Delay (o) Notification_Class (o) Feedback_Value (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps(o) Event_Message_Texts (o)	Present_Value Out_Of_Service ChangeOfStateCount ElapsedActiveTime Relinquish_Default Time_Delay Notification_Class Feedback_Value Event_Enable Notify_Type Minimum_Off_Time Minimum_On_Time

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Binary Value	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Status_Flags Event_State Reliability (o) Out_Of_Service Inactive_Text (o) Active_Text (o) ChangeOfStateTime (o) ChangeOfStateCount (o) TimeOfStateCountReset (o) ElapsedActiveTime (o) TimeOfActiveTimeReset (o) Minimum_Off_Time (o) Minimum_On_Time (o) Priority_Array (o) Relinquish_Default (o) Time_Delay (o) Notification_Class (o) Alarm_Value (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Present_Value Out_Of_Service ChangeOfStateCount ElapsedActiveTime Relinquish_Default Time_Delay Notification_Class Alarm_Value Event_Enable Notify_Type Minimum_Off_Time Minimum_On_Time
Calendar	<input checked="" type="checkbox"/>	Object_Identifier Object_Name Object_Type Description (o) Present_Value Date_List	Date_List
Command	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Description (o) Present_Value In_Process All_Writes_Successful Action Action_Text (o)	Present_Value Action_Text

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Device	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type System_Status Vendor_Name Vendor_Identifier Model_Name Firmware_Revision Application_Software_Version Location (o) Description (o) Protocol_Version Protocol_Revision Protocol_Services_Supported Protocol_Object_Types_Supported Object_List Max_APDU_Length_Accepted Segmentation_Supported Max_Segments_Accepted (o) Local_Time (o) Local_Date (o) UTC_Offset (o) Daylight_Saving_Status (o) APDU_Segment_Timeout (o) APDU_Timeout Number_Of_APDU_Retries Time_Synchronization_Recipients (o) Max_Master (o) Max_Info_Frames (o) Device_Address_Binding Database_Revision Configuration_Files (o) Last_Restore_Time (o) Backup_Failure_Timeout (o) Backup_Preparation_Time (o) Restore_Preparation_Time (o) Restore_Completion_Time (o) Back_And_Restore_State (o) Active_COV_Subscription (o) Slave_Proxy_Enable (o) Manual_Slave_Address_Binding (o) Auto_Slave_Discovery (o) Slave_Addrss_Binding (o) Last_Restart_Reason (o) Restart_Notification_Recipients (o) UTC_Time_Synchronization_Reci pients (o) Time_Synchronization_Interval (o) Align_Intervals (o) Interval_Offset (o)	Max_Master Max_Info_Frames Backup_Failure_Timeout Restart_Notification_Recipients Time_Synchronization_Recipients Slave_Proxy_Enable Manual_Slave_Address_Binding Auto_Slave_Discovery UTC_Time_Synchronization_Reci pients Time_Synchronization_Interval Align_Intervals Interval_Offset

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Event Enrollement	☒	Object_Identifier Object_Name Object_Type Description (o) Event_Type Notify_Type Event_Parameters Object_Property_Reference Event_State Event_Enable Acked_Transitions Notification_Class Event_Time_Stamps Event_Message_Texts (o)	Event_Type Notify_Type Event_Parameters Object_Property_Reference Event_Enable Notification_Class
File	☒	Object_Identifier Object_Name Object_Type Description (o) File_Type File_Size Modification_Date Archive Read_Only File_Access_Method	Archive File_Size

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Loop	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Status_Flags Event_State Reliability (o) Out_Of_Service Update_Interval (o) Output_Units Manipulated_Variable_Reference Controlled_Variable_Reference Controlled_Variable_Value Controlled_Variable_Units Setpoint_Reference Setpoint Action Action (o) Proportional_Constant (o) Proportional_Constant_Units (o) Integral_Constant (o) Integral_Constant_Units (o) Derivative_Constant (o) Derivative_Constant_Units (o) Bias (o) Maximum_Output (o) Minimum_Output (o) Priority_For_Writing COV_Increment (o) Time_Delay (o) Notification_Class (o) Error_Limit (o) Deadband (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Out_Of_Service Proportional_Constant Integral_Constant Derivative_Constant Bias Maximum_Output Minimum_Output Priority_For_Writing COV_Increment Time_Delay Notification_Class Error_Limit Deadband Event_Enable Notify_Type

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Multistate Input	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Device_Type (o) Status_Flags Event_State Reliability (o) Out_Of_Service Number_Of_States State_Text (o) Time_Delay (o) Notification_Class (o) Alarm_Values (o) Fault_Values (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Out_Of_Service Time_Delay Notification_Class Alarm_Values Fault_Values Event_Enable Notify_Type
Multistate Output	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Device_Type (o) Status_Flags Event_State Reliability (o) Out_Of_Service Number_Of_States State_Text (o) Priority_Array Relinquish_Default Time_Delay (o) Notification_Class (o) Feedback_Value (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Present_Value Out_Of_Service Relinquish_Default Time_Delay Notification_Class Feedback_Value Event_Enable Notify_Type

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Multistate Value	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Status_Flags Event_State Reliability (o) Out_Of_Service Number_Of_States State_Text (o) Priority_Array (o) Relinquish_Default (o) Time_Delay (o) Notification_Class (o) Alarm_Values (o) Fault_Values (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Present_Value Out_Of_Service Relinquish_Default Time_Delay Notification_Class Alarm_Values Fault_Values Event_Enable Notify_Type
Notification Class	<input checked="" type="checkbox"/>	Object_Identifier Object_Name Object_Type Description (o) Notification_Class Priority Ack_Required Recipient_List	Priority Ack_Required Recipient_List
Program	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Program_State Program_Change Reason_For_Halt (o) Description_Of_Halt (o) Program_Location (o) Description (o) Instance_Of (o) Status_Flags Reliability (o) Out_Of_Service	Program_Change

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Schedule	☒	Object_Identifier Object_Name Object_Type Present_Value Description (o) Effective_Period Weekly_Schedule (o) Exception_Schedule (o) Schedule_Default List_Of_Object_Property_Referen ce Priority_For_Writing Status_Flags Reliability Out_Of_Service	Out_Of_Service Schedule_Default Effective_Period List_of_Object_Property_Referen ce Priority_For_Writing Weekly_Schedule Exception_Schedule
Trendlog	☒	Object_Identifier Object_Name Object_Type Description (o) Enable Start_Time (o) Stop_Time (o) Log_DeviceObjectList (o) Log_Intervall (o) COV_Resubscription_Interval (o) Client_COV_Increment (o) Stop_When_Full Buffer_Size Log_Buffer Record_Count Total_Record_Count Notification_Threshold (o) Records_Since_Notification (o) Last_Notify_Record (o) Event_State Notification_Class (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o) Logging_Type Align_Intervals (o) Interval_Offset (o) Trigger (o) Status_Flags Reliability (o)	Enable Start_Time Stop_Time Log_DeviceObjectList Log_Interval RecordCount Notification_Threshold Notification_Class Event_Enable Notify_Type Client_COV_Increment Align_Intervals Interval_Offset Trigger

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Accumulator	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Present_Value Description (o) Device_Type (o) Status_Flags Event_State Reliability (o) Out_Of_Service Scale Units Prescale (o) Max_Pres_Value Value_Change_Time (o) Value_Before_Change (o) Value_Set (o) Pulse_Rate (o) High_Limit (o) Low_Limit (o) Limit_Monitoring_Interval (o) Notification_Class (o) Time_Delay (o) Limit_Enable (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Out_Of_Service Value_Set High_Limit Low_Limit Limit_Monitoring_Interval Notification_Class Time_Delay Limit_Enable Event_Enable

Object-Type	Dynamically Creatable Deleteable	Properties Supported (o) optional Properties Supported	Writable Properties
Pulse Converter	<input type="checkbox"/>	Object_Identifier Object_Name Object_Type Description (o) Present_Value Status_Flags Event_State Reliability (o) Out_Of_Service Units Scale_Factor Adjust_Value Count Update_Time Count_Change_Time Count_Before_Change COV_Increment (o) COV_Period (o) Notifciation_Class (o) Time_Delay (o) High_Limit (o) Low_Limit (o) Deadband (o) Limit_Enable (o) Event_Enable (o) Acked_Transitions (o) Notify_Type (o) Event_Time_Stamps (o) Event_Message_Texts (o)	Out_Of_Service Adjust_Value COV_Increment COV_Period Notifciation_Class Time_Delay High_Limit Low_Limit Deadband Limit_Enable Event_Enable Notify_Type

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): 2400,4800,9600,19200,38400,57600,76800,115200,153600,230400,307200,460800,500000,614400,1152000
- MS/TP slave (Clause 9), baud rate(s): 9600,19200,38400,57600,115200
- Point-To-Point, EIA 232 (Clause 10), baud rate(s): 9600,19200,38400,57600,115200
- Point-To-Point, modem, (Clause 10), baud rate(s): 9600,19200,38400,57600,115200
- 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) between BACnet/IP network, MS/TP networks and PTP networks
- 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
- UTF-8

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