

**Protocol Implementation Conformance Statement (Normative)**

**BACnet Protocol Implementation Conformance Statement**

**TC-BAC**

**Design Studio BACnet Operator Workstation and  
Building Services BACnet Protocol Driver Service**



**BACnet Protocol Implementation Conformance Statement  
(BACnet Testing Laboratories Version)**

**Date:** 1 March 2010  
**Vendor Name:** KMC Controls  
**Product Name:** Total Control Design Studio Software Suite  
**Product Model Number:** TC-BAC

**Applications Software Version:** 3.1 **Firmware Revision:**  
**BACnet Protocol Revision:** 135-2004

**Product Description:**  
 Design Studio Operator Workstation is a user interface product that provides monitoring and configuration of connected BACnet controllers.

**List all BACnet Interoperability Building Blocks supported (see Annex K in BACnet 2001):**  
 AE-ACK-A, AE-N-A, DS-COV-A, DS-RP-A, DS-RP-B, DS-RPM-A, DS-RPM-B, DS-WP-A,  
 DS-WPM-A, T-VMT-A, T-ATR-A, DM-DDB-A, DM-DDB-B, DM-DOB-A, DM-TS-A, DM-RD-A,  
 DM-BR-A, DM-OCD-A

**Which of the following device binding methods does the product support? (check one or more)**

- Send Who-Is, receive I-Am (BIBB DM-DDB-A)
- Receive Who-Is, send I-Am (BIBB DM-DDB-B)
- Send Who-Has, receive I-Have (BIBB DM-DOB-A)
- Receive Who-Has, send I-Have (BIBB DM-DOB-B)
- Manual configuration of recipient device's network number and MAC address
- None of the above

**Standard Object Types Supported in OWS:**

OBJECT	CREATABLE	DELETABLE	OPTIONAL PROPERTIES
Device	No	No	APDU_Segment_Timeout, Daylight_Savings_Status, Description, Local_Date, Local_Time, Location, Time_Synchronization_Recipients and UTC_Offset

**Standard Object Types Accessible via OWS:**

<b>OBJECT</b>	<b>OPTIONAL PROPERTIES</b>
Accumulator	Acked_Transitions, Description, Device_Type, Event_Enable, Event_Time_Stamps, High_Limit, Limit_Enable, Limit_Monitoring_Interval, Logging_Object, Logging_Record, Low_Limit, Notification_Class, Notify_Type, Prescale, Profile_Name, Pulse_Rate, Reliability, Time_Delay, Value_Before_Change, Value_Change_Time and Value_Set
Analog Input	Acked_Transitions, COV_Increment, Deadband, Description, Device_Type, Event_Enable, Event_Time_Stamps, High_Limit, Limit_Enable, Low_Limit, Max_Pres_Value, Min_Pres_Value, Notification_Class, Notify_Type, Profile_Name, Reliability, Resolution, Time_Delay and Update_Interval
Analog Output	Acked_Transitions, COV_Increment, Deadband, Description, Device_Type, Event_Enable, Event_Time_Stamps, High_Limit, Limit_Enable, Low_Limit, Max_Pres_Value, Min_Pres_Value, Notification_Class, Notify_Type, Profile_Name, Reliability, Resolution and Time_Delay
Analog value	Acked_Transitions, COV_Increment, Deadband, Description, Event_Enable, Event_Time_Stamps, High_Limit, Limit_Enable, Low_Limit, Notification_Class, Notify_Type, Priority_Array, Profile_Name, Reliability, Relinquish_Default, and Time_Delay
Binary Input	Acked_Transitions, Active_Text, Alarm_Value, Change_Of_State_Count, Change_Of_State_Time, Description, Device_Type, Elapsed_Active_Time, Event_Enable, Event_Time_Stamps, Inactive_Text, Notification_Class, Notify_Type, Profile_Name, Reliability, Time_Delay, Time_Of_Active_Time_Reset and Time_Of_State_Count_Reset
Binary Output	Acked_Transitions, Active_Text, Change_Of_State_Count, Change_Of_State_Time, Description, Device_Type, Elapsed_Active_Time, Event_Enable, Event_Time_Stamps, Feedback_Value, Inactive_Text, Minimum_Off_Time, Minimum_On_Time, Notification_Class, Notify_Type, Profile_Name, Reliability, Time_Delay, Time_Of_Active_Time_Reset and Time_Of_State_Count_Reset
Binary Value	Acked_Transitions, Active_Text, Alarm_Value, Change_Of_State_Count, Change_Of_State_Time, Description, Elapsed_Active_Time, Event_Enable, Event_Time_Stamps, Inactive_Text, Minimum_Off_Time, Minimum_On_Time, Notification_Class, Notify_Type, Priority_Array, Profile_Name, Reliability, Relinquish Default, Time_Delay, Time_Of_Active_Time_Reset and Time_Of_State_Count_Reset
Calendar	Description and Profile_Name
Device	Active_COV_Subscriptions, Active_VT_Sessions, APDU_Segment_Timeout, Auto_Slave_Discovery, Backup_Failure_Timeout, Configuration_Files, Daylight_Savings_Status, Description, Last_Restore_Time, Local_Date, Local_Time, Location, Manual_Slave_Address_Binding, Max_Info_Frames, Max_Master, Max_Segments_Accepted, Profile_Name, Slave_Address_Binding, Slave_Proxy_Enable, Time_Synchronization_Recipients, UTC_Offset and VT_Classes_Supported
Event_Enrollment	Description and Profile_Name
File	Description, Profile_Name and Record_Count

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OBJECT	OPTIONAL PROPERTIES
Loop	Acked_Transitions, Bias, COV_Increment, Derivative_Constant, Derivative_Constant_Units, Description, Error_Limit, Event_Enable, Event_Time_Stamps, Integral_Constant, Integral_Constant_Units, Maximum_Output, Minimum_Output, Notification_Class, Notify_Type, Profile_Name, Proportional_Constant, Proportional_Constant_Units, Reliability, and Time_Delay and Update_Interval
Multi-state Input	Acked_Transitions, Alarm_Values, Description, Device_Type, Event_Enable, Event_Time_Stamps, Fault_Values, Notification_Class, Notify_Type, Profile_Name, Reliability, State_Text and Time_Delay
Multi-state Output	Acked_Transitions, Description, Device_Type, Event_Enable, Event_Time_Stamps, Feedback_Value, Notification_Class, Notify_Type, Profile_Name, Reliability, State_Text and Time_Delay
Multi-state Value	Acked_Transitions, Alarm_Values, Description, Event_Enable, Event_Time_Stamps, Fault_Values, Notification_Class, Notify_Type, Priority_Array, Profile_Name, Reliability, Relinquish_Default, State_Text and Time_Delay
Notification	Description and Profile_Name
Program	Description, Description_Of_Halt, Instance_Of, Profile_Name, Program_Location, Reason_For_Halt and Reliability
Schedule	Description, Exception_Schedule, Weekly_Schedule
Trend	Acked_Transitions, Description, Event_Enable, Event_Time_Stamps, Last_Notify_Record, Log_DeviceObjectProperty, Log_Interval, Notification_Class, Notification_Threshold, Notify_Type, Records_Since_Notification, Start_Time, and Stop_Time

**Data Link Layer Options (check all that are supported):**

- BACnet IP, (Annex J)
  - Able to register as a 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: \_\_\_\_\_

**Networking Options (check all that are supported):**

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.: \_\_\_\_\_
- Annex H.3, BACnet Tunneling Router over UDP/IP
- BACnet/IP Broadcast Management Device (BBMD)
  - Does the BBMD support registrations by Foreign Devices?  Yes  No

**Segmentation Capability (check all that apply):**

- Able to transmit segmented messages      Window Size   1476
- Able to receive segmented messages      Window Size   1476

**Character Sets Supported (check all that apply):**

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 (ICS-4)       JIS C 6226

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

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**Include any addition information about the product's BACnet capabilities relevant to interoperability:**

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