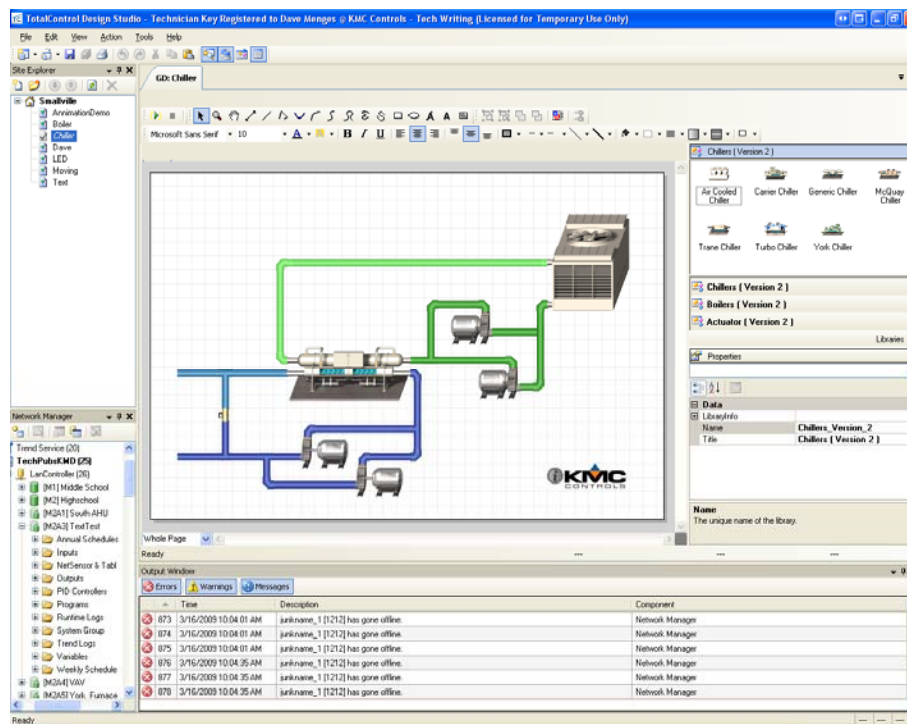


## Protocol Implementation Conformance Statement (Normative)

# BACnet Protocol Implementation Conformance Statement

TC-BAC, TC-STUDIO, TC-BACUNL

TotalControl BACnet Advanced Workstation



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

**Date:** 30 April 2012

**Vendor Name:** KMC Controls

**Product Name:** Total Control Design Studio Software Suite

**Product Model Number:** TC-BAC, TC-BACUNL, TC-STUDIO

**Applications Software Version:** 3.3.0

**BACnet Protocol Revision:** 135-2008

**Product Description:**

Design Studio is a BACnet Advanced Operator Workstation that provides monitoring and configuration of connected BACnet controllers.

**BACnet Standardized Device Profile (Annex L):** BACnet Advanced Workstation (B-AWS)

**List all BACnet Interoperability Building Blocks supported (see Annex K in BACnet 2008:**

Data Sharing	Alarm and Event Management	Scheduling	Trending	Device and Network Management
DS-RP-A	AE-N-A	SCHED-VM-A	T-V-A	DM-DDB-A
DS-RP-B	AE-ACK-A	SCHED-AVM-A	T-AVM-A	DM-DDB-B
DS-RPM-A	AE-ASUM-A	SCHED-WS-A	T-ATR-A	DM-DOB-B
DS-RPM-B	AE-ESUM-A			DM-DCC-A
DS-WP-A	AE-INFO-A			DM-MTS-A
DS-WP-B	AE-AS-A			DM-RD-A
DS-WPM-A	AE-VM-A			DM-BR-A
DS-WPM-B	AE-AVM-A			DM-OCD-A
DS-COV-A	AE-VN-A			DM-ANM-A
DS-V-A	AE-AVN-A			DM-ADM-A
DS-M-A				
DS-AV-A				
DS-AM-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

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

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

BTL Product Testing and Listing Program Application Form

**Standard Object Types Supported in AWS:**

<b>OBJECT</b>	<b>CREATABLE</b>	<b>DELETABLE</b>	<b>OPTIONAL PROPERTIES</b>
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 AWS:**

<b>OBJECT</b>	<b>OPTIONAL PROPERTIES</b>
Access Door	Description, Door Status, Lock Status, Secured Status, Door Members, Door Unlock Delay Time, Door Alarm State, Masked Alarm Values, Maintenance Required, Time Delay, Notification Class, Alarm Values, Fault Values, Event Enable, Acked Transitions, Notify Type, Event Time Stamps, Profile Name.
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
Averaging	Minimum Value Timestamp, Maximum Value Timestamp, Variance Value, Description, Profile Name
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

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<b>OBJECT</b>	<b>OPTIONAL PROPERTIES</b>
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, Structured Object List, UTC Time Synchronization Recipients, Restart Notification Recipients, Time of Device Restart, Last Restart Reason, Time Synchronization Interval, Interval Offset, and Align Intervals
Event Enrollment	Description and Profile Name
Event Log	Description, Reliability, Start Time, Stop Time, Notification Threshold, Records Since Notification, Last Notify Record, Notification Class, Event Enable, Acked Transitions, Notify Type, Event Time Stamps, Profile Name.
File	Description, Profile Name and Record Count
Group	Description, Profile Name
Life Safety Point	Description, Device Type, Time Delay, Notification Class, Life Safety Alarm Values, Alarm Values, Fault Values, Event Enable, Acked Transitions, Notify Type, Event Time Stamps, Maintenance Required, Setting, Direct Reading, Units, Member Of, Profile Name
Life Safety Zone	Description, Device Type, Time Delay, Notification Class, Life Safety Alarm Values, Alarm Values, Fault Values, Event Enable, Acked Transitions, Notify Type, Event Time Stamps, Maintenance Required, Member Of, Profile Name
Load Control	Description, State Description, Reliability, Full Duty Baseline, Notification Class, Time Delay, Event Enable, Acked Transitions, Notify Type, Event Time Stamps, Profile Name
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, Profile Name
Structured View	Description, Subordinate Annotations, Profile Name
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, COV Resubscription Interval, Client COV Increment, Profile Name, Align Intervals, Trigger, Interval Offset, Reliability
Trend Log Multiple	Description, Reliability, Start Time, Stop Time, Align Intervals, Interval Offset, Trigger, Notification Threshold, Records Since Notification, Last Notify Record, Notification Class, Event Enable, Acked Transitions, Notify Type, Event Time Stamps, Profile Name

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

- 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: \_\_\_\_\_
- BACnet/Zigbee (Annex O): \_\_\_\_\_
- Other: \_\_\_\_\_

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

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.:  
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- 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
  - Does the BBMD support network address translation?  Yes  No

**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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**Network Security Options**

- Non-secure Device – is capable of operating without BACnet Network Security