



# Protocol Implementation Conformance Statement (PICS)

## Tracer SC™ System Controller

### BACnet Protocol Implementation Conformance Statement (PICS)

**Vendor Name:** Trane®

**Product Name:** Tracer SC™

**Product Model Number:** Tracer SC™

**Product Version:** Version 4.1

**BACnet Protocol Revision:** Revision 14

**Product Description:** The Tracer SC system controller is a powerful, scalable, web-enabled building controller built on open, standard protocols. Tracer SC features applications and interfaces for air and water systems to ensure optimal system performance from job to job.

The flexible and scalable capacity of Tracer SC allows it to be applied in a variety of facility types and sizes. The embedded web server provides an easy to use interface for basic and advanced users of the system. Most LonTalk® and BACnet® unit controllers and system controllers are compatible with Tracer SC, including all Trane unit controllers that support these protocols.

#### SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

**BAS-PRG008D-GB**



## Standardized Device Profile (Annex L)

BACnet Operator Workstation (B-OWS)	<input type="checkbox"/>
BACnet Building Controller (B-BC)	<input checked="" type="checkbox"/>
BACnet Advanced Application Controller (B-AAC)	<input type="checkbox"/>
BACnet Application Specific Controller (B-ASC)	<input type="checkbox"/>
BACnet Smart Sensor (B-SS)	<input type="checkbox"/>
BACnet Smart Actuator (B-SA)	<input type="checkbox"/>

## Interoperability Building Blocks (Annex K)

<b>Data Sharing</b>	<b>Supported</b>
Data Sharing-Read Property-A (DS-RP-A)	<input checked="" type="checkbox"/>
Data Sharing-Read Property-B (DS-RP-B)	<input checked="" type="checkbox"/>
Data Sharing-Read Property Multiple-A (DS-RPM-A)	<input checked="" type="checkbox"/>
Data Sharing-Read Property Multiple-B (DS-RPM-B)	<input checked="" type="checkbox"/>
Data Sharing-Write Property-A (DS-WP-A)	<input checked="" type="checkbox"/>
Data Sharing-Write Property-B (DS-WP-B)	<input checked="" type="checkbox"/>
Data Sharing-Write Property Multiple-A (DS-WPM-A)	<input checked="" type="checkbox"/>
Data Sharing-Write Property Multiple-B (DS-WPM-B)	<input checked="" type="checkbox"/>
<b>Alarm and Event Management</b>	<b>Supported</b>
Data Sharing-Change Of Value-A (DS-COV-A)	<input checked="" type="checkbox"/>
Data Sharing-Change Of Value-B (DS-COV-B)	<input checked="" type="checkbox"/>
Alarm and Event-Notification-A (AE-N-A)	<input checked="" type="checkbox"/>
Alarm and Event-Notification-Internal-B (AE-N-I-B)	<input checked="" type="checkbox"/>
Alarm and Event-Acknowledge Alarm-A (AE-ACK-A)	<input checked="" type="checkbox"/>
Alarm and Event-Acknowledge Alarm-B (AE-ACK-B)	<input checked="" type="checkbox"/>
Alarm and Event-Alarm Summary-B (AE-ASUM-B)	<input checked="" type="checkbox"/>
Alarm and Event-Enrollment Summary-B (AE-ESUM-B)	<input checked="" type="checkbox"/>
Alarm and Event-Information-B (AE-INFO-B)	<input checked="" type="checkbox"/>
Alarm and Event-Event Log-Internal-B (AE-EL-I-B)	<input checked="" type="checkbox"/>
<b>Scheduling</b>	<b>Supported</b>
Scheduling-Internal-B (SCHED-I-B)	<input checked="" type="checkbox"/>
Scheduling-External-B (SCHED-E-B)	<input checked="" type="checkbox"/>
<b>Trending</b>	<b>Supported</b>
Trending-Viewing and Modifying Trends-Internal-B (T-VMT-I-B)	<input checked="" type="checkbox"/>
Trending-Viewing and Modifying Trends-External-B (T-VMT-E-B)	<input checked="" type="checkbox"/>
Trending-Automated Trend Retrieval-B (T-ATR-B)	<input checked="" type="checkbox"/>

## Interoperability Building Blocks (Annex K) [continued]

<b>Device Management Description</b>	<b>Supported</b>
Device Management-Dynamic Device Binding-A (DM-DDB-A)	<input checked="" type="checkbox"/>
Device Management-Dynamic Device Binding-B (DM-DDB-B)	<input checked="" type="checkbox"/>
Device Management-Dynamic Object Binding-B (DM-DOB-B)	<input checked="" type="checkbox"/>
Device Management-Device Communication Control-B (DM-DCC-B)	<input checked="" type="checkbox"/>
Device Management-Time Synchronization-B (DM-TS-B)	<input checked="" type="checkbox"/>
Device Management-UTC-Time Synchronization-B (DM-UTC-B)	<input checked="" type="checkbox"/>
Device Management-Reinitialize Device-B (DM-RD-B)	<input checked="" type="checkbox"/>
Device Management-Backup and Restore-B (DM-BR-B)	<input checked="" type="checkbox"/>
Device Management-List Manipulation-B (DM-LM-B)	<input checked="" type="checkbox"/>
Device Management-Object Creation and Deletion-B (DM-OCD-B)	<input checked="" type="checkbox"/>
Device Management-Automatic Device Mapping-A (DM-ADM-A)	<input checked="" type="checkbox"/>
Device Management-Automatic Network Mapping-A (DM-ANM-A)	<input checked="" type="checkbox"/>
<b>Network Management</b>	<b>Supported</b>
Network Management-Router Configuration-B (NM-RC-B)	<input checked="" type="checkbox"/>

## Segmentation Capability

<b>Segmentation</b>	<b>Supported</b>
Segmented Requests/ Window Size: 1	<input checked="" type="checkbox"/>
Segmented Responses/ Window Size: 1	<input checked="" type="checkbox"/>

## Object Types

The table below lists the properties that are supported for each object type in this control device. The BACnet standard specifies many properties as optional, unless the device supports a particular BACnet feature. If the feature is supported then the optional properties are required. In the table, the properties that are defined as optional but required to support a specific functionality, have been placed in the Required Properties column.

**Table 1. Descriptions and configurations**

Object Type	Required Properties	Optional Properties	Writable Properties <sup>(a)</sup>	Ability to Create	Ability to Delete
Analog Input	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• Present_Value</li> <li>• Status_Flags</li> <li>• Event_State</li> <li>• Out_Of_Service</li> <li>• Units</li> <li>• COV_Increment</li> <li>• Time_Delay</li> <li>• Notificatin Class</li> <li>• High_Limit</li> <li>• Low_Limit</li> <li>• Deadband</li> <li>• Limit_Enable</li> <li>• Event_Enable</li> <li>• Acked_Transitions</li> <li>• Notify_Type</li> <li>• Event_Time_Stamps</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> <li>• Property List</li> </ul>	<ul style="list-style-type: none"> <li>• Description</li> <li>• Reliability</li> <li>• Min_Pres_Value</li> <li>• Max_Pres_Value</li> </ul>	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Present_Value</li> <li>• Description</li> <li>• Reliability</li> <li>• Out_of_Service</li> <li>• Min_Pres_Value</li> <li>• Max_Pres_Value</li> <li>• COV_Increment</li> <li>• Time_Delay</li> <li>• Notification_Class</li> <li>• High_Limit</li> <li>• Low_Limit</li> <li>• Deadband</li> <li>• Limit_Enable</li> <li>• Event_Enable</li> <li>• Notify_Type</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> </ul>	Yes	Yes, only user created objects
Analog Output	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• Present_Value</li> <li>• Status_Flags</li> <li>• Event_State</li> <li>• Out_Of_Service</li> <li>• Units</li> <li>• Priority_Array</li> <li>• Relinquish_Default</li> <li>• COV_Increment</li> <li>• Time_Delay</li> <li>• Notificatin Class</li> <li>• High_Limit</li> <li>• Low_Limit</li> <li>• Deadband</li> <li>• Limit_Enable</li> <li>• Event_Enable</li> <li>• Acked_Transitions</li> <li>• Notify_Type</li> <li>• Event_Time_Stamps</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> <li>• Property List</li> </ul>	<ul style="list-style-type: none"> <li>• Description</li> <li>• Reliability</li> <li>• Min_Pres_Value</li> <li>• Max_Pres_Value</li> </ul>	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Present_Value</li> <li>• Description</li> <li>• Reliability</li> <li>• Out_of_Service</li> <li>• Min_Pres_Value</li> <li>• Max_Pres_Value</li> <li>• Relinquish_Default</li> <li>• COV_Increment</li> <li>• Time_Delay</li> <li>• Notification_Class</li> <li>• High_Limit</li> <li>• Low_Limit</li> <li>• Deadband</li> <li>• Limit_Enable</li> <li>• Event_Enable</li> <li>• Notify_Type</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> </ul>	Yes	Yes, only user created objects

**Table 1. Descriptions and configurations (continued)**

Object Type	Required Properties	Optional Properties	Writable Properties <sup>(a)</sup>	Ability to Create	Ability to Delete
Analog Value	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• Present_Value</li> <li>• Status_Flags</li> <li>• Event_State</li> <li>• Out_Of_Service</li> <li>• Units</li> <li>• Priority_Array</li> <li>• Relinquish_Default</li> <li>• COV_Increment</li> <li>• Time_Delay</li> <li>• Notificatin Class</li> <li>• High_Limit</li> <li>• Low_Limit</li> <li>• Deadband</li> <li>• Limit_Enable</li> <li>• Event_Enable</li> <li>• Acked_Transitions</li> <li>• Notify_Type</li> <li>• Event_Time_Stamps</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> <li>• Property List</li> </ul>	<ul style="list-style-type: none"> <li>• Description</li> <li>• Reliability</li> <li>• Min_Pres_Value</li> <li>• Max_Pres_Value</li> </ul>	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Present_Value</li> <li>• Description</li> <li>• Reliability</li> <li>• Out_of_Service</li> <li>• Min_Pres_Value</li> <li>• Max_Pres_Value</li> <li>• Relinquish_Default</li> <li>• COV_Increment</li> <li>• Time_Delay</li> <li>• Notification_Class</li> <li>• High_Limit</li> <li>• Low_Limit</li> <li>• Deadband</li> <li>• Limit_Enable</li> <li>• Event_Enable</li> <li>• Notify_Type</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> </ul>	Yes	Yes, only user created objects
Binary Input	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• Present_Value</li> <li>• Status_Flags</li> <li>• Event_State</li> <li>• Out_Of_Service</li> <li>• Polarity</li> <li>• Active_Text</li> <li>• Inactive_Text</li> <li>• Change_Of_State_Time</li> <li>• Change_Of_State_Count</li> <li>• Time_of_State_Count_Reset</li> <li>• Elapsed_Active_Time</li> <li>• Time_of_Active_Time_Reset</li> <li>• Time_Delay</li> <li>• Notificatin Class</li> <li>• Alarm_Value</li> <li>• Event_Enable</li> <li>• Acked_Transitions</li> <li>• Notify_Type</li> <li>• Event_Time_Stamps</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> <li>• Property List</li> </ul>	<ul style="list-style-type: none"> <li>• Description</li> <li>• Reliability</li> </ul>	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Present_Value</li> <li>• Description</li> <li>• Reliability</li> <li>• Out_of_Service</li> <li>• Polarity</li> <li>• Inactive_Text</li> <li>• Active_Text</li> <li>• Change_of_State_Count</li> <li>• Elapsed_Active_Time</li> <li>• Time_Delay</li> <li>• Notification_Class</li> <li>• Alarm_Value</li> <li>• Event_Enable</li> <li>• Notify_Type</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> </ul>	Yes	Yes, only user created objects

**Table 1. Descriptions and configurations (continued)**

Object Type	Required Properties	Optional Properties	Writable Properties <sup>(a)</sup>	Ability to Create	Ability to Delete
Binary Output	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• Present_Value</li> <li>• Status_Flags</li> <li>• Event_State</li> <li>• Out_Of_Service</li> <li>• Polarity</li> <li>• Active_Text</li> <li>• Inactive_Text</li> <li>• Change_Of_State_Time</li> <li>• Change_Of_State_Count</li> <li>• Time_Of_State_Count_Reset</li> <li>• Elapsed_Active_Time</li> <li>• Time_of_Active_Time_Reset</li> <li>• Minimum_Off_Time</li> <li>• Minimum_On_Time</li> <li>• Priority_Array</li> <li>• Relinquish_Default</li> <li>• Time_Delay</li> <li>• Notificatin Class</li> <li>• Feedback_Value</li> <li>• Event_Enable</li> <li>• Acked_Transitions</li> <li>• Notify_Type</li> <li>• Event_Time_Stamps</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> <li>• Property List</li> </ul>	<ul style="list-style-type: none"> <li>• Description</li> <li>• Reliability</li> </ul>	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Present_Value</li> <li>• Description</li> <li>• Reliability</li> <li>• Out_of_Service</li> <li>• Polarity</li> <li>• Inactive_Text</li> <li>• Active_Text</li> <li>• Change_of_State_Count</li> <li>• Elapsed_Active_Time</li> <li>• Minimum_Off_Time</li> <li>• Minimum_On_Time</li> <li>• Relinquish_Default</li> <li>• Time_Delay</li> <li>• Notification_Class</li> <li>• Event_Enable</li> <li>• Notify_Type</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> </ul>	Yes	Yes, only user created objects
Binary Value	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• Present_Value</li> <li>• Status_Flags</li> <li>• Event_State</li> <li>• Out_Of_Service</li> <li>• Active_Text</li> <li>• Inactive_Text</li> <li>• Change_Of_State_Time</li> <li>• Change_Of_State_Count</li> <li>• Time_Of_State_Count_Reset</li> <li>• Elapsed_Active_Time</li> <li>• Time_of_Active_Time_Reset</li> <li>• Minimum_Off_Time</li> <li>• Minimum_On_Time</li> <li>• Priority_Array</li> <li>• Relinquish_Default</li> <li>• Time_Delay</li> <li>• Notificatin Class</li> <li>• Alarm_Value</li> <li>• Event_Enable</li> <li>• Acked_Transitions</li> <li>• Notify_Type</li> <li>• Event_Time_Stamps</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> <li>• Property List</li> </ul>	<ul style="list-style-type: none"> <li>• Description</li> <li>• Reliability</li> </ul>	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Present_Value</li> <li>• Description</li> <li>• Reliability</li> <li>• Out_of_Service</li> <li>• Inactive_Text</li> <li>• Active_Text</li> <li>• Change_of_State_Count</li> <li>• Elapsed_Active_Time</li> <li>• Minimum_Off_Time</li> <li>• Minimum_On_Time</li> <li>• Relinquish_Default</li> <li>• Time_Delay</li> <li>• Notification_Class</li> <li>• Alarm_Value</li> <li>• Event_Enable</li> <li>• Notify_Type</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> </ul>	Yes	Yes, only user created objects
Calendar	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• Present_Value</li> <li>• Date_List</li> <li>• Property_List</li> </ul>	<ul style="list-style-type: none"> <li>• Description</li> </ul>	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Description</li> <li>• Date_List</li> </ul>	Yes	Yes

**Table 1. Descriptions and configurations (continued)**

Object Type	Required Properties	Optional Properties	Writable Properties <sup>(a)</sup>	Ability to Create	Ability to Delete
Device	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• System_Status</li> <li>• Vendor_Name</li> <li>• Vendor_Identifier</li> <li>• Model_Name</li> <li>• Firmware_Revision</li> <li>• Application_Software_Version</li> <li>• Protocol_Version</li> <li>• Protocol_Revision</li> <li>• Protocol_Services_Supported</li> <li>• Protocol_Object_Types_Supported</li> <li>• Object_List</li> <li>• Max_APDU_Length_Accepted</li> <li>• Segmentation_Supported</li> <li>• Max_Segments_Accepted</li> <li>• Local_Time</li> <li>• Local_Date</li> <li>• UTC-Offset</li> <li>• Daylight_Savings_Status</li> <li>• APDU_Segment_Timeout</li> <li>• APDU_Timeout</li> <li>• Number_Of_APDU_Retries</li> <li>• Max_Master</li> <li>• Max_Info_Frames</li> <li>• Device_Address_Binding</li> <li>• Database_Revision</li> <li>• Configuration_Files</li> <li>• Last_Restore_Time</li> <li>• Backup_Failure_Timeout</li> <li>• Backup_Preparation_Time</li> <li>• Restore_Preparation_Time</li> <li>• Restore_Completion_Time</li> <li>• Backup_and_Restore_State</li> <li>• Active_COV_Subscriptions</li> <li>• Time_of_Device_Restart</li> <li>• Serial_Number</li> <li>• Property_List</li> <li>• Profile_Name</li> </ul>	<ul style="list-style-type: none"> <li>• Location</li> <li>• Description</li> </ul>	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Location</li> <li>• Description</li> <li>• UTC_Offset</li> <li>• Backup_Failure_Timeout</li> <li>• APDU_Segment_timeout</li> <li>• APDU_Timeout</li> <li>• Number_Of_APDU_Retries</li> </ul>	No	No
Event Enrollment Object	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• Event_Type</li> <li>• Notify_Type</li> <li>• Event_Parameters</li> <li>• Object_Property_Reference</li> <li>• Event_State</li> <li>• Event_Enable</li> <li>• Acked_Transitions</li> <li>• Notification_Class</li> <li>• Event_Time_Stamps</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> <li>• Status_Flags</li> <li>• Reliability</li> <li>• Property_List</li> </ul>	<ul style="list-style-type: none"> <li>• Description</li> </ul>	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Description</li> <li>• Event_Parameters</li> <li>• Object_Property_Reference</li> <li>• Event_Enable</li> <li>• Notification_Class</li> <li>• Event_Detection_Enable</li> <li>• Event_Algorithm_Inhibit_Ref</li> <li>• Event_Algorithm_Inhibit</li> <li>• Reliability</li> <li>• Notify_Type</li> </ul>	Yes	Yes, only user created objects
Event Log Object	<ul style="list-style-type: none"> <li>• Object_Identifier</li> <li>• Object_Name</li> <li>• Object_Type</li> <li>• Property_List</li> <li>• Status_Flags</li> <li>• Event_State</li> <li>• Enable</li> <li>• Stop_When_Full</li> <li>• Buffer Size</li> <li>• Log_Buffer</li> <li>• Record_Count</li> <li>• Total_Record_Count</li> </ul>	None	<ul style="list-style-type: none"> <li>• Object_Name</li> <li>• Enable</li> <li>• Record_Count</li> </ul>	No	No

**Table 1. Descriptions and configurations (continued)**

Object Type	Required Properties	Optional Properties	Writable Properties <sup>(a)</sup>	Ability to Create	Ability to Delete
File	<ul style="list-style-type: none"> <li>Object_Identifier</li> <li>Object_Name</li> <li>Object_Type</li> <li>File_Type</li> <li>File_Size</li> <li>Modification_Date</li> <li>Archive</li> <li>Read_Only</li> <li>File_Access_Method</li> <li>Property_List</li> </ul>	None	<ul style="list-style-type: none"> <li>File_Size (0 Only)</li> <li>Archive</li> </ul>	No	No
Multistate Input	<ul style="list-style-type: none"> <li>Object_Identifier</li> <li>Object_Name</li> <li>Object_Type</li> <li>Present_Value</li> <li>Status_Flags</li> <li>Event_State</li> <li>Out_Of_Service</li> <li>Number_Of_States</li> <li>Time_Delay</li> <li>Notification_Class</li> <li>Alarm_Values</li> <li>Event_Enable</li> <li>Acked_Transitions</li> <li>Notify_Type</li> <li>Event_Time_Stamps</li> <li>Event_Detection_Enable</li> <li>Event_Algorithm_Inhibit_Ref</li> <li>Event_Algorithm_Inhibit</li> <li>Property_List</li> </ul>	<ul style="list-style-type: none"> <li>Description</li> <li>Reliability</li> <li>State_Text</li> <li>Fault_Values</li> </ul>	<ul style="list-style-type: none"> <li>Object_Name</li> <li>Present_Value</li> <li>Description</li> <li>Reliability</li> <li>Out_of_Service</li> <li>Number_of_States</li> <li>State_Text</li> <li>Time_Delay</li> <li>Notification_Class</li> <li>Alarm_Values</li> <li>Fault_Values</li> <li>Event_Enable</li> <li>Notify_Type</li> <li>Event_Detection_Enable</li> <li>Event_Algorithm_Inhibit_Ref</li> <li>Event_Algorithm_Inhibit</li> </ul>	Yes	Yes, only user created objects
Multistate Output	<ul style="list-style-type: none"> <li>Object_Identifier</li> <li>Object_Name</li> <li>Object_Type</li> <li>Present_Value</li> <li>Status_Flags</li> <li>Event_State</li> <li>Out_Of_Service</li> <li>Number_Of_States</li> <li>Priority_Array</li> <li>Relinquish_Default</li> <li>Time_Delay</li> <li>Notification_Class</li> <li>Feedback_Value</li> <li>Event_Enable</li> <li>Acked_Transitions</li> <li>Notify_Type</li> <li>Event_Time_Stamps</li> <li>Event_Detection_Enable</li> <li>Event_Algorithm_Inhibit_Ref</li> <li>Event_Algorithm_Inhibit</li> <li>Property_List</li> </ul>	<ul style="list-style-type: none"> <li>Description</li> <li>Reliability</li> <li>State_Text</li> </ul>	<ul style="list-style-type: none"> <li>Object_Name</li> <li>Present_Value</li> <li>Description</li> <li>Reliability</li> <li>Out_of_Service</li> <li>Number_of_States</li> <li>Relinquish_Default</li> <li>State_Text</li> <li>Time_Delay</li> <li>Notification_Class</li> <li>Event_Enable</li> <li>Notify_Type</li> <li>Event_Detection_Enable</li> <li>Event_Algorithm_Inhibit_Ref</li> <li>Event_Algorithm_Inhibit</li> </ul>	Yes	Yes, only user created objects
Multistate Value	<ul style="list-style-type: none"> <li>Object_Identifier</li> <li>Object_Name</li> <li>Object_Type</li> <li>Present_Value</li> <li>Status_Flags</li> <li>Event_State</li> <li>Out_Of_Service</li> <li>Number_Of_States</li> <li>Priority_Array</li> <li>Relinquish_Default</li> <li>Time_Delay</li> <li>Notification_Class</li> <li>Alarm_Values</li> <li>Fault_Values</li> <li>Event_Enable</li> <li>Acked_Transitions</li> <li>Notify_Type</li> <li>Event_Time_Stamps</li> <li>Event_Detection_Enable</li> <li>Event_Algorithm_Inhibit_Ref</li> <li>Event_Algorithm_Inhibit</li> <li>Property_List</li> </ul>	<ul style="list-style-type: none"> <li>Description</li> <li>Reliability</li> <li>State_Text</li> </ul>	<ul style="list-style-type: none"> <li>Object_Name</li> <li>Present_Value</li> <li>Description</li> <li>Reliability</li> <li>Out_of_Service</li> <li>Number_of_States</li> <li>Relinquish_Default</li> <li>State_Text</li> <li>Time_Delay</li> <li>Notification_Class</li> <li>Alarm_Values</li> <li>Fault_Values</li> <li>Event_Enable</li> <li>Notify_Type</li> <li>Event_Detection_Enable</li> <li>Event_Algorithm_Inhibit_Ref</li> <li>Event_Algorithm_Inhibit</li> </ul>	Yes	Yes, only user created objects



**Table 1. Descriptions and configurations (continued)**

Object Type	Required Properties	Optional Properties	Writable Properties <sup>(a)</sup>	Ability to Create	Ability to Delete
Notification Class	<ul style="list-style-type: none"> <li>Object_Identifier</li> <li>Object_Name</li> <li>Object_Type</li> <li>Notification_Class</li> <li>Priority</li> <li>Ack_Required</li> <li>Recipient_List</li> <li>Property_List</li> </ul>	None	<ul style="list-style-type: none"> <li>Object_Name</li> <li>Priority</li> <li>Ack_Required</li> <li>Recipient_List</li> </ul>	Yes	Yes, only user created objects
Schedule	<ul style="list-style-type: none"> <li>Object_Identifier</li> <li>Object_Name</li> <li>Object_Type</li> <li>Present_Value</li> <li>Effective_Period</li> <li>Schedule_Default</li> <li>List_Of_Object_Property_References</li> <li>Priority_For_Writing</li> <li>Status_Flags</li> <li>Reliability</li> <li>Out_Of_Service</li> <li>Property_List</li> </ul>	<ul style="list-style-type: none"> <li>Description</li> <li>Weekly_Schedule</li> <li>Exception_Schedule</li> </ul>	<ul style="list-style-type: none"> <li>Object_Name</li> <li>Description</li> <li>Schedule_Default</li> <li>List_of_Property_References</li> <li>Weekly_Schedule</li> <li>Exception_Schedule</li> <li>Priority_for_Writing</li> <li>Out_of_Service</li> </ul>	Yes	Yes
Trend	<ul style="list-style-type: none"> <li>Object_Identifier</li> <li>Object_Name</li> <li>Object_Type</li> <li>Enable</li> <li>Start_Time</li> <li>Stop_Time</li> <li>Log_Device_Object_Property</li> <li>Log_Interval</li> <li>COV_Resubscription_Interval</li> <li>Stop_When_Full</li> <li>Buffer_Size</li> <li>Log_Buffer</li> <li>Record_Count</li> <li>Total_Record_Count</li> <li>Logging_Type</li> <li>Notification_Threshold</li> <li>Records_Since_Notification</li> <li>Last_Notify_Record</li> <li>Event_State</li> <li>Status_Flags</li> <li>Notification_Class</li> <li>Event_Enable</li> <li>Acked_Transitions</li> <li>Notify_Type</li> <li>Event_Time_Stamps</li> <li>Event_Detection_Enable</li> <li>Property_List</li> </ul>	<ul style="list-style-type: none"> <li>Reliability</li> </ul>	<ul style="list-style-type: none"> <li>Object_Name</li> <li>Enable</li> <li>Start_Time</li> <li>Stop_Time</li> <li>Log_Device_Object_Property</li> <li>Log_Interval</li> <li>COV_Resubscription_Interval</li> <li>Stop_When_Full</li> <li>Buffer_Size</li> <li>Record_Count</li> <li>Logging_Type</li> <li>Notification_Threshold</li> <li>Notification_Class</li> <li>Event_Enable</li> <li>Notify_Type</li> </ul>	Yes	Yes, only user created objects

(a) The following properties are only writable when the Out\_Of\_Service property is set to TRUE: **Reliability** property for all objects and the **Present\_Value** property for the Analog Input, Binary Input, and Multistate Input objects.

## BACnet Protocol

### Data Link Layer Options

Data Link Layer	Options
BACnet IP, (Annex J)	<input checked="" type="checkbox"/>
BACnet IP, (Annex J), Foreign Device	<input type="checkbox"/>
ISO 8802-3, Ethernet (Clause 7)(10Base2, 10Base5, 10BaseT, Fiber)	<input type="checkbox"/>
ANSI/ATA 878.1, 2.5 Mb ARCNET (Clause 8)	<input type="checkbox"/>
ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), Baud Rate(s)	<input type="checkbox"/>
MS/TP Master (Clause 9), Baud Rate(s): 9600, 19200, 38400, and 76800	<input checked="" type="checkbox"/>
MS/TP Slave (Clause 9), Baud Rate(s)	<input type="checkbox"/>
Point-to-Point, EIA 232 (Clause 10), Baud Rate(s): 9600, 19200, 38400	<input type="checkbox"/>
Point-to-Point, Modem (Clause 10), Baud Rate(s): 9600, 19200, 38400	<input type="checkbox"/>
LonTalk, (Clause 11), Medium	<input type="checkbox"/>
BACnet/ZigBee (Annex O)	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>

### Device Address Binding

Is static device binding supported?  Yes  No

### Networking Options

Router	<input checked="" type="checkbox"/>
Annex H, BACnet Tunneling	<input type="checkbox"/>
BACnet/IP Broadcast Management Device (BBMD)	<input checked="" type="checkbox"/>
Does the BBMD Support Registrations by Foreign Devices?	<input checked="" type="checkbox"/>

### Character Sets

Indicating support for multiple characters sets does not imply that all character sets are supported simultaneously. Maximum supported string length is 64 bytes (*any character set*).

ANSI X3.4	<input checked="" type="checkbox"/>
IBM/Microsoft DBCS	<input type="checkbox"/>
JIS C 6226	<input type="checkbox"/>
ISO 10646 (UCS-4)	<input type="checkbox"/>
ISO 10646 (UCS2)	<input type="checkbox"/>
ISO 8859-1	<input type="checkbox"/>

## Additional Resources

- [www.bacnet.org](http://www.bacnet.org)
- [www.bacnetassociation.org](http://www.bacnetassociation.org)
- [www.ashrae.org](http://www.ashrae.org)
- Tracer TU Help online

*For further assistance, contact your local Trane sales office.*



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BAS-PRG008D-GB 29 Jul 2015  
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