Protocol Implementation Conformance Statement (PICS)

TR200™ Series Variable Frequency Drives

Date:	November 1, 2020
Vendor Name:	Trane
Product Name:	TR200 Series
Product Model Number	TR200
Applications Software Version	1.11
Firmware Revision	1.11
BACnet Protocol Revision	14
Product Description:	The Trane TR200 Series VFD is an advanced design VFD, fully dedicated to the optimal operation of HVAC applications. It offers energy savings, prolonged motor life, user-friendliness and built-in functionality designed to meet the rigorous demands of HVAC applications. Motor control is based on a vector drive system providing full motor power at rated speed without derating.
	Automatic Motor Adaptation ensures optimum motor torque performance.
	The Automatic Energy Optimizer function optimizes the voltage output of the VFD to the actual load of the motor, thus minimizing its power consumption.

⚠️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.

BACnet Standardized Device Profile (Annex L)

BACnet Advanced Operator Workstation (B-AWS)	☐
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)	☐

BACnet Interoperability Building Blocks (Annex K)

- DS-RP-B
- DS-WP-B
- DM-DDB-B
- DM-DOB-B
- DM-DCC-B
- DM-TS-B
- DM-RD-B

Segmentation Capability

Segmentation	Supported
Segmented Requests/ Window Size: Configurable	☐
Segmented Responses/ Window Size: Configurable	☐

Standard Object Types Supported:

- Analog Input
- Analog Output
- Analog Value
- Binary Input
- Binary Output
- Binary Value
- Device
- Multi-state Value

Object instantiation is static. Refer to tables at the end of this document for object details.

Data Link Layer Options

Data Link Layer	Options
BACnet IP, (Annex J)	☐
BACnet IP, (Annex J), Foreign Device[a]	☐
ISO 8802-3, Ethernet (Clause 7), (10Base2, 10Base5, 10BaseT, Fiber)	☐
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): 9,600, 19,200, 38,400, and 76,800	☒
MS/TP Slave (Clause 9), Baud Rate(s)	☐
Point-to-Point, EIA 232 (Clause 10), Baud Rate(s): 9,600, 19,200, and 38,400	☐
Point-to-Point, Modem (Clause 10), Baud Rate(s): 9,600, 19,200, and 38,400	☐
LonTalk, (Clause 11), Medium	☐
Other	☐

(a) Device can only register as a foreign device on another network device.

Device Address Binding

Is static device binding supported?	☐ Yes ☒ No
Binding is required for 2-way communication with MS/TP slaves and certain other devices.	

Networking Options

Router	☐
Annex H, BACnet Tunneling	☐
BACnet/IP Broadcast Management Device (BBMD)	☐
Does the BBMD Support Registrations by Foreign Devices?	☐

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 (UTF-8)	☐
IBM/Microsoft DBCS	☐
JIS C 6226	☐
ISO 10646 (UCS-4)	☒
ISO 10646 (UCS2)	☐
ISO 8859-1	☒

Object Property List

	Device	Binary Input	Binary Output	Binary Value	Analog Input	Analog Output	Analog Value	Multistate Value
Object Identifier	X	X	X	X	X	X	X	X
Object Name	X	X	X	X	X	X	X	X
System Status	X	X	X	X	X	X	X	X
Vendor Name	X							
Vendor Identifier	X							
Model Name	X							
Firmware Revision	X							
Appl Software Revision	X							
Location	X							
Description	X							
Protocol Version	X							
Protocol Revision	X							
Services Supported	X							
Object List	X							
Max APDU Length	X							
Segmentation Support	X							
Local Time	X							
Local Date	X							
APDU Timeout	X							
Number APDU Retries	X							
Max Masters	X							
Max Info Frames	X							
Device Address Binding	X							
Database Revision	X							
Present Value		X	X	X	X	X	X	X
Status Flags		X	X	X	X	X	X	X
Event State		X	X	X	X	X	X	X
Out-of-Service		X	X	X	X	X	X	X
Number of States								X
State Text								X
Units					X	X	X	
Priority Array			X	X[a]		X	X[a]	X[a]
Relinquish Default			X	X[a]		X	X[a]	X[a]
Polarity		X	X					
Active Text		X	X	X				
Inactive Text		X	X	X				

(a) For commandable values only

Additional Resources

Product support online:

- www.bacnetinternational.org
- www.trane.com

For further assistance, contact your local Trane sales office.

Trane - by Trane Technologies (NYSE: TT), a global climate innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or tranetechnologies.com.