



## PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT

### BACnet Protocol Implementation Conformance Statement

**Date:** August 15, 2007

**Vendor Name:** Yaskawa Electric America, Inc.

**Product Name:** BACnet Option

**Product Model Number:** CM049

**Applications Software Version:** VST800200

**Firmware Revision:** 0

**BACnet Protocol Revision:** 4

#### Product Description:

The Yaskawa E7, P7 Drives and Bypass products are high performance products specifically designed for commercial automation applications. The Yaskawa BACnet Option connects these Yaskawa Drives and Bypass Products to a standard BACnet MS/TP network. These products may be fully controlled and monitored over BACnet. All drive parameters are available for reading and writing\*. All other drive functions are also available through BACnet.

\* Those parameters that allow writing.

#### BACnet Standardized Device Profile (Annex L):

BACnet Advanced Application Controller (B-AAC)

BACnet Application Specific Controller (B-ASC)

BACnet Building Controller (B-BC)

BACnet Operator Workstation (B-OWS)

BACnet Smart Actuator (B-SA)

BACnet Smart Sensor (B-SS)

#### List all BACnet Interoperability Building Blocks Supported (Annex K):

K.1.2 BIBB – Data Sharing – ReadProperty-B (DS-RP-B)

K.1.8 BIBB – Data Sharing – WriteProperty-B (DS-WP-B)

K.5.2 BIBB – Device Management – Dynamic Device Binding-B (DM-DDB-B)

K.5.16 BIBB – Device Management – Reinitialize Device-B (DM-RD-B)

#### Segmentation Capability:

None

#### Standard Object Types Supported:

- |                 |                 |                 |
|-----------------|-----------------|-----------------|
| ■ Device Object | ■ Analog Input  | ■ Binary Input  |
|                 | ■ Analog Output | ■ Binary Output |
|                 | ■ Analog Value  | ■ Binary Value  |

- 1 Whether objects of this type are dynamically creatable using the CreateObject service.  
CreateObject service is not supported.
- 2 Whether objects of this type are dynamically deletable using the DeleteObject service.  
DeleteObject service is not supported.
- 3 List of optional properties  
See **Table 1.1 -- Objects and Properties Supported**
- 4 List of all properties that are writable where not otherwise required by this standard  
See **Table 1.1 -- Objects and Properties Supported**
- 5 List of proprietary properties and for each its property identifier, datatype and meaning  
*No proprietary properties*
- 6 List of any property range restrictions  
*No range restrictions*

**Table 1.1 – Objects and Properties Supported**

| Property                        | Device (DEV) | Analog Input (AI) | Analog Output (AO) | Analog Value (AV) | Binary Input (BI) | Binary Output (BO) | Binary Value (BV) |
|---------------------------------|--------------|-------------------|--------------------|-------------------|-------------------|--------------------|-------------------|
| Object_Identifier               | ✓            | ✓                 | ✓                  | ✓                 | ✓                 | ✓                  | ✓                 |
| Object_Name                     | ✓            | ✓                 | ✓                  | ✓                 | ✓                 | ✓                  | ✓                 |
| Object_Type                     | ✓            | ✓                 | ✓                  | ✓                 | ✓                 | ✓                  | ✓                 |
| System_Status                   | ✓            |                   |                    |                   |                   |                    |                   |
| Vendor_Name                     | ✓            |                   |                    |                   |                   |                    |                   |
| Vendor_Identifier               | ✓            |                   |                    |                   |                   |                    |                   |
| Model_Name                      | ✓            |                   |                    |                   |                   |                    |                   |
| Firmware_Revision               | ✓            |                   |                    |                   |                   |                    |                   |
| Application_Software_Version    | ✓            |                   |                    |                   |                   |                    |                   |
| Protocol_Version                | ✓            |                   |                    |                   |                   |                    |                   |
| Protocol_Revision               | ✓            |                   |                    |                   |                   |                    |                   |
| Protocol_Services_Supported     | ✓            |                   |                    |                   |                   |                    |                   |
| Protocol_Object_Types_Supported | ✓            |                   |                    |                   |                   |                    |                   |
| Object_List                     | ✓            |                   |                    |                   |                   |                    |                   |
| Max_ADPU_Length_Accepted        | ✓            |                   |                    |                   |                   |                    |                   |
| Segmentation_Supported          | ✓            |                   |                    |                   |                   |                    |                   |
| ADPU_Timeout                    | ✓            |                   |                    |                   |                   |                    |                   |
| Number_Of_ADPU_Retries          | ✓            |                   |                    |                   |                   |                    |                   |
| Max_Masters                     | ✓            |                   |                    |                   |                   |                    |                   |
| Max_Info_Frames                 | ✓            |                   |                    |                   |                   |                    |                   |
| Device_Address_Binding          | ✓            |                   |                    |                   |                   |                    |                   |
| Database_Revision               | ✓            |                   |                    |                   |                   |                    |                   |
| Present_Value                   |              | ✓                 | ✓                  | ✓                 | ✓                 | ✓                  | ✓                 |
| Status_Flags                    |              | ✓                 | ✓                  | ✓                 | ✓                 | ✓                  | ✓                 |
| Event_State                     |              | ✓                 | ✓                  | ✓                 | ✓                 | ✓                  | ✓                 |
| Reliability                     |              | ✓                 | ✓                  | ✓                 | ✓                 | ✓                  | ✓                 |
| Out_Of_Service                  |              | ✓                 | ✓                  | ✓                 | ✓                 | ✓                  | ✓                 |
| Units                           |              | ✓                 | ✓                  | ✓                 |                   |                    |                   |
| Priority_Array                  |              |                   | ✓                  | ✓*                |                   | ✓                  | ✓*                |
| Relinquish_Default              |              |                   | ✓                  | ✓*                |                   | ✓                  | ✓*                |
| Polarity                        |              |                   |                    |                   | ✓                 | ✓                  |                   |
| Inactive_Text                   |              |                   |                    |                   | ✓                 | ✓                  | ✓                 |
| Active_Text                     |              |                   |                    |                   | ✓                 | ✓                  | ✓                 |

\* Commandable objects only

**Data Link Layer Options:**

- BACnet IP (Annex J)
- BACnet IP (Annex J) Foreign Device
- ISO8802-3 Ethernet (Clause 7)
- ANSI/ATA 878.1, 2,5Mb 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, 78600, Auto Baud \_\_\_\_\_
- MS/TP slave (Clause 9), baud rate(s): 9600, 19200, 38400, 78600, Auto Baud \_\_\_\_\_
- Point-to-Point, EIA 232 (Clause 10) baud rate(s) \_\_\_\_\_
- Point-to-Point modem (Clause 10) baud rate(s) \_\_\_\_\_
- LonTalk (Clause 11) medium \_\_\_\_\_
- Other \_\_\_\_\_



**Device Address Binding:**

Not supported.

**Networking Options:**

Router (Clause 6) – List all routing configurations

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

IBM™/Microsoft™ DBCS

ISO 8859-1

ISO 10646 (UCS-2)

ISO 10646 (UCS-4)

JIS C 6226

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

N/A

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