

**Date:** June 16, 2008

**Vendor Name:** TAC

**Product Name:** I/A Series® Enterprise Network Controller

**Product Model Number:** ENC-410 and ENC-520 Series

**Applications Software Version:** 3.2.20.1 or higher (Release 3.2)

**Firmware Revision:** 3.2.20 or higher (Release 3.2)

**BACnet Protocol Revision:** 4

### Product Description

The TAC I/A Series ENC-410 and ENC-520 Enterprise Network Controllers (ENCs) are compact, embedded-processor platforms with flash memory for backup. These ENCs and the Enterprise Network Server provide bi-directional communications between the TAC I/A Series and a BACnet system operating at BACnet Conformance Class 4. It provides integrated control, supervision, and network management solutions for a network of BACnet™ MS/TP-based controllers, for building control. When connected over an Ethernet network, these ENCs can also share data between BACnet, LonWorks™, and TAC systems. A complete set of Java®-based control, application, logging, and user interface “objects” are included in a library. In addition to these functions, the ENC-410 includes a number of physical I/O points.

Specifically designed for mechanical room, factory floor, and other commercial environments, the ENC-410 or ENC-520 can be wall-mounted using its integral metal enclosure. In a small building application, a single ENC can be used to support a network of BACnet, LonWorks, or TAC devices that can be accessed directly over the Ethernet LAN, remotely over the Internet, or via dial-up modem.

### BACnet Standardized Device Profile (Annex L)

BACnet Operator Workstation (B-OWS)

BACnet Building Controller (B-BC)

BACnet Advanced Application Controllers (B-AAC)

BACnet Application Specific Controller (B-ASC)

BACnet Smart Sensor (B-SS)

BACnet Smart Actuator (B-SA)

### BACnet Interoperability Building Blocks Supported (Annex K in BACnet 2004)

DS-RP-A	DS-RP-B	DS-RPM-A	DS-RPM-B	DS-WP-A	DS-WP-B	DS-WPM-B
DS-COV-A	DS-COV-B	DS-COVU-A	DS-COVU-B	DM-DDB-A	DM-DDB-B	DM-DOB-A
DM-DOB-B	DM-DCC-B	DM-RD-B	DM-TS-B	DM-UTC-B	DM-LM-A	DM-LM-B
DM-BR-B	AE-N-A	AE-N-I-B	AE-ACK-A	AE-ACK-B	AE-ASUM-B	AE-ESUM-B
AE-INFO-B	T-VMT-A	T-VMT-I-B	T-VMT-E-B	T-ATR-A	T-ATR-B	SCHED-A
SCHED-E-B	SCHED-I-B	NM-CE-A				

### Segmentation Capability

Able to transmit segmented messages **Window Size:** 10

Able to receive segmented messages **Window Size:** Any



**Date:** April 21, 2008

**Vendor Name:** TAC

**Product Name:** I/A Series® MicroNet™ BACnet™ Plant Controller

**Product Model Number:** MNB-1000

**Applications Software Version:** N/A

**Firmware Revision:** 1.501

**BACnet Protocol Revision:** 4

### Product Description

The I/A Series MicroNet BACnet Plant Controller, MNB-1000, is an interoperable controller with native BACnet MS/TP communications support. The MNB-1000 features 32 I/O points: 12 universal inputs, four digital inputs, eight universal outputs, and eight digital outputs (Triacs).

The controller features Sensor Link (S-Link) support, LED status and output indication, two Ethernet ports, and screw terminal blocks. The MNB-1000's sequence of operation and BACnet image are fully programmable using WorkPlace Tech Tool, and can be applied to a wide range of mechanical equipment. Typical applications include central station air handlers, VAV air handlers, and cooling towers.

### BACnet Standardized Device Profile (Annex L)

- BACnet Operator Workstation (B-OWS)
- BACnet Building Controller (B-BC)
- BACnet Advanced Application Controllers (B-AAC)
- BACnet Application Specific Controller (B-ASC)
- BACnet Smart Sensor (B-SS)
- BACnet Smart Actuator (B-SA)

### BACnet Interoperability Building Blocks Supported (Annex K in BACnet 2004)

DS-RP-A	DS-RP-B	DS-RPM-B	DS-WP-B	DS-WPM-B	DS-COV-A
DS-COV-B	DM-DDB-B	DM-DOB-A	DM-DOB-B	DM-DCC-B	DM-UTC-B
DM-RD-B	NM-RC-B				

### Segmentation Capability

- Able to transmit segmented messages      **Window Size:** N/A
- Able to receive segmented messages      **Window Size:** N/A

**Date:** August 9, 2007

**Vendor Name:** TAC

**Product Name:** I/A Series<sup>®</sup> MicroNet<sup>™</sup> BACnet<sup>™</sup> Application Specific Controllers

**Product Model Number:** MNB-70, MNB-300, MNB-V1, MNB-V2

**Applications Software Version:** N/A

**Firmware Revision:** 1.41

**BACnet Protocol Revision:** 4

## Product Description

The I/A Series MicroNet BACnet Application Specific Controllers are three to 15 point HVAC equipment controllers. The MNB-70 is designed for use with unit heat, cabinet heat, fan coil, small unit vent, heat pumps, and single or dual loop control strategies. The MNB-300 is a modular controller for use with air handler, unit vent, heat pump, and fan coil applications. The MNB-V1 and MNB-V2 are over-the-shaft mount VAV controllers incorporating an integral actuator, pressure transducer, controller, S-Link sensor support, and physical inputs and outputs.

MNB-70 – 3 universal inputs, 1 universal output, 3 triac outputs, S-Link sensor support

MNB-300 – 6 universal inputs, 3 universal outputs, 6 triac outputs, S-Link sensor support

MNB-V1 – 3 universal inputs, S-Link sensor support

MNB-V2 – 3 universal inputs, 1 universal output, 3 triac outputs, S-Link sensor support

## BACnet Standardized Device Profile (Annex L)

- BACnet Operator Workstation (B-OWS)
- BACnet Building Controller (B-BC)
- BACnet Advanced Application Controllers (B-AAC)
- BACnet Application Specific Controller (B-ASC)
- BACnet Smart Sensor (B-SS)
- BACnet Smart Actuator (B-SA)

## BACnet Interoperability Building Blocks Supported (Annex K)

DS-RP-A	DS-RP-B	DS-RPM-B	DS-WP-B	DS-WPM-B	DS-COV-A
DS-COV-B	DM-DDB-B	DM-DOB-B	DM-DCC-B	DM-RD-B	

## Segmentation Capability

- Able to transmit segmented messages      **Window Size:** N/A
- Able to receive segmented messages      **Window Size:** N/A

## Data Link Layer Options

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): 9.6k, 19.2k, 38.4k, 76.8k bps

MS/TP slave (Clause 9), baud rate(s): \_\_\_\_\_

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

is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.)  Yes  No

## Networking Options

Router, Clause 6 – List all routing configurations, e.g., Ethernet-MS/TP, etc.: None

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  N/A

## 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 (ICS-4)

JIS C 6226

## Non-BACnet Equipment and Network(s) Supported

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

None.

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