TAC MicroNet BACnet Zone Controller

- The TAC MicroNet BACnet Zone Controller's sequence of operation and BACnet image are fully programmable using WorkPlace Tech Tool. The controller can be applied to all common zone HVAC applications.
- Capability to function in standalone mode or as part of a BACnet building automation network.
- Integral MS/TP jack for direct connection of PC with WorkPlace Tech Tool.
- DIP switch addressable.
- Service pin button for BACnet "I am" message broadcast.
- Isolated EIA-485 transceiver for MS/TP communications.
- MS/TP baud rate selection from 9.6 up to 76.8 kbaud.
- LED indication of MS/TP communication activity and controller status.
- Firmware upgradeable over the network.

The TAC I/A Series™ MicroNet™ BACnet™ Zone Controller is an interoperable controller with native BACnet MS/TP communications support. The controller features: three universal inputs; three digital (Triac) outputs; one universal output; Sensor Link (S-Link) support; LED status indication; and an "I-Am" button.

When programmed using WorkPlace Tech Tool, the Zone Controller provides a wide range of control strategies for applications such as unit heaters, cabinet heaters, fan coil units, small unit ventilators, heat pumps, and single/dual loop control strategies.

The TAC MicroNet BACnet Zone Controller can function either in a standalone mode or as part of a BACnet building automation system (BAS) network.

Table-1 Model Chart.

Model	Inputs and Outputs		
	UI	UO	DO (Triac)
MNB-70	3	1	3

Communications

BACnet Networks

The TAC MicroNet BACnet Zone Controller incorporates an isolated EIA-485 transceiver for BACnet MS/TP communications at 9.6 up to 76.8 kbaud using standard MS/TP wiring methods. Up to 128 TAC MicroNet BACnet controllers can be connected to an MS/TP sub-net without repeaters.

S-Link

The Sensor Link (S-Link) communications wiring provides power and a communication interface for one MN-Sx TAC I/A Series MicroNet sensor. The various MN-Sx sensors can provide room temperature, room humidity, setpoint adjustment, and occupancy override. This connection uses two-wire, unshielded cable and is not polarity sensitive. Maximum S-Link bus length is 200 ft (61 m).

BACnet Compliance

BACnet Application Specific Controller (B-ASC).

Options

MNA-FLO-1	TAC MicroNet™ enclosure, used if wiring to flexible conduit is required
S-Link Sensors	Temperature and humidity wall sensors with digital communication
TSMN Series	Room temperature sensors

Pending

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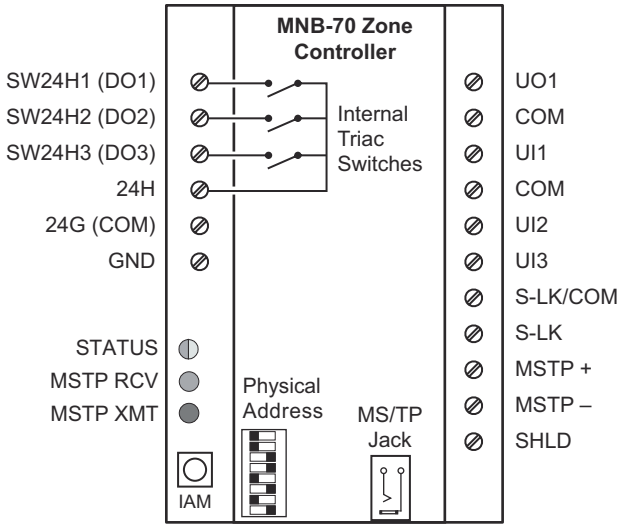

Figure-1 Zone Controller Terminals.

SPECIFICATIONS

HARDWARE SPECIFICATIONS

Dimensions
3-5/8 H x 5 W x 1-19/32 D in (92 x 127 x 41 mm).

Enclosure
Conforms to NEMA-1. Meets UL 94-5VA flammability ratings for plenum application use.

Mounting
Panel mount.

Power Supply Input
20.4 to 30 Vac, 50/60 Hz.

Power Consumption
15 VA at 24 Vac plus DO loads.

AGENCY LISTINGS

US
UL 916, File #E71385 Category PAZX
FCC Part 15, Class A.

Canadian
UL Listed to Canadian Safety Standards (CAN/CSA 22.2).

Australian
Meets requirements to bear the C-Tick Mark.

BTL Listing
B-ASC (pending)

European Community
EMC Directive 89/336/EEC
EN61326

AMBIENT LIMITS

Operating Temperature
32 to 131 °F (0 to 55 °C).

Shipping and Storage Temperature
-40 to 160 °F (-40 to 71 °C).

Humidity
5 to 95% non-condensing.

WIRING TERMINALS (FIGURE-1)

Fixed Screw terminals
single AWG #14 (2.08 mm^2) wire or up to two AWG #18 (0.823 mm^2) or smaller wires.

INPUTS FROM MN-SX TAC MICRONET™ SENSOR

Space Temperature
32 to 122 °F (0 to 50 °C).

Space Humidity
5 to 95% RH, non-condensing.

Local Setpoint
Adjustable within limits set by application programming tool.

Override Pushbutton
For standalone occupancy control or occupancy override.

Fan Operation and Speed Mode
On/off, speed (low/medium/high), or auto.

System Mode
Heat, cool, off, or auto.

Emergency Heat
Enable or disable.

UNIVERSAL INPUTS (3)

Universal Input characteristics are software-configured to respond to one of the following input types:

10 k ohm Thermistor with 11 k ohm Shunt Resistor
Sensor operating range -40 to 250 °F (-40 to 121 °C), TAC model TSMN-57011-850, TS-5700-850 series, or equivalent.

1 k ohm Balco
-40 to 250 °F (-40 to 121 °C), TAC model TSMN-81011, TS-8000 series, or equivalent.

1 k ohm Platinum
-40 to 240 °F (-40 to 116 °C), TAC model TSMN-58011, TS-5800 series, or equivalent.

1 k ohm Resistive
0 to 1500 ohms.

10 k ohm Resistive
0 to 10.5 k ohms.

Analog Voltage
Range 0 to 5 Vdc.

Analog Current
Range 0 to 20 mA, requires external 250 ohm shunt resistor (AD-8969-202).

Digital
Dry switched contact; detection of closed switch requires less than 300 ohms resistance; detection of open switch requires more than 2.5 k ohms.

Standard Pulse Input
Minimum Rate
1 pulse per 4 minutes.

Maximum Rate
1 pulse per second.

DIGITAL OUTPUTS – TRIAC (3)

DO1 plus DO2 Rating
24 VA total at 24 Vac, 50/60 Hz, high side switching.

DO3 Rating
12 VA at 24 Vac, 50/60 Hz, high side switching.

UNIVERSAL OUTPUT (1)

0 to 20 mA
Output load from 80 to 550 ohms.

0 to 10 V
With external 500 ohms, 1/2 W, 1% resistor.

Capable of Driving Functional Devices
RIBUI1C Relay
UO configured for 0 to 20 mAdc, no external resistor.

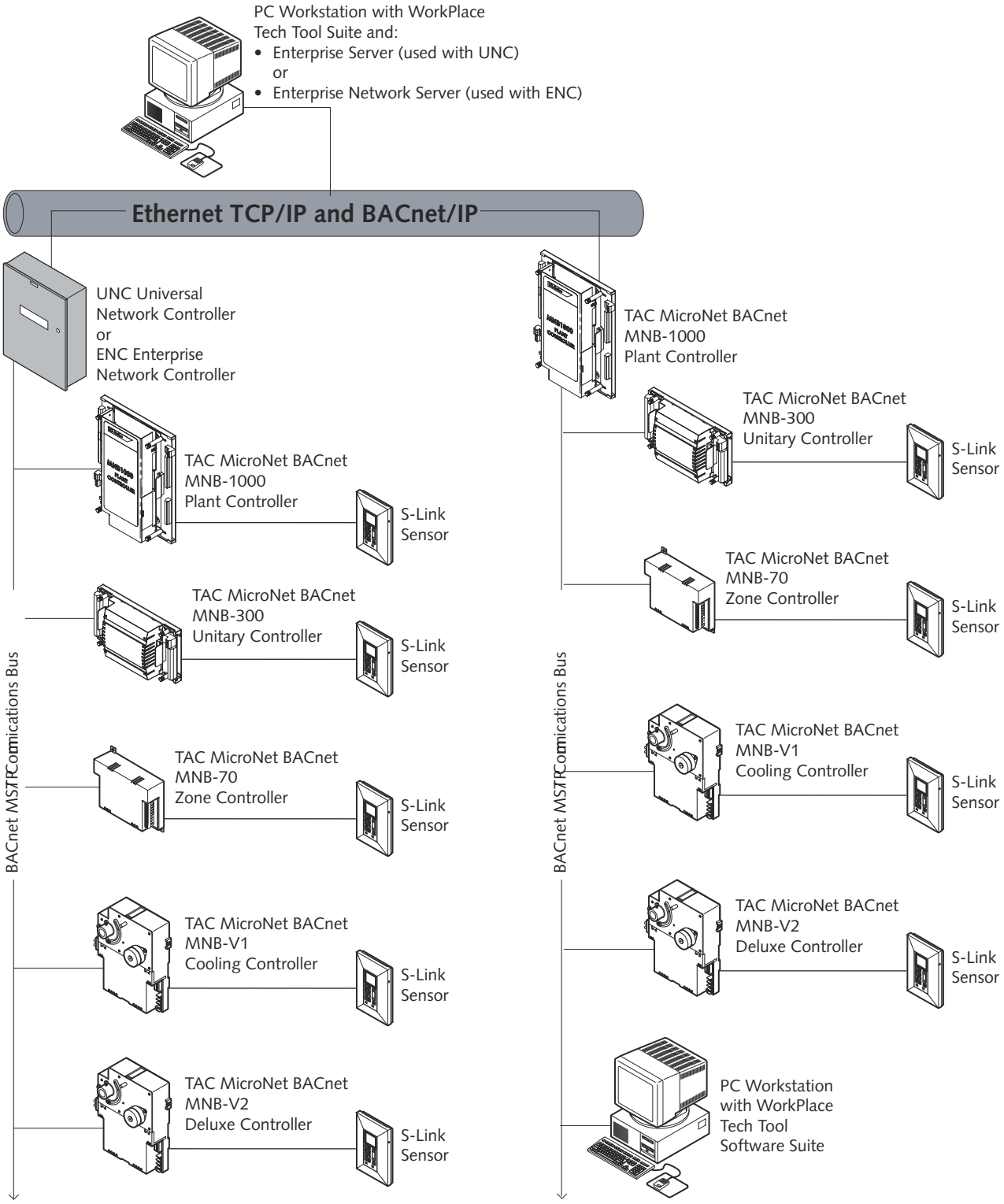

Figure-2 TAC I/A Series BACnet Topology.

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