



- The TAC MicroNet BACnet Plant Controller's sequence of operation and BACnet image are fully programmable using WorkPlace Tech Tool.
- Capability to function in standalone mode or as part of a TAC I/A Series building automation network.
- Integral MS/TP jack for direct connection of PC with WorkPlace Tech Tool Suite.
- Optional rugged sheet metal enclosure.
- MS/TP DIP switch addressable.
- Service pin button for BACnet "I am" message broadcast.
- Isolated RS-485 transceiver for MS/TP communications.
- MS/TP baud rate selection from 9.6 up to 76.8 kbaud.
- LED indication of MS/TP and Ethernet IP communication activity, controller status, DO state, and UO state.
- Application-programmable LED provides on/off indication of a user-defined application parameter.
- Firmware upgradeable over the network.
- 72 hour, battery-backed real time clock.
- BBMD, remote connectivity across subnets.
- IP/Ethernet bridge.
- BACnet router functionality.

TAC MicroNet™ BACnet™ Plant Controller

The TAC I/A Series® MicroNet BACnet Plant Controller is an interoperable controller with native BACnet/IP, BACnet Ethernet, and MS/TP communications support and routing functionality between physical networks. The controller features Sensor Link (S-Link) support, LED status and output indication, two Ethernet ports, and screw terminal blocks.

The Plant Controller'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.

The TAC MicroNet BACnet Plant 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	DI	UO	DO (Triac)
MNB-1000	12	4	8	8

Communications

BACnet Networks

The TAC MicroNet BACnet Plant Controller incorporates a fully functional BACnet router between its 3 fully configurable communications ports.

MS/TP

Isolated RS-485 transceiver, providing support for up to 128 MS/TP devices communicating at 9.6 up to 76.8 kbaud using standard MS/TP standard wiring methods.

Ethernet/IP

Dual 10/100 Ethernet ports with modular RJ-45 jacks. Both ports are set to be an Ethernet Bridge, saving on network wiring.

BACNET Ethernet

Standard BACnet Ethernet communications.

BACnet/IP

Communications choices are Standard BACnet/IP, BBMD, or Foreign Device.

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).

Options

MNB-1000-ENC	Wall-mount enclosure
S-Link Sensors	Temperature and humidity wall sensors with digital communication
TSMN Series	Room temperature sensors



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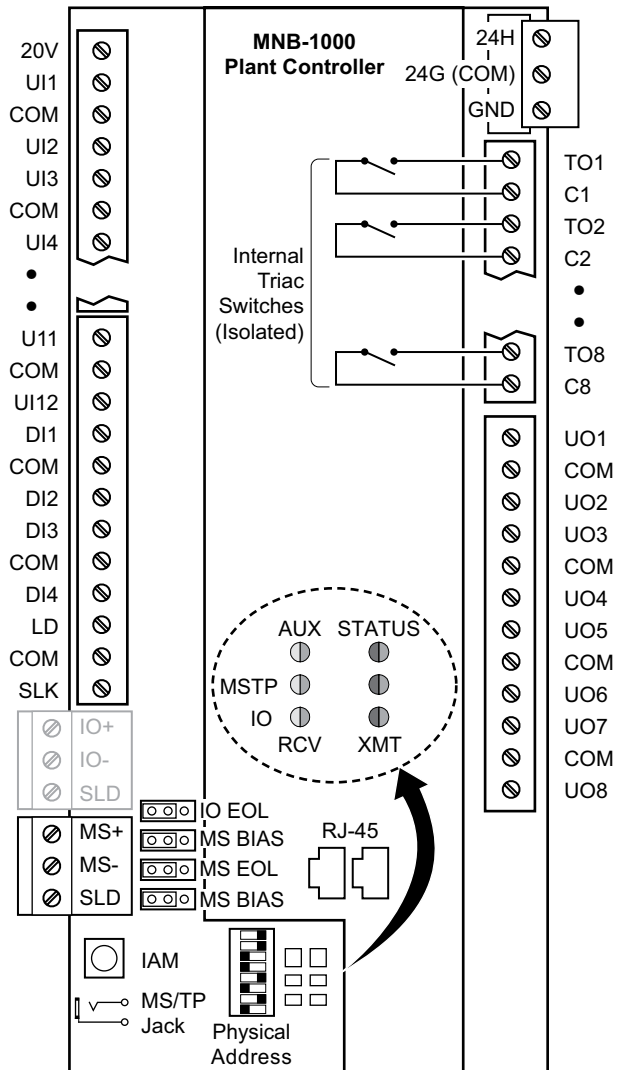


Figure-1 Plant Controller Terminals.

SPECIFICATIONS

HARDWARE SPECIFICATIONS

Dimensions

10-15/16 H x 8-3/8 W x 2-9/32 D in
(277 x 213 x 58 mm).

Enclosure

Optional rugged sheet metal enclosure conforms to NEMA-1.

Mounting

Panel mount.

Power Supply Input

20.4 to 30 Vac, 50/60 Hz.

Power Consumption

50 VA at 24 Vac.

AGENCY LISTINGS

US

UL 916, File #E9429 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.

European Community

EMC Directive 89/336/EEC
EN61326

AMBIENT LIMITS

Operating Temperature

-40 to 140 °F (-40 to 60 °C).

Shipping and Storage Temperature

-40 to 160 °F (-40 to 71 °C).

Humidity

5 to 95% non-condensing.

WIRING TERMINALS (FIGURE-1)

MS/TP

Removable screw terminals; single AWG
#14 (2.08 mm²) wire or up to two AWG
#18 (0.823 mm²) or smaller wires.

Power

Removable screw terminals; up to two
AWG #14 (2.08 mm²) 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.

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 (12)

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.

DIGITAL INPUTS (4)

Dry Switched Contact

Detection of closed switch requires less
than 300 ohms resistance; detection of
open switch requires more than 100 k
ohms.

DIGITAL OUTPUTS – TRIAC (8)

12 VA at 24 Vac, 50/60 Hz, each output
individually isolated.

UNIVERSAL OUTPUTS (8)

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 RIBU1C Relay

UO configured for 0 to 20 mAdc, no
external resistor.

20 VDC OUTPUT

20 Vdc ±10% at 100 mA.

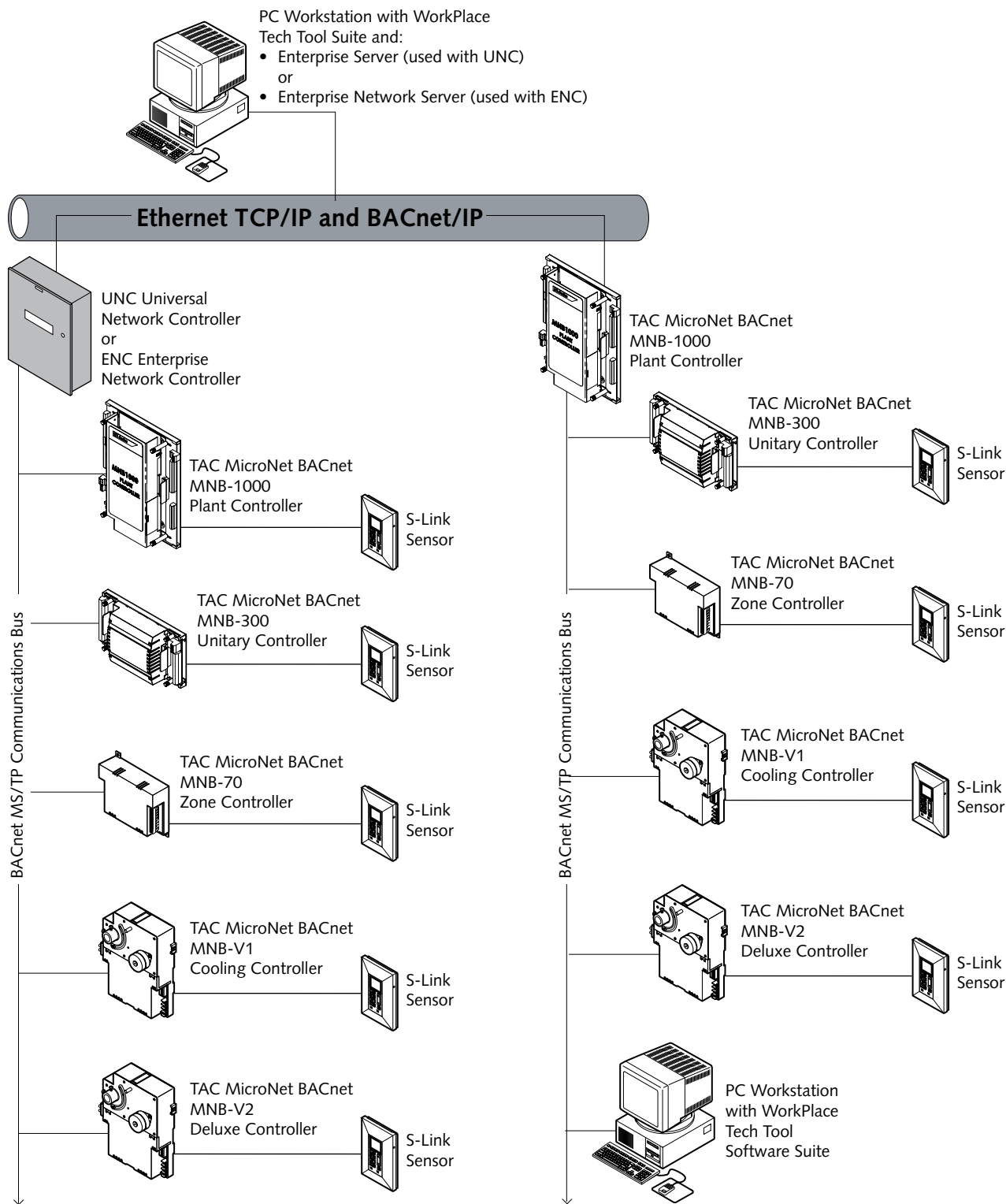


Figure-2 TAC I/A Series BACnet Topology.

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F-27341-3
June 2007



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