

# TAC I/NET MR-HP Installation Sheet

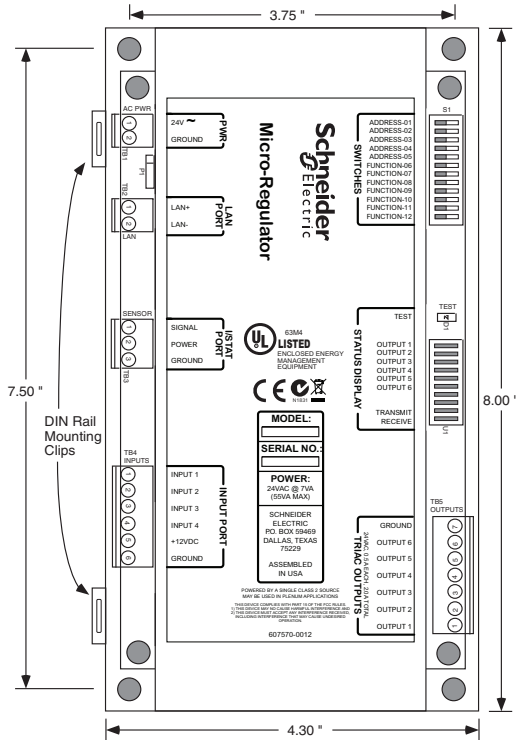


Figure 1. MR-HP (Covered)

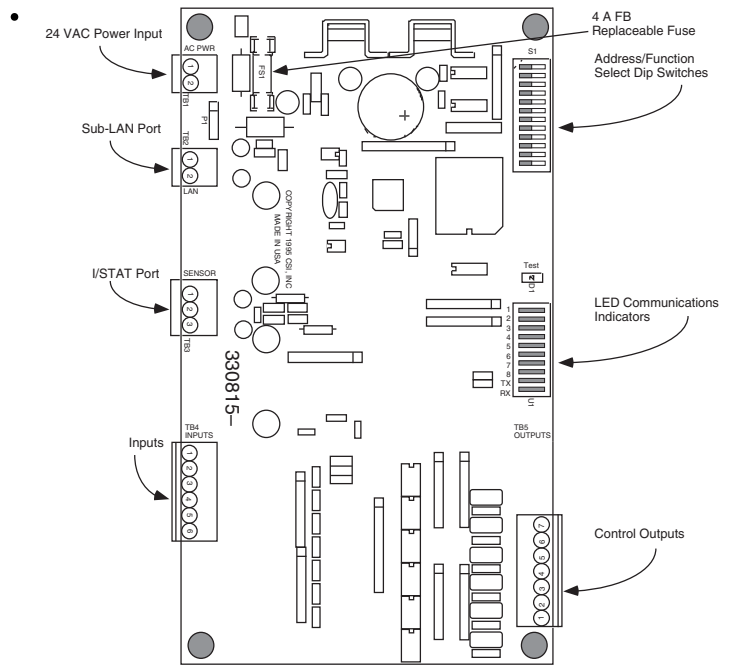


Figure 2. MR-HP (Cover Removed)

## Controller Installation

1. Check the mounting location for the MR-HP. The available area must measure at least 4.3" x 8" (11.0 x 20.3 cm) and should be in a moisture free container away from any large electrical devices. The screw holes are 3.75" x 7.5" (9.5 x 19.1 cm) as shown in Figure 1, and will require phillips or slotted pan head screws.
2. You will not need to remove the plastic cover to install the MR-HP, or any of the connections. To replace the 4A FB fuse, remove the plastic cover, remove the old fuse and install a new fuse (see Figure 2).

## Connecting the Input Devices

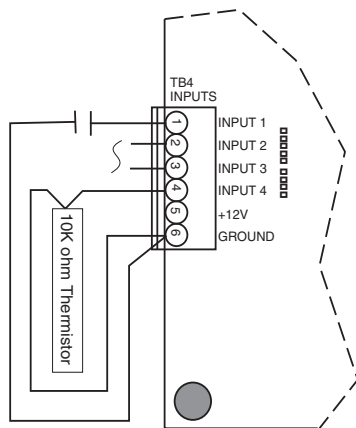
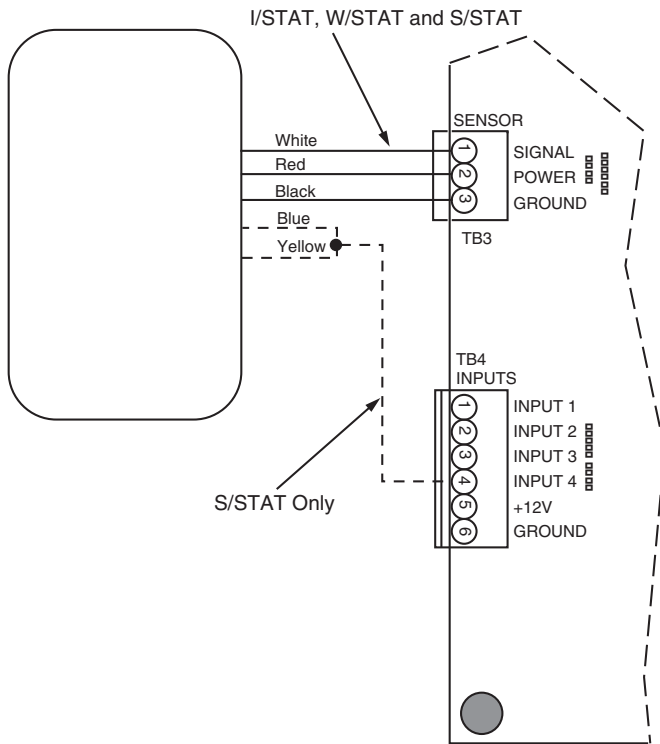


Figure 3. Input Device Connections

**Warning!!!** Ensure that no power is connected to the MR-HP during electrical installation. Failure to disconnect power from all interconnected equipment when performing electrical installation may result in damage to the components and/or electrical shock or burns

1. Connect the external input devices (contact or thermistor) leads to an input terminal, TB4 – 1 through TB4 – 4 (Input 1 to Input 4, see Figure 3).
2. Connect the other input device lead (common return lead) to the signal ground terminal, TB4 – 6 (Ground).

## I/STAT, S/STAT and W/STAT Connections



1. Connect the I/STAT, S/STAT, or W/STAT white, red, and black conductors to TB3 – 1 through TB3 – 3 (Signal, Power, and Ground) as shown in Figure 4.
2. When connecting an S/STAT connect the blue and yellow conductors to TB4 – 4 (Input 4). Refer to Table 2, “DIP Switch Configuration Settings”.

Figure 4. I/STAT and S/STAT Connection

## Connecting the Sub-LAN

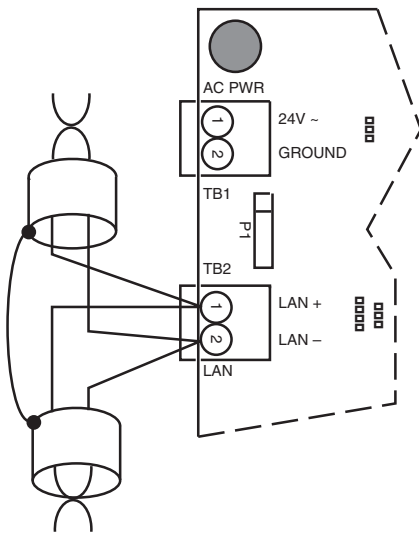


Figure 5. Sub-LAN Connections

1. Connect the + lead of the twisted pair sub-LAN cable to terminal TB2 – 1 (LAN+, see Figure 5).
2. Connect the – lead of the twisted pair sub-LAN cable to terminal TB2 – 2 (LAN –).
3. Shield drain wire continuity must be maintained as the sub-LAN cable passes through each MR-HP. Shield drain wires from each controller sub-LAN cable must be twisted together, insulated, and tied back such that wires do not come in contact with ground or any conductive surface.
4. Connect the shield drain wire directly to Electrical Service Earth Ground at **only one end of the cable** (e.g., at the MCI, MRI, or at one MR-HP).

**Note:** Refer to “Cable Requirements” in “Specifications” on page 4.

# TAC I/NET MR-HP Installation Sheet

## Connecting the Output Devices

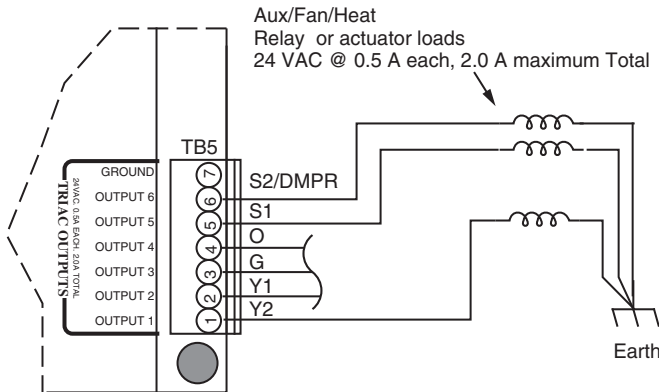


Figure 6. Output Device Connections

1. Connect one lead of the control relays to TB5 – 1 through TB5 – 6 (Output 1 through Output 6) as shown in Figure 6.
2. Connect the other lead of the control relays to earth ground as shown.

**Note:** You must establish a proper earth ground connection point prior to connecting wires to electrical equipment.

- Electrical Service Earth Ground wire must be securely connected to the equipment chassis.
- The 24 VAC transformer secondary lead must be securely connected to the Electrical Service Earth Ground wire.

**Note:** The Electrical Service Earth Ground wire must be connected to the ground terminal on the controller power input terminal block, TB1 – 2 (Ground).

## Connecting the Power Supply

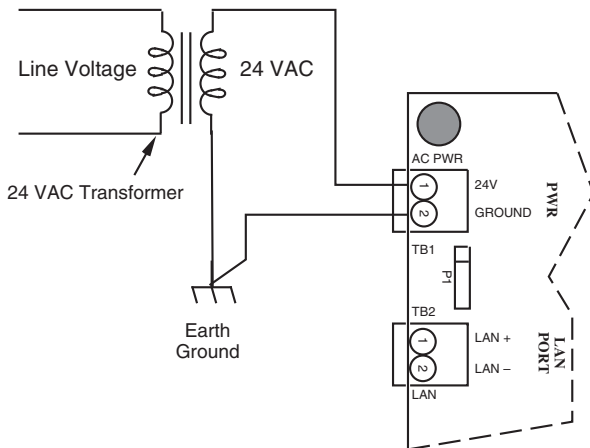


Figure 7. Power Connections

1. Connect the 24 VAC input lead from a separate, isolated 24 VAC transformer to TB1 – 1 (24 VAC, see Figure 7).
2. Connect TB1 – 2 (Ground) to earth ground using 14-AWG wire (2.1 mm<sup>2</sup>). TB1 – 2 connects to the same earth ground connection as the neutral lead from the transformer.

**Note:** Connecting TB1 – 2 to a chassis bonding post separated by seams, welds, or fasteners in the metal chassis could produce continuity ground faults.

**Caution!** Applying 24 VAC power to any connector other than TB1 will cause component damage to the MR-HP circuit board.

## Switch Settings

The DIP switch settings define the sub-LAN address and basic configuration of the unit. Define the sub-LAN address using switches 1 – 5 to set an address ranging from 0 to 31. The value is the accumulated value of switches 1 – 5 when set to the ON position (refer to Table 1). The ON position of the switch is away

from the “Open” label on the switch base. The operational configuration can be initially set using the DIP switch settings in Table 2. For information concerning specific application configurations refer to TCON153, *Application Specific Controller, MR-HP Installation Guide*.

Table 1. MR-HP LAN Address

Switch Number	1	2	3	4	5
Switch Value (Switch On)	1	2	4	8	16

## Switch Settings (*Continued*)

Table 2. DIP Switch Configuration Settings

Compressor Stages		Point 06DO Definition		Supplemental Heating Stages			Fan Type		S/STAT		Reversing Valve	
	SW 6		SW7		SW8	SW9	SW10		SW11		SW12	
1 Stage	Off	Emergency Heat	Off	None	Off	Off	On	On	Yes	On	Energize to Heat	Off
2 Stage	On	Demand Control	On	1 Heat Stage	On	Off	Auto	Off	No	Off	Energize to Cool	On
				2 Heat Stages	Off	On						
				2 Heat Stages	On	On						

## Specifications

### Dimensions

MR-HP: 8"L × 4.3"W × 2.5"H  
(20.3 × 10.9 × 6.4 cm)

### Operating Environment

Temperature: 32° to 122°F (0° to 50°C)

Humidity: 10 to 90% RH, non-condensing

Input power: 24 VAC ±10%, 50/50 Hz @ 8VA plus Triac  
Output Load, 4 A fused (with I/STAT)  
24 VAC @ 7 VA plus Triac Output Load, 4 A  
fused (without I/STAT)

### Cable Requirements

MR LAN

Maximum Length: 5,000 ft. (1,500 m)  
22 AWG (0.324 mm<sup>2</sup>) shielded, twisted pair  
(Belden 9184 equivalent) 5,000 feet (1,500 m)  
maximum  
or  
24 AWG (0.206 mm<sup>2</sup>) shielded, twisted  
pair (Belden 9841 equivalent) 4,000 feet (1,200 m).  
30 pF/ft. or less between conductors, 55 pF/ft. or  
less conductor to shield, 85 to 150 ohm impedance.  
Belden 9841 or equivalent.

### Inputs/Outputs

Inputs: Digital — Dry Contact, excitation 5 V at 0.5 mA

Analog — 10K Ohm NTC Thermistor, Dale  
1M1002-C3 (Reference CSI TTS100 specification)

Accuracy: 1%

Resolution: 0.4% Span

Span: 25° to 113°F (−4° to 45°C)

Outputs: Low voltage Triac — 24 VAC @ 0.5 A maximum  
each output (2.0 A maximum total), voltage  
sourcing

### MicroRegulator Interface

7792 MRI

7793 MCI

7798 I/SITE LAN

### Agency Approvals

FCC Part 15, CE, ACA

UL916 LISTED Energy Management Equipment

UL94-V0 Rated Enclosure

UL Approved for plenum applications

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