

Installation and Maintenance Manual

IM 956-4

Group: **WSHP**

Part Number: **910270094**

Date: **September 2019**

Temperature Sensors for Units with MicroTech® III Unit Controller and LonWORKS® or BACnet® Communication Module



Discharge Air Temperature Sensor

Note: For instructions on how to install the LonWORKS Communication Module refer to IM 927. To install the BACnet Communication Module refer to IM 928.

LonWORKS Field Installation Kit

Qty	Description
1	LONWORKS Communication Module
1	IM 927 MicroTech Water Source Heat Pump LonWORKS Communication Module
1	IM 956 Temperature Sensors for Units with MicroTech III Unit Controller and LonWORKS or BACnet Communication Module
2	Air Temperature Sensor, flanged, with two-pin connector
1	Water Temperature Sensor, with two-pin connector
4	Stand-off, 7/16"
5	Wire Tie, 8"
1	Supply Air Temperature Sensor, flanged with terminals connector

BACnet Field Installation Kit

Qty	Description
1	BACnet Communication Module
1	IM 928 MicroTech Water Source Heat Pump BACnet MS/TP Communication Module
1	IM 956 Temperature Sensors for Units with MicroTech III Unit Controller and LonWORKS or BACnet Communication Module
2	Air Temperature Sensor, flanged, with two-pin connector
1	Water Temperature Sensor, with two-pin connector
4	Stand-off, 7/16"
5	Wire Tie, 8"
1	Supply Air Temperature Sensor, flanged with terminals connector

CAUTION

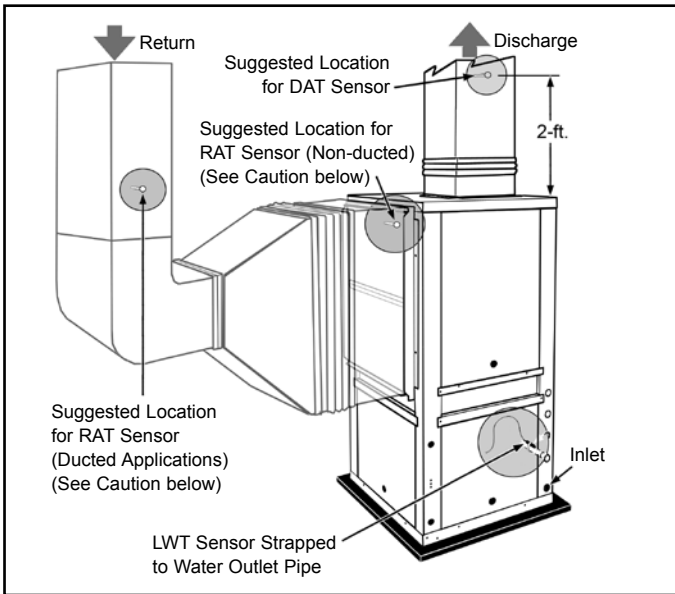
Sharp edges can cause personal injury. Avoid contact with them.

Installation - WSHP Vertical (Floor) & Horizontal (Ceiling) Models

1. The Leaving Water Temperature (LWT) sensor is typically installed on the outlet water line, just inside the unit cabinet (Figure 1). Thermal grease can be used between the sensor and the water line to improve thermal conductivity between the two metal surfaces. Insulation must be applied over the sensor.

- Notes:**
1. The LWT sensor may already be factory installed on some units. If the LWT is already factory installed the LWT sensor supplied with the kit can be discarded.
 2. On some units the H4 connector will already be connected to the control board and the kit supplied connector can be discarded.

Figure 1: Mounting locations for the temperature sensors (vertical floor model shown)



The DAT sensor wires will terminate on terminals #1 and #2 on terminal block H4. See Figure 2.

CAUTION

When an optional wall-mounted room temperature sensor is connected to the unit controller, the Return Air Temperature (RAT) sensor must not be installed. A wall-mounted room temperature sensor and the return air temperature sensor must not be connected simultaneously or the unit will not operate properly.

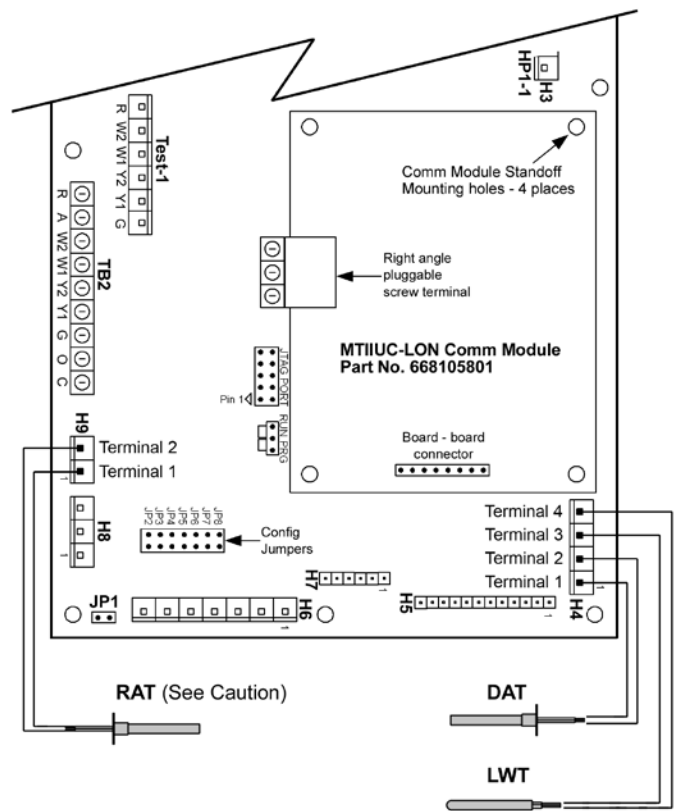
2. The Return Air Temperature (RAT) sensor is typically installed upstream of the evaporator coil, either in the return ductwork or connected to the filter rack if return ductwork is not present (Figure 1).

The sensor wires will terminate on terminals #1 and #2 on terminal block H9. See Figure 2.

3. The Discharge Air Temperature (DAT) sensor is typically installed 2-ft. to 3-ft. down stream of the fan housing (Figure 1). Because the airflow is more uniform at this location in the airstream, a more accurate reading of the discharge air temperature is possible.

The LWT sensor wires will run back to terminals #3 and #4 on terminal block H4. See Figure 2.

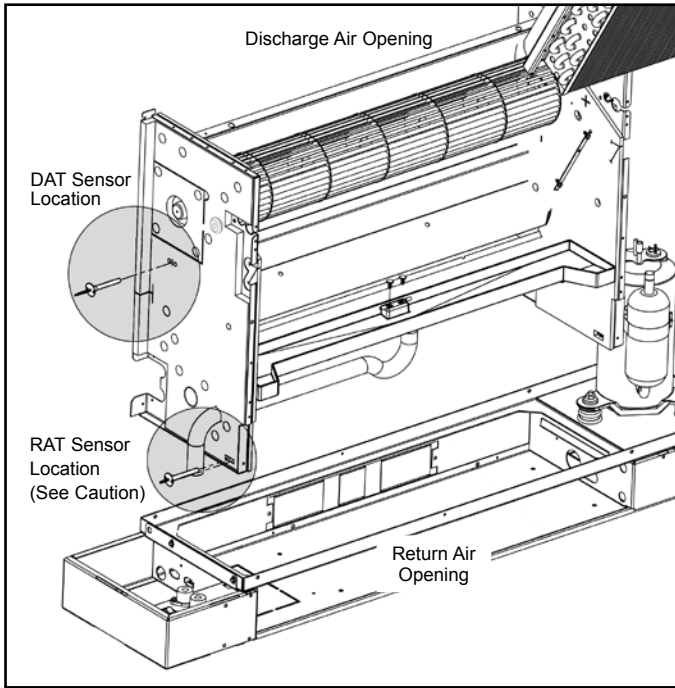
Figure 2: Terminal connections for temperature sensors on the MicroTech III Unit controller



Installation - WSHP Console Models

1. The Discharge Air Temperature (DAT) sensor is installed between the coil and fan housing (Figure 3).

Figure 3: Discharge Air Temperature Sensor (DAT) & Return Air Temperature (RAT) sensor locations



CAUTION

When an optional wall-mounted room temperature sensor is connected to the unit controller, the Return Air Temperature (RAT) sensor must not be installed. A wall-mounted room temperature sensor and the return air temperature sensor must not be connected simultaneously or the unit will not operate properly.

The DAT sensor wires will terminate on terminals #1 and #2 on terminal block H4 (Figure 5).

2. The Return Air Temperature (RAT) sensor is installed before the evaporator coil, just above the return air opening (Figure 3).

The sensor wires will terminate on terminals #1 and #2 on terminal block H9, (Figure 5).

3. The Leaving Water Temperature (LWT) sensor is installed on the outlet water line (Figure 5). Thermal grease can be used between the sensor and the water line to improve thermal conductivity between the two metal surfaces. Insulation must be applied over the sensor.

The LWT sensor wires will run back to terminals #3 and #4 on terminal block H4. See Figure 5.

Figure 4: Leaving Water Temperature Sensor (LWT) location for units using a communication module

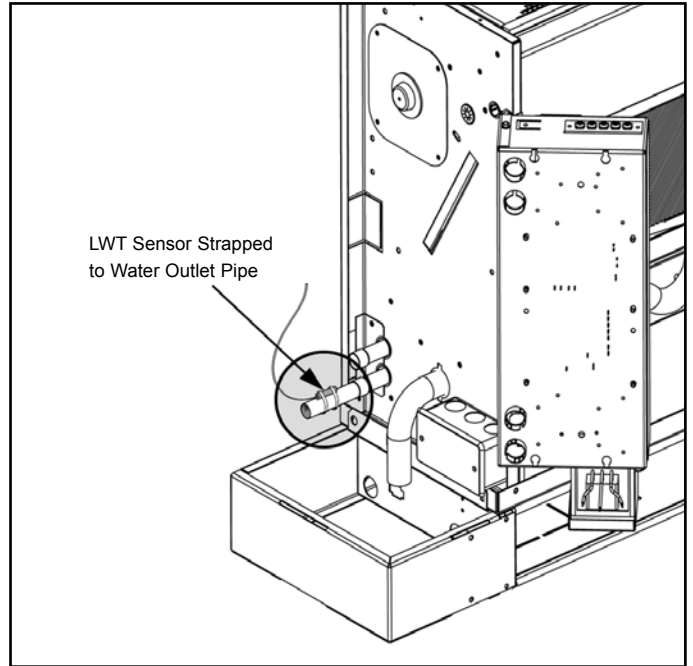
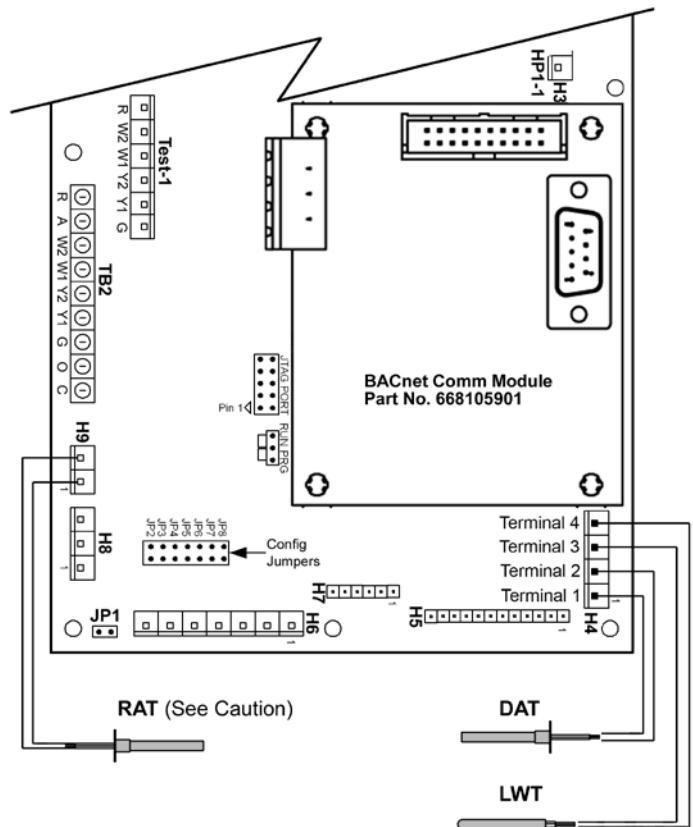


Figure 5: Terminal connections for temperature sensors on the MicroTech III unit controller





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