

TEMPERATURE SENSORS

- Please read these instructions before you begin installation.

INSTALLATION

All Enercorp thermistor temperature sensors are unaffected by polarity or position.

All space versions are supplied with a two pole terminal strip. Units with time over-ride (TOS) or setpoint over-ride (SS) features have labelled terminal blocks.

All other versions are supplied with 22 awg leads.

TROUBLESHOOTING

Sensor reads 0 or only a few ohms

Sensor reads over full scale or very high

Readings are erratic

Sensor or leads are shorted

Sensor or leads are open

Loose connection

CALIBRATION

These sensors have no built-in means of calibration. Minor adjustments must be made at the receiving instrument or DDC panel. If an adjustment of more than a degree is required first check your connections. If the connections are good the sensor may have been damaged by operation outside it's temperature range or mechanical causes. Damaged sensors can not be repaired and must be replaced.

SPACE

This unit is provided with two holes suitable for switch box or dry wall mounting. A two pole terminal is provided for hook-up and a hole through the circuit board and the back of the case is provided for wiring.

DUCT

Drill a hole in the duct large enough for the 1/4" sheath. The case should be mounted to the duct with two sheet metal screws. You will need a driver that is at least 3" long to reach to the bottom of the case. These drivers are available from Enercorp on request.

AVERAGING and FLEX CABLE

Mount like a duct sensor and then string the sensor to cover the largest duct area. These sensors are made of several individual sensors. The location of the individual sensors is clearly marked. Place these marked locations away from plenum walls to avoid areas with little air flow.

IMMERSION

Immersion sensors are provide with a 1/2" male NPT thread for thermowell mounting. The sheath is spring loaded to provide good thermal contact with the bottom of the thermowell. The assembly is not water tight and must be used with a thermowell which should be ordered separately. A conversion fitting, BUSHING-8-W, is available when reusing glass thermometer thermowells.

STRAP-ON

Strap-on and brass plate sensors should be mounted to the pipe with hose clamps. It is important that they then be covered with a layer of insulation to obtain reliable temperatures.

OUTSIDE AIR

These units are provided with male or female 1/2" threads and 18" leads. They should be mounted on an outdoor junction box or conduit in a horizontal position. The side of the white radiation shield without a slot should be mounted up.

PLATE

This unit is provided with two holes suitable for switch box or dry wall mounting. This unit should be mounted on an interior wall whose cavity temperature is similar to the room to avoid measurement errors.

TS-S-E-...

TS-D-...

TS-A-..., TS-FC-...

TS-P-...

TS-SO-... and TS-BP-...

TS-O-T-...

TS-PL-T-...

RTD TEMPERATURE TRANSMITTERS

- Please read these instructions before you begin installation.

INSTALLATION

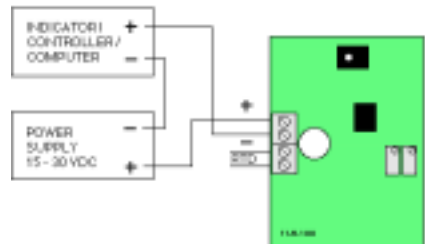
All Enercorp RTD temperature transmitters are unaffected by position, are reverse polarity protected and supplied with a two pole terminal strip.

TROUBLESHOOTING

| | |
|-----------------------------|--|
| No reading | 1. Lead wires are reversed 2. No power to board - check voltage is between 13 and 30 VDC |
| Reading too low or too high | 1. RTD wires shorted or RTD defective. Check that RTD resistance is about 100 ohms + 0.4 ohms/degree C above 0 C. 2. Check for correct transmitter range. 3. Check for condensation or mechanical damage to board. |
| Readings are erratic | Loose connection. Screw down all connections tightly. |

CALIBRATION

These transmitters have clearly marked zero and span pots. To calibrate connect a precision decade box to the RTD terminals. Since 1 degree Fahrenheit change is equal to a 0.2 ohm change you need a very accurate decade box to calibrate accurately. Insert a DVM set to mA in the 2-wire loop and apply power. With the decade box set to the scale beginning resistance from the table adjust the zero pot to obtain 4 mA. Change the resistance in the decade box to the scale end and adjust the span pot as necessary to obtain 20 mA. Go back and forth until the readings are stable.



| deg F | ohms | deg C | ohms |
|-------|--------|-------|--------|
| -50 | 82.08 | -50 | 80.32 |
| 0 | 93.03 | 0 | 100.00 |
| 100 | 114.68 | 35 | 113.61 |
| 125 | 120.04 | 50 | 119.39 |
| 250 | 146.48 | 100 | 138.50 |
| 400 | 177.48 | 200 | 175.84 |
| 750 | 246.68 | 400 | 247.06 |

SPACE

This unit is provided with two holes suitable for switch box or dry wall mounting. A two pole terminal is provided for hook-up and a hole through the circuit board and the back of the case is provided for wiring.

DUCT

Drill a hole in the duct large enough for the 1/4" sheath. The case should be mounted to the duct with two sheet metal screws.

AVERAGING and FLEX CABLE

Mount like a duct sensor and then string the sensor to cover the largest duct area. These units are made of several individual sensors. The locations of the individual sensors are clearly marked. Place these marked locations away from plenum walls to avoid areas with little air flow.

IMMERSION

Immersion sensors are provide with a 1/2" male NPT thread for thermowell mounting. The sheath is spring loaded to provide good thermal contact with the bottom of the thermowell. The assembly is not water tight and must be used with a thermowell which should be ordered separately.

STRAP-ON

Strap-on and brass plate sensors should be mounted to the pipe with hose clamps. It is important that they then be covered with a layer of insulation to obtain reliable temperatures. The transmitter is supplied in a separate housing for mounting away from the process.

OUTSIDE AIR

These units are provided with male or female 1/2" threads and 18" leads. They should be mounted on an outdoor junction box or conduit in a horizontal position. The side of the white radiation shield without a slot should be mounted up. The transmitter supplied in its own housing should be mounted inside the building.

WIRING

TT-S-E-R-100

TT-D-...-R-100

TT-A-...-R-100, TT-FC-...-R-100

TT-P-...-R-100

TT-SO-R-100 and TT-BP-R-100

TT-O-R-100