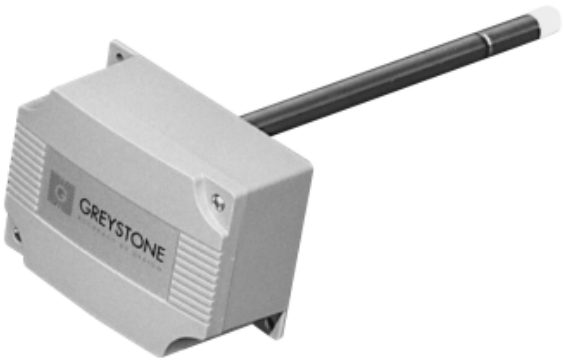
GREYSTONE
ACCURACY BY DESIGN

Relative Humidity Transmitter Installation Instructions



Specifications

Accuracy	**+/- 2,3,5 % RH**
Power Supply	**24Vac/dc**
Wiring Connections	**Screw connectors (18-24 awg)**
Output (jumper selectable)	**4-20mA, 0-1, 0-5, 0-10 Vdc**
Operating Temperature	**0-70 ºC (Duct/Space), -40-85 ºC (OSA)**

Relative Humidity Transmitter

The Relative Humidity transmitter uses a capacitive type humidity sensor and microprocessor temperature compensation for reliable, accurate readings.

NOTE: The humidity sensor used in these devices is static sensitive. Anti-static precautions should be followed to prevent damage to the sensor.

Mounting

Room - Unit should be mounted away from any supply air exhausts or other sources of heat or cold. Mount the unit to an electrical box on an inside wall approximately 3 to 5 feet from the floor.

Duct - Drill a 5/8“ (or larger) hole in the return air duct. Remove the protective plastic sleeve from the probe and place it through the hole and secure the enclosure to the duct with sheetmetal screws. Orientation of the enclosure and probe will have no effect on the operation of the device.

Outside Air – For best results locate the sensor on the north side of the structure high under an eave to prevent incorrect readings from direct sunlight and damage due to the elements. Mount the OSA enclosure with the sensor module facing down to prevent the accumulation of dirt or

Electrical Connection

The transmitter should be connected to the controller using 18 to 22 AWG wire and requires three wires for voltage and AC operation while only two wires are required for DC 4-20mA loop-powered operation. The use of shielded cable is optional but recommended for the highest noise immunity. Do not route signal wires in the same conduit with power cables as signal degradation may occur. The controller Analog Input (AI) must be selected to match the transmitter output before power is applied. The AI type must be a high impedance voltage input for use with 0-1, 0-5 or 0-10 Vdc transmitters, or a current input with 250 or 500 ohm impedance. All transmitters have an operating range of 0 - 70 °C (32 – 158 °F) except the O.S.A. which is –40 – 85 °C (-40 – 185 °F). The transmitter board should not be mounted where temperatures will exceed these values. See the connection diagram for more details.

If the unit is equipped with an optional temperature sensor (RTD or thermistor), the sensor output is available through the ‘TEMP’ terminals as a resistive signal.

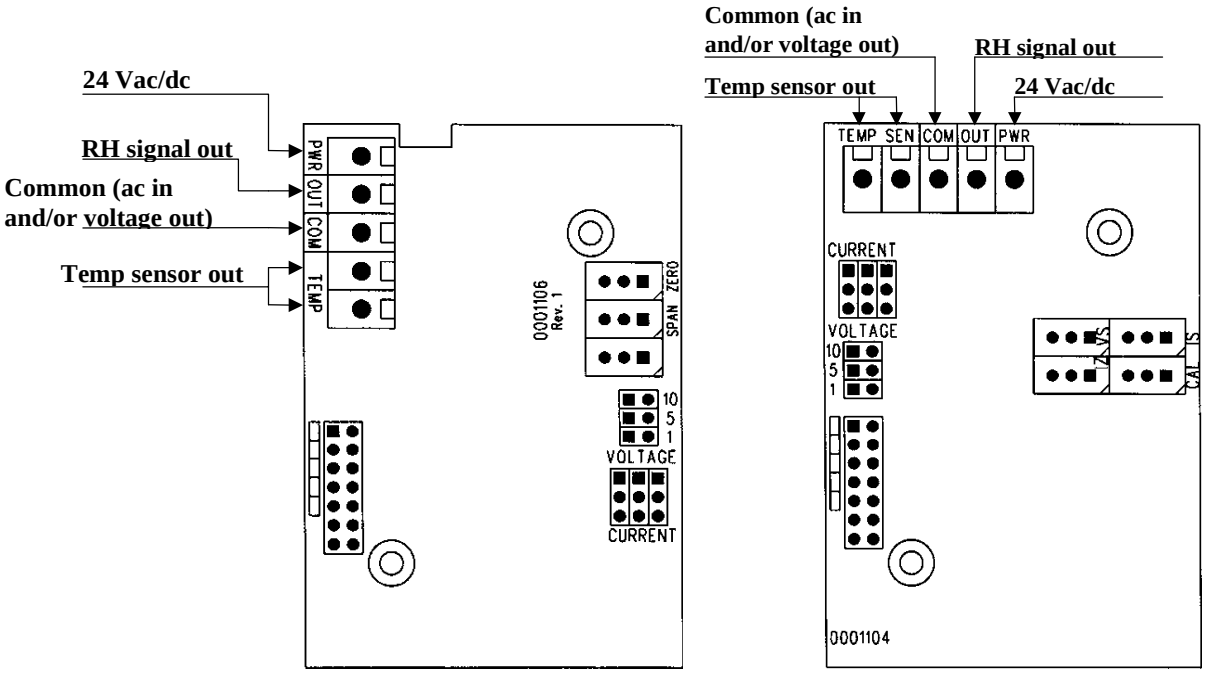
If the unit comes with a remote sensor (Duct or O.S.A.), the sensor is connected to the transmitter board by a 5-pin plug to a 14-pin connector. Should this plug become disconnected, it is to be reconnected to the pins indicated by the markings on the board, with the green stripes on the plug facing the middle of the board. Do not mix and match sensors and boards as the boards are calibrated to the sensor it is shipped with. Changing sensors will have a significant effect on the accuracy of the product.

Output Selection (for jumper selectable devices)

Remove power to the transmitter before changing between voltage and current output signal types. Ensure the wiring is correct for the selected output signal type. Use caution when changing jumper positions as not to damage the circuit board, any components or the sensing elements.

The unit comes factory set for current output. To change the output signal to a voltage, carefully remove the 3-position shorting jumper and replace it in the 'VOLTAGE' position. Place the two-position shorting jumper in the correct position for the required span (10 - 0 to 10 Vdc, 5 - 0 to 5 Vdc, 1 - 0 to 1 Vdc). NOTE: the voltage span jumper does not function when the output signal is set to 'CURRENT'.

WIRE CONNECTIONS FOR RELATIVE HUMIDITY BOARDS



ENCLOSURE OPTIONS