

CRH-5 Relative Humidity Transmitter Series

*For low-cost,
high-volume applications
with superior
long-term reliability*

Features

- +5% Accuracy
- 20-90% RH
- Two-Wire Loop Powered Transmitter
- Low-Cost Design
- Innovative Packaging for Improved Performance
- Quick Connects for Power and Signal Output (Current Only)
- Three Wire Screw Terminals (Voltage Only)
- Reverse Polarity Protected
- Optional Temperature (10K Thermistor Standard)

The CRH-5 relative humidity transmitter series employs an economical capacitive polymer sensor which performs well over a broad temperature range. It is ideally suited for high-volume applications which require low-cost monitoring while offering excellent performance.

Sensing Element

Porous, thin gold electrodes are deposited over a humidity sensing polymer allowing for rapid diffusion of the sensed water vapor. This permits the water to enter and leave easily providing for good response to changes in humidity.

SPECIFICATIONS

Sensing Element

Organic polymer RH capacitive sensor

Optional: Thermistor temperature (10 k ohms)

Performance

Accuracy: 77°F (25°C) ±5%, 20-90% RH

Drift Rate: Less than 1% per year

Hysteresis: Less than 3%

Air Velocity Across Transmitter:

Maximum: 10,000 fpm

Minimum: 150 fpm

Output Signal

0 to 100% RH, Linear proportional

Current: 20 to 4 mA; 4 to 20 mA

Voltage: 0 to 5; 0 to 10

Operating Range

Sensor: Humidity 0 to 99% operating, non-condensing or condensing, non-operating

Temperature: 0° to 140°F

Storage Temperature: -40° to +165°F

Optional

Thermistor (10 k ohms)

Power

Input Voltage Range (current): 10 to 28 VDC as required across transmitter

Input Voltage Range (voltage): 15 to 28 VDC

Output Current: (sensor shorted)

Minimum: 3 mA

Maximum: 24 mA

Input Power Polarity Protection: Yes

Max Power Consumption: 24 mA X V_{in}

Max Load Resistance (current only):

(V supply - 10 VDC) / .02 amp

Power Supply Sensitivity: Less than .02% per volt change in output signal with respect of change of V_{in}.

Electrical Connections:

Two 1/4 inch quick connect terminals (current only, + and - symbols indicated)

Three screw terminals (voltage only)

Two screw terminals (thermistor option)

Response Time: (air flow at 150 fpm)

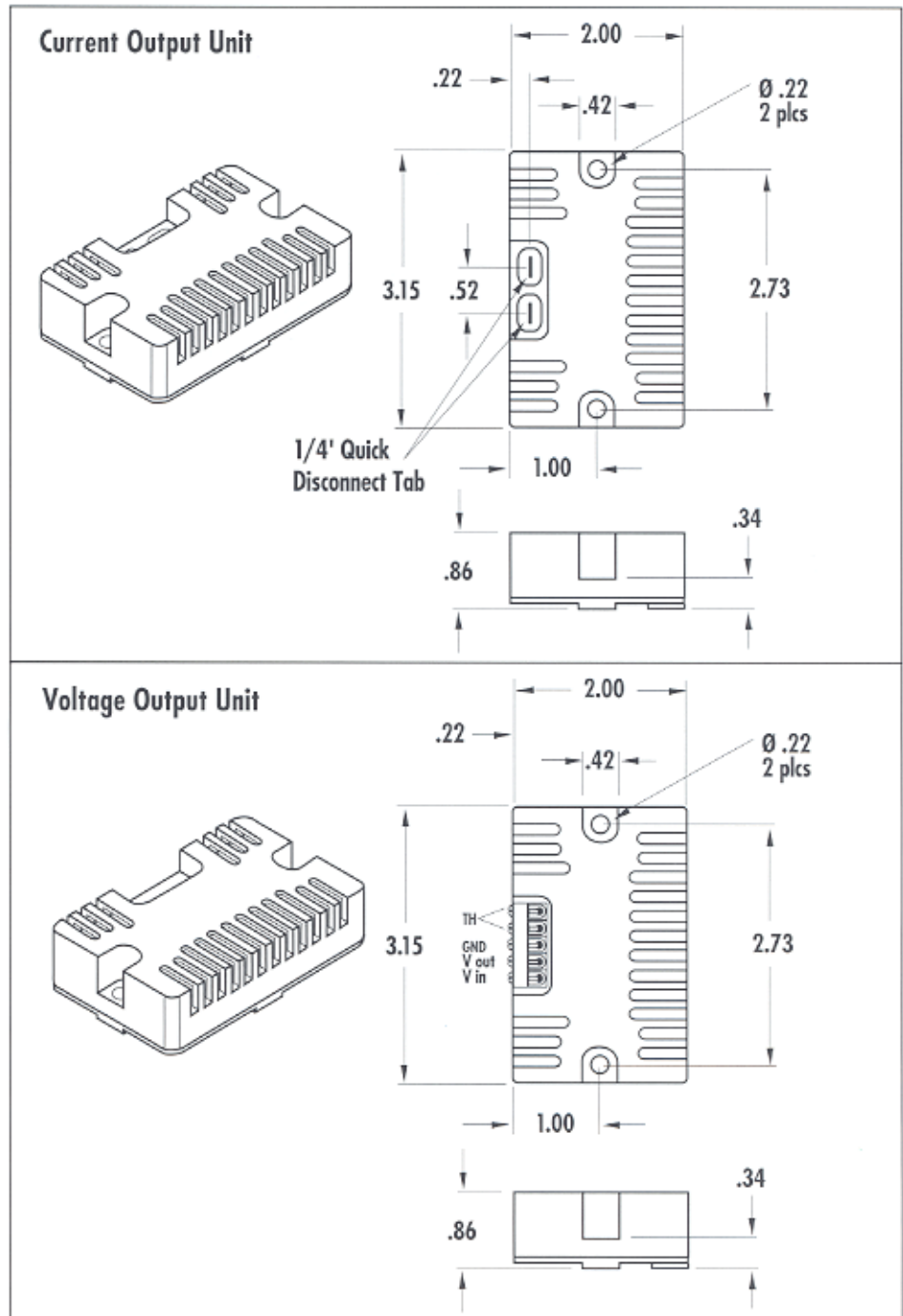
3 minutes for 67% change from 80% to 0%

5 minutes for 67% change from 100% to 0%

Calibration: Single point calibration, R₆ should be adjusted until the transmitter output equals the output of a reference standard.

Specifications are subject to change without notice.

DIMENSIONS*



* Dimensions are in inches.

ORDERING INFORMATION

CRH-5-20I-HW: 20 to 4 mA output

CRH-5-4I-HW: 4 to 20 mA output

CRH-5-5V-HW: 0 to 5 V output

CRH-5-10V-HW: 0 to 10 V output



General Eastern Instruments
20 Commerce Way
Woburn, MA 01801 USA
800/225-3208 617/938-7070
Fax 617/938-1071