MEASUREMENT THAT WORKS

MICROLINE™

Relative Humidity/Temperature Transmitters

CE

GENERAL EASTERN

The Humidity Experts

The Microline Series

Your best investment in an RH transmitter

Features

Attractive and rugged packaging

2%, 3%, or 5% RH accuracy

1% accuracy available

Easy to install

Easy to field-calibrate

User-selectable outputs

10-point factory calibration

Proven, reliable sensor technology

Versatile temperature measurement

Temperature-compensated

Economical

Two-year warranty

Applications

HVAC/Building Controls

Energy Management Systems (EMS)

Enthalpy Control

Indoor Air Quality (IAQ)

Clean Rooms

Museums/Archives

Hospitals/Labs

Refrigeration Control

Pharmaceutical

Swimming Pools

Hospital/Labs

Animal Rooms

Attractive and Rugged Packaging

All the models in our new Microline Series of Relative Humidity and Temperature transmitters look great in your building. Especially our space mount model with its low profile, contemporary styling.

But the real beauty of Microline Transmitters lies in their superior versatility, reliability, and performance.

You may choose space, duct, or outside air models with thermistor, RTD, or signal-conditioned temperature outputs. All models get a 10-point factory calibration against a National Institute of Standards and Technology (NIST) traceable standard, the highest quality calibration standard available. Competitors use one- or three-point calibrations. Prewired base and plug-in electronics in the cover make installation quick and easy. Field-selectable outputs give you greater convenience and versatility and reduce your investment in transmitter inventory.

2%, 3%, or 5% Accuracy

Accuracy choices are 2%, 3%, or 5% at 20 to 95% RH. 1% accuracy is also available. Typical drift is less than 1% per year and all models can be field-calibrated to eliminate expensive downtime. And each Microline model comes with GEI's proven bulk polymer RH sensor for maximum reliability and a two year warranty.

The Microline RH Transmitter Series. For price and performance, you won't find anything better.

Easy to Install

Space and duct mount models have a pre-wired base; sensor and transmitter electronics are housed in the cover.

Wiring is connected to the terminal block in the base and the cover can be snapped into place at a later time. This feature is especially attractive when a transmitter will be incorporated into new construction because it lets the user mount and wire the unit without the sensor and electronics, thereby avoiding possible damage from rough handling or contamination from paint and dust.

Easy to Field-Calibrate

Calibration? You don't have to incur the expense and inconvenience of sending your transmitters back to the factory.

The new and improved, battery-powered Easycal Plus Handheld Calibrator / Portable RH Indicator makes it easy to perform quick, on-site, one-point offset adjustment of the transmitter without interrupting operation. No tools or disassembly are required—just plug the Easycal Plus into the phone jack connector. The Easycal Plus displays values for both the transmitter and the environment, eliminating the need for additional reference devices. A user can check the transmitter's operation and, if necessary, perform a one-point offset adjustment in about 60 seconds. It's a very efficient way to save maintenance time and money while maintaining your transmitter's accuracy.

SPECIFICATIONS

User-Selectable Outputs

The sensor output signal is field-selectable from 0-5 or 0-10 volt to 4-20 mA current in the RH-only version. The temperature output transmitter is available in voltage or current outputs. You save money because you reduce your sensor inventory and investment.

10-Point Factory Calibration

General Eastern automatically tests and calibrates each Microline Transmitter at 10 different points against a NIST-traceable standard. Calibration data are available on 2% accuracy RH units. Compare this with competitive models that are calibrated at three points—or less. This 10-point calibration ensures that you get maximum accuracy from your transmitters—right out of the box and into the future.

Proven, Reliable Sensor Technology

Each Microline features a bulk polymer resistive sensor. This sensor has been field-proven in hundreds of applications for more than a decade. As a result, you can expect long-term stability with minimal drift. And because the sensor is a bulk resistive device, it will not be affected by surface contamination in dirty environments.

Versatile Temperature Measurement

The Microline offers you a variety of temperature measurement options. Choose from a thermistor or RTD direct measurement or an RTD with signal conditioned voltage or current output. In addition, you can choose from a variety of standard temperature measurement ranges or you can specify a custom range to meet your specific application requirement.

Demanding Environment Applications

For challenging applications such as swimming pools, hospitals, labs and animal rooms, the Microline Transmitter is available with a new bulk polymer resistance sensor that has exceptional chemical resistance, especially to ammonia and chlorine. Consult factory.

TRANSMITTERS

HUMIDITY

Sensing element: Resistance change of bulk polymer

Accuracy at 77°F (25°C): ±2%, 3% or 5% RH at 20 to 95% RH, includes hysteresis, linearity and repeatability

Operating Range:

RH Sensor: 0% to 99% RH (non-condensing)
-40°F to +170°F (-40°C to +76°C)

Electronics: 0% to 95% RH (non-condensing)
-20°F to +140°F (-29°C to +60°C)

Long term stability: Less than 1% drift per year, typical

Temperature effect: Less than 0.06% per °F (0.11% per °C)

Sensitivity: 0.1% RH

Repeatability: 0.5% RH

Linearity: See accuracy

Hysteresis: Less than 1% RH

Signal outputs: 4 to 20 mAmps, 0 to 5 volts, 0 to 10 volts, (0 to 100% RH linear)

Supply voltage: 12 to 36 VDC

Maximum load: (Current Output Only) $\Omega = \frac{\text{Supply} - 10\ \text{VDC}}{.02\ \text{Amps}}$

Storage temperature: -85° to +158°F (-65° to +70°C)

EASYCAL PLUS RH CALIBRATOR / INDICATOR

Sensing element: Resistance change of bulk polymer

Single point calibration range: 20% to 90% RH

Single point calibration accuracy: ±2% RH

Reference probe accuracy: ±2% RH (20% to 95% RH)

Operating Range:

RH Sensor: 0% to 99% RH (non-condensing)
-40°F to +170°F (-40°C to +76°C)

Electronics: 0% to 95% RH (non-condensing)
-20°F to +140°F (-29°C to +60°C)

Long term stability: Less than 1% drift per year, typical

Temperature effect: Less than 0.06% per °F (0.11% per °C)

Probe dimensions

Diameter: 0.5 inches

Length: 3 inches

Power supply: 9 VDC alkaline battery, continuous use for 40 hours, Auto power-off

Storage temperature: -85° to +158°F (-65° to +70°C)

TEMPERATURE - Thermistor (T1)
Direct Connection

Sensing element: 10K thermistor at 77°F (25°C)

Accuracy at 77°F (25°C): ±2.0°F (±1.2°C)

Signal output: Direct connection

TEMPERATURE - RTD (T2)
Direct Connection

Sensing element: 1000 Ω thin film platinum RTD (.00385 alpha)

Accuracy at 77°F (25°C): ±0.5°F (±0.3°C)

Signal output: Direct connection

TEMPERATURE - RTD (T3)
Signal Conditioning

Sensing element: 1000 Ω thin film platinum RTD (.00385 alpha) with signal conditioning

Accuracy at 77°F (25°C): ±0.5°F (±0.3°C)

Long term stability: Less than 0.2°F per year

Temperature effect: Less than 0.01% per °F (0.02% per °C)

Sensitivity: 0.1%

Repeatability: Better than 0.1%

Linearity: Less than 0.01%

Sensor interchangeability: ±0.5°F (±0.3°C)

Signal outputs: 4-20mA, 0-5 volts, 0-10 volts
See "Ordering Infromation" for Temperature Ranges

Supply voltage: 12 to 36 VDC

Maximum load: (Current Output Only) $\Omega = \frac{\text{Supply} - 10\ \text{VDC}}{.02\ \text{Amps}}$

Specifications are subject to change without notice.

Humidity affects you and your environment. Your local representative is ready to help in your application. Call to discuss the proper selection of a humidity device from the world's largest selection.

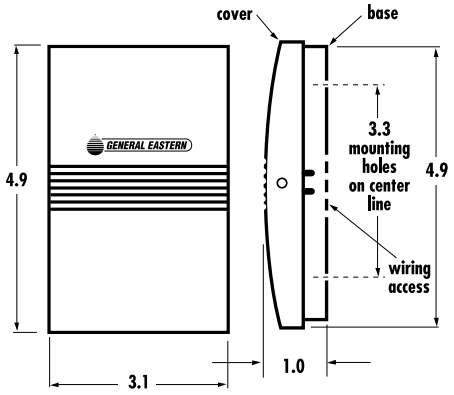
Telephone
800/225-3208

GENERAL EASTERN
The Humidity Experts

SPECIFICATIONS

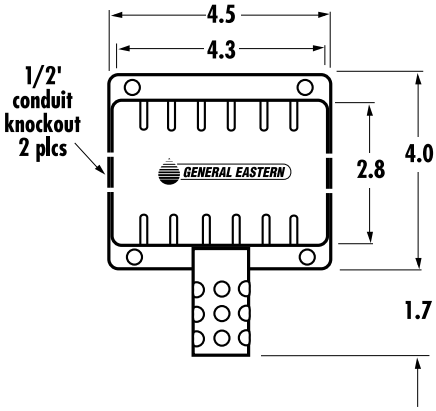
DIMENSIONS*

Space Mount



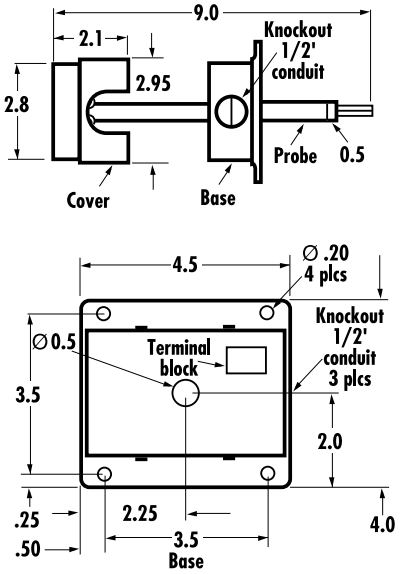
Mounts to a Handi-box
Case: ABS flame retardant

Outside Air Mount



Case: ABS flame retardant
Probe: Aluminum

Duct Mount



Case: ABS flame retardant
Probe: Stainless Steel

* Dimensions are in inches.

ORDERING INFORMATION

Model	Accuracy	Outputs (T1, T2 & T3 only)	Mounting	Temperature Ranges (T3 only)
MRH - RH only*	**2 -** 2%	**I -** 4-20 mA	**S -** Space	**1 -** -20° to +140°F
MRHT1 - RH & 10KΩ Thermistor	**3 -** 3%	**V -** 0-5 or 0-10 Volt	**D -** Duct	**2 -** 0° to +150°F
MRHT2 - RH & 1000Ω RTD	**5 -** 5%	(User Selectable)	**OA -** Outside Air	**3 -** 0° to +100°F
MRHT3 - RH & 1000Ω RTD with Signal Conditioning				**4 -** +32° to +132°F
				5 - +50° to +130°F
				6 - -40° to +140°F
				7 - Custom Range
				8 - +32° to +122°F
EASYCAL PLUS	Battery Powered Handheld Calibrator and Portable RH Indicator			

* RH only version is field-selectable between current and voltage output.
All voltage transmitters are shipped in 0-10 volt output. Jumper used to swtch to 0-5 volt output.
1% RH accuracy availabe. Consut Factory.

ISO 9001

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