

EHRH

Waterproof RH Transmitter



The EHRH Relative Humidity Transmitter is a waterproof RH sensing element and package which is ideally suited for monitoring relative humidity in high RH/harsh environment applications or where washdowns are required. The unit is designed for continuous monitoring of relative humidity and temperature and is available in $\pm 2\%$ accuracy.

Both the sensor and electronics are contained in an epoxy-hardened enclosure designed for continuous service. A water-tight membrane filter is installed over the RH sensor for increased protection against high RH, contaminants and washdowns. The unit is designed to withstand 100% saturation.

The sensor incorporates a bulk polymer resistance element. The polymer is impervious to most contaminants and, since it is a bulk resistance device, surface contamination such as dust will not alter the accuracy of the readings.

The unit is provided with continuous temperature compensation which adjusts for temperature-induced change in the RH sensor output. The compensation provides high measurement accuracy over the entire operating range of the instrument.

Features

- Waterproof sensing element and housing
- Compact transmitter with built-in sensor
- Bulk polymer resistance RH sensor
- Resistant to contamination
- Thermistor temperature measurement
- Temperature compensation

Applications

- Greenhouses
- Textile mills
- Food processing
- Shipping containers
- Swimming pools
- Hospital suites

EHRH Specifications

Humidity

Sensing Element

Resistance change of bulk polymer sensor

Accuracy at 77°F (25°C)

±2% RH. 30 to 95% RH including hysteresis, linearity, and repeatability.

Temperature Effect

Less than 0.11% per °F (0.06% per °C)

Sensitivity

0.1% RH

Repeatability

0.5% RH

Linearity

See accuracy

Hysteresis

Less than 1%

Operating Range, Sensor & Electronics

0% to 100% RH, -20°C to 54°C (-4°F to 129°F)

Maximum Air Velocity

10,000 ft/minute (3,048 m/minute)

Output Ranges

4 to 20 mA current, two-wire, loop-powered for 0 to 100%, RH (standard) into 0 to 900 Ω

Adjustment

Zero

±20%, non-interactive

Span

±10%, non-interactive

Long Term Stability

Less than 2% drift per year typical

Power Supply

Voltage

12 to 36 VDC

Wiring Connection

Deutsch four-position waterproof connector (For front wiring only_flying leads for back wiring).

Temperature

Sensing Element

Thermistor, 10 KΩ at 77°F (25°C), two-wire measurement

Accuracy at 77°F (25°C)

±0.5°F (±0.3°C). Also available with 100 (RTD with 4 mA to 20 mA analog output.

Consult factory for further information

Part Number Configuration

Order Codes:	[1]-[2]-[3]-[4]
1	Model Designation
	EHRH-2 Relative Humidity and 10K thermistor outputs
	EHRHT-2 Relative Humidity and signal conditioned temperature outputs
2	Output(s)
	I Current (4-20mA) EHRH and EHRHT
	V5 Voltage (0-5 VDC) EHRH only
	V10 Voltage (0-10 VDC) EHRH only
3	Wiring
	F Front, with waterproof connector
	B Back, flying leads
4	Temperature Channel Range (EHRHT Only)
	1 -20°F to +140°F Temperature Range (Standard Range)
	2 0°F to +150°F Temperature Range
	3 0°F to 100°F Temperature Range
	4 +32°F to +132°F Temperature Range
	5 +50°F to +130°F Temperature Range
	6 -40°F to +140°F Temperature Range
	7 Custom Temperature Range

Example: EHRH-2-V5-F RH transmitter with 10K thermistor, 2% accurate RH, 0-5 volt RH output and front-wired (waterproof connector).

All units have a standard 3-Point factory calibration (30, 50, 80% RH @ 25°C) standard relative humidity output range is 0 to 100%. Standard temperature output range is -20°F to +140°F. Standard relative humidity and temperature output signal is 4-20 mA.

Amphenol
Advanced Sensors

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