![Telaire® logo]

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 ±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

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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/minimum (3,048 m/minimum)

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 thermister 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 Rage (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.

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