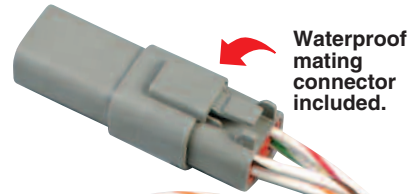


# Saturated Environment Relative Humidity Transmitter

- ✓ Waterproof Sensing Element and Housing
- ✓ Compact Transmitter with Built-in Sensor
- ✓ Bulk Polymer Resistance RH Sensor
- ✓ RTD Temperature Measurement Sensor
- ✓ Temperature Compensation
- ✓ Resistant to Contamination

HX98-1  
\$470



## Applications

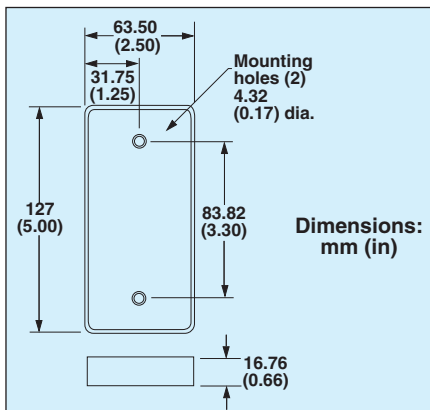
- ✓ Greenhouses
- ✓ Textile Mills
- ✓ Food Processing
- ✓ Shipping Containers
- ✓ Swimming Pools

OMEGA's relative humidity transmitter is a waterproof RH sensing element and package which is ideally suited for monitoring relative humidity and temperature in high RH/harsh environment applications or where washdowns are required. The unit is designed for continuous monitoring of relative humidity and temperature with  $\pm 2\%$  RH 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 contaminants 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.



Optional\*

## Specifications

**Humidity Sensing Element:** Resistance change of bulk polymer sensor  
**Temperature Sensing Element:** 100 Pt RTD

## Performance

**Accuracy:** @ 25°C (77°F)  $\pm 2\%$  RH (30 to 95% RH including hysteresis, linearity and repeatability);  $\pm 0.5^\circ\text{C}$

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

**Sensitivity:** 0.1% RH

**Repeatability:** 0.5% RH

**Linearity:** See accuracy

**Hysteresis:** Less than 1%

HX98-1, \$470, shown smaller than actual size.

## Operating Range

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

**Max Air Velocity:** 10,000 ft/min

**Output Ranges:** 2-wire, loop-powered; 4 to 20 mA for 0 to 100% RH into 0 to 900  $\Omega$ ; 4 to 20 mA for -28.9 to 60°C (-20 to 140°F)

## Adjustment

**Zero:**  $\pm 20\%$ , non-interactive

**Span:**  $\pm 10\%$ , non-interactive

**Long-Term Stability:** Less than 2% drift per year typical

## Power

**Supply Voltage:** 12 to 36 Vdc

**Max Load:**  $\Omega$  = supply -10 Vdc x 50 A

**Note:** Minimum supply voltage of 15 Vdc is required for 10V output units



## Wiring Connection:

Deutsch 4-position waterproof connector (mating connector provided) (For front wiring only; flying leads for back wiring)

## Storage Temperature:

-65 to 70°C (-85 to 158°F)

**Optional Case:** 304 SS (HX98-CASE), protects face from mechanical damage

**MOST POPULAR MODEL HIGHLIGHTED!**

## To Order (Specify Model Number)

Model No.	Price	Description
HX98-1	\$470	RH/temperature transmitter (front wiring)
HX98-2	470	RH/temperature transmitter (rear wiring)
HX98-CASE	91	304 SS case, 16.78 (0.66") thick
HX98-MC	10	Spare mating connector
PSR-24S	60	Regulated power supply, 24 Vdc, 400 mA, screw terminal
PSR-24L	60	Regulated power supply, 24 Vdc, 400 mA, UL stripped leads
PSR-24L-230	60	Regulated power supply, 24 Vdc, 400 mA, stripped leads, 230 Vac input, CE
PSU-93	40	Unregulated power supply, 16 to 23 Vdc, 300 mA max, screw terminal

Comes complete with waterproof mating connector and operator's manual.

\* To order 3-point NIST-calibration add suffix "-NIST" to model number and add \$189 to price.

**Ordering Example:** HX98-1-NIST, RH/TEMP transmitter (front wiring), with HX98-MC, spare mating connector and NIST traceable calibration, \$470 + 189 + 10 = \$669.

Recommended Reference Book: Standard Handbook for Civil Engineers, CE-1201, \$158. See Section Y for Additional Books.





#### UNITED STATES

[www.omega.com](http://www.omega.com)  
1-800-TC-OMEGA  
Stamford, CT.

#### CANADA

[www.omega.ca](http://www.omega.ca)  
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1-800-TC-OMEGA

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### • Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

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### • Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

### • Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters