prosense®

HUM Series - Temperature / Humidity Sensors

Part No. HUM-D-100

Part No. HUM-W-100

Part No. HUM-W-100-DSP-F

Part No. HUM-R-20

ProSense HUM temperature and humidity sensors are engineered for reliability and accuracy. These versatile transducers feature built-in temperature and humidity sensors, delivering accurate measurements across a wide range: -19.9 to +60.0 °C or -4 to +140 °F for temperature and 0.0 to 99.9% RH for humidity. With flexible installation options including room, duct mount, and wall mount constructions, units can be seamlessly used in a variety of applications. The UHM series offer variable depth installation using mounting bracket included with probe units. Display models feature a clear 7-segment LED display for real-time monitoring and are available in Celsius or Fahrenheit. The units are perfect for HVAC, cleanrooms, and industrial applications requiring performance and easy integration.
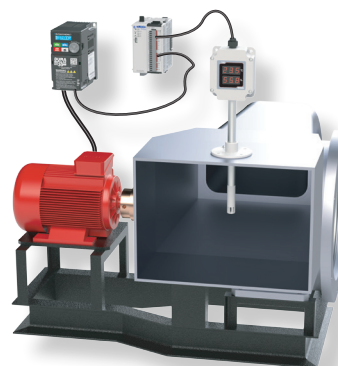
Features

- Versatile room, duct, and wall mount constructions
- 100 mm or 200 mm probe lengths on duct and wall mount units
- 7-segment LED Display on certain models
- Wide temperature and humidity sensing ranges
- Two 4-20 mA outputs for temperature (Pt100 for HUM-R-PT) and humidity
- Built-in 2 m cable for duct and screw terminals for wall mount units

CE

Application Examples

Control processes based on humidity and temperature.

Monitor humidity and temperature in areas that require specific conditions.

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HUM Series - Temperature / Humidity Sensors Selection Guide											
Part Number	Sensor Type	Insertion Length (mm)	Output	Temperature Sensing Range	Relative Humidity	Display	Displayed Temperature Range	Connection	Weight (lb)	Drawing Link	Price
HUM-D-100	Side insertion	100	2-channel, current, 4-20 mA	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	N/A	N/A	6.5 ft [2 m], 22 AWG wire leads	0.97	PDF	$209.00
HUM-D-200	Side insertion	200	2-channel, current, 4-20 mA	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	N/A	N/A	6.5 ft [2 m], 22 AWG wire leads	1.03	PDF	$209.00
HUM-W-100	Bottom insertion	100	2-channel, current, 4-20 mA	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	N/A	N/A	6.5 ft [2 m], 22 AWG wire leads	0.97	PDF	$209.00
HUM-W-200	Bottom insertion	200	2-channel, current, 4-20 mA	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	N/A	N/A	6.5 ft [2 m], 22 AWG wire leads	1.03	PDF	$209.00
HUM-W-100-DSP-C	Bottom insertion	100	2-channel, current, 4-20 mA	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	2-line, 3-digit red LED	-19.9 to +60 °C	6.5 ft [2 m], 22 AWG wire leads	1.00	PDF	$241.00
HUM-W-200-DSP-C	Bottom insertion	200	2-channel, current, 4-20 mA	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	2-line, 3-digit red LED	-19.9 to +60 °C	6.5 ft [2 m], 22 AWG wire leads	1.07	PDF	$241.00
HUM-W-100-DSP-F	Bottom insertion	100	2-channel, current, 4-20 mA	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	2-line, 3-digit red LED	-4 to +140 °F	6.5 ft [2 m], 22 AWG wire leads	1.00	PDF	$241.00
HUM-W-200-DSP-F	Bottom insertion	200	2-channel, current, 4-20 mA	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	2-line, 3-digit red LED	-4 to +140 °F	6.5 ft [2 m], 22 AWG wire leads	1.07	PDF	$241.00
HUM-R-20	Wall mount	N/A	2-channel (1) current, 4-20 mA, (1) Pt100, Ω	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	N/A	N/A	Screw terminals	0.19	PDF	$180.00
HUM-R-PT	Wall mount	N/A	2-channel (1) current, 4-20 mA, (1) Pt100, Ω	-19.9 to +60 °C [-4 to +140 °F]	0 to 99.9%	N/A	N/A	Screw terminals	0.19	PDF	$180.00

HUM Series - Temperature / Humidity Sensors General Specifications	
Power Supply	24 VDC
Permissible Voltage Range	90 to 110% of rated voltage
Power Consumption	≤ 2.4 W
Dielectric Strength	500 VAC, 50/60 Hz for 1 min
Noise Immunity	± 0.3 kV the square wave noise (pulse width: 1 µs)
Vibration	0.75 mm amplitude at 10 to 55 Hz in X, Y, Z direction for 1 hr
Vibration (Malfunction)	0.5 mm amplitude at 10 to 55 Hz in X, Y, Z direction for 1 hr
Shock	30 G, 300 ms in each X, Y, Z direction
Shock (Malfunction)	10 G, 100 ms in each X, Y, Z direction
Temperature	Ambient: -20 to +60 °C [-4 to 140 °F], Storage: -20 to 60 °C [-4 to +140 °F]: non-condensing
Certification	CE

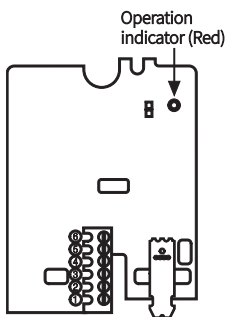*Scan the QR Code above or click to view the ProSense HUM series insert.*

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HUM Series - Temperature / Humidity Sensors

HUM Series - Temperature / Humidity Sensors Specifications

Model	HUM-D-100	HUM-D-200	HUM-W-100	HUM-W-200	HUM-W-100-DSP-C	HUM-W-200-DSP-C	HUM-W-100-DSP-F	HUM-W-200-DSP-F	HUM-R-20	HUM-R-PT
Sensor Type	Temperature / humidity sensor									
Sensor Response Time	10 seconds									
Display Type	Non-display type				7-segment LED display				Non-display type	
Display Digit	N/A				3 digits for temperature / 3 digits for humidity				N/A	
Temperature Measuring Range	-19.9 to +60 °C [-4 to +140 °F]									
Humidity Measuring Range	0.0 to 99.9% RH									
Temperature Accuracy	± 1.0 °C (at room temperature)								± 1.8 °F (at room temperature)	± 1.0 °C (at room temperature)	
Humidity Accuracy	Typ. ± 2% RH (10 to 90% RH, at room temperature) ≤ ± 2.5 % RH								± 3% RH (30 to 70% RH, at room temperature) ± 4% RH (10 to 90% RH)	
Temperature Output	DC 4-20 mA (allowable impedance: ≤ 600 Ω)									Pt100 Ω resistance value (TCR: 3850 ppm / °C)
Humidity Output	DC 4-20 mA (allowable impedance: ≤ 600 Ω)									
Resolution	1/1000									
Sampling Period	0.5 second									
Protection Structure	IP65 (IEC standards)								IP10 (IEC standards)	
Cable Specification	ø4 mm, 4-wire, length: 2 m								N/A	
Wire Specification	22 AWG (0.08 mm, 60-wire), insulator diameter: 1.25 mm								N/A	

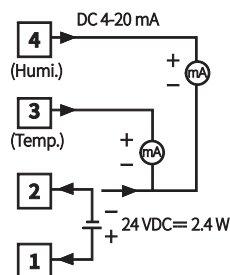*For additional technical information and installation see insert link or scan QR code on previous page.*
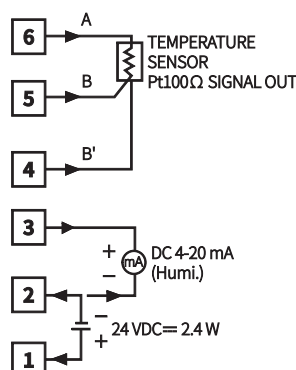
Wiring

Operation indicator (Red)

Power & Output terminal
Note: Terminal wire size: 16-24 AWG

Screw Terminal Connection Models

HUM-R-20

4 (Humi.) DC 4-20 mA + − mA
3 (Temp.) + − mA
2
1 − 24 VDC= 2.4 W +

HUM-R-PT

6 A TEMPERATURE SENSOR Pt100Ω SIGNAL OUT
5 B
4 B'
3 + − mA DC 4-20 mA (Humi.)
2
1 − 24 VDC= 2.4 W +

Cable Connection Models

HUM-D / W

White 4 (Humi.)
Black 3 (Temp.) + − mA DC 4-20 mA
Blue 2 + − mA
Brown 1 − 24 VDC= 2.4 W +