

MEASUREMENT THAT WORKS



HUMISCAN[®]

Industrial Humidity Transmitters



GENERAL EASTERN

The Humidity Experts

A **SPIRENT** Company

HUMISCAN® ...

For Humidity / Dew Point Measurement in Industrial Applications

Features

*Industrial Humidity
Measurement
You Can Rely On*

- 1% accuracy
- Optional built-in keypad with bright, digital display
- Wall mount and duct/remote probe configurations
- Every model calculates all humidity parameters:
 - Relative Humidity – Temperature – Dew Point
 - Mixing Ratio – Absolute Humidity – Wet Bulb
- Field Select up to 3 measurement parameters
- User-selectable programming via computer or keypad/local display
- 3 simultaneous analog outputs per measurement parameter:
 - 4-20 mA – 0-5 Volt – 0-10 Volt
- Digital outputs: RS-232, RS-485/422
- 10-point factory calibration (NIST)
- Easy one-point field calibration
- Industrial NEMA 4X/IP-65 rated enclosure
- Proven, reliable sensor technology
- Temperature - compensated
- Two-year warranty
- Data Logging Option
- Pressurized Probe Option

HUMISCAN® Industrial RH Transmitters

PARAMETER

Temp. - Wall Mount
Temp. - Duct/Remote
Relative Humidity
Dew Point
Absolute Humidity
Mixing Ratio
Wet Bulb Temperature

RANGE

-40°C to +80°C
-40°C to +80°C
0 to 100% RH
-40°C to +80°C
0 to 290 g/m³
0 to 545 g/kg d.a.
-40°C to +80°C

Ranges &
Performance for
All Models

The Flexibility and Durability to Fit Your Environment

The Humiscan® Industrial Humidity Transmitters use proven, reliable technology to measure relative humidity and temperature. The Humiscan's built-in microprocessor then calculates values for dew point temperature, absolute humidity, mixing ratio, and wet bulb temperature. The Humiscan® transmitter can be programmed easily, so that you can configure it in the field to meet your specific requirements. Connect the Humiscan transmitter to your own PC via the RS-232C interface, or use the optional, built-in keypad and local digital display. You can use either device to select a measurement, its output signal, and scale the measurement range. The Humiscan offers three simultaneous analog outputs, one digital output (RS-232C or RS-485/422), and one analog input for pressure (current or voltage). Humiscan Industrial Humidity Transmitters also offer a choice of two power input options (24 VAC/VDC or 100 to 240 VAC).

An optional data-logger provides a fast and cost-effective method to determine if your process environment requires continuous long-term measurement. The data-logging feature is also useful for applications where validation requires only a short-term measurement.

In many process control and industrial applications, humidity and temperature tend to fluctuate. For this reason, continuous temperature compensation is a standard feature on all Humiscan® transmitters. This feature automatically adjusts for changes in the environment, which insures a high degree of measurement accuracy over the entire operating range of the instrument.

Applications

- Clean rooms
- Pharmaceuticals
- Automotive
- Process Control
- HVAC
- Hospitals/Laboratories
- Environmental Chambers
- Incubators
- Many more



Performance in the Toughest Environments

The Humiscan® resists most contaminants, so monitoring process control applications does not present a problem... even in “dirty” manufacturing areas. The Humiscan’s humidity and temperature sensors are designed to tolerate exposure to harsh chemical environments. It is able to operate in condensing environments, which makes it suitable for applications where washdowns and saturation occur, such as hospitals and certain laboratories. The sensors can also withstand other harsh conditions, such as thermal shock (-40° to +80°C), high temperature combined with high humidity (95% RH), and low humidity (exposure to a desiccant).

For maximum protection in harsh or condensing environments such as automotive manufacturing, pharmaceutical processing, and other process control applications, the Humiscan’s electronics are housed in a rugged, aluminum, NEMA-4X/IP-65 rated enclosure.

The Humiscan housing features a small size (5.5”L x 5.5” W x 3” Depth), and the choice of duct/remote or wall-mounted configurations. The transmitter is also designed to resist the low amplitude vibrations that are common in manufacturing environments.



Wall-mounted Humiscan® Industrial Relative Humidity Transmitter shown with optional built-in keypad and bright, digital display. The Humiscan’s output signals, measurements, and ranges are user-scalable.

10-Point Factory Calibration

Each Humiscan is calibrated at 10 different points against a NIST-traceable standard. Compare this with competitive models that are calibrated at three points or less. This 10-point calibration ensures that you get maximum accuracy from the Humiscan.

Easy to Field-Calibrate

Using an accurate RH or temperature measurement instrument, a user can perform an on-site, one-point calibration of the Humiscan in minutes without interrupting operation.

Interchangeable Probes

This feature allows a user to replace sensor probes in the field or have a sensor probe recalibrated without removing the Humiscan.



Humitrol™ Main Screen – You get complete control over the Humiscan with Humitrol software. This Windows® ‘95 based program allows manipulation of all instrument features through your PC.

Humiscan® Industrial Humidity Transmitters Specifications*

Relative Humidity:

Sensing Element: Capacitive
 Accuracy at 77°F: ±1% at 0 to 90% RH
 ±2% at 90 to 100%RH
 Long Term Stability: Less than 0.5% drift per year typical
 Hysteresis: Less than 1% RH

Operating Range:

RH Sensor: 0% to 100% RH (non-condensing)
 -40°F to +176°F (-40°C to +80°C)
 Electronics: 0% to 95% RH (non-condensing)
 -40°F to +176°F (-40°C to +80°C)

Temperature:

Sensing Element: 1000 Ω thin-film platinum RTD
 (.00385 Alpha) Class A
 Accuracy: ±0.36°F (±0.20°C)
 Measurement Range: -40°F to +176°F (-40°C to +80°C)

Calculated Measurements:

Dew Point Temp.: -40°F to +176°F (-40°C to +80°C)
 Mixing Ratio: 0 to 545 g/kg d.a.
 Absolute Humidity: 0 to 290 g/m³
 Wet Bulb Temp.: -40°F to +176°F (-40°C to +80°C)

Outputs:

Analog: 3 Simultaneous Outputs per Measurement
 4-20mA, 0-5 Volt, 0-10 Volt
 Digital: 1 Channel, RS-232, RS-485/422 Digital
 Current Loop (Optional)
 Relay: SPDT, Form C, 250VAC/30VDC@5A
 TTL: Alarm Trigger

Power Inputs:

Standard: 24 VAC/VDC ±20%
 Optional: 100-240 VAC ±10% 50/60Hz,
 15 VA Max.

General:

Storage Temp.: -40°F to +176°F (-40°C to +80°C)
 Enclosure Material: Aluminum
 Enclosure Rating: NEMA-4X (IP-65)
 Mounting: Wall, Duct/Remote configurations (Includes Duct Mount Hardware)

Remote Cable Lengths: 3, 5, and 10 meters

Probe Material:

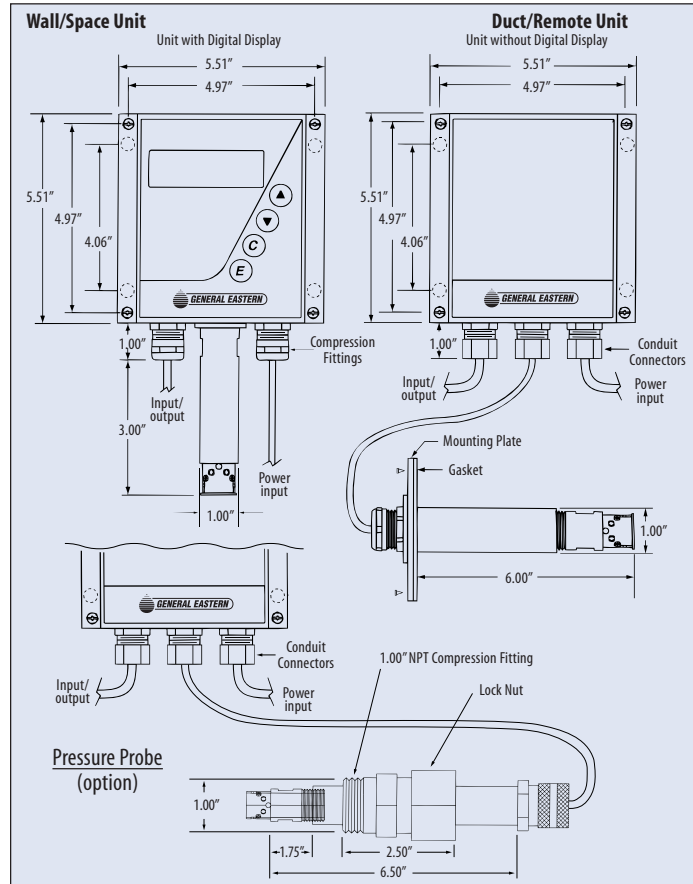
Space: Delrin®

Duct/Remote: Aluminum

Data Logging: Maximum of 700 points of humidity and temperature (selectable interval)

Pressure Probe: Up to 120 psi

*Specifications are subject to change.
 Delrin is a registered trademark of DuPont



All units have a standard 10-point factory calibration against a NIST-traceable standard.

All units are furnished with the following measurements:

- RH - Relative Humidity
- T - Temperature
- Td - Dew Point Temperature
- a - Absolute Humidity
- Tw - Wet Bulb Temperature
- x - Mixing Ratio

Model: HU	Configuration									
Display										
No Display		GND								
Display		GD								
Mounting										
Space			S							
Duct / Remote			DR							
Sensor Cable Length										
3 Meters										
5 Meters										
10 Meters										
Power										
24VAC/VDC							S24			
100-240 VAC - 50/60 Hz							O			
Digital Communications										
RS232							S2			
RS485/422							O4			
Data Logging										
None							SD			
Included							OD			
Fittings										
Conduit								SC		
Compression								OC		
Filter										
Plastic Open Frame									SP	
Stainless Sintered (100 µm)									SS	
PTFE Membrane									M	
Pressure Probe										
None										NP
Applications up to 120 PSI										P

Ordering Example:

HU	GD	S	-	O	S2	SD	OC	SS	NP
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Space Mount, Digital Display, 100-240 VAC Power, RS-232 Digital Output, Compression Fittings, Stainless Sintered Filter

