

Dew-10

General Eastern
Chilled Mirror Dew
Point Transmitter



Features

- Primary dew point measurement
- High accuracy
- Wide operating range
- No drift
- No hysteresis
- Direct dew point and temperature signals

Applications

- Precision HVAC/BAS
- Clean rooms
- Museums
- Film storage
- Pharmaceutical



Primary Dew Point Measurement with 4 to 20 mA or PRTD Output

The Dew-10 series is a family of cost effective chilled mirror dew point transmitters comprising of wall, duct and pipe mounted models. These instruments provide accurate and reliable dew point measurements over a wide range for building automation, mission critical environments and clean industrial applications.

Dew-10s provide accuracy of $\pm 1^{\circ}\text{F}$ ($\pm 0.5^{\circ}\text{C}$) over a range of -40°F to 136°F (-40°C to 58°C) dew point. The range is dependent on the ambient temperature. At 77°F (25°C) the units provide approximately 72°F (40°C) depression. The wall mount version is also available with an air temperature measurement capability over the same range.

The Dew-10 measures dew point by utilizing a solid state heat pump to cool a metallic mirror. When the mirror temperature reaches the dew point of the surrounding air, a thin dew layer condenses on the mirror surface. The condensation is optically detected.

A feedback loop keeps the mirror at the exact dew point by continuously controlling the mirror temperature. A precision PRTD (Platinum Resistance Temperature Detector) is embedded just beneath the surface of the mirror, allowing the dew point temperature to be precisely measured.

Maintenance is straightforward. Filter replacement and cleaning the mirror with a cotton swab restores the transmitter to its original condition. Since the wetted components are inert and the RTD is hermetically sealed, Dew-10s provides many years of drift-free measurement.

Each transmitter is calibrated to National Institute of Standards and Technology (NIST) traceable reference standards. A certificate of conformance with functional test data is supplied. Our manufacturing and quality system certified to ISO-9001 standards and Six-Sigma methodology is applied.

Contact our applications engineers to discuss your precision humidity measurement requirements.

Dew-10 Specifications

Wall Mounted Unit

Accuracy

±1.0°F (±0.5°C)

Repeatability

±0.1°F (±0.05°C)

Hysteresis

None

Dew Point Output

Platinum RTD, four-wire, 100 Ω at 32°F (0°C) or 4 to 20 mA signal

Temperature Output

Platinum RTD, four-wire, 100 Ω at 32°F (0°C) or 4 to 20 mA signal

Power Supply

24 VDC, 24 VAC, 115 VAC, 230 VAC, 10 watts maximum

Dew Point Range

-10°F to 136°F (-24°C to 58°C)

Operating Temperature

32°F to 140°F (0°C to 60°C)

Pressure

One atmosphere nominal

Weight

5.0 lb (2.5 kg)

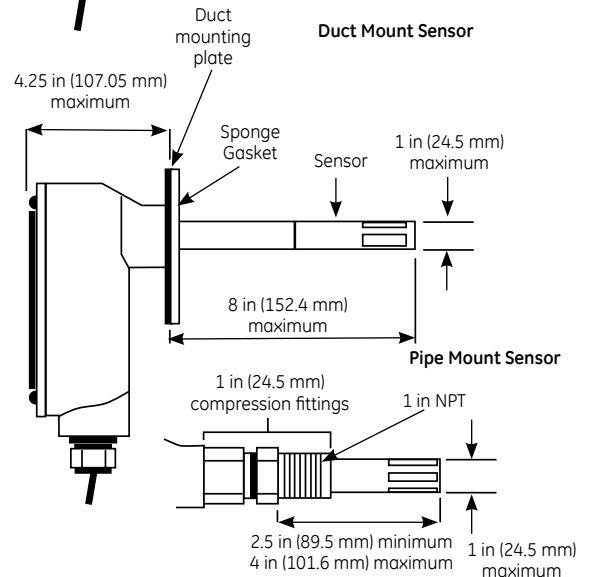
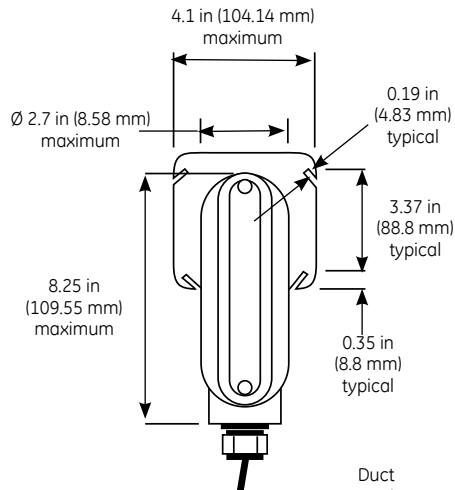
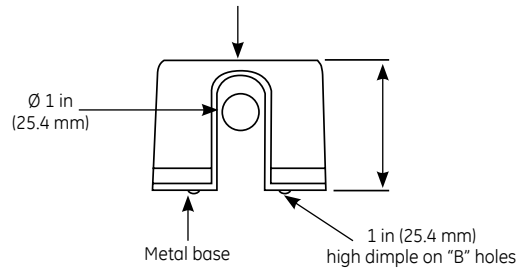
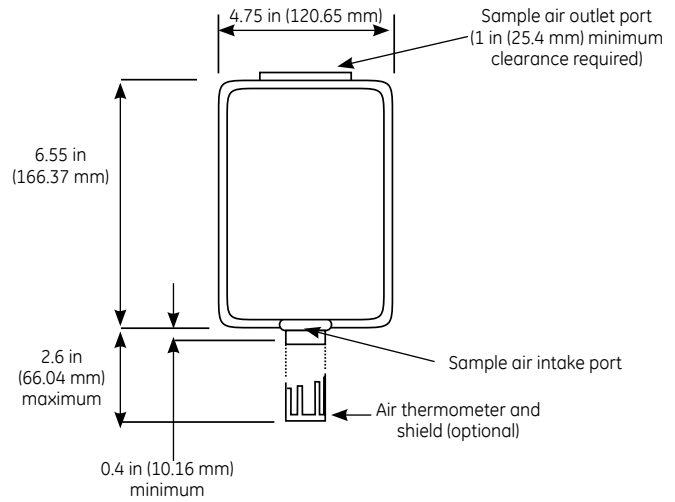
Pipe/Duct Mounted Unit

Accuracy

±1.0°F (±0.5°C)

Repeatability

±0.1°F (±0.05°C)



Dew-10 Specifications

Hysteresis

None

Output

Platinum RTD, four-wire, 100 Ω
at 32°F (0°C) or 4 to 20 mA signal

Power Supply

24 VDC, 24 VAC, 115 VAC, 230 VAC 10 watts
maximum

Dew Point Range

-40°F to 155°F (-40°C to 68°C)

Pressure

10 ft (3 m) water column

Duct Air Velocity

500 to 3,000 ft/min (50 to 900 m/min)

Operating Temperature

- Electronics: 32°F to 122°F (0°C to 50°C)
- Probe: -40°F to 155°F (-40°C to 68°C)

Weight

5.0 lb (2.5 kg)

Ordering Information

The code number to be ordered may be specified as follows:

Dew-10

↓	Code	Power		
	0	24 VDC (standard)		
	1	24 VAC		
	2	115 VAC		
	3	230 VAC		
↓	Code	Output Signal		
	A	RTD direct; 100 Ω, 32°F (0°C)		
	B	4 to 20 mA (15 VDC) 0°F to 100°F (-18°C to 38°C)		
	C	4 to 20 mA (15 VDC) 32°F to 122°F (0°C to 50°C)		
	D	4 to 20 mA (15 VDC) -40°F to 140°F (-40°C to 60°C)		
	X	4 to 20 mA (15 VDC) user specified		
↓	Code	Mounting		
	0	Wall		
	0	Wall with temperature		
	1	Duct		
	2	Pipe		

Dew-10 - ____ - ____ - ____ Typical model number

For wall mounted unit with temperature, select two output signals. Example: Dew-1-OCC0 is a wall mounted unit with 24 VDC power supply, dual 4 to 20 mA signals (dew point and temperature) scaled for 32°F to 122°F (0°C to 50°C).



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