DewMaster

Chilled Mirror Dew/Frost Point Hygrometer

A High Precision Dew/Frost Point Hygrometer Featuring Flow-Through, Insertion and Chemically Resistant Chilled Mirror Sensors.

The Edgetech Instruments DewMaster is a fast, multi-function, high precision chilled mirror hygrometer for continuously monitoring the dew/frost point temperature, parts per million water vapor by volume or percent relative humidity in gas streams. Based on the primary method chilled mirror measurement technique, it features a user friendly, easy access sensor, automatic startup, auto-balance, self-diagnostics, analog outputs, serial interface and alarms. Unlike other dew/frost point sensor types, chilled mirror sensors are easily cleaned and rarely require replacement.

The DewMaster is a laboratory grade, high precision, field proven instrument with multiple available sensor configurations and wide applicability to fit all budgets. Available sensors can be air, fan or liquid cooled to fit the required dew/frost point range. Applications range from use as a calibration standard, to monitoring moisture content in continuous industrial processes.

All Edgetech Instruments hygrometers are manufactured and supported in the USA in a modern, ISO 9001:2015 registered facility with ISO/IEC 17025:2017 accredited calibration laboratory. All calibrations and certifications are NIST traceable.

Features:

- Primary method chilled mirror sensor provides extremely accurate dew/frost point temperature measurement
- Drift free and certified against NIST traceable standards
- Best in class air cooled temperature depression
- Automatic Balance Control mode provides correction for optics contaminants

DewMaster with X3 Sensor

Features (continued):

- Easy sensor access and serviceability
- Multiple interface options are standard
- Fan or liquid cooled sensors are available for low dew/frost point measurement

Other Key Points:

- Robust, easily cleaned chilled mirror hygrometer for industrial applications
- Remotely or locally mounted sensor options
- Desk top, rack mount, or NEMA 4X enclosure options
- Pressure compensated dew/frost point measurement and temperature probe options
- Custom sampling systems available
- Data acquisition modules with wireless connectivity available
- Can be configured for ambient air measurements, positive pressure or equipped with sample extraction pump

Measurement Performance

Sensor Type	Cooling Type	DP/FP Range °C	Depression °C	Cooling medium	Construction
Insersion Sensor (Maximum 100 psi)					
DS2	Ambient	-25 to 60	50	Ambient air 25°C	Aluminum
DX	Ambient	-40 to 60	65	Ambient air 25°C	Aluminum
Flow Through Sensor (Maximum 900 psi)					
S2	Ambient	-40 to 65	60	Ambient Air 25°C	Aluminum
S2SC	Fan Cooled	-45 to 65	65	Ambient Air 25°C	Aluminum
S3	Fan Cooled	-60 to 65	85	Ambient Air 25°C	Aluminum
S3	Liquid Cooled	-70 to 65	90	Secondary Cooling 0 to 20°C	Aluminum
Corrosion Resistant Flow Through Sensor (Maximum 300 psi)					
X3	Ambient	-40 to 75	65	Ambient Air 25°C	316 Stainless Steel
X3F	Fan Cooled	-60 to 75	85	Ambient Air 25°C	316 Stainless Steel
X3SF	Fan Cooled	-70 to 75	95	Ambient Air 25°C	316 Stainless Steel
X3LC	Liquid Cooled	-80 to 75	115	Secondary Cooling -15 to 0°C	316 Stainless Steel

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Measurement Performance (continued)

Relative Humidity and PPMv Ranges:

5 to 95% RH with all sensors, non-condensing conditions

0 to 999,999 PPMv with all sensors, non-condensing conditions

Accuracy, All Sensors:

±0.2°C (0.36°F) dew/frost point standard

±0.1°C (0.18°F) dew/frost point optional

±0.5% of full scale pressure

Remote Sensors:

Up to 250 feet (76 meters) from console with cable

Display Resolution:

0.1°C or °F

0.01 psia

0.1 PPMv below 1000 PPMv

1 PPMv above 1000 PPMv

Air Temperature Sensor Range:

-100 to 250°C (-148 to 482°F)

±0.1°C accuracy

Packaging

Weight:

Bench-Top: 6 lb. (2.8 kg)

Rack Mount: 7 lb. (3.2 kg)

NEMA 4: 19 lb. (8.6 kg)

Dimension:

Bench-Top with S3 Mounted: 11 in. W x 5.2 in. H x 17 in. D (27.9 cm W x 13.2 cm H x 43.2 cm D)

Rack Mount with S3 Mounted: 19 in. W x 7 in. H x 17 in. D (48.3 cm W x 17.8 cm H x 43.2 cm D) Standard rack panel mounting dimensions

NEMA 4: 11.6 in. W x 13.6 in. H x 6.2in D (29.5 cm W x 34.6 cm H x 15.9 cm D)

Mounting:

Bench-top: Standard

Rack Mount: Optional

Wall-mount NEMA 4: Optional

Sensor Materials:

Chromium, glass, epoxy, and anodized aluminum or 316 stainless steel

Functional

Power Requirements:

90 to 230 VAC ±10%, 50 to 400Hz

Operating Temperature:

Control Unit: -10 to 60°C (15 to 140°F)
Sensors: -40 to 90°C (-40 to 194°F)

Auxiliary Coolant: To augment temperature depression capability of sensor when necessary:

Water (or other liquid): 0.5 gal/min (2 l/min) at 100 psia maximum

Sample Pressure Range:

Depends on sensor model, see chart above and consult Edgetech Instruments Inc

Sample Flow Rate:

0.5/5.0 SCFH (0.25 to 2.4 l/min)

Outputs (3 outputs available):

4 to 20 mA, 0 to 5 Vdc, RS-232

Track Or Hold:

Outputs (analog and digital), alarms can be set to track or hold while in Automatic Balance Control or programming mode

Alarms:

Two Form C, SPDT alarm relays rated for 3 A at 24 Vdc, 120 Vac. Alarm mode (high or low) programmable from keyboard or RS-232. Alarm set points programmable from -99.9 to 99.9°C (-148 to 212°F) from keyboard or via RS-232, alarm can be latched or unlatched

Display:

8 line LCD graphic data display, backlight 3 parameters display simultaneously

Accessories/Options

Remote Mounting Kit:

Remote sensor cable, standard length 10 ft. (3 m)

Lengths up to 250 ft. (76 m) available

Panel/Rack Mounting Kit:

Optional

NEMA-4 Wall Mount Enclosure:

Optional

Explosion-Proof Sensor Housing:

Optional

In-Line Particulate/Coalescing Filter:

Optional

Sampling Module:

Optional, consists of a vacuum pump, 10.7 to 19.2 psia (0.75 to 1.35 kg/cm2) variable area flowmeter assembled in a weather tight NEMA-4 enclosure, with bulkhead fittings. Specify 115 or 230 Vac, 50 or 60 Hz

MADE IN THE USA

Made in USA

Edgetech Instruments

ISO/IEC 17025:2017 Accredited
ISO 9001:2015 Registered