

X3 Sensor

Chemical Resistant Primary Method Chilled Mirror Dew/Frost Point Sensor

The Edgetech Instruments X3 chemical resistant chilled mirror sensor exploits the latest advancements in optical sensing and is specifically designed for demanding process and laboratory applications. It is available in multiple configurations to accurately measure dew/frost point in aggressive background gases including ammonia, hydrochloric acid, peroxides, semiconductor process gases, medical gases, and other reactants.

The X3 primary method, chilled mirror technique directly measures dew/frost point. The sensor's minimized sample cavity results in rapid dry-down times, fast response and quick detection of upset process conditions. The X3 sensor may be air cooled or liquid cooled with a best-in-class range to -90°C frost point.

The X3 sensor is used with Edgetech Instruments' DewTrace, DewMaster and PDM 75-X3 hygrometers for both fixed and field portable use, bringing chilled mirror technology to aggressive applications where drift free, high precision dew/frost point measurement was not previously possible.

Edgetech Instruments designs and manufactures accurate and reliable absolute humidity hygrometers, relative humidity transmitters, humidity probes, moisture analyzers, relative humidity calibrators, dew point generators and oxygen measurement instrumentation. Edgetech products are manufactured and calibrated to the highest industry standards in a modern facility located in Hudson, Massachusetts.

Features:

- Chemically resistant sensor housing and mirror eliminate sensor failures when measuring dew/frost point in aggressive background gases.
- Chamber design and high efficiency heat exchanger result in the ability to measure very low dew points.
- Hinged cover plate allows easy access to the mirror for cleaning and inspection.
- Reduced cavity sample chamber speeds sample sweeping resulting in rapid dry-down after exposure to high moisture levels.
- Fast reaction time detecting upset conditions in dry atmospheres can improve product yields and eliminate process down-times.
- Rugged, industrial electrical connectors and easy access slim line signal harness simplify installation and maintenance.



The X3 Sensor

Applications:

- Air separation operations
- Compressed air monitoring
- Engine test cells
- Furnace control
- Metrology
- Pharmaceutical production
- Plastics production
- Power generation
- Research and development
- Test and measurement
- Semiconductor manufacturing



Edgetech Instruments

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

Technical Specifications

The X3 Sensor is available with the DewTrace, the [DewMaster](#) and the [PDM75-X3](#) hygrometers. See product datasheets for detailed specifications.

Chilled Mirror Sensor Heat Exchangers are available for:

- Air Convection: 65°C depression
- Standard Fan Cooled: 85°C depression
- High Efficiency Fan Cooled: 95°C depression
- Standard Liquid Cooled: 115°C depression
- Cryo-Cooled: 125°C depression

Pressure Range:

0 to 200 PSIG

Temperature Range:

-40 to +125°C

Thermoelectric Cooler Type:

Three stage micro TEC

Environmental:

Dust and water resistant

Dew/Frost Point Range: (dependent upon Edgetech Instrument hygrometer model)

Sample Chamber Materials:

316 Stainless Steel, Teflon, Hastelloy

Sensor Mirror Materials:

Chrome Plated, 316 Stainless Steel, Platinum

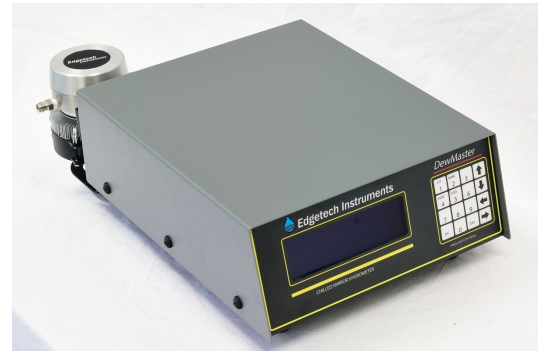
Sensor Optical Windows:

Glass, TPX

Sample Fittings:

Compression Fittings, VCR or VCO, Stainless Steel, Hastelloy

Model	Description	Max. Range, D/F Point at 25°C Ambient
X3	Passive Panel Mount, heat sink though panel	-40°C to 95°C
X3F	Active, Standard Fan Cooled	-60°C to 95°C
X3SF	Active, High Efficiency Super Fan Cooled	-70°C to 95°C
X3LC	Active, Water Cooled at 0°C	-80°C to 95°C
X3CC	Active, Chilled Water Cooling	-90°C to 95°C



DewMaster with X3 Sensor



PDM75-X3 with X3 Sensor



Made in USA



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