

Model DX

High Performance Primary Method Direct Insertion Dew/Frost Point Sensor

The Model DX primary method chilled mirror dew/frost point sensor is a direct insertion hygrometer sensor with integral membrane filter and PRT temperature sensor that has wide operating range and high temperature stability. The new DX has an integrated membrane filter allowing it to be inserted into dirty process streams or it may be used to monitor the local environment. With its integrally mounted temperature sensor, a single penetration reduces installation cost and improves relative humidity accuracy as the temperature and dew/frost point are measured at the same location. The Model DX expands Edgetech Instruments' line of easy-to-install dew/frost point sensors.

Active cooling gives the Model DX sensor enhanced stability and a dynamic range of -40°C to $+95^{\circ}\text{C}$ dew/frost point over a wide range of ambient conditions, while active sensor temperature compensation and isolation eliminate drift. An integrated micro aspirator option gives faster response in static environments and an integral barometric pressure measurement option is available on request. Its membrane filter allows the DX sensor to be used in dirty environments without regular maintenance.

The Model DX Sensor can be used with the Edgetech Instruments DewMaster, DewTrak II and Model 1500 dew/frost point hygrometers. The sensor can be located remotely at distances up to 100 feet. Its compact design reduces the space needed for installation.

Edgetech Instruments products are manufactured and calibrated to the highest industry standards in a modern, ISO 9001:2015 registered facility with an ISO/IEC 17025:2017 accredited calibration laboratory, located in Hudson, Massachusetts, USA. All calibrations and certifications are traceable to NIST.

Features:

- Membrane filter allows direct insertion into dirty environments expanding sensor choices for easy installation
- Virtually clean-free chilled mirror sensor reduces maintenance
- Integrally mounted PRT temperature sensor reduces installation cost and improves relative humidity accuracy
- Active sensor temperature compensation and isolation eliminate drift
- Compact design reduces space needed for installation
- Integral barometric pressure measurement option available
- Integrated micro aspirator option for faster response in static environments
- Pipe and duct mount thread boss included with mounting hardware
- Remote sensor cable length up to 100 feet



The Model DX Direct Insertion Dew/Frost Point Sensor

Applications:

- HVAC duct systems
- Critical purged atmospheres
- Glove box environmental chambers
- Pharmaceutical testing and isolation chambers
- Engine air intake and exhaust testing
- Modified atmosphere packaging
- Semiconductor manufacturing furnace and lithography
- Medical packaging
- Dryer efficiency
- Biologics and cell culture
- Fluidized bed driers
- Food storage and packaging
- Air make-up for clean rooms and data centers
- Checking accuracy of polymer and metal oxide moisture probes



 **Edgetech Instruments**

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

Technical Specifications

Sensor Types:

Primary method chilled mirror dew/frost point sensor with two stage thermoelectric cooling (TEC), PRT temperature sensor, membrane filter and optional barometric pressure sensor

Ranges at 25°C ambient:

Dew/Frost Point:

-40°C to 60°C (-40°F to 140°F)

Air Temperature:

-80°C to 95°C (-112°F to 203°F)

Relative Humidity:

5% to 95%

Accuracy:

Dew/Frost Point: $\pm 0.2^{\circ}\text{C}$ (± 0.5 gr/lb.)

Temperature: $\pm 0.1^{\circ}\text{C}$ ($\pm 0.18^{\circ}\text{F}$)

Temperature Depression:

65°C

Hysteresis:

Negligible

Repeatability:

$\pm 0.05^{\circ}\text{C}$ dew/frost point (± 0.1 gr/lb.)

Response:

1°C/sec (2.7 gr/lb./sec) not including settling time

Flow Rate:

Static to 3,000 linear ft./min

Pressure:

50 psig maximum (consult Edgetech Instruments for elevated pressure)

Remote Cable Length:

10 ft. standard, 100 ft. maximum

Mirror:

Standard: chrome plated

Optional: platinum or stainless



Model DX Sensor Mounted on the DewTrak II Hygrometer



DewMaster Hygrometer with Remotely Mounted Model DX Sensor



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