

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 an integral PRT temperature sensor, wide operating range and improved temperature stability. The new DX can be inserted into a process stream or 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 +60°C dew point / frost point over a wide range of ambient conditions, while active sensor temperature compensation and isolation eliminate drift. An integrated micro aspirator gives faster response in static environments and an integral barometric pressure measurement option is available on request. Integrated filter options are available for use in dirty environments.

The Model DX Sensor can be used with the Edgetech Instruments DewMaster and DewTrak II 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.

Features:

- Direct insertion expands Edgetech Instruments sensor choices for easy installation
- 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
- Integrated filter options for use in dirty 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 thermoelectric cooling (TEC), PRT temperature sensor and optional barometric pressure sensor

Sample Measurement Ranges (from 25 ambient):

Dew/Frost Point:

-40°C to 60°C (-40°F to 140°F)

Air Temperature (internal DX AT sensor):

-10°C to 60°C (-14°F to 140°F)

Relative Humidity:

5% to 90%

Accuracy (in Sample Measurement Range):

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

Temperature: $\pm 0.2^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$)

Dew Point Temperature Depression:

65°C from a 25°C ambient

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 (DX alone):

50 psig maximum

Remote Cable Length:

10 ft. standard, 100 ft. maximum

Mirror:

Standard: chrome plated

Optional: platinum



Model DX Sensor Mounted on the DewTrak II Hygrometer



DewMaster Hygrometer with Remotely Mounted Model DX Sensor



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