



**ohmic instruments co.**

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**INDUSTRIAL & ENVIRONMENTAL SENSORS, INSTRUMENTS & CONTROLS SINCE 1969**

**DEW POINT TRANSMITTER - DPX-200 SERIES  
COST EFFECTIVE MONITOR FOR COMPRESSED AIR, PLASTICS DRYING,  
INDUSTRIAL PROCESS AND HVAC APPLICATIONS**

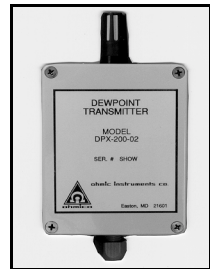
- **ECONOMICAL ALTERNATIVE TO CHILLED MIRROR HYGROMETERS**
- **RANGE: -40 TO +80°F DEW/FROST POINT**
- **± 4°F FROM -40 TO +20°F**
- **± 2°F FROM +20 TO +80°F**
- **LINEAR 4- 20 mA & 0- 5 Vdc OUTPUTS**
- **FULLY TEMPERATURE COMPENSATED**
- **WALL, DUCT AND REMOTE PROBE CONFIGURATIONS - NEMA-4 (IP-65)**
- **REMOTE PROBE: 1/2" SS NPT FITTING RATED TO 175 PSIG & 200°F**
- **OPTIONAL RS-232 INTERFACE**
- **CALIBRATED TO NIST STANDARDS**
- **OEM OPTIONS AVAILABLE**



REMOTE PROBE



DUCT MOUNTED



WALL MOUNTED

**TIME PROVEN RELIABILITY & PERFORMANCE**

DPX-200 Series Dew Point Transmitters provide linear 4-20 mA and 0- 5 Vdc signals. A thin-film polymer water vapor sensor and thermistor for temperature compensation are utilized with microprocessor-based circuitry to convert the signals produced by the sensors directly to dew point (DP) by means of psychrometric equations (derived from the Hyland-Wexler equations, published by ASHRAE). Available in wall, duct and remote probe configurations, DPX-200's provide precise dew point measurement at considerably lower costs than chilled mirror hygrometers.

The units are calibrated by using a computer-based data acquisition system to store 9 relative humidity values for each sensor in the DPX-200's EPROM (erasable-programmable-read only memory). These values are referenced to a NIST traceable reference "Chilled Mirror Hygrometer". The sensor's inputs are converted to digital format with a precision 8-Bit A/D converter with 2x oversampling resulting in high resolution

measurements. Curve fitting and psychrometric equations are used to compute the Dew Point/Frost Point by an 80C552 microprocessor operating at 11MHz. A D/A converter produces a linear 0- 5 Vdc signal while a V/I driver produces a 4- 20 mA signal.

The optional RS-232 interface enables a computer to directly poll data from the DPX-200 transmitter. The RS-232 data is formatted as "comma delimited ASCII text", therefore it is easy to save the data in text files which can be opened for further data analysis by many spreadsheet programs.

DPX-200s provide direct input to recorders, data acquisition systems and PLCs used to control and document industrial air dryer and air-conditioning systems. OHMIC Instruments also offers OEM options for manufacturers of compressed air dryers, plastic resin dryers, and air-conditioning equipment. Contact our engineers for pricing and technical assistance.

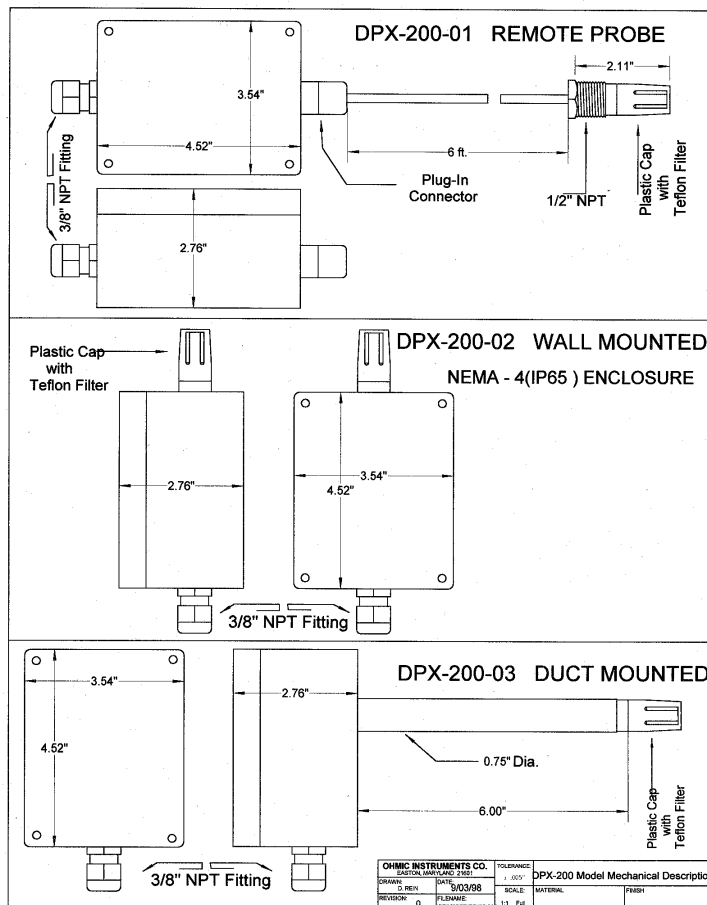
**WARRANTY:** All products manufactured by OHMIC Co. are warranted to be free of defects in material and workmanship for one year after delivery. Any equipment found to be defective within this period will be repaired or replaced free of charge.

**SPECIFICATIONS - DPX-200 SERIES**

Water Vapor Sensor	HC-610
Temperature Sensor	10K NTC Thermistor
Dew Point Range	-40 to +80°F
Dew/Frost Point Accuracy	± 4°F from -40 to +20°F ± 2°F from +20°F to +80°F
Dry Bulb Range	0- 185°F
Dry Bulb Accuracy	±1°F
Operating Temperature	Electronics: +40 to +120°F Probe: 0-185°F (optional cooling coil & manifold enables use to 550°F.
Maximum Pressure	175 psig for remote probe
Sensor Response Time	10 seconds, 63% change
Analog Outputs	4-Wire 4- 20 mA & 0- 5 Vdc
Dew Point Signals	
Current Output	DP, °F = (7.5 x mA) -70
Voltage Output	DP, °F = (24 x Vdc) -40
Power	18-28 Vdc @ 75 mA
Computer Interface (opt.)	Bi-directional RS-232. Data in ASCII, Comma Delimited Format. 9600 Baud, 8 Bits, 1 Stop, 1 Start, No Parity, Flow Control: Software Xon/Xoff Parameters: Relative Humidity, Dew Point & Drybulb Temperature Data.
Power/Signal I/O	Screw Terminal Block
Dimensions	Circuit Card: 4.25" x 3.13"

See Drawings for Probe & Enclosure Dimensions

**DIMENSIONS**



**ORDERING INFORMATION**

DPX-200-01	Remote Probe
DPX-200-02	Wall Mounted
DPX-200-03	Duct Mounted

The remote probe used with the DPX-200-01 (P/N PDPS-610TH) consists of an HC-610 water vapor sensor, 10K NTC thermistor, pipe fitting and cable. The standard cable length of 6 ft can be extended on special order. The probes are not interchangeable as the calibration data for each individual probe is stored in an EPROM. To field replace the probe, the EPROM chip must also be replaced. The sensor elements are not field replaceable on the wall and duct mounted units.

Only dew point data is transmitted via the analog outputs.

Dew point temperature, relative humidity (%RH) and dry bulb temperature readings in ASCII delimited format are available via the optional RS-232 interface.

The use of a "Teflon", "Sintered Stainless Steel" or other suitable filter media (5 micron porosity) is recommended for use in compressed air, plastics drying or any environment that is dusty or contains oil mist.

A certificate of calibration to NIST traceable standards, with functional test data is supplied with each unit.

**ENGINEERING SUPPORT:** OHMIC Instruments Co. designs and manufactures a full line of environmental and bio-medical sensors, instruments and controls. Many of our products are custom designed to meet specific requirements. Our engineers will be pleased to discuss your application.



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