

Model 2003 Hygrometer: DP, psia, PPMv

Install Reliability

Install EdgeTech Dew Point/Absolute Pressure/
PPMv Measurements

Benefits

- **Capable of measuring** Dew Point, absolute pressure, PPMv and other psychrometric variables
- **Primary** chilled mirror measurement of water vapor content of gas
- **Field proven** sensing technology from EdgeTech
- **Wide** measuring range (-50 to 100°C)
 - **Automatic** correction for mirror contaminants
- **Certified** measurements against NIST traceable standards
- **Standard features**, where others charge extra

● Annealing Furnaces

● Process Dryers

● Plant Air

● Clean Rooms

● Metrology

● Curing Ovens



● Environmental Chambers

● Lab Calibration Standards

● Emission Testing

● Continuous Industrial Processes

CONTROL CONDITION INDICATOR

- Indicates dew point control loop stability
- Indicates mirror condition

ALPHANUMERIC DISPLAY

- Illustrates dew point measurement (in your choice of °C or °F), pressure and PPMv
- Time and date
- Analog output ranges, "sample and hold" status
- Serial protocol
- Scan feature

TACTILE FEEDBACK KEYPAD

- Set Control parameters



ABC INDICATOR

- Shows when mirror contamination correction is in progress

MIRROR CONTAMINATION INDICATOR

- Illustrates when process contaminants are beyond ABC correction

ALARM INDICATORS

- LED indication of alarm set point condition

Features

- Primary Dew Point, absolute pressure, and PPMv
- Other psychrometric variables available (i.e. grains per pound, etc.)
- Programmable menu, via front panel
- Depression range choice of either 45 or 60°C (one- or two-stage cooling)
- Standard features that others charge extra:
 - two alarms (Form C), Automatic Balance Control, Scalable Analog Outputs, etc.
- Automatic Balance Cycle (ABC)
 - automatically corrects for most mirror contaminants
 - automatically restandardizes the instrument
 - you choose time and interval of restandardization, for best convenience
 - increase the length of unattended operation
- Scan feature; view multiple parameters in 3 second intervals

ABSOLUTE PRESSURE

- You can get PPMv, GR/lb, etc. output derived from a primary measurement

RS232 SERIAL PORT

- Remote programming
- Data output such as dew point and alarm status

DUAL ALARM RELAYS

- Form C for greater versatility

DEW POINT SENSOR

- The heart of EdgeTech sensing reliability



4-20 mA CURRENT OUTPUT

- Scalable to drive peripheral devices

0-5 VDC OUTPUT

- Scalable to drive peripheral devices

POWER

- Easy switch selection 115/220 VAC

MIRROR CONDITION

- Digital check of mirror condition

Features

EdgeTech field-proven, chilled mirror technology

- one- or two-stage sensors available
- NIST certified calibration (certificate provided) - integral or remote from controller

Dual alarm capability

- can be set for latching or auto-reset modes, your choice

Serial and analog outputs

- RS232 communication, with terminal, printer, or computer
- 0-5 VDC and 4-20 mA
 - available simultaneously, one output per measurement parameter
 - scalable throughout the entire operating range of Dew Point, Pressure or PPMv
 - program via front panel or remote serial port, your choice
 - isolated 4-20 mA option available

Pressure transducer input for psychrometric variable calculation

Specifications, Model 2003

Measurement Performance

Dew/Frost Point and RH Ranges

-40 to +60°C (-40 to 140°F), S1
-50 to +100°C (-58 to +212°F), S2
0 to 100 psia
0 to 999,999 PPMv

Accuracy

±0.2°C (0.36°F) Dew/Frost Point
±0.5% of Full Scale Pressure

Dew/Frost Point Temperature Sensor

3-wire Platinum Resistance Thermometer (PRT), 100 ohms at 0°C

Depression

45°C (81°F), S1
65°C (117°F), S2

Depression Slew Rate

1.7°C (3°F)/second maximum, above 0°C

Remote Sensors

Up to 75 meters (250 feet)

Resolution

0.1°C or °F
0.01 psia
0.1 PPMv < 1000 PPMv
1 PPMv ≥ 1000 PPMv

Functional

Power Requirements

100/115/230 VAC ±10%, 50-60 Hz,
75 watts maximum

Operating Temperature

Control Unit: 0 to +50°C (+32 to
+122°F)
DP Sensors: -40 to +100°C (-40 to +212°F)

Auxiliary Coolant

Water (or other)—2 liters/minute (0.5
gallon/minute) at 100 psig maximum, to
augment depression capability of sensor
when necessary

Sample Pressure

0 to 14 kg/cm² (0 to 200 psia), S1/S2

Sample Flow Rate

0.25 to 2.4 liters/minute (0.5/5.0 SCFH)

Outputs

4-20 mA, 0-5 VDC, RS232

Track and Hold

Outputs, analog, digital, alarms can be set
to Track or Hold while in Auto Balance or
Programming mode

Packaging

Alarms

Two form C, SPDT alarm relays rate for
3 amps at 24 VDC, 120 VAC
Alarm mode (high or low) programmable
from keyboard or RS232
Alarm set points programmable from
-99.99 to +99.99°C (-148 to +212°F)
from keyboard or RS232
Alarm can be latched or unlatched

Display

8-digit LED data display
0.6in. high digits

Weight

7.0 kg (15.5 pounds), bench-top

Dimensions

28.2 (w) x 13.0 (H) x 45.7 (D) cm,
(11.1 (W) x 5.2 (H) x 18 (D) in.),
bench-top with S2 mounted

Mounting

Bench-top (standard)

Sensor Materials

Rhodium mirror, glass, epoxy, and
anodized aluminum

Sensor Selections

S1, S2 are one and two-stage flow through
dew point (DP) sensors, respectively

Specifications are nominal and subject to change without notice.

Accessories

■ REMOTE MOUNTING KIT

- For removing the sensor 10 feet from the control unit
- Extension cable is available for up to 250 feet
- System is NIST-certified with selected cable length

■ PANEL/RACK MOUNTING KIT

■ SAMPLING MODULE

- Consists of a vacuum pump, 0.75-1.35 kg/cm (10.7-19.2 psia) variable area flowmeter. Assembled in a weathertight enclosure, with bulkhead fittings. Specify 115 V or 230 VAC, 50 or 60 Hz

■ MIRROR MICROSCOPE

- For examination of dew or frost layer (consult factory for pressure specifications)

■ EXPLOSION-PROOF SENSOR HOUSING

■ NEMA-4 WALL MOUNT ENCLOSURE

- For industrial applications

■ IN-LINE PARTICULATE/COALESCING FILTER

INSTALL RELIABILITY—INSTALL EDGETECH

For a **Quotation** or to **Order**, contact your Local Representative.

For a list of Local Representatives, please call, fax, or write:



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