

# DEWMASTER

## Chilled Mirror Dew Point Hygrometer



### Benefits

Field proven technology

Capable of measuring dew point, absolute pressure, PPMv and other psychrometric variables

Primary chilled mirror measurement of water vapor content in gas

Wide measuring range (-75 to 100°C)

Automatic correction for mirror contaminants

Certified measurements against NIST traceable standards

Standard features, where others charge extra

Analog & RS232 outputs

### Applications

Annealing Furnaces  
Process Dryers • Clean Rooms  
Curing Ovens • Plant Air  
Environmental Chambers  
Lab Calibration Standards  
Emission Testing • Metrology  
Continuous Industrial Processes  
Stability Chambers

### DewMaster Highlights

- ▶ Chilled mirror technology.  
One, two or three stage sensors available - integral or remote from controller.  
NIST traceable calibration certificate.
- ▶ Depression range choice of either 45, 65 or 95°C .  
(one, two or three-stage cooling)
- ▶ Automatic Balance Control (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.
- ▶ Dual alarm capability  
User programmable.  
Can be set for latching or auto-reset mode.  
Form C for greater versatility.
- ▶ Serial and analog outputs.
- ▶ RS232 communication with terminal, printer, or computer  
Remote programming.  
Data output such as dew point and alarm status.
- ▶ 0-5 VDC, 4-20 mA, 0-10 VDC, or 0-20mA  
User scalable to drive peripheral devices.  
Available simultaneously, one output per measurement parameter.  
Scalable throughout the entire operating range of psychrometric variables.  
Program via front panel or remote serial port.
- ▶ Pressure transducer input for psychrometric variable.



Chilled Mirror Hygrometer Model CMH-RPC

## DewMaster

### Measurement Performance

#### Dew/Frost Point and RH Ranges

-40 to 60°C (-40 TO 140°F), S1 & DS1  
-50 to 100°C (-58 to 212°F), S2 & DS2  
-75 to 100°C (-103 to 212°F), S3  
0 to 100%RH  
0 to 999,999 PPMv

#### Accuracy

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

#### Depression

45°C (81°F), S1 & DS1  
65°C (117°F), S2 & DS2  
95°C (171°F), S3

#### 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

### Packaging

#### Weight

2.75kg (6 pounds), bench-top

#### Dimensions

27.94 (W) x 13.2 (H) x 43.18 (D) cm,  
(11 (W) x 5.2 (H) x 17 (D) in),  
bench-top with S3 mounted

#### Mounting

Bench-top (standard)  
Wall-mount NEMA-4 (optional)

#### Sensor Materials

Chromium, glass, epoxy, and anodized  
aluminum

### Sensor Selections

S1, S2, S3 are one, two, and three-stage flow through dew point (DP) sensors, respectively.

DS1 and DS2 are 1 and 2-stage insertion probe style (DP) sensors.

### Functional

#### Power Requirements

90-230 VAC ±10%, 50-400Hz

#### Operating Temperature

Control Unit: -10 to 60°C (15 to 140°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 psia maximum, to augment depression capability of sensor when necessary.

#### Sample Pressure

0 to 20 bar (0 to 300 psia), S1, S2 and S3.

#### Sample Flow Rate

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

#### Outputs (3 outputs available)

4-20 mA, 0-5 VDC, RS232.

#### Track or Hold

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

#### Alarms

Two form C, SPDT alarm relays rated for 3 amps at 24 VDC, 120 VAC.  
Alarm mode (high or low) programmable from keyboard or RS232.  
Alarm set points programmable from -99.9 to 99.9°C (-148 to 212°F) from keyboard or RS232 Alarm, can be latched or unlatched.

#### Display

8 Line LCD.  
Graphic data display, Backlight,  
3 parameter display simultaneously.

### Accessories / Options

#### Remote Mounting Kit

Remote sensor cable, standard length 10 ft (3m).  
Special lengths up to 250ft (76m) available.

#### 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 NEMA-4 enclosure, with bulkhead fittings. Specify 115V or 230 VAC, 50 or 60 Hz.

#### Explosion-Proof Sensor Housing

#### NEMA-4 Wall Mount Enclosure

For industrial applications

#### In-Line Particulate/Coalescing Filter