

Harmony Technology inc. Chilled Mirror Dewpoint System

CMS2a



Chilled mirror condensation dewpoint hygrometers provide precise, stable and repeatable, standards grade measurement of humidity in an industrial or laboratory environment. The chilled mirror measurement is a fundamental physical measurement of humidity, it is not based on the humidity absorption properties of plastics or other humidity sensing materials. It is only dependent on the physical properties of water and accurate temperature measurement.

The HTi CMS2 chilled mirror hygrometers feature a stainless-steel sample chamber, glass lenses and a solid platinum mirror to avoid sensor corrosion. A platinum RTD in a 4-wire Kelvin configuration is used to measure temperature. The offset flow

design accommodates a wide range of flow rates. A removeable internal filter reduces maintenance and ACCU-STAR automatic cleaning and balancing ensures accuracy between cleanings.

All measurements are digitized at the sensor and transmitted to the Display Module using RS-485 eliminating cable length errors and effects from electrically noisy environments.

The Display Module has a color touch screen to display humidity parameters and control sensor functions. There are 0-5 volt, 0-20mA and 4-20 mA analog outputs, a form C relay and an RS-232 digital communications port.

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Specifications:

Measurement: (@22 °C or higher to avoid condensation)
Dew/Frost point..... -35 to 60 °C (-31 to 140 °F)
Relative Humidity..... 0 to 100% non-condensing
Dew/Frost point accuracy..... +/- 0.2 °C (+/- 0.36 °F)
Repeatability..... +/- 0.05 °C (+/- 0.09 °F)

Outputs:

Analog x2..... 0-5 Volt 4-20mA 0-20mA scalable any range, any unit
Relay..... 1 form C 5A 240VAC 30 VDC settable any unit
Digital..... RS-232 (RS-485 available)
Display..... Color touch screen, software buttons.

Standard Features:

- *Solid platinum mirror for corrosion protection
- *Stainless steel and glass sample cavity
- *Internal filter for reduced maintenance
- *ACCU-STAR automatic mirror cleaning
- *extended warrantee (if calibrated annually)

Operation:

Power..... 100 to 240 VAC 50/60 Hz 50W
(12 to 24 VDC operation optional)
Temperature..... -20 to 60 °C (-4 to 140 °F)
Humidity..... Non-condensing
Pressure..... -0.7 to 5 bar (gauge)
Sample Flow..... 0.1 to 5 lpm (0.2 to 10 scfh)
Gas Fittings..... ¼" tube swage fitting, swappable via 1/8" NPT

Physical:

Weight..... 2 kg (4.4 lb)
Dimensions..... 102 x 100 x 140 mm approx. (sensor)
155 x 96 x 38 mm approx. (display)
Cable..... 2 m (6 ft) standard, 1.2 km (4000ft) max w/power T
NMEA/Device-net standard cable