

Harmony Technology, inc.

Chilled Mirror Dew Point Hygrometer CMS-I Integrated Sensor with Monitor



Key Features:

Instrument mounting compatible with Shinyei S-1S series hygrometers, easy retro-fit

Temperature and pressure inputs for psychrometric calculations

Analog, Alarm and RS-232 Output

NIST traceable measurement

Description

Chilled mirror hygrometers are used as standards in metrology labs and in industrial test and measurement applications where accurate and repeatable humidity measurement is required. Fundamental measurement principles provide inherent accuracy and long term stability superior to other humidity measurement technologies.

The HTi CMS-I hygrometer system is a NIST traceable hygrometer with a multitude of features at an unsurpassed value. The compact hygrometer can be configured with a two or three stage sensor, as well as temperature and pressure sensors. Heated sensors for higher dewpoint measurements or condensation prevention can be controlled from the remote sensor monitor.

The CMS sensor uses a Peltier effect, solid state, thermo electric cooler (TEC) to chill the mirror surface until dew or frost condenses on the surface of the mirror. The condensation is detected by an optical bridge circuit, and is used to control the TEC power to precisely maintain the mirror surface at the dew point temperature. That temperature, measured with stable a Platinum RTD, is the dew point temperature, a fundamental measure of humidity.

A Platinum mirror option with 5 year corrosion warranty provides long term confidence in harsh measurement environments.

Additional measurements, such as temperature and pressure can be added. These allow calculation of any psychrometric parameter, such as %RH, ppm, gr/# and g/m³.

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Specifications:

Units:

Dew Point	°C or °F
Temperature	°C or °F
Pressure	kPa, mbar, psia, mmHg
Relative Humidity	% RH
Absolute Humidity	PPMv, PPMw, g/m ³ , grains/lb

Performance:

Dew Point	
Range	60°C below sensor body temperature
Accuracy	+/- 0.2°C
Repeatability	+/-0.05°C
Hysteresis	none

Optional Inputs:

Temperature	100 Ohm PRT 0.00385 alpha
Pressure	4-20mA absolute pressure transducer

Operation:

Temperature	0-50°C
Pressure	0-150 psi
Power	85 - 265 VAC 50/60 Hz
Weight	12 lb/ 5kg +/-

Models:

Instruments

CMS-I	Integrated Hygrometer System w/ remote display
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Dew Point Sensors

S2	Two Stage Dew Point Sensor
S3	Three Stage Dew Point Sensor

Accessories

ATX	Temperature Sensor
PTX	Pressure Sensor (specify range)
Cable	5' to 500' (specify length)

PTM-SX	Platinum Mirror
CAL-SX	Special Calibration Range

All specifications subject to change without notice.