

# KAHN

# Hygrometers

## Cermax Portable Hygrometer

A rugged, versatile, and portable dewpoint monitor designed for moisture measurements from -100 to +20°C dewpoints. Applications include monitoring or spot-checking of the dewpoint of any flammable or non-flammable process gas such as compressed air, nitrogen, natural gas, or hydrogen.

- Easy Operation
- High Accuracy and Repeatability
- Fast Response
- Lightweight Construction
- User Friendly Display and Controls
- Data Logging Capability
- Intrinsically Safe Version
- Long Battery Life

### Simple Operation

Cermax is extremely easy to use. The unit is fully self-contained in a rugged, lightweight carrying case. No external services are required. Simply connect the sample gas to the inlet port compression fitting, turn on the power, and within seconds Cermax is ready to display the dewpoint of the sample gas. No special programming is needed. The simple user interface allows you to select display units or to perform more complex functions such as pressure compensation, range selections, input scaling, or data logging.

### High Accuracy and Repeatability

The proprietary design of the Kahn Ceramic Moisture Sensor, combined with sensitive and stable electronics, provides high accuracy and excellent repeatability. With a standard dewpoint measurement range from -100 to +20°C DP (-110 to +60°C DP optional) and indication from -120 to +30°C, Cermax offers measurement accuracy of:

- $\pm 1^\circ\text{C}$  dewpoint from -60 to +20°C dewpoint
- $\pm 2^\circ\text{C}$  dewpoint from -100 to -60°C dewpoint

Resolution is 0.1°C dewpoint across the range.



### Fast Response

Cermax has been designed to respond quickly and accurately to changes in moisture level. The integral sensor chamber provides minimum flow path, reduced internal surface area, and contains no unnecessary sampling volume. Add to this the inherently fast response of the Kahn Ceramic Sensor and the result is a fast and precise indication of process dewpoint.

### Lightweight Construction

Weighing less than 9 lbs., the Cermax is lightweight yet rugged. The instrument is suitable for all manner of indoor and outdoor applications, and carries a NEMA4 environmental resistance rating.

### User-Friendly Display and Controls

Cermax provides a user-friendly programmable display interface. Within seconds of turning it on, the instrument will display the primary dewpoint data for the sample of gas being measured. A simple and intuitive drop-down menu system allows easy selection of the instrument's more sophisticated functions, such as second process input, display of alternative units, pressure and temperature corrections, tagging and logging of data, and downloading to a host device such as a PC.

**KAHN INSTRUMENTS, INC.**

885 Wells Road, Wethersfield, CT 06109

(860) 529-8643 Fax: (860) 529-1895 www.kahn.com hygros@kahn.com

## Data Logging Capability

The ability to record and trend humidity data is easy and straightforward with the Cermax. External data loggers and chart recorders are no longer needed. Built into the instrument is a logging system which can store up to 8000 measurement points, including dewpoint, second process input, and time. All data parameters are programmable from the instrument's drop down menu. Once data has been taken, it can be downloaded onto a PC using data transfer programs. Data can then be easily sorted, analyzed, or charted using a spreadsheet or database program.

## Long Battery Life

Cermax uses a sealed rechargeable battery pack which gives an average usage time of more than 24 hours between charges at normal room temperature. The battery pack is easily removable and spare battery packs are available so that the instrument can be permanently operational.

## Cermax-IS: Intrinsically Safe

Cermax-IS is designed for use in hazardous areas. The advanced features and rugged reliability of Cermax can be used in petrochemical and natural gas applications for measurement of flammable and non-flammable gases. Cermax-IS is also ideal for any industrial application requiring safe measurement of flammable gases, such as hydrogen used as coolant in electrical generators or as a blanketing gas in heat treating applications.

Cermax-IS can, of course, also be used to measure the dewpoint of inert gases used in hazardous area compressed air systems or in inert purge gases used for pipeline and vessel drying and pressure testing.

Cermax-IS is Factory Mutual (FM) and Canadian Standards Association (CSA) approved for use in Class I, Division 1 Groups A, B, C, and D hazardous locations. In addition, Cermax-IS conforms to CENELEC standards.

# SPECIFICATIONS

### Measurement Range:

Cermax and Cermax-IS: calibrated from -100 to +20°C dewpoints; readings to -120 and +30°C DP

### Accuracy:

±1°C from -60 to +20°C dewpoint  
±2°C from -100 to -60°C dewpoint

### Resolution:

0.1°C dewpoint, 3 significant figures for other units

### Gas-Wetted Components:

316 Stainless Steel

### Sensor:

Kahn Ceramic Moisture Sensor

### Gas Connections:

1/8" Swagelok™ couplings

### Case:

Custom polyurethane case with integral padded carrying handle

### Dimensions and Weight:

9.8 wide x 11.8 deep x 5.9 high (inches, approx.)  
7.0 pounds

### Environmental Rating:

NEMA4 (IP66)

### Power:

Internal rechargeable battery pack (removable)  
Charged by external AC powered 6V charger (supplied)  
24 hour normal operation between charges

### Operating Pressure:

Vacuum to 400 bar (6000 PSIG) maximum

### Operating Temperature:

Cermax and Cermax-IS: -20 to +50°C

### Storage Temperature:

-40 to +70°C

### Flow:

Recommended rate: 0.5 to 10 normal liters/min

### Display:

Cermax: 240 x 64 dot-matrix  
Cermax-IS: 4 line x 40 character LCD

### Display Units:

Dewpoint in °C, °F, K, PPMv, PPMw for air, N<sub>2</sub>, H<sub>2</sub>, SF<sub>6</sub>, CO<sub>2</sub>, g/m<sup>3</sup>, % RH and #/MMSCF (natural gas)

### Secondary Input:

0-20 or 4-20mA for temperature or pressure

### Data Storage:

Up to 10,000 samples of primary and secondary variable, time and date stamp, and sample number

### Communications:

RS232C for stored data

### Options:

Carrying Bag	External Sensor
Sampling System	External Transducers for:
Spare Battery Pack	• pressure
Filter Element	• temperature

### NOTE:

The information included herein was correct at the time of publication and supersedes all previously published data. However, it is our policy to continually improve our products to ensure ever better performance. Consequently, current Kahn products may incorporate modifications not shown or described on these pages.

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