

## DEWPOINT HYGROMETER with chilled mirror

### type CMH-10

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**measuring head**

- Dewpoint temperature measurement
- Accuracy 0,2°Cdp
- Dewpoint temperature measurement range 50°C under ambient temperature
- Self-cleaning mirror function
- Two independent current outputs 4-20 mA or 0-20 mA
- Two independent alarms
- Measuring head with IP65
- Wide supply voltage range
- The measurement result is available in units of absolute humidity: °Cdp, °Fdp, gm<sup>3</sup>, ppm(v) or relative: %Rh
- Communication interface RS-232 (optional RS-485), USB
- Graphical visualization of temperature and humidity changes

CMH-10 is a precision microprocessor-based meter using a chilled mirror to measure the absolute humidity of gases. The measurement is based on the definition of the **dew point**.

Inside the measuring head is a gold plated copper mirror chilled by a two-stage Peltier, precision resistor Pt100 measuring the temperature on the surface of the mirror and an optical detection system.

Condensation of dew on the surface of the mirror is indicated by an the optical system. The temperature at which this phenomenon occurs is called the **dew point temperature**.

CMH-10 consists of a measuring unit for bench mounting, the measuring head equipped with a filter, connecting cable and an additional gas temperature sensor for measuring the temperature of the measured gas, and allowing the automatic calculation of relative humidity (%RH) . User-friendly interface and a large bright displays makes using CMH-10 very simple to operate.

CMH-10 in addition to humidity, can measure temperature to an accuracy of +/- 0.1°C - which is necessary for the display of relative humidity

CMH-10 meter has a user-programmable outputs: two analog 4-20 mA or 0-20 mA, and two alarms.

Full configuration of the hygrometer is possible from the front panel or via the serial interface RS-232 (RS-485). Dedicated software for Windows<sup>®</sup> expands the possibilities for on-line reading and registration, remote configuration and much more.

The device is also equipped with a system for **automatic cleaning** the surface of the mirror.

Unlike devices based on capacitive or semiconductor sensors CMH-10 provides a much more accurate measurement of humidity.

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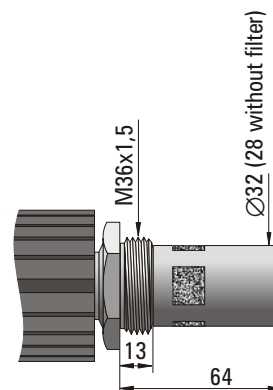
**TECHNICAL DATA**

**Meter**

Measuring range	-30°C ... +60°C dew point
Dew point temperature accuracy	±0,2°C
Gas temperature accuracy	±0,1°C
Units of measurement	°Cdp, °Fdp, %Rh, gm <sup>-3</sup> , ppm(v), °C, °F, T-Tdp
Resolution	0,1 or 0,01 for °Cdp, °Fdp, %Rh, °C, °F, T-Tdp, autoscaling for gm <sup>-3</sup> and ppm(v)
Analog output	two channels 4-20 mA or 0-20 mA referenced to common ground, programmable
Alarm output	two channels, SPDT relay contacts, 5 A, 250 V AC / 24 V DC, programmable
Interface	RS-232 (RS-485 on request), USB
Standard power supply	85...264 V AC / 47...440 Hz, 15 VA
Low voltage power supply, optional	9...36 V DC, 15 W
Ambient temperature	-10°C ... +40°C
Dimensions (w x h x d) / weight	96 x 96 x 120 mm / 0,77 kg
Mounting hole dimensions	91 x 91 mm
Case material	aluminum
Ingress protection	IP41 from front side, IP20 from rear

**Measuring head**

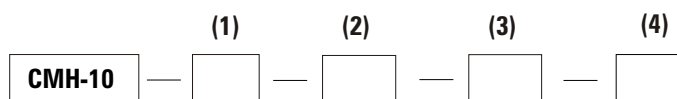
Protective filter	stainless steel net, PTFE membrane
Mirror	copper, gold plated
Mirror temperature sensor	Pt100, 1/3 DIN, 4-wire
Maximum gas flow	10 m/s
Maximum working pressure	0,1 MPa
Process connection	M36 x 1,5
Cable length	3, 5, 7 m
Dimensions / weight	60 x 60 x 173 mm / 0,52 kg
Ingress protection	IP65



**Gas temperature sensor (standard)**

PT100, 1/3 DIN, 4-wire, type TP-361 3x60mm, 3 meters long wire

**ORDERING CODE**



- (1) Length of measuring head cable in meters ( 3m by default)
- (2) Interface, if other than RS-232                      **RS-485**
- (3) Low voltage power supply (option)                      **LV**
- (4) Gas temperature sensor specification, if other than standard one

**Example for order:** CMH-10-5-TP-371Pt100-3-100-PCV-Lk=3m means hygrometer with measuring head with cable of length 5m and with temperature sensor (diameter 3mm, 100mm long) , with M10x1 thread, with PVC cable of length 3m