COMET DIGIL-M Humidity Temperature Probe User Manual

Contents

COMET DIGIL-M Humidity Temperature Probe

Product Information

Product Name	DigiL/M humidity-temperature probe
Product Description	DigiL/M probe with the I2C output is designed to measure air temperature and relative humidity in chemically non-aggressive environments. It has been designed for connection to the input of the COMET Multilogger device. The probe is interchangeable (calibration constants are saved in the probe). The probe is equipped with a filter against dust and is suitable for applications especially if the device is used as portable.
Technical Parameters	1. Dew point temperature Range: Accuracy: 2. Absolute humidity Range: Accuracy: 3. Specific humidity Range: Accuracy: 4. Mixing ratio Range: Accuracy: 5. Specific enthalpy Range: Accuracy:
Power Supply	2.7 to 5.5 V
Current Consumption	50 A @ 5 V
Battery Life	1 year
Compliance	EN 61326-1 (tested with Multilogger) Emission: EN 55011, class B Immunity: EN 61000-4-2, 4 kV/8 kV, class A EN 61000-4-3, 3 V/m, class A
Protection Rating	IP40
Dimensions	0.025 mm without restriction approximately 10 g ABS

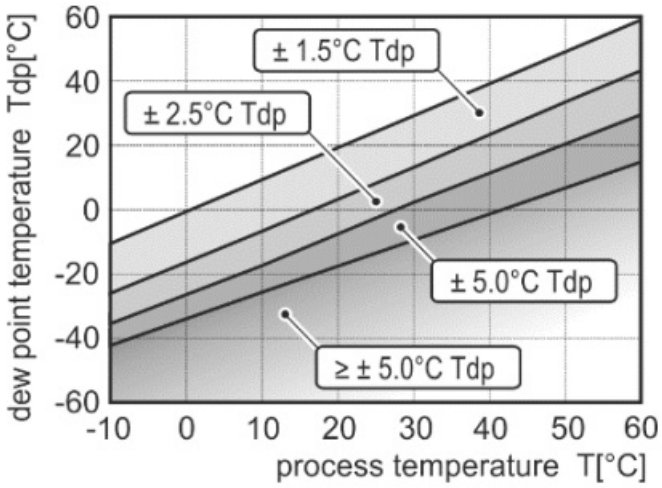
PRODUCT DESCRIPTION

DigiL/M probe with the I2C output is designed to measure air temperature and relative humidity in chemically non-aggressive environments. It has been designed for connection to the input of the COMET Multilogger device. The probe is interchangeable (calibration constants are saved in the probe).

The probe is equipped with a filter against dust and is suitable for applications especially if device is used as portable.

TECHNICAL PARAMETERS

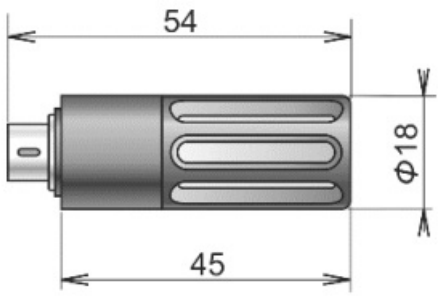
- **Temperature**
  - Range: -10 to +60 ºC
  - Accuracy: ± 0.4 ºC
  - Response time: t90 < 1 min (temperature step 20 ºC, air flow 1 m/s)
- **Relative humidity**
  - Range: 0 to 100 %RH (without condensation)
  - Accuracy of the humidity sensor: ±1.8 %RH in the range of 0 to 90 %RH at 23 ºC
  - Hysteresis: < ±1 %RH
  - Linearity error: < ±1 %RH
  - Temperature error: 0,05 % RH/°C (0 °C to +60 °C)
  - Response time: t90 < 6 s (humidity step 60 %RH, constant temperature)
- **Calculated humidity quantities**
  - **Dew point temperature**
    - **Range:** -60 to +60 ºC
    - **Accuracy:**



  - **Absolute humidity**
    - **Range:** 0 to 130 g/m3
    - **Accuracy:** ±1.5 g/m3 for ambient temperature T < 25 ºC
  - **Specific humidity**
    - **Range:** 0 to 130 g/kg
    - **Accuracy:** ±2 g/kg for ambient temperature T < 35 ºC and atmospheric pressure of 1013 hPa
  - **Mixing ratio**
    - **Range:** 0 to 150 g/kg
    - **Accuracy:** ±2 g/kg for ambient temperature T < 35 ºC and atmospheric pressure of 1013 hPa
  - **Specific enthalpy**
    - **Range:** 0 to 450 kJ/kg
    - **Accuracy:** ±5 kJ/kg for ambient temperature T < 35 ºC and atmospheric pressure of 1013 hPa
- **Operating temperature range:** -10 to +60 ºC
  - **Operating relative humidity range:** 5 to 85 %RH for continuous operation

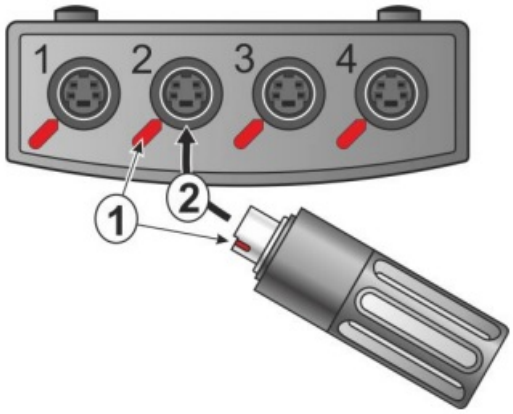
- **Power:** 2.7 to 5.5 V
  - **Current consumption:** 50 µA @ 5 V
- **Recommended calibration interval:** 1 year
- **Storage temperature:** -10 to +60 ºC
  - **Storage relative humidity:** 0 to 100 %RH (without condensation)
- **Electromagnetic compatibility:**
  - EN 61326-1 (tested with Multilogger)
  - **Emission:** EN 55011, class B
  - **Immunity:** EN 61000-4-2, 4 kV/8 kV, class A /EN 61000-4-3, 3 V/m, class A
- **Protection:** IP40
  - **Filtering ability of the sensor cover:** 0.025 mm
  - **Working position:** without restriction
  - **Weight:** approximately 10 g
  - **Material:** ABS

DIMENSIONS



INSTALLATION

Choose input for connection of the probe. Turn the probe so that the red mark on the connector and the red mark on the instrument panel are in the same position (1) and then insert the probe (2). The probe does not require any special service or maintenance. We recommend periodic calibration for measurement accuracy validation.



TECHNICAL SUPPORT AND SERVICE

Technical support and service is provided by distributor. For contact see warranty certificate. If needed, you can also use the discussion forum at http://www.forum.cometsystem.cz/.

WARNING

- It is not recommended to use the probe for long time under condensation conditions.
- Don´t use and don´t store the probe without the sensor cover.
- In stationary installations: measurement accuracy can be decreased due to dissipation heat of active Ethernet interface or battery charger.
- Don´t connect or disconnect the probe cable while Multilogger is turned on – incorrect values could be recorded in the memory of the Multilogger.
- The probe contains electronic components, it needs to liquidate them according to legal requirements.

Warranty certificate

This product has three years warranty since the date of sale to the end user. Defects due defective materials, defective manufacturing or design will be repaired free of charge by the manufacturer. The location of repair is at manufacturer´s. No warranty is given to products operated in conditions not matching the conditions specified by the manufacturer in instruction manual. Also no warranty is given to products which were modified by the user, products with broken seal, products which were connected to power or input signals not matching the technical specification (Instruction manual). No warranty is given to consumables, e.g. batteries, fuses and eventual changes of parameters created by wear (influence of aggressive environment etc.).

- **Serial number:** _____
- **Sale date:** _____

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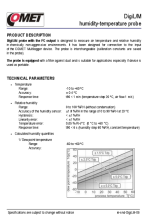
Documents / Resources

	COMET DIGIL-M Humidity Temperature Probe [pdf] User Manual DIGIL-M Humidity Temperature Probe, DIGIL-M, Humidity Temperature Probe, Temperature Probe

References

- Comet system forum