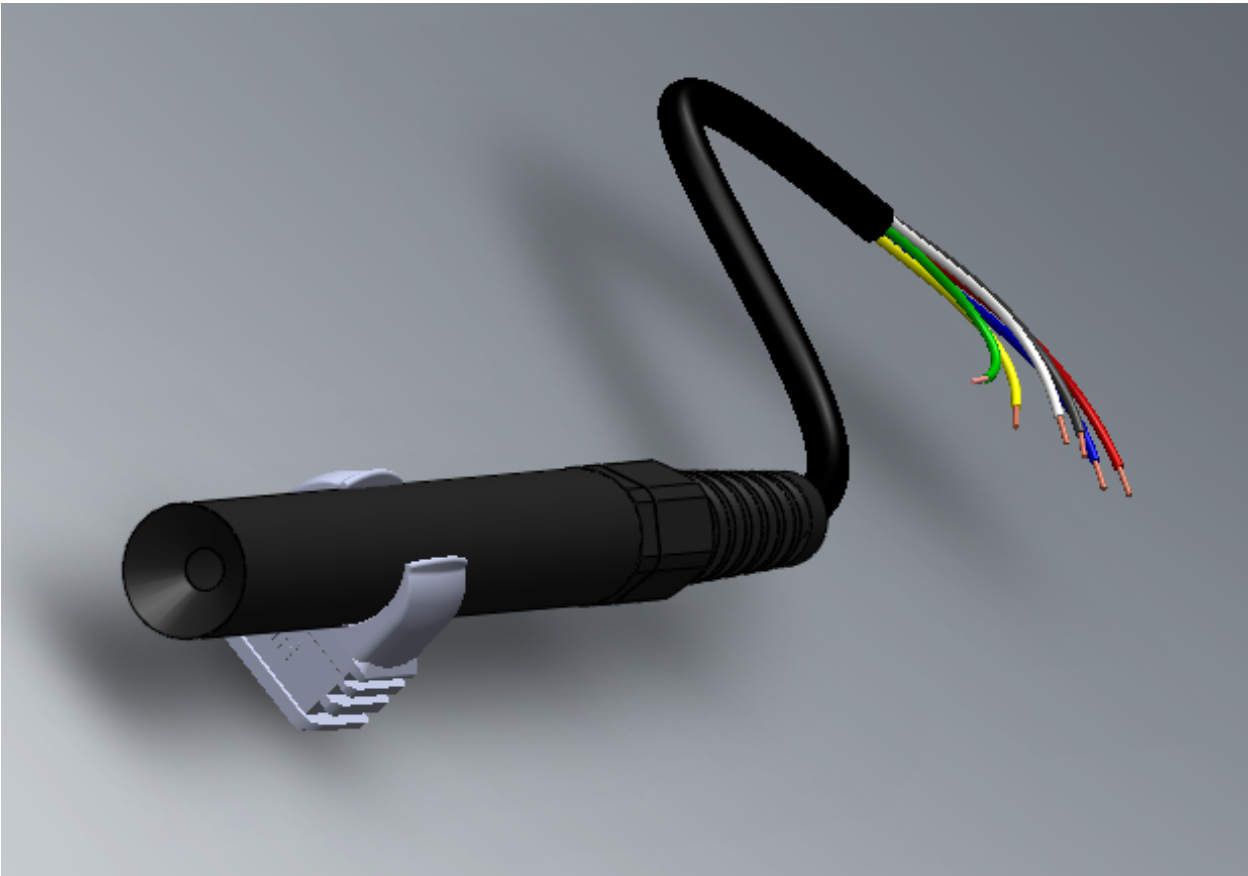


HS-D16-I-T3
Humidity & Temperature Sensor

Technical Specification
06/02/2023 Rel. 2.5

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HM 2303



English

INTRODUCTION:

The probes of the HS-D16 series are devices with a very low energy consumption as well as an external dissipative element in case of 2-wire versions. These features allow an excellent measurement accuracy even in conditions of poor ventilation. All the devices are also built to have an excellent degree of protection.

1.1 INSTALLATION

Wall fixing is done by clips.

Specific attention must be paid to the positioning of the sensor, which must be kept away from heat sources that can influence the measurement of humidity.

In the design of the HS-D16 probe, attempts have been made to minimize the possibility of sensor self-heating by minimizing energy consumption and taking the dissipative element necessary in case of a 2-wire sensor away from the sensor.

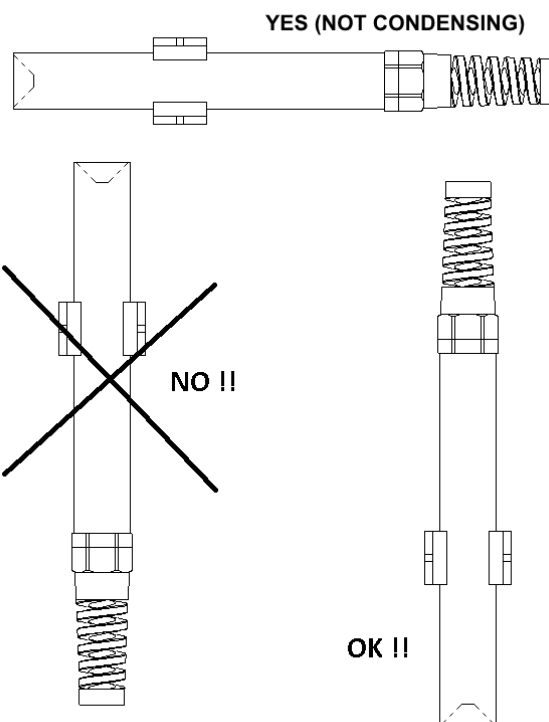
It is always advisable to mount the TFHS 3xx probe with the sensor facing down (output cable upwards) or at most horizontally and NEVER with sensor upwards to avoid possible measurement errors due to self-heating residue.

With the anti-blinding container (conical sensor protection), mounting with the sensor downwards is mandatory.

If it is necessary to clean the sensor filter, the probe must be disassembled to then access the protective cap, which can be replaced.

It is advisable to avoid touching the humidity sensor and be careful not to lose the sealing O-rings.

Possible errors in the humidity and / or temperature measurement, may be due to the settling time of the probe, in this case it will be necessary to wait for the time necessary to reach a stable measurement. Steam jets, splashes of water, drafts, direct exposure to the sun, condensation on the sensor or mounting on a wall made cold by the outside temperature can also cause significant measurement errors. Therefore, during installation the probe must be protected from any possible external influence.



1.2 TECHNICAL DATA

Protection degree:
IP 67 (Pending approval)
Protected against dust
Protected against the effects of temporary dives

Assembly: with clips
Electrical connections: cable
Dimensions (mm): L = 130mm + spiral, diameter 16
Ambient temperature (working): -30 ... + 70 ° C
Ambient humidity: 0 ... 100% rh

Overall accuracy = Sensor accuracy +0,5%

Typical response time at constant conditions (63%) at 23 ° C: 10 seconds
Not condensing saturation recovery time: 15 seconds
Storage temperature: -30 ... + 80 ° C

Power Supply voltage:
9...30 Vdc

Consumption:
20mA

RH output calibration:
0% @ 4mA
100% @20mA

Max. load:
Any.

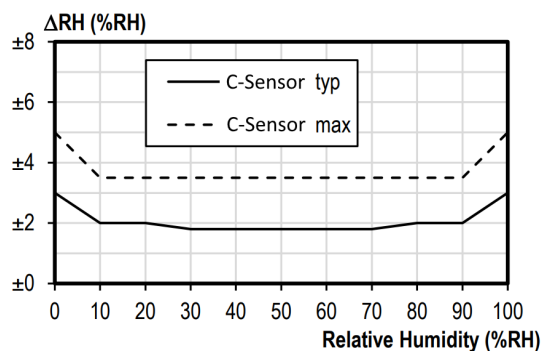
Supply voltage must be guaranteed as specified .

Typical load:
100...200 ohm

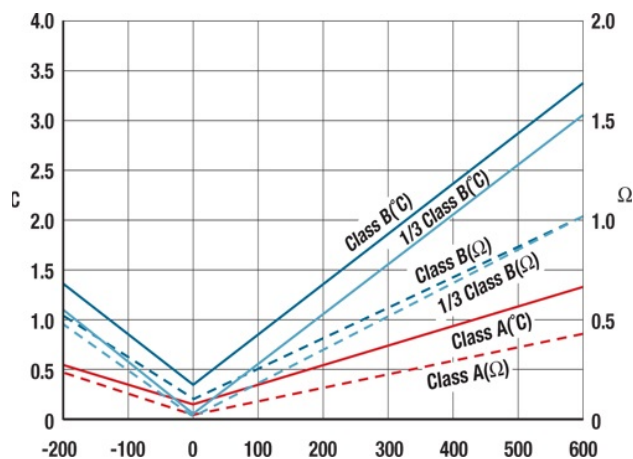
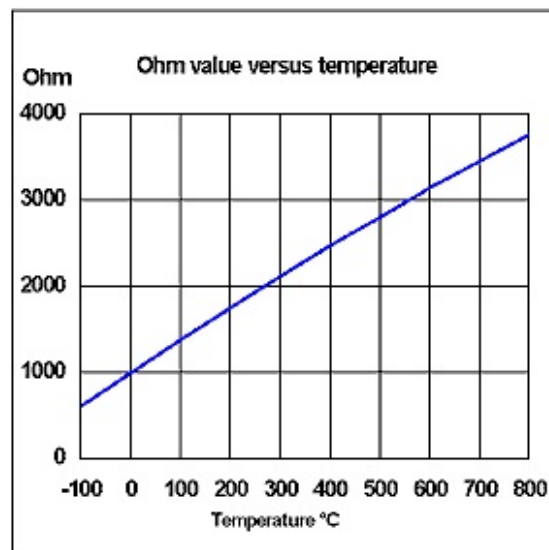
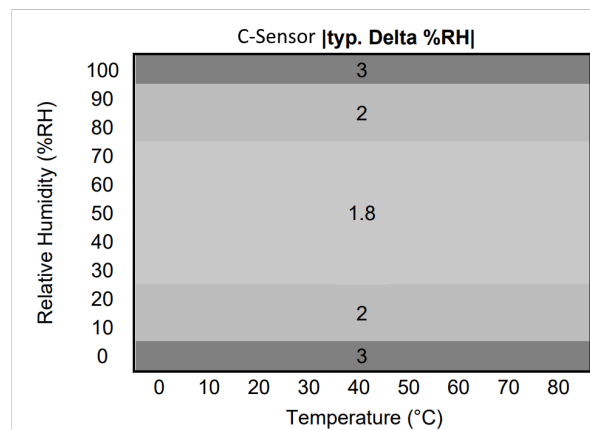
1.3 Sensor used

UR: CMOS-C

Relative Humidity Accuracy:



Extended Relative Humidity Accuracy:



TEMPERATURE PT1000 / PT100 CLASSE "B"

1.4 Air filter

Protection filter:

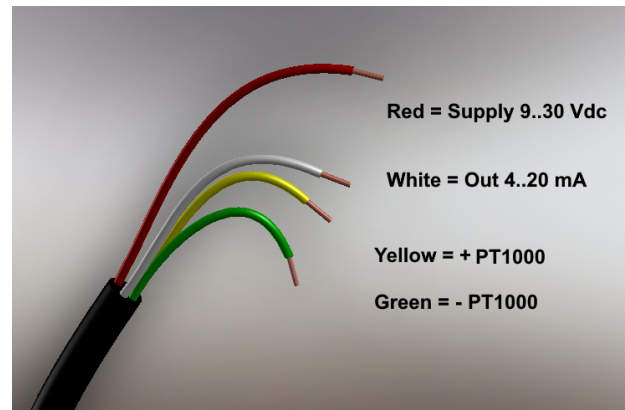
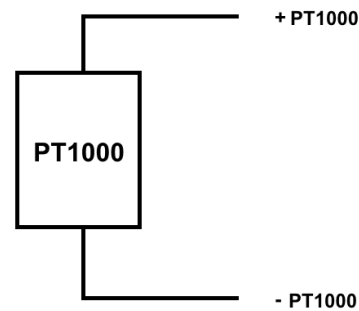
Technical Specifications

Parameter	Value
IP ¹	IP67
RoHS	Compliant
Body material	Polybutylene Terephthalate (PBT)
Body Color	Black
UL94 (Body material only)	UL94 V-0 (0.73mm)
Filter material	PTFE with polyester scrim
Filter Color	Black
Filter Thickness	0.13 mm
Filter pore size	1.5 µm
Filtration efficiency ²	99.99%
Oleophobic Rating (Filter) ³	8
Mullen Hydrostatic	>100mbar (>1m water)

¹ IP67: dust tight, protected against harmful water immersion up to 1m water column. (<http://en.wikipedia.org/wiki/IP67>) .

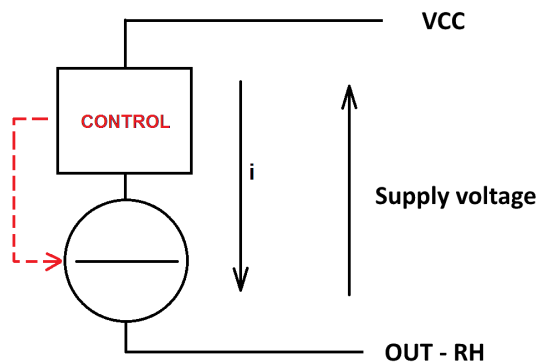
² 0.1µm particles at 0.05m/s air flow.

³ Repellence of oil and hydrocarbons according to AATCC 118-1992 standard. Rating goes from 0 – 8 while 8 is most repellent.



1.5 Connections

(Two-wire connection type)



1.8.2 Not permitted use

Any use other than that permitted is in fact prohibited.

1.9 RESPONSIBILITY

1.9.1 Responsibility and residual risks

We are not liable for any damages deriving from:

- installation / use different from those envisaged and, in particular, different from the safety prescriptions required by current regulations.

1.6 Electrical protection

Diode for reverse polarity protection.

1.7 MODBUS MAP

Not present

1.8 TERMS AND CONDITIONS

1.8.1 Permitted use

For safety purposes the instrument must be installed and used according to the instructions provided and in particular, under normal conditions, parts with dangerous voltage must be not accessible. Although it has a good degree of protection, the device must be properly managed.

- use on equipment that does not guarantee adequate protection against electric shock, water and dust when assembled.
- tampering and / or alteration of the product.
- installation / use in equipment that does not comply with current standards and regulations.

1.9.2 Disclaimer

We reserves the right to make any type of modification, both aesthetic and functional, at any time and without notice.