

SFT420

Very small device for humidity and temperature measurement in industrial environments.

Description:



The MELTEC sensor device measures relative humidity and temperature in air and not aggressive gases.

Specials:

- Robust high-grade steel housing
- Very small construction
- Calibrated digital sensor device
- High speed device
- Output signals for humidity and temperature
- Current output (4 ... 20 mA)
- Replaceable sensor head

Typical applications:

- Hothouses and greenhouses
- Air and drying units
- Foodstuff industry
- Environmental technology
- Packaging industry
- Weather stations
- Automobile industry

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Technical data:

Humidity:

Measuring range	0 ... 100% RH
Accuracy	±2% RH at 25 °C, 10 ... 90% RH
Resolution	.....	0.03% RH
Non-linearity	.....	< 1% RH typical (10 ... 90%), max. 3%
Hysteresis	.....	±1% complete measurement range
Repetition accuracy	.....	±0.1% RH
RH response time, 1/e (63%)	.....	typical ca. 4 seconds in slowly moving air
Long-term stability (drift)	.....	typical <0.5% RH a year*
Calibration	.....	The calibration of the SFT sensor head takes place in accordance with ISO/IEC 17025 at 25 °C on 22%, 50% and 68% RH.

* If the sensor longer time is exposed to extreme conditions, this can accelerate aging. The durability depends strongly on the respective environment conditions. Damaged or aged sensor heads can be replaced if necessary!

Temperature:

Measuring range	.....	-40 ... +120 °C
Resolution	.....	0.01 °C
Accuracy	.....	typical ±0.7 °C at 25 °C
Repetition accuracy	.....	±0.1 °C
Response time	.....	< 5 seconds

Power supply:

Supply voltage	.....	16 ... 28V DC regulated, polarity protected
Power input	.....	< 50 mA

Outputs:

Current output (humidity)	.....	4 ... 20mA
Current output (temperature)	.....	4 ... 20mA



Safety references:

Sensor devices of the SFT series may not be used in applications, with which persons can be endangered or hurt. It may not be used also as emergency stop switches at plants and machines or within other safety-relevant ranges!

The wiring to the sensor may be exposed neither temperatures under -25 °C nor over +70 °C, since it could be otherwise damaged!

If the sensor head longer time is exposed to extreme conditions or aggressive chemicals, this can negatively affect the functionality or cause permanent damages of it.

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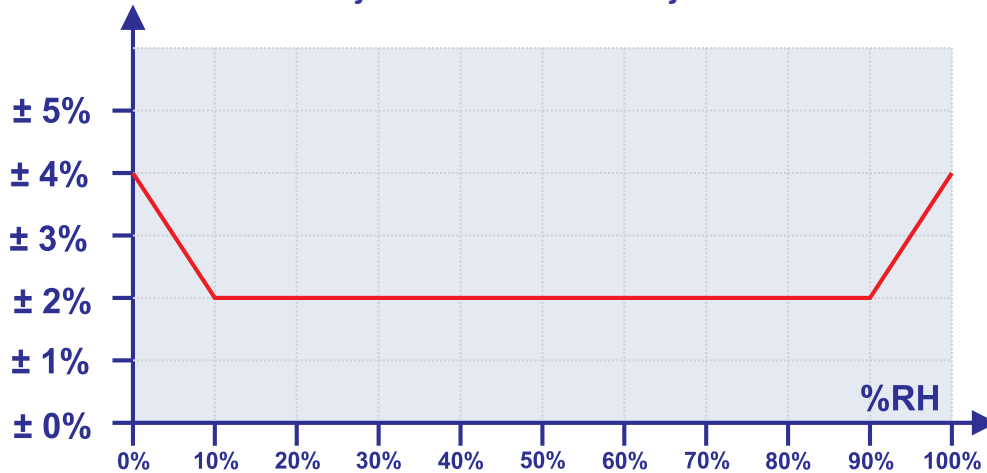
Technical data: (Continuation)

Connection cable:

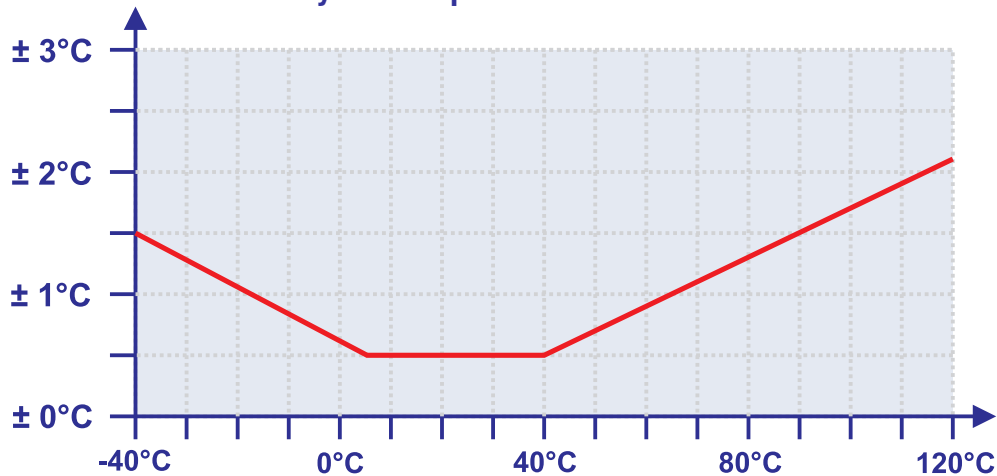
Cable type	PVC (black)
Protection type	IP40
Temperature range	.....	-25 °C to +70 °C
Length	.....	Default 2m (manufacturable)

Measurement accuracy:

Absolute accuracy for relative humidity measurements



Accuracy for temperature measurements

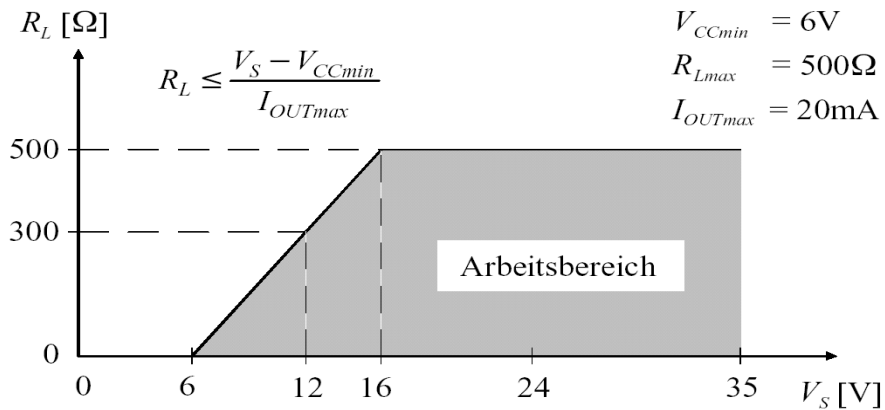


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Technical data: (Continuation)

R-Load burden:

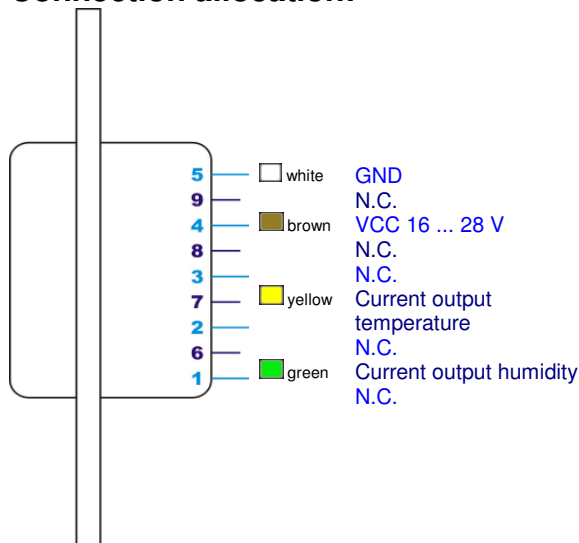


Storage conditions and Mounting:

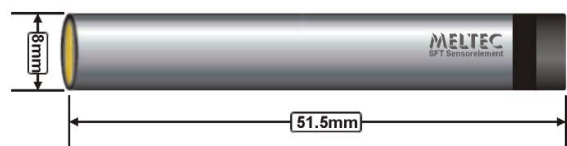
The storage can take place under normal operating conditions of the sensor. If the sensor device is exposed to hot or very dry conditions for a longer time, or to aggressive chemical substances, a faster aging or damage of the sensor element is possible, which may affect the measurement results negatively. Sometimes, the sensor element may be reactivated in such cases by exposing it to a relative humidity above 74% with a temperature of 20...30°C for at least 24 hours.

When mounting the device, it must be paid attention that the sensor element is positioned in slowly flowing air. Since the relative humidity always refers to the temperature of air, the sensor should be positioned also related to the temperature at a representative place. Hot places, e.g. at machines, can strongly effect the result of measurement.

Connection allocation:



Dimensions of sensor element:



Length: 51.5 mm
Diameter: 8.0 mm
Weight: ca. 10 g
Housing: high-grade steel, sinter metal
Connector: plug, 4-polig