

OPERATION MANUAL

Digital Humidity-Temperature Module HYT939 with I²C-Interface

B+B
SENSORS

Description



Technical data

Humidity measurement	
Measuring range humidity	0 ... 100 % RH
Accuracy humidity	± 1,8 % RH at +23 °C (0 % RH to 90 % RH)
Reproducibility	0 .. 10 % RH (0 ... 50 ° C) ± 0,2 % RH
Hysteresis	<± 1 % RH
Resolution Humidity	0,02 % RH
Linearity	< ± 1 % RH
Tk residual error (50 % RH)	0,05 % RH / K (0 ... 60 ° C)
Long-term drift	< 0,5 % RH / a
Measuring principle	Capacitive polymer humidity sensor
Temperature measurement	
Measuring range temperature	- 40 ... +125 °C
Accuracy temperature	± 0,2 K (0 °C to +60 °C)
Reproducibility	± 0,1 K
Resolution Temperature	0,015 °C
Long-term drift	< 0,05 K / a
Measuring principle	PTAT (integrated)
General	
Dimensions (∅ x H)	13 mm x 32 mm
Operating voltage	2,7 ... 5,5 V
Current consumption (nominal)	< 22 µA at 1 Hz update rate
Current consumption (max.)	850 µA
Power consumption (sleep)	< 1 µA
Operating temperature	-40 °C ... 125 °C
Humidity range	0 ... 100 % RH
Digital interface	I2C, s. Art. No. page 2
Material	Polyamid, black
Water absorption	3...4%
Connection	Binder plug 5 ways Series 711
Storage temperature	-20°C...+50°C
CE-conformance	2014/30/EU
Electromagnetic conductivity	EN 61326-1:2013
Environmental data	RoHS-compliant

Features

- Dew resistant
- Temperature compensated
- I²C interface
- Low hysteresis
- Compensated linearity error
- Low temperature drift
- Easily replaceable

Applications

- Mechanical engineering
- Environment technology
- Plant engineering
- Medical devices engineering
- Dryer systems
- Building automation
- in connection with internal bus systems

Description

Accurately calibrated, digital humidity-temperature module with I²C interface. The sensor is dew resistant, temperature compensated, shows a very low hysteresis, negligible long term drift and linearity errors. Up to 112 addresses on the same bus line. It is mechanically robust, easy exchangeable and chemically resistant. The module features a high quality micro system on ceramic substrate using a polymer capacitive humidity sensor. The TO-39 housing with steel mesh filter is suitable among others for the use in medical devices and dryer systems.

Attention

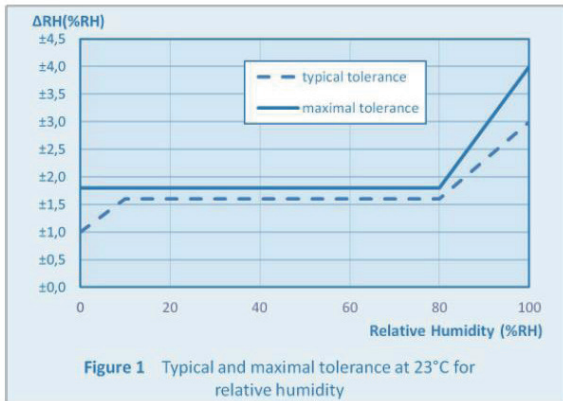
Please avoid extreme mechanical and inappropriate exposure. The device/product is not suitable for potential explosive areas and medical-technical applications.

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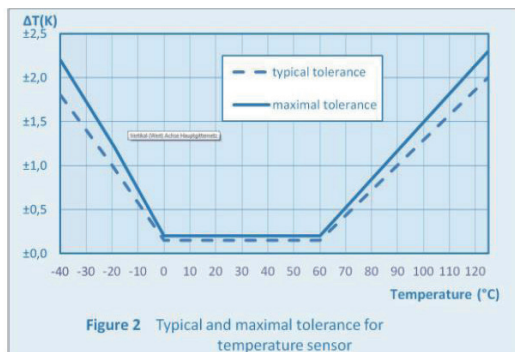


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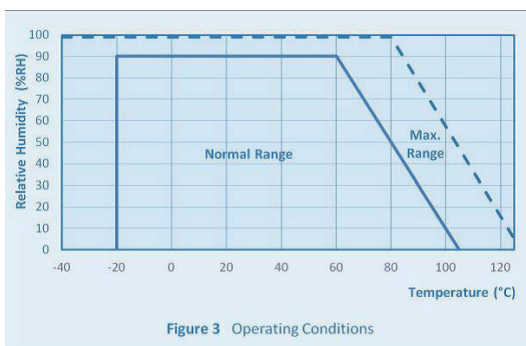
Accuracy relative humidity measurement



Accuracy temperature measurement

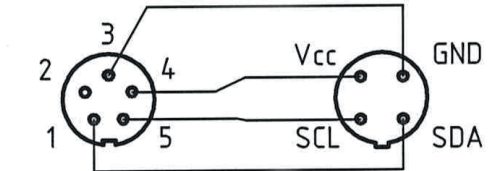


Humidity scope



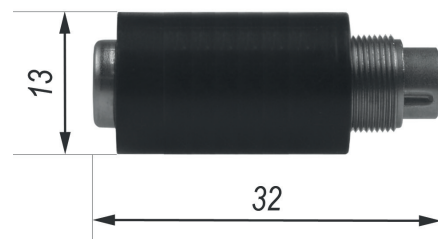
Plug assignment

Binder M9 x 0.5 socket, 5-pole, 711 series, gold contacts



Binder 5pol.
Series 711
View from solder side

HYT939
View sensor terminal side



Article numbers

Humidity/temperature probe with I ² C-Interface	
Address 0x28	0626 0110-05
Address 0x29	0626 0110-10
Address 0x2A	0626 0110-11

You can find the detailed datasheet on our home-page:

Service&Support -> Downloads -> Data sheet HYT939

