

OPERATION MANUAL

Digital Humidity-Temperature Module HYT939 with I²C-Interface



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	
Resolution	14 Bit
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 1
Material	Polyamid, black
Water absorption	3...4%
Connection	5-pole flanged plug (M9x0.5); cable: 5-pole cable box, connection plug RJ12
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.

Article numbers

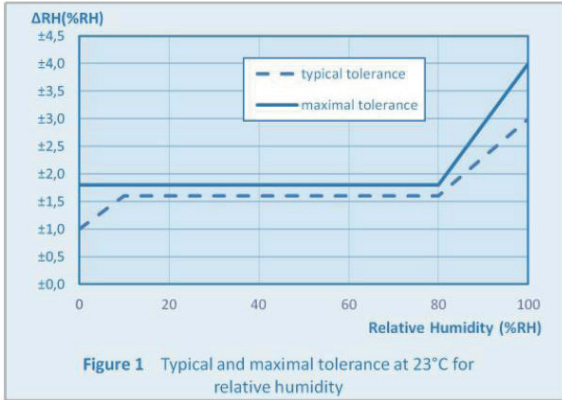
Humidity/temperature probe with I ² C interface	
Adresse 0x28 (without cable)	0626 0110-05
Adresse 0x29	0626 0110-10
Adresse 0x2A	0626 0110-11
Shop article numbers	
Adresse 0x28	0626 0110-100
Adresse 0x29	0626 0110-101
Adresse 0x2A	0626 0110-102

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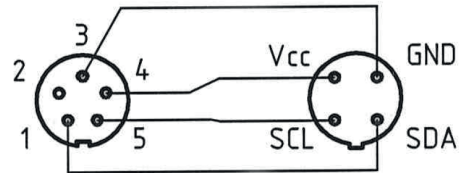
Digital Humidity-Temperature Module HYT939 with I²C-Interface

Accuracy relative humidity measurement



Plug assignment

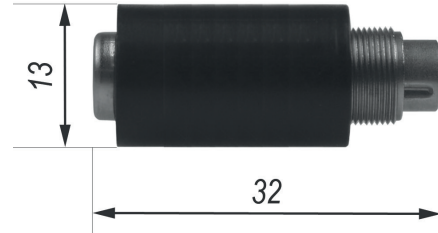
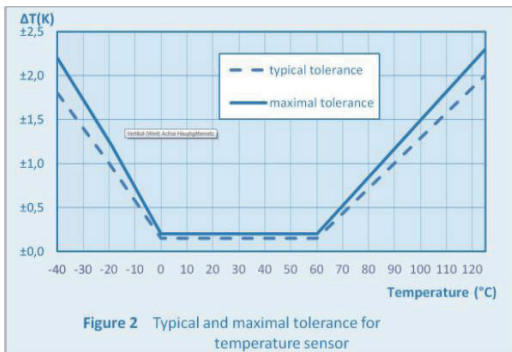
Binder M9 x 0.5 socket, 5-pole, 711 series, gold contacts



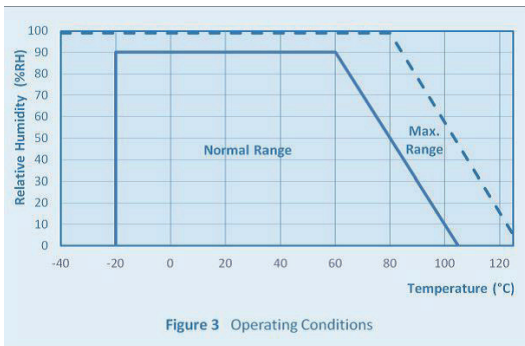
Binder 5pol.
Series 711
View from solder side

HYT939
View sensor terminal side

Accuracy temperature measurement



Humidity scope



Accessories

Article	Article number
RJ12 connectioncable 2 m	0409 3004
RJ12 connectioncable 5 m	0409 3004-01
RJ12 connectioncable 10 m	0409 3004-06



You can find the detailed datasheet on our homepage: [Service&Support -> Downloads -> Data sheet HYT939](#)

