OPERATION MANUAL

Digital humidity/temperature probe HYT131 with I²C Interface

Description

Technical data

Humidity measurement	
Measuring range humidity	0...100% RH see figure 3
Accuracy humidity	±3% RH (20....80% RH) see figure 1
Reproducibility	±0,2% RH
Hysteresis	< ±2% RH
Resolution humidity	0,04% RH
Linearity error	< ±1% RH
Tk residual error	0,06% RH/K (0...60 °C)
Long-term drift	<0,5% RH/a
Measuting principle	Capacitive polymer humidity sensor

Temperature measurement	
Measuring range temperture	-20...+70 °C
Accuracy temperature	±0,4 °K (20...40 °C) see figure 2
Reproducibility	±0,1 K
Resolution temperature	0,03 °C
Long-term drift	<0,05 K/a
Measuring principle	PTA (integrated)

General	
Dimensions	(LxWxH) 23x10x8,3 mm
Current consumption	<22 µA at 1 Hz
Power supply	2,7...5,5 V DC
Material housing	Polycarbonate UL94V-2
Bearing temperature	0...+30 °C
CE-conformance	2014/30/EU
Electromagnetic compatibility	EN 61326 - 1:2013
Environmental data	RoHS compliant

Product extensions

Humidity/Temperature measuring system with USB-interface Hytelog Multisensor with USB-connection cable and evaluation software	Art.Nr.: 0567 0001
Article 0567 0001 + 0636 0016 as a set	Art.Nr.: 0570 0004

Features

- Measuring range 0...100% RH, -20...+70 °C
- Calibrated and temperture compensated
- Dimensions (LxWxH) 23x10x8,3 mm
- Accuracy ±3% RH, temperature ±0,4 °K
- Kompensated linearity error and temperature drift
- Operating voltage 2,7...5,5 V
- RoHs compliant

Areas of application

- Hytelog Multisensor
- Temperature-/Humidity measuring in the air
- Measuring technologysstechnik

General

Embedded in a handy RJ12-housing the probe offers the perfect entry-level solution for measuirng technology beginners by means of „plug and play"-method. The humidity/tempertaure probe is installed in a handy RJ12-plug and so has minimal dimensions for a probe.

The signal processing, which is integrated in the sensor, processes the measuring values completely and supplies the measurement results as a digital value via I²C-compatible interface. The probe is precisely calibrated and fully interchangeable without adjustment. The linearity error as well as the temperature drift are corrected by means of programming to create the most accurate measurement results. The probe is delivered in an ESD protection bag. It is ready for use after unpacking and can be connected to the Hytelog Multisensor.
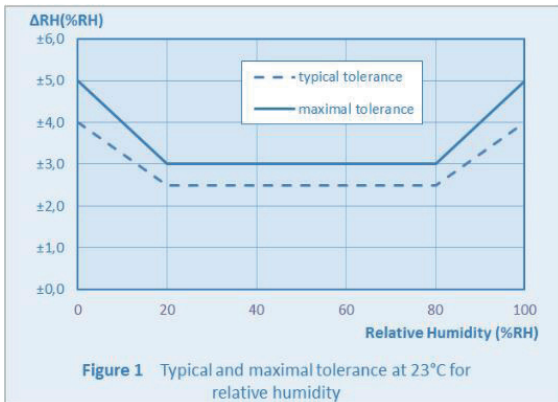
Attention

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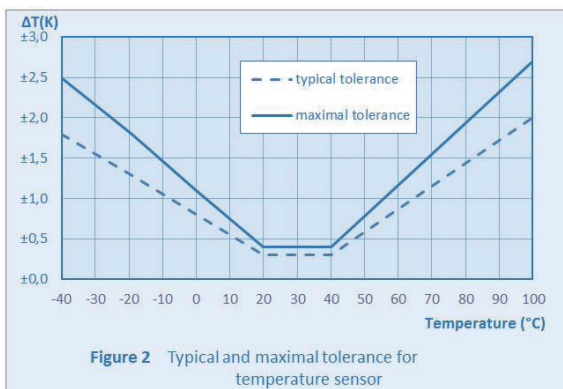The device/product is not suitable for potential explosive areas and medical-technical applications.

Technical changes reserved
0141 0316-12   14.02.2017

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Digital humidity/temperature probe HYT131 with I²C Interface

B|B SENSORS

Accuracy relative humidity measurement

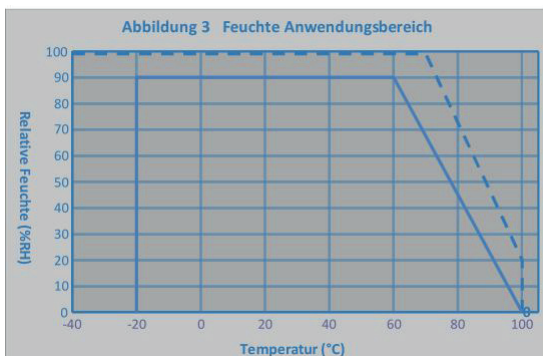**Figure 1** Typical and maximal tolerance at 23°C for relative humidity

(1) the accuracy is tested at 23 °C and 3,3 V operating voltage in the direction of rising humidity. The accuracy does not include Tk-residual error, residual linearity error or hysteresis effect.

(2) The repeatabilty is measured in the same directin and does not consider the hysteresis effect.
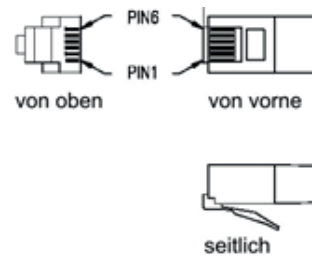
(3) The maximum dew point is brought down to 80 °C.
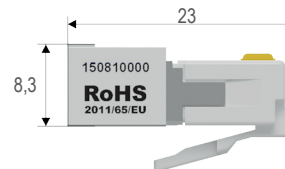
Accuracy temperature measurement

Figure 2 Typical and maximal tolerance for temperature sensor

Humidity application area

Abbildung 3 Feuchte Anwendungsbereich

Pin Assignment 6/6

von oben   von vorne

seitlich

RJ12	Function	
1	VDD	Supply Voltage 2,7...5,5 V
2	GND	Ground
3	SDA	Serial Data I²C
4	SCL	Serial Clock I²C
5	URH	RH Voltage Output
6	-	Not used

Mechanical dimensions

Side view

Frontal view

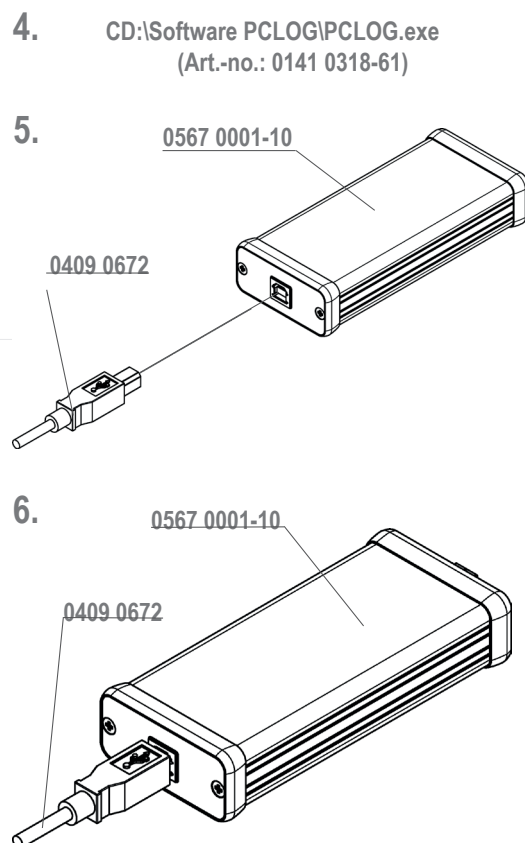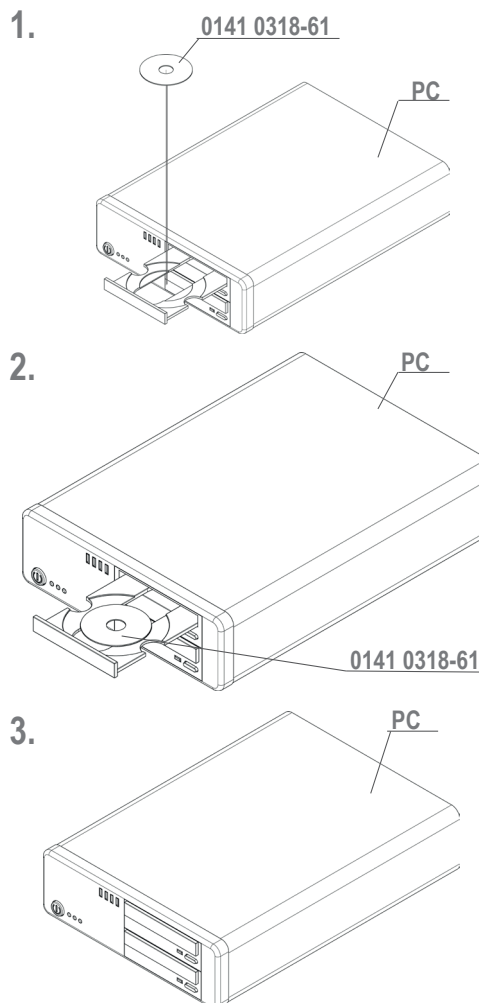| Humidity/temperature probe with I²C-Interface	
Address 0x28	0636 0016
Address 0x2A	0636 0016-01
Address 0x29	0636 0016-02

You can find the detailed datasheet on our homepage: Service&Support -> Downloads -> Data sheet HYT 131

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OPERATION MANUAL

Digital humidity/temperature probe HYT131
with I²C Interface

Application description 0570 0004 (Set consisting of digital humidity/temperature probe 0636 0016 and humidity/temperature measuring system with connection cable and evaluation software 0567 0001)

Operation manual
0141 0316-166

CD with software
0141 0318-61

1 m USB-connection cable
0409 0672

Digital humidity/temperature probe
0636 0016

Humidity and temperature measuring system
Hytelog Multisensor
0567 0001-10

1.

0141 0318-61

PC

2.

PC

0141 0318-61

3.

PC

4. CD:\Software PCLOG\PCLOG.exe
(Art.-no.: 0141 0318-61)

5. 0567 0001-10

0409 0672

6. 0567 0001-10

0409 0672

OPERATION MANUAL

Digital humidity/temperature probe HYT131
with I²C Interface

B|B
SENSORS

7.

PC

0409 0672

8.

PC

0409 0672

9.

0409 0672

0636 0016

0567 0001-10

10.

0409 0672

0636 0016

0567 0001-10

11.

PC

0570 0004

PC-Screen

12.

PC-Screen

CE