

OPERATION MANUAL

Humidity/temperature measurement system Hytelog Multisensor with USB-interface

Description



Characteristics features

- Combined Temperature and Humidity measurement
- Three RJ12-connecting sockets
- Resolution 0.01 % RH, 0.01°C
- Accuracy 1,8 % RH, 0.2°C
- Inclusive of Windows-Software "PCLOG"

Areas of application

- Monitoring of stock rooms, in quality assurance or air conditioning systems
- Systems engineering

Windows-Software „PCLOG“

- Calculation and display of dew point, absolute humidity, vapour pressure, saturated vapour pressure and enthalpy
- Tabular representation of measured values
- Storing of data on hard disk

Technical data

Humidity measurement	
Humidity measuring range	0 ... 100 % RH
Humidity resolution	0.01 % RH
Typical accuracy	±1,8 % RH (at 23 °C)
Temperature measurement	
Temp. measuring range	-40 ... 125 °C
Temperature resolution	0.01 °C
Accuracy	±0.2 °C between 0 and 60 °C
Module	
Power supply	Over the USB port
Operating current	Approx. 50 mA
Interface	USB-interface, 1.1 und 2.0 compatible
Probe dimensions	150 x Ø12 mm
CE-conformance	2014/30/EU
EMV-noise emission:	EN 61000-6-3:2011
EMV-noise withstanding:	EN 61000-6-2:2011
Scope of supply	Transducer with USB-connection cable, CD with Windows-Software and data sheets
Artikelnr.	See ordering numbers on page 2

Description

The product offers an efficient measurement and display system for up to 3 sensors for temperature and relative humidity. The scope of supply includes a port converter, which enables direct operation through the USB port of a PC. The software „PCLOG“ and an USB-connection cable are also in the scope of delivery.

For measuring humidity and temperature you can use the sensors HYT221, HYT271 or HYT939. The high quality polymer sensor guarantee outstanding measuring accuracy and long-term stability, also under extreme operating conditions.

The current measured values are transferred to the connected PC through the USB interface. The display and graphical representation of the measured values appear on the PC. An easy to use Windows software for display of measured values and data representation is included in the scope of supply.

The USB driver software emulates a serial COM-port. The ASCII-protocol for data communication is documented and enables integration with user's own developed programs.

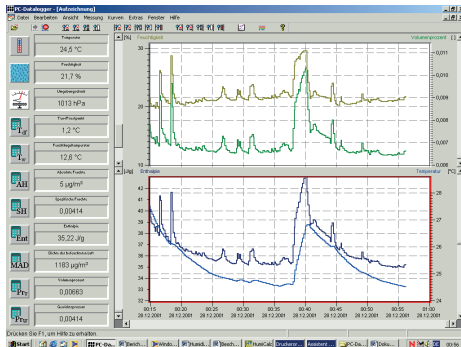
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Software „PCLOG“

Besides storing data on hard disk, the software offers a very important feature of graphical representation of all measured and recorded channels in the form of humidity and temperature Vs time chart (online scriber function). By means of Drag & Click, the window section can be enlarged and the time or temperature axis can be scaled as desired. Besides the graphic view, representation is also possible in the form of a table. The in-between space is used for capturing measured data series into a spreadsheet program (for example EXCELTM) or for word processing. All tables and graphic representations can be printed out in colour. In addition, simple monitoring and control functions are also integrated in the software. Limits can be set for each channel. An acoustic signal (Wave file) is given out when the values are exceeded.

A speciality of the program is the integrated hx-calculator. This calculates further fifteen parameters like dew point, absolute humidity, enthalpy, the wet bulb temperature, the vapour pressure and saturated vapour pressure etc. from the measured values of relative humidity and temperature.



First time operation

Connect the humidity measuring system to the USB-Interface of the Computer. Please start the software „PCLOG“.

Download: bb-sensors.download/en

The required settings are done. If no interface is found, please choose the interface by hand. The record window is opened, when the measuring system is identified. If a sensor is identified, you can see the values on the left side. Then you can choose the value you want to record in the record window. Right click on the record window and choose „formatting and axes“. In the menu you can choose the values you want to record. With the button „Start recording“ the record will be started.

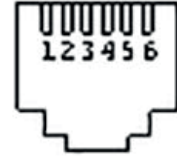
Attention

Please avoid extreme mechanical and inappropriate exposure.

The device/product is not suitable for potential explosive areas and medical-technical applications.

Pin assignment

1 VDD	2 GND
3 SDA	4 SCL
5 GND	6 NC



Ordering numbers

Article	Articleno.
Humidity and temperature measuring system Hytelog Multisensor inkl. 1 m USB-connection cable, operation manual and software	0567 0001
Humidity and temperature measuring system Hytelog Multisensor-Set 1 inkl. digital humidity/temperature probe with I ² C-interface art. no. 0636 0011, cable length 3 m, 1 m USB-connection cable and service case with operation manual and software	0570 0001
Humidity and temperature measuring system Hytelog Multisensor-Set 2 inkl. digital humidity/temperature module with I ² C-interface art.no. 0626 0110-05, 1 m USB-connection cable and service case with operation manual and software	0570 0002
Humidity and temperature measuring system Hytelog Multisensor-Set 3 inkl. digital humidity/temperature probe HYT131 art.no. 0636 0016, 1 m USB-connection cable and service case with operation manual and software	0570 0004

Accessories	Articleno.
Digitale humidity/temperature module with I ² C interface	0626 0110-05
Connection cable for humidity/temperature probe, Art.-Nr. 0626 0110-05, Length 2 m, TPE-sheath	0409 3004
Digital humidity/temperature probe with I ² C-interface, cable length 3 m	0636 0011
Digital humidity/temperature probe HYT131	0636 0016



Please note that if up to 3 digital humidity / temperature probes are connected at the same time, the I²C addresses must be different.

Digital humidity / temperature sensor with I²C interface 0636 0011 I²C address: 0x28

Digital humidity / temperature sensor with I²C interface 0636 0011-09 I²C address: 0x29

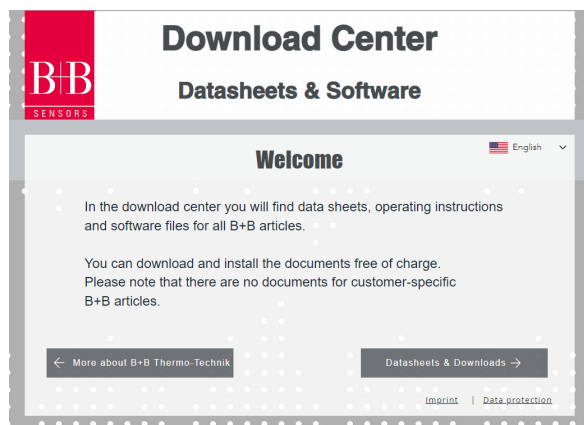
Digital humidity / temperature sensor with I²C interface 0636 0011-10 I²C address: 0x2A



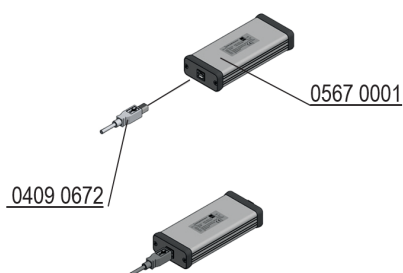
QUICK-START-GUIDE

Humidity/temperature measurement system Hytelog-Multi-Set 3 0570 0004

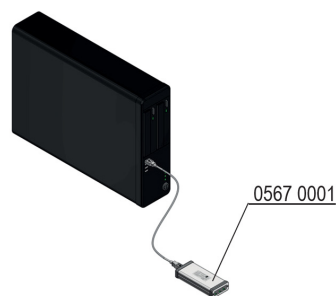
Description



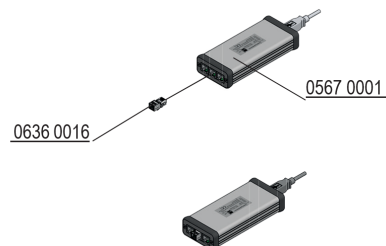
- Open the following website on your internet browser:
bb-sensors.download/en
- Enter the article number
- Click on the button „software“.
- Open the folder structure of the download and run the setup.exe.
- Follow successfully install your instructions on your screen to the software „PCLOG“ on your system



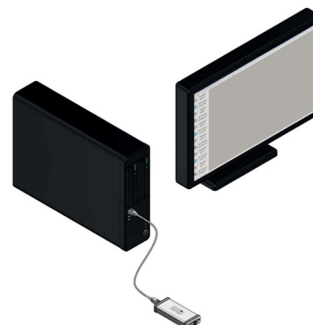
- Connect the humidity / temperature measurement system (Item No.: 0567 0001-10) with the connection cable (Item No.: 0409 0672).



- Connect using the connection cable, the humidity/temperature measurement system to your PC.



- Connect the digital humidity/temperature probe HYT 131 (Item No.: 0636 0016) with one of the existing RJ12 sockets of humidity/temperature measuring system (Item No.: 0567 0001).



- Start the program „PCLOG“. A launch window will open and you are immediately ready to begin your measurements.

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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
Measuring principle	Capacitive polymer humidity sensor
Temperature measurement	
Measuring range temperature	-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 temperature compensated
- Dimensions (LxWxH) 23x10x8,3 mm
- Accuracy ±3% RH, temperature ±0,4 °K
- Compensated 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 technologistsstechnik

General

Embedded in a handy RJ12-housing the probe offers the perfect entry-level solution for measuring technology beginners by means of „plug and play“-method. The humidity/temperature 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.

On page 3 you can find a visual application description.

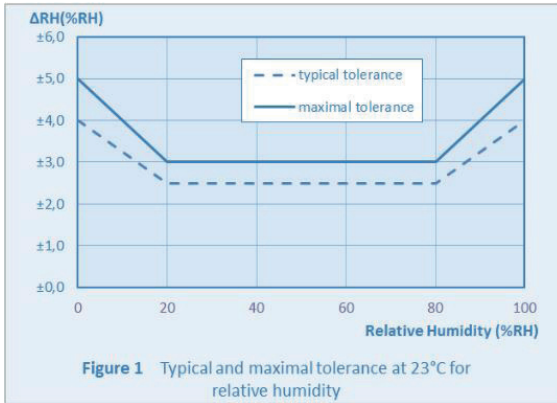
Attention

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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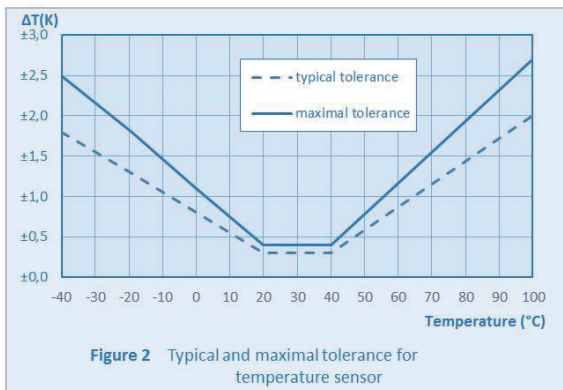
Digital humidity/temperature probe HYT131 with I²C Interface

Accuracy relative humidity measurement

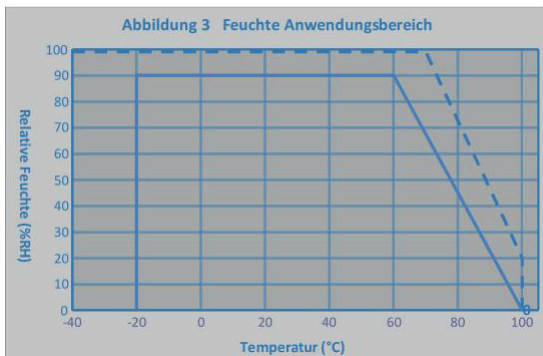


- (1) the accuracy is tested at 23 °C and 3,3 V operating voltage in the direction of rising humidity. The accuracy does not include Tk-residual error, residual linearity error or hysteresis effect.
- (2) The repeatability is measured in the same directin and does not consider the hysteresis effect.
- (3) The maximum dew point is brought down to 80 °C.

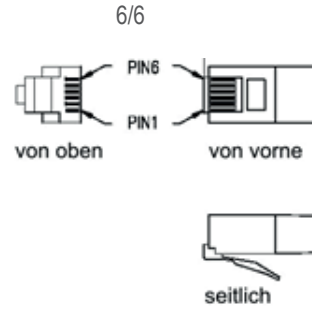
Accuracy temperature measurement



Humidity application area



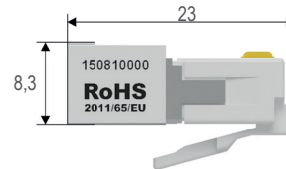
Pin Assignment



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

Mechanical dimensions

Side view



Frontal view



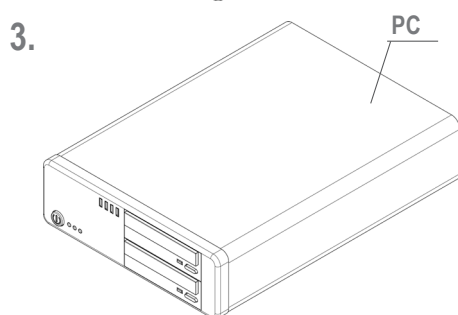
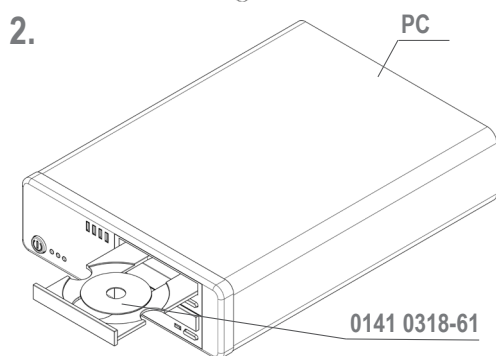
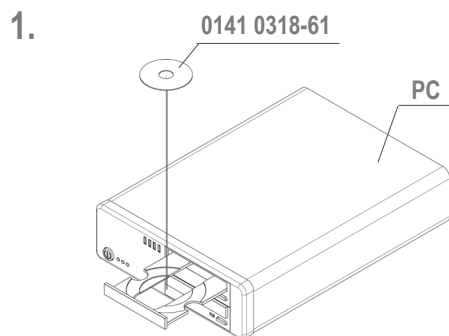
Humidity/temperature probe with I ² C-Interface	
Address 0x28	0636 0016
Address 0x2A	0636 0016-01
Address 0x29	0636 0016-02

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

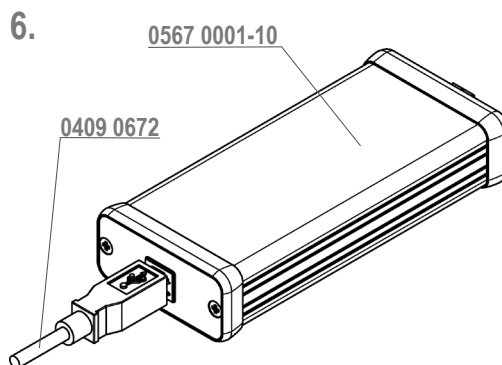
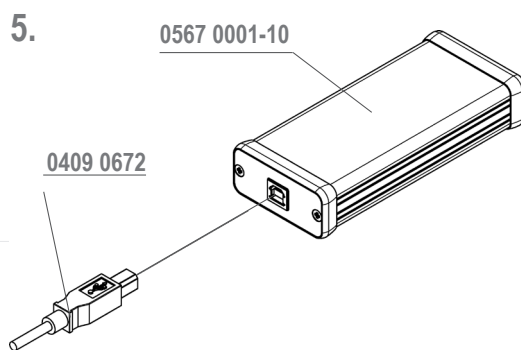
OPERATION MANUAL

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)



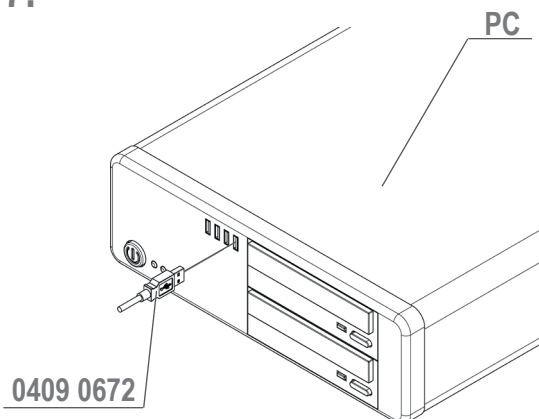
4. CD:\Software PCLOG\PCLOG.exe
(Art.-no.: 0141 0318-61)



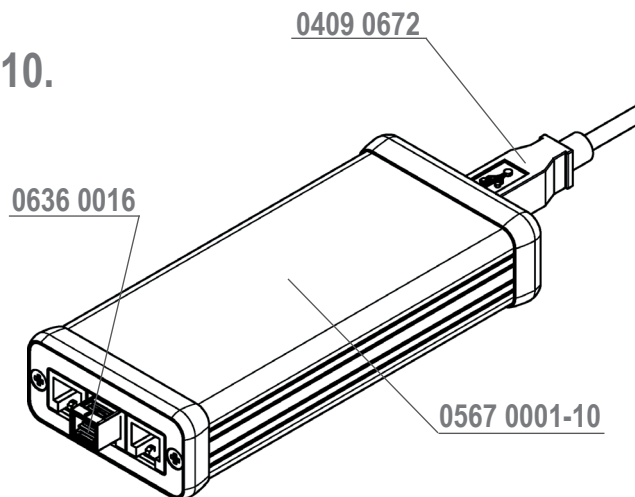
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Digital humidity/temperature probe HYT131 with I²C Interface

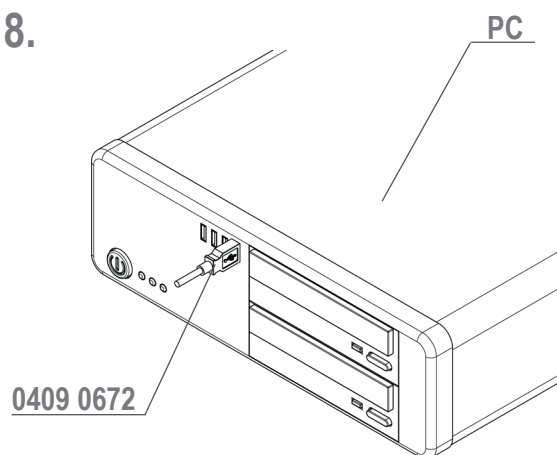
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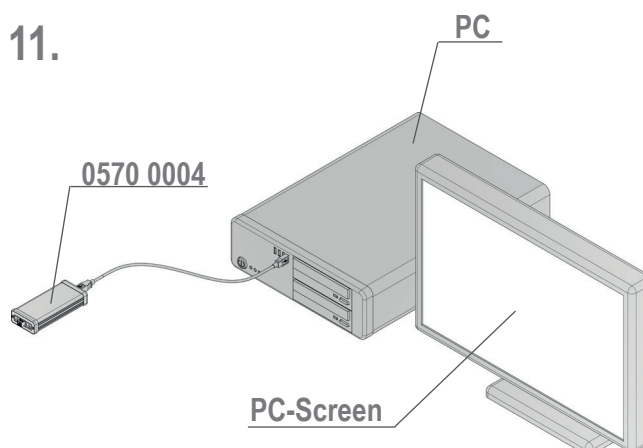
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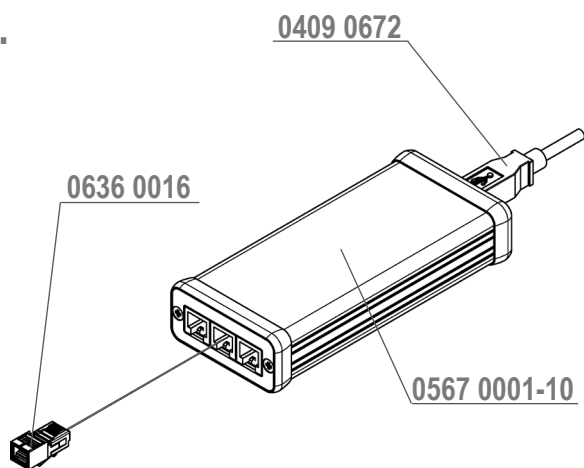
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