OPERATION MANUAL

Calibrated temperature and humidity probe in stainless steel with PE-sintered filter HYTE-1308

B+B SENSORS

Description

Characteristics features

- Combined Temperature and Humidity measurement
- Sensor in Stainless steel casing with Sinterfilter
- Resolution 0.01 % RH, 0.01°C
- Accuracy 2 % RH, 0.3°C

Areas of application

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

Description

The compact measuring probe with overall dimensions of Ø12 x 100 mm is housed in a stainless steel casing.

The front area of the sensor is provided with a polyethylene-sinter filter for protection against sprinkling water and mechanical damages. An accurate NTC has been used as temperature sensor. The humidity measurement operates with a long term stable, capacitive polymer sensor.

Calibration

The humidity probe is supplied in calibrated condition. The accuracy at 23°C is of the order of ±0.3° K and ±2 % RH. Under normal operating conditions, it is not necessary to again calibrate the probe. The cross checking of measuring accuracy of the humidity measurement part can be done by end user with the salt reference cells available as special accessories.

The cross checking must be done in temperature stable environment. In case, the measured value does not match with the reference value of the cell, the device should be sent to our calibration laboratory for check-up.

Technical data

Humidity measurement	
Humidity measuring range	0 ... 100 % RH
Humidity resolution	0.01 % RH
Typical accuracy	±2 % RH (at 23 °C)
Temperature measurement	
Temp. measuring range	–40 ... 80 °C
Temperature resolution	0.01 °C
Accuracy	±0.3 K between 0 and 40 °C
Module	
Cable length	3 m
Cable connection	AWG28, PVC insulated, outer diameter 5,0 mm
Connection	RJ45 plug, overmolded
Probe dimensions	100 x Ø12 mm (without filter)
CE-conformance	2014/30/EU
Electromagnetic conductivity	EN 61326-1:2013
Article number	0610 0001

Technical changes reserved
0141 0316-01   30.03.2023

B+B Thermo-Technik GmbH | Heinrich-Hertz-Straße 4 | D-78166 Donaueschingen
Fon +49 771 83160 | Fax +49 771 831650 | info@bb-sensors.com | bb-sensors.com

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S E N S O R S

Accessories (Optional)

Software PCLOG

Besides storing data on hard disk, the software offers a very important feature of graphical repre-sentation 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 cap-turing measured data series into a spreadsheet program (for example EXCELTM) or for word processing. All tables and graphic representa-tions 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. Control of up to eight external users is possible by a relay card, which is to be attached at the parallel port.

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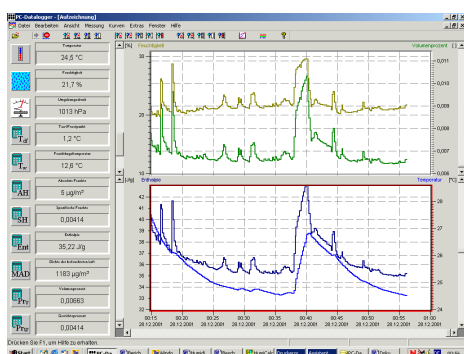
Software Profilab

With this software, professional measurement projects can be carried out in a simple, graphical development platform. You can simply draw the wiring diagram of the measurement circuit and do the project design. Without any knowledge of programming, the measure-ment values of temperature and humidity can be easily used in the measurement circuit. Arithmetic and logical components take care of linking and processing of the measured values. Modules like impulse generators, timers and relay cards etc. provide extensive possibilities for control and regulation. Various instruments, scribers and tables serve as the storage and representation of measured values and

you can monitor the measurement system with display and control elements. The system is operated through a self designed front panel, on which you can arrange switches, potentiometers, displays, LED´s, instruments etc. The software also enables compilation of the project into an EXE-file, which can run without "Profilab".

Relay cards

The output of control information is given by the WINDOWS software „PCLOG „ or „PROFILAB" over the USB-Port. The relay cards, available as accessories, are needed for giving connection for heavier loads like heater valves, servomotors or signal generators. The swit-ching status of output is indicated through LEDs. The relay boards can also be used for many other applications.

Humidity reference cells

The B+B Humidity reference cells serve as humidity standards, in or-der to create stable humidity values for experimental purposes or for calibration of the measuring device. The accuracy possible under sta-ble temperature environment conditions is in the range of 1 % relative humidity. The working principle is based on a saturated salt solution, over which a specific relative humidity value adjusts itself. The cells also contain a semi-permeable Teflon membrane (diaphragm) through which the salt solution is separated from the measurement area.

Ordering number catalogue

PC-humidity measurement system for the evaluation of the measured values on a PC	0568 0100
PC humidity measurement system USB incl. probe (0568 0100 + 0610 0001)	HYTELOG-USB
PC humidity measurement system RS232 incl. probe 0610 0001	HYTELOG-RS232
Handy measuring instrument with LCDisplay wirh USB and Dew point and Absolute humi-dity display	HM309-USB
Power supply unit	N-12V-670mA
Windows-Software	0141 0318-30
Windows-Software PROFILAB EXPERT	PROFILAB
Humidity reference cells-set, Saturation 33% und 75 %	REFZ-12Z-SET1
Humidity reference cells, various values	On request