

HC2-ROPCB OEM

SHORT INSTRUCTION MANUAL

HC2-ROPCB OEM Humidity and Temperature module

Congratulations on your purchase of the OEM humidity and temperature module. Please read these short instructions carefully before installing the device.

General description

The HC2-ROPCB OEM module measures precisely humidity and temperature. The measured signals will be conditioned, and scaled according to the customer needs. There are two analogue 0...1 VDC output and one digital UART output.

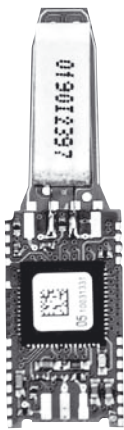
Attention



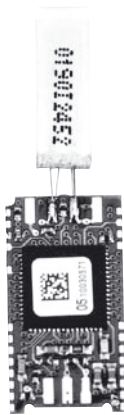
Observe precautions for handling electrostatic sensitive devices.

Product overview

HC2-ROPCB-F

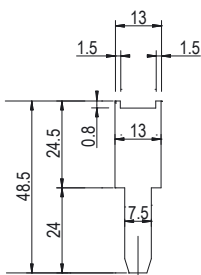


HC2-ROPCB

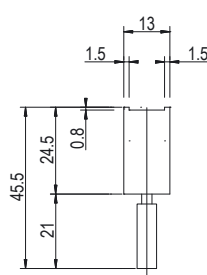


Dimension

HC2-ROPCB-F



HC2-ROPCB



Connection diagram

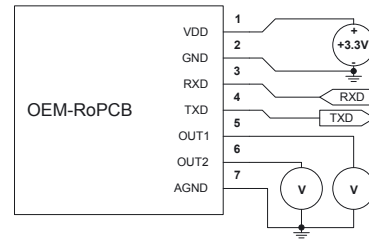
| Pin | Description | Front view | Back view |
|-----|------------------------------------|------------|-----------|
| 1 | VDD (Power supply) | | |
| 2 | GND (GND) | | |
| 3 | RxD | | |
| 4 | TxD | | |
| 5 | OUT1 *(Humidity 0...100 % rh) | | |
| 6 | OUT2 *(Temperature -40...60 °C) | | |
| 7 | AGND | | |

* Standard settings

Power supply VDD

| | |
|---------------------------------------|---------|
| VDD min: | 3.2 VDC |
| VDD max: | 5.5 VDC |
| Recommended power supply voltage: | 3.3 VDC |
| Current consumption at (VDD 3.3 VDC): | ~ 4mA |

Schematics



Sources of error

Measured values can be influenced by the following factors:

Temperature errors Adaptation time too short, cold outside wall, heating elements, sunlight, etc.

Humidity errors Steam, water spray, dripping water or condensation at the sensor, etc. Repeatability and long term stability are, however, not influenced by these factors even if the probe is exposed to high humidity or saturation with steam (condensation) over a longer period of time.

Scaling / Adjustment / Firmware update

The following settings can be made with the help of the HW4 software and the service cable AC3001-xx (needs to be soldered to the HC2-ROPCB)

- new scaling of the outputs
- adjustment
- firmware update

You will find more information on our web site at www.rotronic.com.

Periodic calibration of the modul

Both the Pt 100 RTD temperature sensor and the corresponding electronics are very stable and do not normally need to be changed or calibrated after factory calibration. The long term stability sensor is typically better than 1 %rh per year. For maximum accuracy we recommend calibration of the probe about every six to 12 months. More frequent calibration can be necessary in applications where the sensor is exposed to pollutants. The calibration can be performed by the user himself on site or in the laboratory / workshop. For routine calibrations the probe should be checked at one or two points.

The electronics of the transmitter do not normally require calibration in the field. They can be checked easily with the help of the probe simulator in the HW4 software package. The electronics cannot be repaired in the field and should be returned to the manufacturer in the case of problems. For details on calibration, please see the full version of the instruction manual, which you can download from the internet.

Technical data (measurement)

| | |
|--------------|--|
| Humidity: | 0...100 %rh |
| Temperature: | -100...200 °C |
| Accuracy: | ± 0.8 %rh, ± 0.1 K @ 23°C |
| Outputs: | 2x 0...1 VDC analogue output 1x UART signal |

Technical data (operation)

| | |
|--------------|-----------------------------|
| Temperature: | -50...100 °C |
| Humidity: | 0...100 %rh, non-condensing |

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