

# RMS-HCD



RMS-HCD-S



RMS-HCD-IC102

## BENEFITS

- Measures relative humidity and temperature
- Outstanding accuracy, repeatability and long-term stability
- Advanced probe housing and construction
- Compatible with RMS data loggers and RMS software
- Low power consumption

## APPLICATIONS

- Pharmaceutical monitoring
- Food monitoring
- Museum monitoring
- Monitoring conforming to GxP and FDA CFR PART 11



## Technical data

- Range of application (humidity) 0...100 %RH
- Range of application (temperature)
  - RMS-HCD-S -40...85 °C
  - RMS-HCD-IC -100...200 °C<sup>1</sup> Measuring head
  - 40...85 °C Electronics
- Humidity sensor HYGROMER HT-1
- Long-term stability <1 %RH/year
- Accuracy ±0.8 %RH, ±0.1 K @ 23 °C
- Factory-adjustment @ 23 °C and 10, 35, 80 %RH
- Material PC, PPS, stainless steel 1.4301

| Order code    | Type                        |
|---------------|-----------------------------|
| RMS-HCD-S     | Standard probe, black       |
| RMS-HCD-S3    | Standard probe, white       |
| RMS-HCD-IC102 | Industrial probe, 2 m cable |

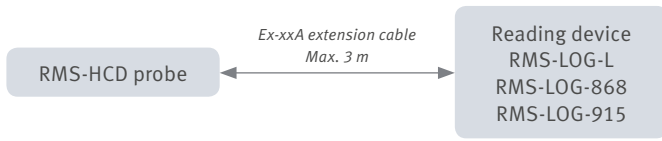
## Possible filters

| Order code   | Filter carrier                 | Filter element      | Pore size | Application range |
|--------------|--------------------------------|---------------------|-----------|-------------------|
| SPA-PCB-PE   | Polycarbonate, black           | Polyethylene, white | 40-50 µm  | -50...100 °C      |
| SPA-PCB-PTFE |                                | PTFE, white         | 10 µm     |                   |
| SPA-PCB-WM   |                                | Wire mesh 1.4401    |           |                   |
| SPA-PCW-PE   | Polycarbonate, white           | Polyethylene, white | 40-50 µm  |                   |
| SPA-PCW-PTFE |                                | PTFE, white         | 10 µm     |                   |
| SPA-PCW-WM   |                                | Wire mesh 1.4401    |           |                   |
| SPA-PE       | No filter carrier, only filter | Polyethylene        | 40-50 µm  | -100...200 °C     |
| SPA-PTFE     |                                | PTFE, white         | 10 µm     |                   |

## Possible extension cables

It is possible to extend the distance between the probe and its reading device with an extension cable.

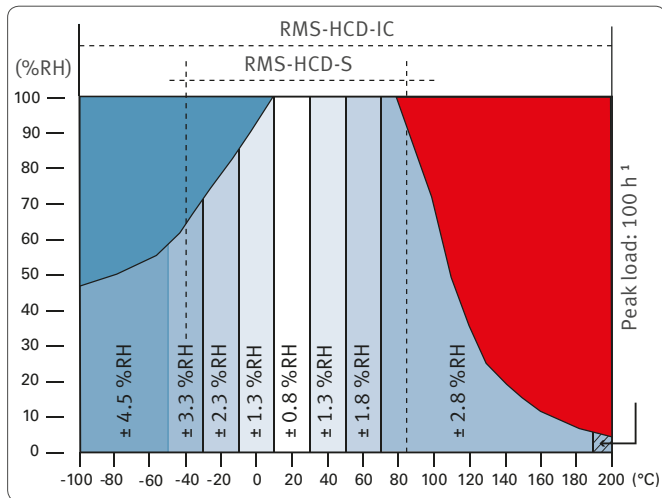
- Passive connections are possible up to 5 m (see table below for possible options).



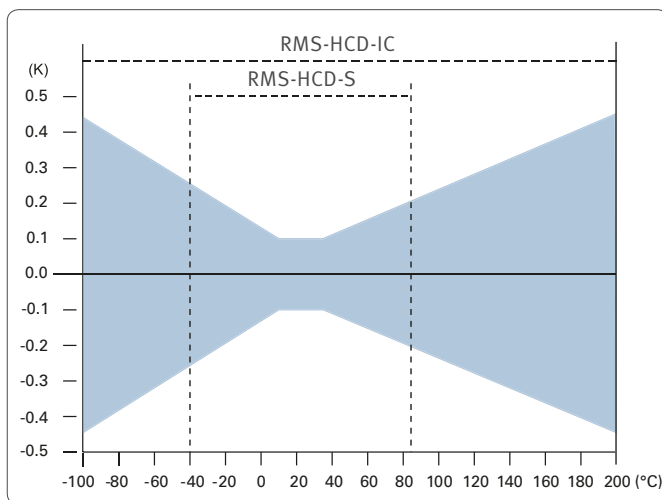
| Order code | Cable length | Color |
|------------|--------------|-------|
| E2-01A     | 1 m          | Black |
| E2-02A     | 2 m          |       |
| E3-01A     | 1 m          | White |
| E3-02A     | 2 m          |       |

## Technical information

### Humidity window



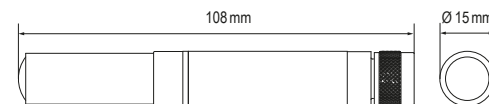
### Temperature window



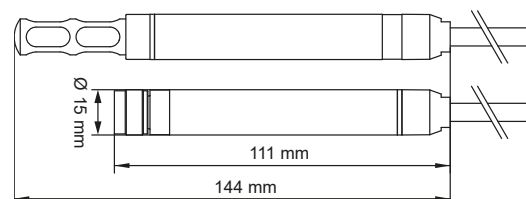
### Technical data

|                       |  |
|-----------------------|--|
| Humidity sensor       | HYGROMER HT-1  |
| Temperature sensor    | PT 1000, Class 1/3 B (RMS-HCD-S)<br>PT 100, Class 1/3 B (RMS-HCD-IC)   |
| Operating humidity    | 0...100 %RH  |
| Operating temperature | -40...+85 °C RMS-HCD-S<br>-40...+85 °C RMS-HCD-IC Electronics<br>-100...200 °C <sup>1</sup> RMS-HCD-IC Sensor head |
| Accuracy @ 23 °C      | ±0.8 %RH ±0.1 K  |
| Long-term stability   | 1 %RH / year   |
| Startup time          | 50 ms (RMS-HCD-S)<br>90 ms (RMS-HCD-IC)  |
| Measurement interval  | 500 ms   |
| Response time sensor  | τ63: <15 s without filter,<br>(temperature and humidity)   |
| Maximum wind velocity | 3.5 m/s without filter   |
| Supply voltage        | 2.8...5.5 VDC (RMS-HCD-S)<br>3.3...5.5 VDC (RMS-HCD-IC)  |
| Current consumption   | 0.5 mA (RMS-HCD-S)<br><3 mA (RMS-HCD-IC)   |
| Protection rating     | IP65 (except sensor area)  |
| Material              | PC, PPS, stainless steel 1.4301 (HCD-SX)<br>PC, PPS, stainless steel 1.4301 (HCD-IC)                               |
| Digital interface     | UART   |
| Protocol              | Modbus RTU   |
| Compatible devices    | RMS-LOG-L<br>RMS-LOG-868<br>RMS-LOG-915  |
| Compliance            | GAMP5<br>FDA 21 CFR Part 11  |

### RMS-HCD-S, RMS-HCD-S3



### RMS-HCD-IC102



<sup>1</sup> Peak load: 100 h. Maximum permissible continuous load: 190 °C