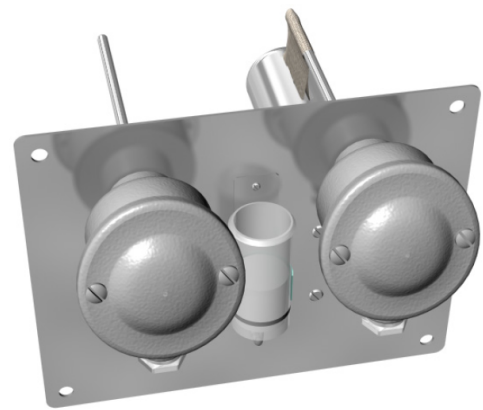


Wet/Dry-Thermometer Probe BRHU

- ◆ Highly accurate RH measurement
- ◆ Wide temperature operating range
- ◆ Built-in moistening system
- ◆ IP56 protection
- ◆ Stainless steel wetted parts
- ◆ Optional built-in transmitters

BRHU is designed to measure relative humidity in air and other gases and gas mixtures utilizing the well-known method of "dry" and "wet" thermometers with 2 identical RTD platinum sensors class 'A' mounted in stainless steel sheaths incorporated in a special stainless steel case, which can be installed inside or outside drying or moistening chambers. The method of "wet/dry" temperature difference provides high accuracy in RH measurement. For this accuracy to be ensured, it is absolutely necessary to keep the "wet" sensor always wet and to guarantee the evaporation from its surface. For this purpose, this probe is equipped with a special moistening system. It is also important to assure continuous gas movement along the sensors during the measurement process. Together with a BASI RH-control instrument (BTC180 or BTC390), BRHU can be widely used in areas, where capacitance RH probes are not applicable: high-temperature chambers, high-accuracy RH measurement, etc.



Technical specifications

Input

| | |
|---------------------------------------|-------------------------------|
| "Dry" thermometer | Pt100, Pt500, or Pt1000 |
| "Wet" thermometer ⁽¹⁾ | Pt100, Pt500, or Pt1000 |
| Thermometer accuracy | class 'A' |
| Conversion range | 0...100 %RH |
| Medium temperature input: | |
| - outside mounting | -50...200 °C ⁽²⁾ |
| - inside mounting | -20...120 °C ⁽²⁾ |
| Measurement accuracy ^(2,3) | 1 %RH |
| Response time ^(2,3) | 2 s (when RH changes with 1%) |

Output

| | |
|--------------------------------|-------------------------|
| Signal type | resistance difference |
| Built-in transmitters (option) | two 2-wire transmitters |

Operating conditions

| | |
|-----------------------|--------------|
| Operating temperature | -20...120 °C |
| Operating humidity | 0...98 %RH |

⁽¹⁾ "Dry" and "wet" RTD sensors must be of a same type!

⁽²⁾ If there are no problems with water evaporation from the "wet" sensor surface

⁽³⁾ If there is enough medium movement rate along the sensors

⁽⁴⁾ The probe is equipped with wall mounting accessories

Power supply

| | |
|--------------------------------|-------------|
| Voltage applied to the sensors | max. 20 VDC |
| Sensor current | max. 2 mA |

Design and materials

| | |
|--------------------------|---------------------------------|
| Case material | stainless steel |
| Thermometer material | stainless steel |
| Thermometer heads | aluminum |
| Wiring | in-head screw terminals |
| Mounting | wall ⁽⁴⁾ |
| "Wet" sensor | 0.5 l for 1 dm depth |
| moistening vessel volume | |
| Front dimensions | 200x160 mm |
| Thermometer depth | 150, 200, or 250 mm |
| Total depth | 220, 270, or 320 mm |
| Weight | 2...3 kg (depends on the depth) |
| Protection class | IP56 |

BRHU

| | |
|-----------------------|---------------------------------------------------------------------------------------------------------------|
| Variant | S - with 150 mm thermometers, M - with 200 mm thermometers, L - with 250 mm thermometers |
| Sensors | BD - Pt100, BF - Pt500, BG - Pt1000 |
| Built-in transmitters | X - none, TT - 2 built-in transmitters BTT782 or BTT784 ⁽⁵⁾ |

⁽⁵⁾ Transmitter type depends on the selected sensor type. Input range must be specified.