

Humidity/-temperature sensor



Description

Humidity/-temperature sensors of this series are compact, versatile sensors with a fixed connecting cable (5 m) and a high degree of accuracy, which have been specially developed for meteorological applications. The membrane filter, which is fitted as standard, provides the element with reliable protection outdoors.

We recommend to use the version with the sintered high-grade steel filter at particularly high wind speeds or if the sensor is exposed to salt spray and sand (close to the sea, desert, mountains, areas with high wind speeds etc.).

Capacitive humidity sensors guarantee :

- long-term stability
- Almost linear characteristic curve
- Good dynamic performance
- Resistance to dew formation
- Small hysteresis.

Technical data

Humidity

Measuring range 0...100% rF
 Tolerance (MB 5...95% r.h. at 10...40°C) ±2% rF
 Additional error (<10°C, >40°C).....< 0, 1%/K
 Response time (T 90 at 1m/s)< 2 min

Temperature

Measuring element (DIN IEC 751)Pt 100 1/3 DIN
 Measuring range -30...+70°C
 Tolerance
 Output: 0...1V (-27...70°C) ±0.2 K
 0...5V (-29...70°C)..... ±0.2 K
 4...20mA (RC) ±0.3 K
 Additional error (<10°C, >40°C)..... ±0.007K/K
 Response time (T 90 at 1 m/s) with ZE 20.....≤ 2 min
 Response time (T 90 at 1 m/s) with ZE 21 ≤ 3 min

Other data

Ambient temperature -40...+80°C
 Degree of protection Sensor/Electronic..... IP 30/IP 65
 Operating voltage
 U-output 0...5V 10...30V DC
 U-output 0...1V 6...30V DC
 I-output..... 12...30V DC
 Min. Load resistance 0...5V/ 0...1V $\geq 10\text{k}\Omega$ / $\geq 2\text{k}\Omega$.
 Power consumption
 0...5V, 2 x 0...1V <5mA
 0...1V <1mA
 Minimum air speed
 (Across the sensor):
 2 x 0...5V, 4...20mA..... $\geq 1,5$ m/s
 0...5V, 2 x 0...1V $\geq 0,5$ m/s
 2 x 4...20mA $\geq 1,5$ m/s
 Self-heating Pt 100 (1m/s, 2mA, 20°C) 0.1 K
 Electromagnetic compatibility
 Emitted interference..... EN 55011 cl. B
 Noise immunity EN 50082-2