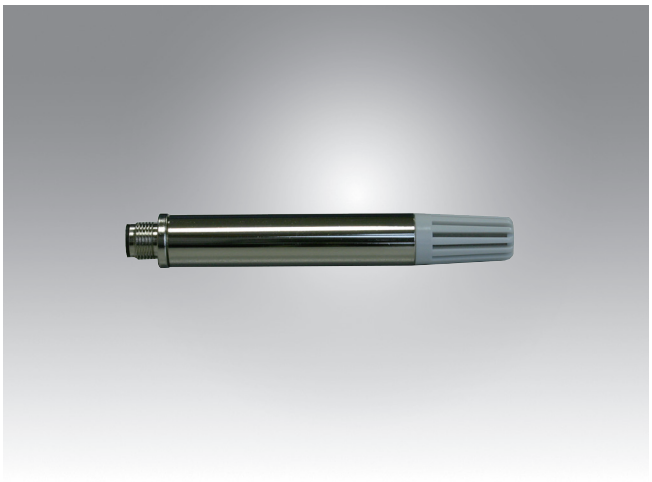
96PD-THS16B

IP65 High Accuracy Temperature & Humidity Sensor



Features

- Metal probe reduce electromagnetic interference
- 0 … 100%RH measurement,
- -40 ~ 100°C Temperature Measurement Range
- IP65 Housing Classification

Technical Data

Humidity

- **Measurement Range** 0 ... 100 %RH
- **Accuracy (including non-linearity, hysteresis, and repeatability)**
- **96PD-THS16B** 3%RH@25°C (20 … 80%RH)
- **Temperature coefficient** (from 0°C to 80°C) typ. ±0.02% RH/°C
- **Long term drift1** < 0.25% RH/year
- **Response time T632** 8 second (at 1m/s air flow)

Temperature

- **Measurement Range** -40 ... 100°C
- **Accuracy (including non-linearity, hysteresis, and repeatability)** ±0.7°C (-40 … 5°C) ±0.3°C (5 … 60°C) ±0.9°C (60 … 120°C)
- **Long term drift3** < 0.02°C/year

RS485 Modbus RTU

- **ID** 1…247
- **Baud Rate** 9600/19200/38400/57600/115200
- **Data Format** N81/N82/E81/E82/O81/O82

Power Supply

- **RS485 output** 12…28V_{DC}

Power Consume (25 °C, V+ 24 V_{DC})

- **RS485 output** typ. 3mA

Mechanics

- **Filter material** PC, Polycarbonate
- **Probe material** Brass nickel-plated
- **Probe pressure** 10bar
- **Housing classification** IP65
- **Cable** M12 4-pin 2M female
- **Operation Temperature Range** -40 ... 100°C (-40 ... 212°F)

Electromagnetic compatibility

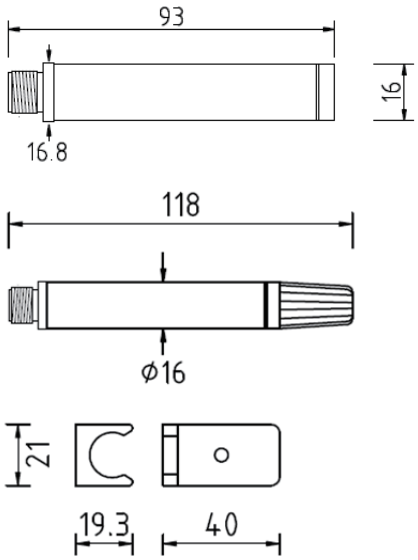
- **EN61326-1:2013 Emission**
- **CISPR11:2009+A1:2010 Group 1 Class B**
- **EN61326-1:2013 Immunity**
- **IEC 61000-4-2:2008**
- **IEC 61000-4-3:2006+A1:2007+A2:2010**
- **IEC 61000-4-8:2009**

1. Typical value for operation in normal RH/T operating range. Max. value is < 0.5%RH/year. Value may be higher in environments with vaporized solvents, outgassing tapes, adhesives, packaging materials, etc.
2. Time for achieving 63% of a step function, valid at 25°C and 1m/s airflow.
3. Max. value is < 0.04°C/year.

Last updated: 18-Oct-2024

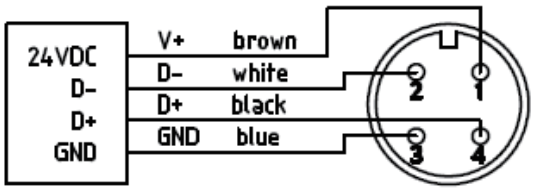
Dimensions

Unit: mm



Connection Diagrams

RS-485 Output



Physical Quantity Output Range

Item	Metric	Imperial
Temperature T	-40 ... 100 ℃	-40 ... 212 °F
Relative Humidity RH	0 ... 100 %	0 ... 100 %
Dew point Td	-20 ... 100 ℃	-4 ... 212 °F
Frost/dew point Tf	-20 ... 100 ℃	-4 ... 212 °F
Wet bulb temperature Tw	-40 ... 100 ℃	-40 ... 212 °F
Water vapor pressure E	0 ... 1013 mbar	0 ... 14.7 psi
Mixing ratio R	0 ... 30000 g/kg	0 ... 210000 gr/lb
Absolute humidity A	0 ... 550 g/m^3	0 ... 240 gr/ft^3
Enthalpy S	-40 ... 40000 kJ/kg	-10 ... 20000 BTU/lb