



## Humidity and Temperature Transmitter Series 81/82

### Principal of Operation

Relative Humidity (RH) is measured by a capacitance type sensing element with polymer dielectric medium.

The temperature sensor is a Pt-1000 Ohm RTD.

Software guided multi-point calibration with up to 20 calibration points provides an accuracy of 1.5 %RH. Built-in special temperature compensation corrects humidity values for deviations caused by temperature fluctuations at the sensor and the electronics.

### Applications

Model 81 is built for critical measurements of the relative humidity and temperature in ducts with general purpose area classification. Model 82 is built for similar applications but for wall-mounting.

### Construction

Polycarbonate housings meet NEMA 4, 12, 13. Probes are available in different lengths and diameters, made from PTFE, stainless steel 316, or polypropylene.

Models 81/82 feature analog outputs (current or voltage) and optionally available is a graphic display.

Various sensor filter options and accessories for calibration are optionally available.

### Features

1. Exceptionally accurate and stable humidity and temperature measurement.
2. Proven robust sensor design
3. Fixed-mount or flexible probes
4. Probe materials and sizes for a large variety of applications.
5. Linearized analog outputs for user selectable Engineering units
6. (RH, dew point °C/°F, etc.)

Type 82      Type 81



## Technical Specifications:

### SENSORS:

Humidity (capacitiv)..... SE-02  
 Temperature (4-Wires).....Pt-1000

### RANGES:

Humidity ..... 0 to 100 %RH  
 Temperature range: .....-50 to 150 °C

### ACCURACY OF SYSTEM CLASS A / B:

Humidity at 0...50°C ..... +/- 1.5 / 2.5 %RH  
 Humidity at -25...+100°C ..... +/- 2.0 / 3.0%RH  
 Humidity at -50...+150°C ..... +/- 2.5 / 4.0%RH  
 Temperature ..... +/- 0.5 °C

### REPEATABILITY / RESOLUTION:

Humidity ..... <0.5%RH / 0.1°C  
 Temperature ..... +/-0.5°C / 0.1 %RH

### POSSIBLE HUMIDITY DIMENSIONS:

%RH, g/kg, g/m<sup>3</sup>, Dewpoint °C or °F , etc.

### Maximum Temperatures:

Transmitter and Sensorhead ..... -20 to +60 °C  
 Sensor.....-50 to +150 °C

### POWER SUPPLY / OUTPUTS:

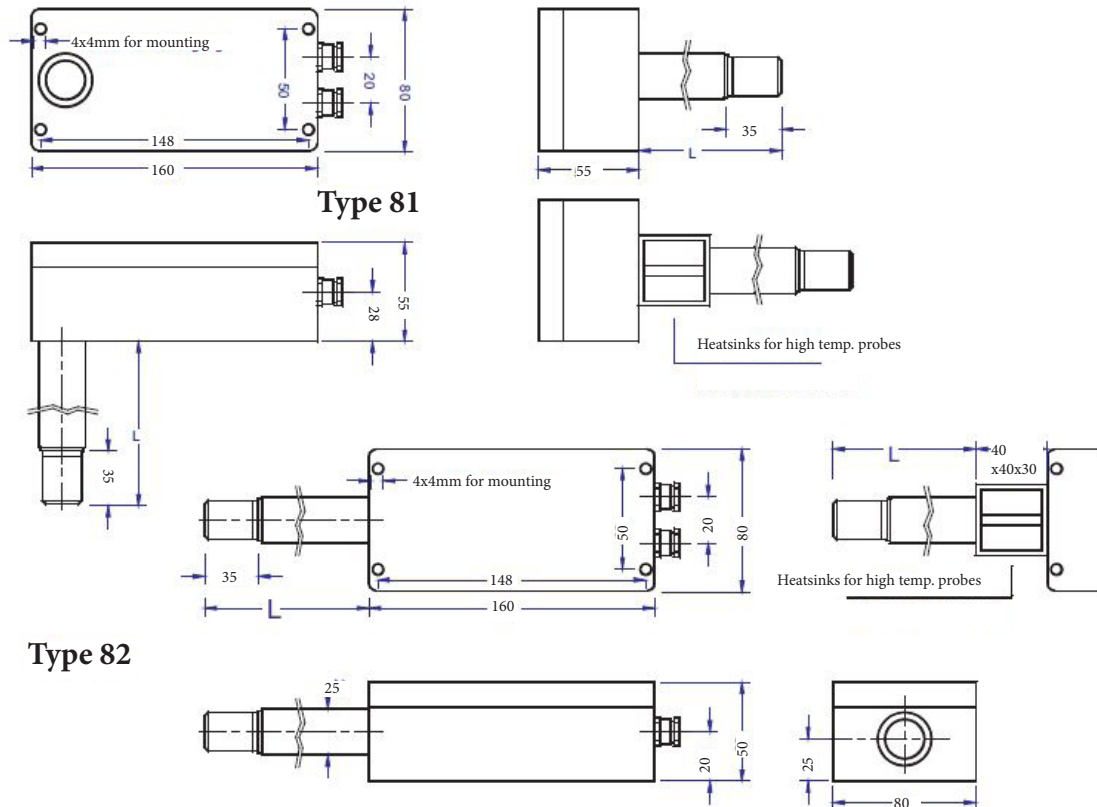
Input ..... 85-264 VAC or 12-24 VDC  
 Consumption ..... approx. 3VA

### MATERIALS AND DIMENSIONS:

Probe tubes from PP, PTFE, stainless Steel  
 Diameter 12, 15 or 25 mm ..... Probe  
 ..... Probe Cable(Type 89)  
 Transmitter ..... 160x80x55 mm  
 Protection Class ..... IP 65  
 Casing Material.....Polycarbonat

## Dimensions and Mounting

### DIMENSIONEN UND MONTAGE



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