

Loop Powered Transmitter Type 83/84

High Precision field mount Humidity and Temperature Transmitters

Principal of Operation

The instrument uses a capacitance type sensing element with polymer dielectric medium. The temperature sensor is a Pt-1000 Ohm RTD. Microprocessor control allows for multipoint calibration. A maximum accuracy of 1.5 %RH is achieved with 8 points. Built in special temperature compensation is to correct humidity values from deviations arising from temperature effects on the sensor and the electronics.

Applications

Type 83 was constructed for critical relative humidity and temperature measurements in cases without hazardous conditions. The exchangeable probes with built-in memory of the calibration can be replaced in seconds and allow minimal maintenance.

Housing made of aluminium and probe tubes made of PP, PTFE and stainless steel are available in different lengths and diameters. Analog current calibration over RS 232 3V. There are several different Sensorfilters available.

Features

1. Moisture meters with the highest accuracy for measuring relative humidity and temperature in enclosures with protection class IP 65 with fixed probes.
2. Various probe tubes (from PP to stainless steel) are available, including pressure-proof for operation pressure + vacuum.
3. Measured values are relativ Humidity and Temperature.
4. Microprocessor-controlled measurement and calibration.
5. Linear measurements outputs for humidity.
6. Readings of humidity and temperature is also via CAN-BUS available (Type 84).



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 +/- 0.3 / 0.5 °C

REPEATABILITY / RESOLUTION:

Humidity <0.5%RH / 0.1°C
Temperature 0.5%RH / 0.1%RH

POSSIBLE HUMIDITY DIMENSIONS:

%RH

MAXIMUM TEMPERATURES:

Electronic Housing. -20 to +60 °C
Sensors.-50 to +150 °C

POWER SUPPLY / OUTPUTS:

Input9 – 36 VDC
Consumption less than 1 W
Outputs: 4-20mA
Type 83Hart Communication
Type84 CAN Bus Communication

MATERIALS AND DIMENSIONS:

Probe tubes from PP, PTFE, stainless Steel
Diameter 25mm (all Materials)
Diameter 15mm (only stainless steel)
Standart lengths 150mm to 1000mm
Protection Class IP 65

OPTIONS:

High temperature probes up to +150 C with PTFE
Probes for Vacuum/Pressure 30mbar to 30 bar.

Sensors:

Precious metal high precision sensors for maximum accuracy and reliability.

Probe:

Permanently mounted measuring probes with simultaneous detection of humidity and temperature.

Electronic:

Linearization with temperature compensation, sensor break and short circuit monitoring. Probe connection and outputs are possible at different sides of the casing.

Configuration:

The behavior of the outputs on sensor breaks can be specified.

Calibration:

Accompanying Software calibration at up to 10 points for humidity results in high system accuracy.

Service and Guarantee:

Factory and calibration credits and validation against national standards are possible. Short-term calibration, testing and repair service as well as loaners are available. 12-month guarantee on the transmitter, 6 months guarantee on the probes.