

Hygrocontrol Type 86 EX- Transmitters

High Precision Humidity and Temperature Transmitters for EX Applications

Applications

The 86 was developed for critical humidity and temperature measurements in ducts or process lines with hazardous area classifications 1/2 G/D, E Ex ia II C T4. The robust sensor is suitable for applications in the ripening, packaging and storage of food products, pharmaceutical processes, drying processes and other material processes, where humidity and temperature are critical parameters.

Construction

The transmitter housing is polycarbonate and the probe head is aluminium. Probe tubes are stainless steel and available with different standard lengths. Two analog current or voltage outputs for humidity and temperature are linear to the selected engineering units. The transmitter is to be located in a safe area but is connected to the intrinsically safe probe head through safety barriers.

Operating principle

The instrument uses a capacitive polymer sensor for humidity and a Pt-1000 RTD (DIN-IEC 751) for temperature. The software driven multi-point calibration procedure can be performed by the user and leads to high accuracy of the measurement.



Applications

- ▶ Ripening, packaging, storage and transportation of food
- ▶ Powder conditioning in pharmaceutical production
- ▶ Drying of materials in the production of ceramics
- ▶ Control of process parameters in chemical industries
- ▶ Climate control of clean rooms, paintboxes and dryers
- ▶ Process control in climatic and environmental chambers
- ▶ Control and documentation of sterilisation in medical industries

Features

- ▶ High Precision and long term stability
- ▶ Flexible, modular components
- ▶ Precalibrated interchangeable probes
- ▶ Simple operation and maintenance
- ▶ User may calibrate and configure himself
- ▶ displays relative, absolute or dewpoint values
- ▶ Excellent performances at low price

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 +/-1.5°C / 0.1°C

POSSIBLE HUMIDITY DIMENSIONS:

%RH, g/kg, g/m³, 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 10-36 VDC
Consumption approx. 4VA
Outputs: 4-20mA, max. Load 300 Ohms
..... 2-10V, 1-5V, max. Load 100 Ohms

MATERIALS AND DIMENSIONS:

Transmitter housing of PC 160x80x55 mm
Probe electronics of Alu65x65x40 mm
Protection Class..... IP65

Probe tubes are of SS-316 in lengths of 100, 150, 250, 350, 500, 750 and 1000mm, with filters of SS-316, PTFE and other materials

INTRINSICALLY SAFE CABLES:

2x2x0,5mm² in lengths of up to 100m

Sensors:

Precious metal sensors for the highest accuracy and stability against chemical attack.

Probes:

Fixed or remote mount probes with combined detection of humidity and temperature, all connectable probes are precalibrated and allow replacement without process shut down.

Electronics:

Linearization and temperature compensation, built-in brake and short circuit detection, probe outlets and in-/outputs may be ordered at different walls of the housing.

Configuration:

Analog output ranges and limits adjustable by user, signal output at sensor brake may be programmed to high, low or last level, digital output congruable to address, baudrate, handshake and polling. Up to 99 instruments may be operated with only one serial interface of the host.

Stored and Displayed Data:

Simultaneous display of humidity and temperature (different characterizations are selectable, %RH, g/kg, °Ctd, °Ftd, °C, °F , and others). Max.- and Min.-values are permanently detected and stored.

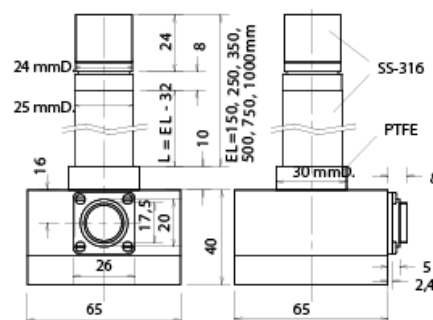
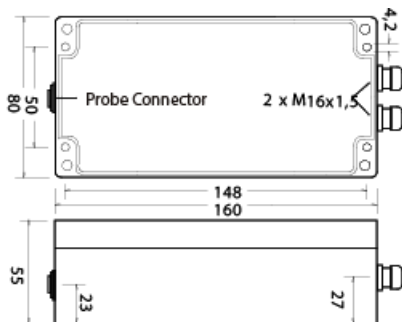
Calibration:

Patented, software sustained calibration at up to 20 points with any available standards of humidity - no potentiometers - results in highest possible accuracy , partial calibration and calibration of temperature is possible.

Service and Warranty:

Factory calibration certificates and ÖKD certificates are optionally available upon request. Quick return calibration and repair service. Rental units are availabl. Probes are guaranteed for six (6) months if used appropriately.

Dimensions:



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