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Thies CLIMA

Instruction for use

021472/10/05

Hygro-ThermoTransmitter-compact

1.1005.55.541

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1 Models available

Order-No.	Meas. Range	Humidity Output	Temperature Output	Operating Voltage
1.1005.55.541	0...100 % r. h. <-30...+70°C>	4...20 mA	Pt 100	12...30V *

* see diagram RL

2 Application

The Hygro-Thermo Transmitters of our compact series with connected cable are designed to measure relative humidity, the temperature of the air and other non-aggressive gases.

The use of capacitive humidity sensors is a guarantee for:

- a high degree of long-term stability
- nearly linear characteristics
- good dynamic behaviour
- dewing stability
- low temperature coefficients
- low hysteresis

The humidity sensor element, and the Pt 100 measuring element are protected through a basket guard ZE 16. In addition, the humidity sensor element is equipped with a dust cover (PTFE filter).

For filed work, it is advisable to use a „Weather and Thermal Radiation Shield“. It is optionally available as accessory.

3 Mounting

For correct measurements, the Hygro-Thermo Transmitter should be mounted at a site in the room which is representative of the climate within the room. The mounting position itself is arbitrary. Mount the sensor such that water cannot penetrate the inside of the sensor. Dewing and sprinkling water do not damage the sensor.

Moreover, please make sure to keep the operating voltages as well as a good recirculation ventilation of the instrument. Deviations might lead to measurement errors (for example: due to instrument warming).

Preferably, the sensor should be mounted vertically facing downwards to a wall (indoor application), and should be mounted horizontally facing backwards in canals.

4 Maintenance

The Hygro-Thermo Transmitter is supplied already calibrated and its characteristics remain stable for years.

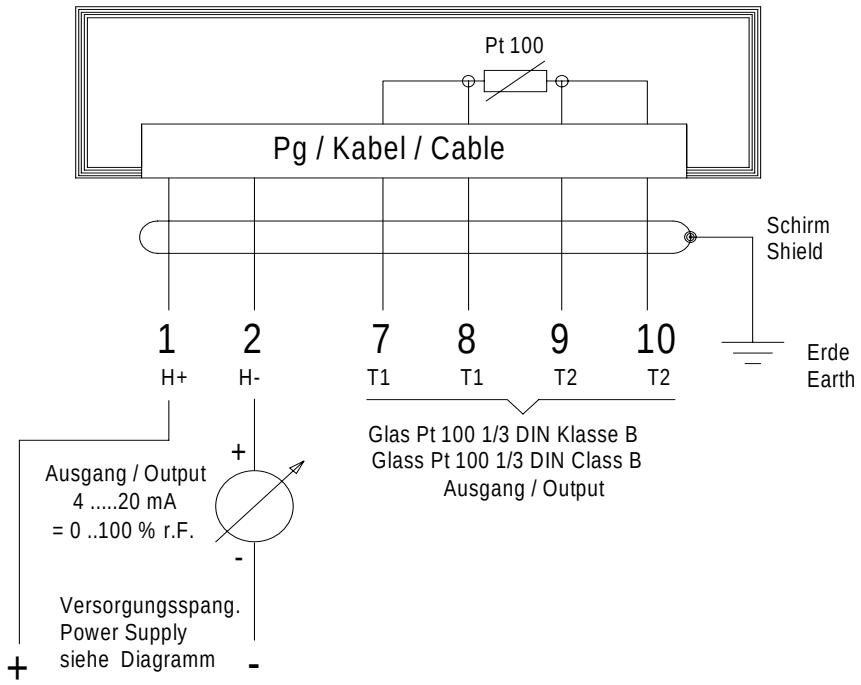
Dust does not damage the humidity sensor but does influence the dynamic behaviour negatively. If the instrument is very dirty, the sensor element can be cleaned or carefully rinsed in distilled water. Make sure you do not touch the highly-sensitive sensor element. Before cleaning of the sensor elements please remove the basket guard.

Attention

The instrument housing with the electronics included should be opened only in the factory.

5 Connection Diagrams

1.1005.55.541



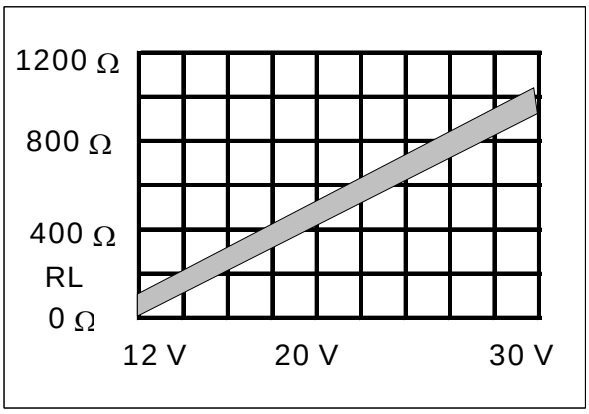


Diagram RL as a function of power supply

6 Technical Data

Humidity	
Measuring element	Capacitive
Measuring range	0...100 % rel. humidity
Accuracy 10...90% rel.h.	± 1,5 % rel. humidity
Add. Error <10%r.F. >90% r.F.	± 0,8 % rel. h. / %r. h.
Add. Error <10°C, >40°C	± 0,0075% rel. h. / K
Response Time (t_{63} bei v = 2 m/s mit PTFE Filter)	15 s

Temperature	
Measuring element	Pt 100 Class B, 1/3 DIN tolerance
Measuring range	See models available
Accuracy	± 0,1 K
Response time (t_{63} bei v = 2 m/s)	15 s

Additional Specifications	
Ambient temperature	-40...+80°C
Degree of protection sensor	IP 30
Degree of protection electronics, connecting head	IP 65
Operating voltage	12...30 V DC
Load resistor	See diagram RL
Dimensions - Instrument	
Diameter	20 mm
Shaft length	122 mm
Total length	180 mm
Cable length	5 m

7 Accessories (optional)

Weather and Thermal Radiation Shield The use of the Weather and Thermal Radiation Shield in an appropriate combination with suitable temperature and humidity sensors reduces to a minimum the possibility of influencing the data in a negative manner by radiation, precipitation or damage. More exactly measuring results are achieved by using the ventilated Weather and Thermal Radiation Shield (mod. 1.1025.55.10x with ventilation). The ventilation reduces those errors which might occur during the measurements in a weather hut caused by the so-called „proper climate“ .	1.1025.55.00x .10x .xx0 .xx1	w/o ventilator with ventilator 12 V DC / 2,5 W , incl. 5 m cable for mast tube mounting ∅ 30 - 50 mm for mast tube mounting ∅ 55 – 60 mm dimensions: ∅ 120 x 290 mm **Remark:** It is recommendable to use the weather and thermal radiation shield-compact with ventilation order-no. 1.1025.55.10x for Hygro-Thermo Transmitter model ..541(4-20 mA)

Sinter Filter ZE21 The fine-pore sinter filter serves to protect the sensor elements of the Hygro-Thermo-Transmitter *compact* against high wind speeds (>5m/s) and dust...	1.1005.54.902	Material: stainless steel Dimensions: ∅ 20 x 25 mm Response Time t_{90} , v = 1,5 m/s : 1,5 min

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