HUMTMP

Technical Datasheet



HUMTMP with G1/2 screw-in thread and 8-pin circular connector.

Short description

Combined temperature and humidity sensor for air and compressed air. The HUMTMP measures temperature and relative humidity simultaneously: temperature with a passive Pt100 element, humidity with a capacitive measuring element.

The G1/2 thread with O-ring and integrated glass feedthroughs allows the sensor to be connected pressure-tight in closed compressed-air piping systems with up to 16 bar gauge pressure.

Identification

Product name	HUMTMP
Design	temperature and humidity sensor
Measuring elements	capacitive (humidity), Pt100 (temperature)
Version	HUMTMP-MF-G12
Document status	12.11.2026

Measured variables and measuring ranges

MEASURED VARIABLE	UNIT	MIN.	MAX.	MEASURING ELEMENT
Relative humidity	% RH	10	90	capacitive
Temperature	°C	−10	+60	Pt100 platinum resistor, passive

Sensors

PARAMETER	HUMIDITY SENSOR	TEMPERATURE SENSOR
Measuring element	capacitive; resistant to thermal shock, chemically resistant, long-term stable	Pt100 platinum resistor
Test tolerance	±2 % RH at 10 to 90 % RH	–
Temperature error (reference 23 °C)	±0.05 %/K	–
Repeatability/hysteresis	< ±2 % RH	–
Accuracy class	–	1/3 class B to IEC 60751
Response time T_{99}	with PTFE membrane filter approx. 25 s	

Operating conditions

Operating pressure	vacuum operation or gauge pressure up to max. 16 bar
Burst pressure	> 50 bar
Operating humidity	0 to 100 % RH

The measuring element must not be wetted by liquid water (condensate, splash water); wetting damages it.

Ambient conditions

Operating temperature	−10 to +60 °C
Storage temperature	−10 to +60 °C, humidity non-condensing

Media compatibility

Media	air or compressed air

Mechanical and electrical data

Housing material	stainless steel 1.4571
Degree of protection	IP 68
Immersion depth	max. approx. 38 mm
Length above mounting	76 mm (without plug)
Wrench size	27 mm
Weight	approx. 120 g
Sensor protection	PTFE membrane filter
Process connection	G1/2 male thread, flat sealing with O-ring
Feedthrough	integrated glass feedthroughs, pressure-tight

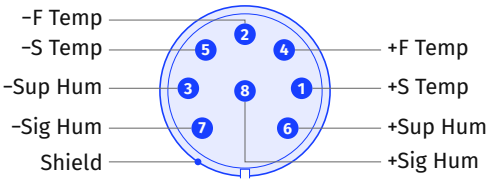
Interfaces

Humidity: supply	24 VDC (8 to 28 VDC)
Humidity: output signal	0 to 1 V
Temperature: measuring circuit	four-wire connection for Pt100
Temperature: measuring current	1 mA
Temperature: signal	95 to 140 mV
Electrical connection	8-pin circular connector to IEC 60130-9, pin pattern SV81, IP 68

Calibration and service

Check of temperature sensor	in an air flow channel at approx. 1.6 m/s
Humidity calibration	optional, four points at 10, 30, 60 and 90 % RH
Recalibration	in our facility

Pin assignment



PIN	SIGNAL	MEANING
1	+S Temp	temperature, voltage sense +
2	–F Temp	temperature, measuring current –
3	–Sup Hum	humidity, supply –
4	+F Temp	temperature, measuring current +
5	–S Temp	temperature, voltage sense –
6	+Sup Hum	humidity, supply +
7	–Sig Hum	humidity, output signal –
8	+Sig Hum	humidity, output signal +
Housing	Shield	shield

Ordering information

PART NO.	VERSION
HUMTMP-MF-G12	PTFE membrane filter, G1/2 male

PART NO.	SPARE PART AND ACCESSORY
HUMTMP-ERS-PTFEPOR	PTFE membrane filter
LTG-HUMT-...	connection cable, 2.5 m

FURTHER INFORMATION

Benefits, operating principle and application examples are given in the product brochure **HUMTMP**. To design your measuring point, contact us at **+49 7157 5387-0** or **info@tetratec.de**.