

Temperature Humidity Sensor

S42100 / S52100 / S50000
(P6311P / P6312P / P6300)

Order-No: S42100 - Temperature Sensor TP
S52100 - Temperature Humidity Sensor KP
S50000 - Weather- and Radiation Shield



Measurement principle

The temperature humidity sensor series „xP“ are compact sensors in stick version with fixed connected cable. The relative humidity is measured by a capacitive sensing element and the value will be placed at the output as analogue signal. The temperature measurement is made by a PT100-resistor (1/3 DIN). The signal is available as an analogue output as well.

The sensors are obtainable as single temperature probe or as combined sensor for temperature and humidity measurement.

Mounting

The sensors are to be mounted at a climate representative spot. For protection against rain and direct radiation a weather and radiation shield should be used, which can be simply fixed to a mast.

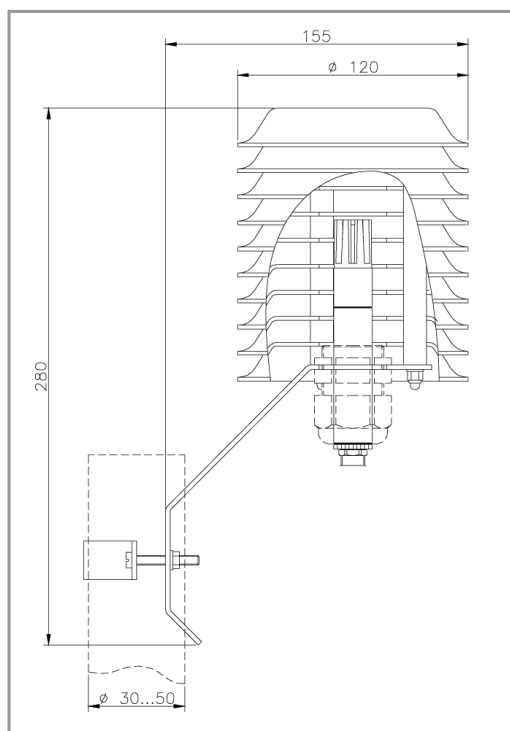
Please order this shield separately!

Take care of a good ventilation of the sensing element. Any mounting position is possible. Avoid penetration of water. Dew-formation doesn't do any harm to the element, but faulty measurements will occur until total drying.

Maintenance

The temperature sensor is maintenance free. Only check the output after long use with a precise reference thermometer.

It is possible to make functional gauging of the humidity sensor. To do this the probe has to be exposed to a known reference humidity, e.g. the available „humidity-standard“ calibration set. If you unscrew the protection filter, keep in mind never to touch the element with fingers or any tool.



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Type	Temperature Sensor	Humidity Sensor
Measurement range	-30 ... +70°C	0 ... 100% r.H.
Slope (Data Logger Meteo-40)	100	100
Offset (Data Logger Meteo-40)	-30	0
Accuracy	± 0.2K	5 ... 95% r.H. at 10 ... 40°C; ± 2% r.H.
Additional error	± 0.004%/K (<10°C, >40°C)	< 0.1%/K (<10°C, >40°C)
Resolution	0.1K	1% r.F.
Response time	5 min	5 min
Measurement principle	PT100 - 1/3 DIN	capacitive
Output signal	0 ... 1V	0 ... 1V
Operation supply	9 ... 30 VDC - approx. 1 mA / 2 mA	
Minimum air speed (across the sensor)	≥ 0.5 m/s	
Ambient Temperature	-40 ... +80°C	
Connection	7-pole plug	
Protection Sensor / Electronic	IP 30 / IP 65	
Weight	Sensor: 0.350 kg Weather and radiation shield 1 kg	
Manufacturer	Galltec	

Cables and Wire Colours

TP - Meteo-40 (Order-No. S42100)

Sensor	Plug Pin No.	Ammonit Cable Wire Colour	Meteo-40 Analog Voltage	Supply Sensor
Temperature Output Voltage	3	white	Ax	
Ground	2	blue	Bx	
Supply	4	red		9 ... 30 VDC
Ground	1	black		Main Ground

Cable type: LiYCY 4 x 0.25mm²

Connect the shield logger-sided to Ground (GND)

KP - Meteo-40 (Order-No. S52100)

Sensor	Plug Pin No.	Ammonit Cable Wire Colour	Meteo-40 Analog Voltage	Supply Sensor
Temperature Output Voltage	7	white	Ax	
Ground	5	blue	Bx	
Humidity Output Voltage	3	brown	Ax+1	
Ground	2	pink	Bx+1	
Supply	4	red		9 ... 30 VDC
Ground	1	black		Main Ground

Cable type: LiYCY 6 x 0.25mm²

Connect the shield logger-sided to Ground (GND)

Last Modification: 31 August 2012