Order-No.:   S42100 – Temperature Sensor TP
                   S52100 – Temperature Humidity Sensor KP
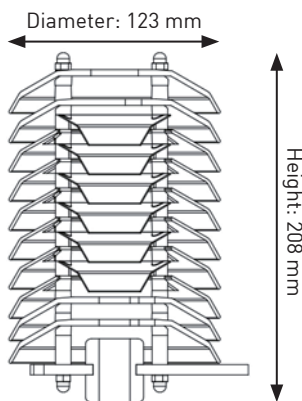   S50050 – Weather- and Radiation Shield

Measurement principle

The temperature humidity sensors are compact sensors in a rod-design with plug-in connection to measure relative humidity and temperature (individually or together) with high precision in air an other non-aggressive gases. The delivery includes the coupling plug.

The relative humidity is measured by a capacitive sensing element and the value will be placed at the output as analog output as well.

Dimensional drawing

Diameter: 123 mm
Height: 208 mm

Overall height including bracket: 300 mm
Weight: 1.01 kg

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 the weather and radiation shield separately!

Take care of a good ventilation of the sensing element. any mouting position is possible. Avoid penetration of water. Dew-formation does not 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 sensor 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.

Specifications

Type	Temperature Sensor	Humidity Sensor
Measurement principle	Pt100 1/3 DIN acc. DIN EN 60751	Capacitive
Measurement range	-30 ... +70 °C	0 ... 100% RH
Slope (Data Logger Meteo-40)	100	100
Offset (Data Logger Meteo-40)	-30	0
Accuracy		
Accuracy	± 0.2 K (-27 ... +80 °C)	± 2% RH (5 ... 95% RH @ 10 ... 40 °C)
Additional error	± 0.007 K/K (<10 °C, >40 °C)	< 0.1 %/K (<10 °C, >40 °C)
Operating range		
Ambient temperature	-40 ... +80 °C	
Minimum air speed (across sensor)	≥ 0.5 m/s	
Electrical data		
Output signal	0 ... 1 V	0 ... 1 V
Operating supply	6 ... 30 VDC	
Power consumption	<1 mA	
General		
Connection	7-pol plug for shielded cable	
Dimensions	Sensor: 155 x Ø 20 mm Weather and radiation shield: see dimensional drawing	
Weight	Sensor: approx. 0.1 kg Weather and radiation shield: 1.01 kg	
Protection Sensor	IP 30	
Protection Electronic	IP 65	
Protection Coupling	IP 67	
Manufacturer	Galltec	

Sensor connection to Ammonit Meteo-40 data logger
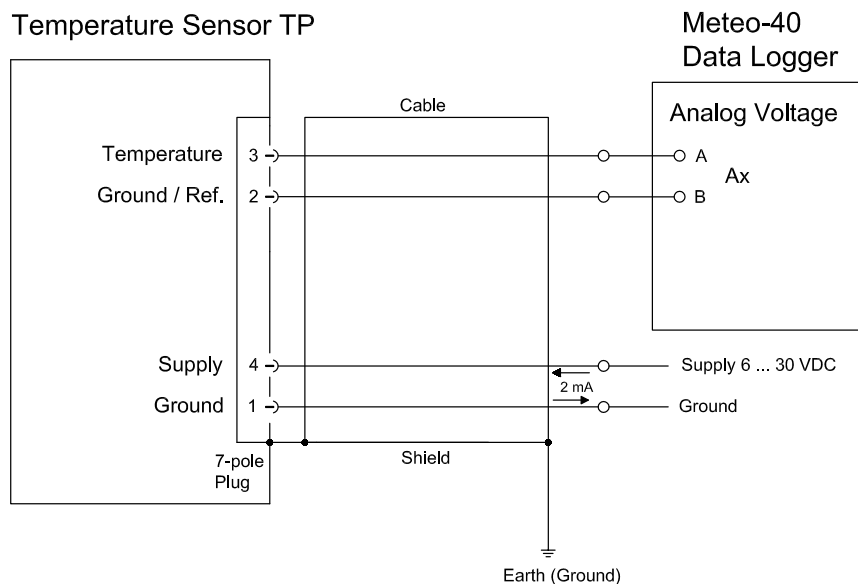
TP (temperature only!) – Meteo-40
Order-No. S42100

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

*Supply voltage for usage with Meteo-40 data loggers

Cable type: LiYCY 4 x 0.25 mm²

Connect the shield logger-sided to Ground (GND)

Sensor connection diagram to Ammonit Meteo-40 data logger

Sensor connection to Ammonit Meteo-40 data logger

KP (temperature + humidity) - Meteo-40
Order-No. S52100

Sensor	Plug Pin No.	Ammonit Cable Wire Colour	Meteo-40 Analog Voltage	Supply Sensor
Temperature Output Voltage	7	white	A_x	
Ground	5	blue	B_x	
Humidity Output Voltage	3	brown	A_{x+1}	
Ground	2	pink	B_{x+1}	
Supply	4	red		9 ... 30 VDC*
Ground	1	black		Main Ground

*Supply voltage for usage with Meteo-40 data loggers

Cable type: LiYCY 6 x 0.25 mm²

Connect the shield logger-sided to Ground (GND)

Sensor connection diagram to Ammonit Meteo-40 data logger

Last Modification: 11 May 2017