IMT TECHNOLOGY

DATA SHEET

Sensors for Measuring Ambient Temperature



Precise Tracking of the Air Temperature in Photovoltaics and beyond

Ensure accurate measuring of external temperatures on your PV system thanks to continuous ambient temperature monitoring. Our ambient temperature sensors are equipped with a sturdy aluminium housing and robust, weatherproof cabling. Thanks to the use of premium components, the sensors achieve high accuracy and are ideal for use in industrial environments and on-site usage (e.g. PV systems or monitoring equipment rooms).

Benefits & Features

- Sensors with weather and radiation protection meet all IEC 61724-1 requirements
- Pt1000 / Pt100 precision sensor element as per IEC 60751 Class AA
- Highly sturdy aluminium housing
- High-precision measuring electronics including calibration certificate for all active models
- Developed and manufactured in Germany

Sensor Types

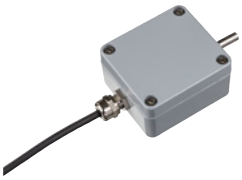
Type	Output at -40 to +90 °C	Notes
Ta-ext-RS485-MB	RS485 / MODBUS	External sensor element with 3 m cable
Ta-I-4090	4 to 20 mA	–
Ta-ext-I-4090	4 to 20 mA	External sensor element with 3 m cable
Ta-V-4090	0 to 10 V	–
Ta-ext-V-4090	0 to 10 V	External sensor element with 3 m cable
Ta-Pt1000	Pt1000	Including junction box with spring terminal
Ta-Pt100	Pt100	Including junction box with spring terminal
Ta-ext-Pt1000	Pt1000	External sensor element with 3 m cable Including junction box with spring terminal

Technical Data

All Types

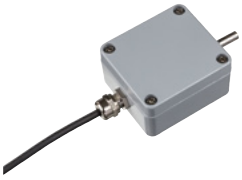
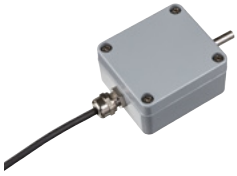
Case material	Powder coated Aluminium
Operating temperature	Sensor element: -40 to +90 °C, case: -40 to +80 °C
Degree of protection	IP67
Customs tariffe number	90 25 19 00

Active Temperature Sensors

	Ta-I-4090 Ta-V-4090	Ta-ext-I-4090 Ta-ext-V-4090	Ta-ext-RS485-MB
			
Measurement uncertainty	1 K at -40 to +80 °C 0.7 K at -40 to +60 °C		1 K at -40 to +90 °C
Sensor element	Pt1000 Class AA as per EN 60751	Pt1000 Class AA as per EN 60751	
Sensor housing	INOX steel tube, D= 6 mm, L = 23 mm	INOX steel tube, D= 6 mm, L = 50 mm	
Sensor cable	–	PUR sheath, shielded (LiYC11Y, 2 x 0.25 mm²) length: 3 m	
Voltage supply	24 V_{DC} (12 to 28 V_{DC})		24 V_{DC} (10 to 28 V_{DC})
Galvanic insulation	–		1000 V
Connection cable	PUR sheath, shielded (LiYC11Y, 4 x 0.14 mm²)		
Cable length	3 m		3 m
Case size	64 mm x 58 mm x 34 mm		98 mm x 64 mm x 34 mm
Weight	260 g	370 g	500 g

Note about Ta-I-4090: The measurement electronics causes self-heating of the sensor element and hence may result in slightly higher measurement readings. This effect can be minimised by improving the heat dissipation of the housing. Alternatively the sensor type Ta-ext-I-4090 can be used. If in doubt, please contact the manufacturer.

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Passive Temperature Sensors			
	Ta-Pt100	**Ta-Pt1000**	**Ta-ext-Pt1000**
			
Measurement uncertainty	0.35 K at -40 to +90 °C		0.25 K at -40 to +90 °C
Sensor element	Pt100 Class AA as per EN 60751	Pt1000 Class AA as per EN 60751	Pt1000 Class AA as per EN 60751
Sensor housing	INOX steel tube, D= 6 mm, L = 23 mm		INOX steel tube, D= 6 mm, L = 50 mm
Connection cable	PUR sheath, shielded (LiYC11Y, 4 x 0.14 mm²)		–
Cable length	3 m		–
Case size	64 mm x 58 mm x 34 mm		
Weight	260 g		275 g

Accessories

Protection shield	Shield-Tamb-Si	Weather and radiation shield for ambient temperature sensor (fits to all Ta-ext types), needed for IEC 61724-1
Junction box set	JB-01	Junction box with cable glands and spring terminals

→ See also data sheet of accessories for further technical information.

Scope of Delivery

All types	Instruction manual
	Calibration certificate (not for Ta-Pt100, Ta-Pt1000 and Ta-ext-Pt1000)

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