

# Ta-V-4090 and Ta-I-4090

Ambient Temperature Sensor with analog Output



## Short Description

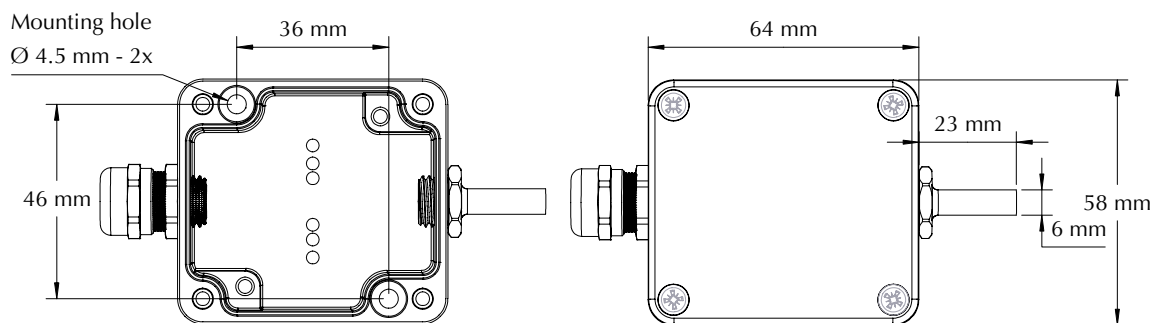
Our ambient temperature sensors come equipped with a stable Aluminium housing and a robust weatherproof cable. Thanks to the use of top quality components the sensors achieve very high accuracy and are ideal for use in industrial and field environments (PV plant or monitoring of engineering room). All sensors are shipped with a calibration protocol for the measuring amplifier.

## Technical Data

Type	Ta-V-4090	Ta-I-4090
Output Signal	0 to 10 V at -40 to +90°C	4 to 20 mA at -40 to +90°C
Uncertainty (-40 to +80°C)	1 K (as per IEC 61724-1)	1 K* (as per IEC 61724-1)
Uncertainty (-40 to +60°C)	0.7 K (as per IEC 61724-1)	0.7 K* (as per IEC 61724-1)
Load	min. 100 kΩ	max. 400 Ω
Current	approx. 2 mA	max. 25 mA
Voltage Supply	12 to 28 VDC	
Sensor Element	Pt1000 Class A as per EN 60751	
Sensor Housing	Stainless Steel Jacket, Diameter 6 mm, Length 23 mm	
Case Material	Powder Coated Aluminium	
Case Dimension / Protection Level	64 mm x 58 mm x 34 mm / IP 67	
Weight	approx. 260 g	
Operating Condition	-40 to +80°C	
Connection Cable	Length: 3 m, PUR coated, shielded (LiYC11Y, 4 x 0.14 mm <sup>2</sup> )	
Customs Tariff Number / HS Code	90 25 19 00	

\* 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.

## Drawing



## Ta-V-4090 and Ta-I-4090 Ambient Temperature Sensor

### Safety Instructions

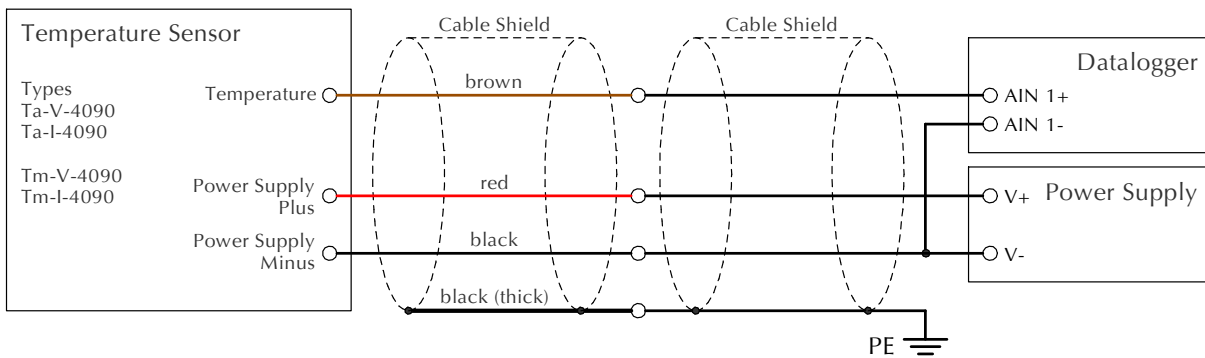
The installation and assembly of electrical equipment must be carried out by electrically qualified persons. The sensor may not be used with equipment whose direct or indirect purpose is to prevent human death or injury, or whose operation poses a risk to humans, animals or property.

### Electrical Connection

The sensors are designed for **safety extra-low voltage (SELV)** operation. The maximum power of the voltage supply is 50 VA („Class 2 limited power“).

The cable shield shall be connected to the PE during installation.

**WARNING: Connecting the supply voltage to the signal lines will damage the device.**



### Maximum Additional Cable Length of Temperature Sensors with 3 m Connection Cable

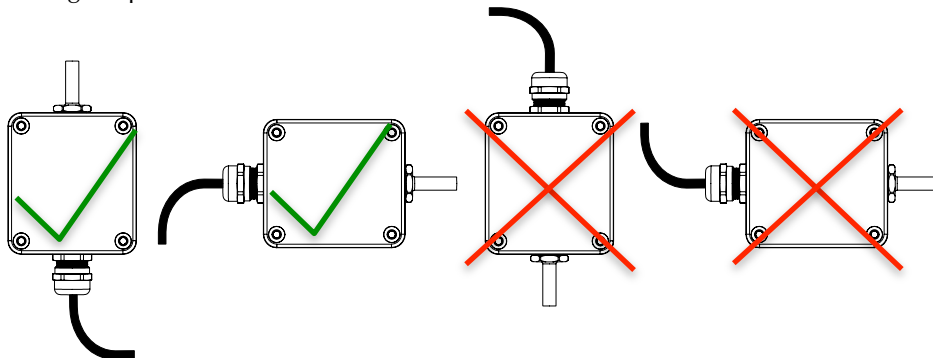
Sensor Type	Cable Cross Section						
	0.14 mm <sup>2</sup>	0.25 mm <sup>2</sup>	0.34 mm <sup>2</sup>	0.5 mm <sup>2</sup>	0.75 mm <sup>2</sup>	1.0 mm <sup>2</sup>	1.5 mm <sup>2</sup>
Ta-V-4090	30 m	50 m	70 m	100 m	100 m	100 m	100 m
Ta-I-4090	200 m	200 m	200 m	200 m	200 m	200 m	200 m

Note: For Ta-I-4090 maximum internal resistance of data logger 200 Ω.

### Installation Instructions

If mounted outdoors, avoid direct exposure to sunlight and rain (if necessary, provide protection from the sun and rain).

The through holes used to fix the sensor to a stable and suitable surface shall be accessible when the housing is opened. The tightening torque of the case cover is 180 Ncm.



### Maintenance

Scope of the regularly check (at least every 2 years): Cleaning, external damage, mechanical fastening, cable laying and any damage to the cable.

Should damage be found that degrades the function or safety, the sensor is to be replaced.

A recalibration is recommended at least every 3 years.

### User information

The sensor is designed for the measurement of air temperature. The warranty is for 1 year from the date of the invoice for the intended use. M&T does not accept any liability for possible losses or damage due to the incorrect usage of the sensor. Liability for consequential damages is excluded.