Ta-Pt100 and Ta-Pt1000

Ambient Temperature Sensor with Platinum Resistance

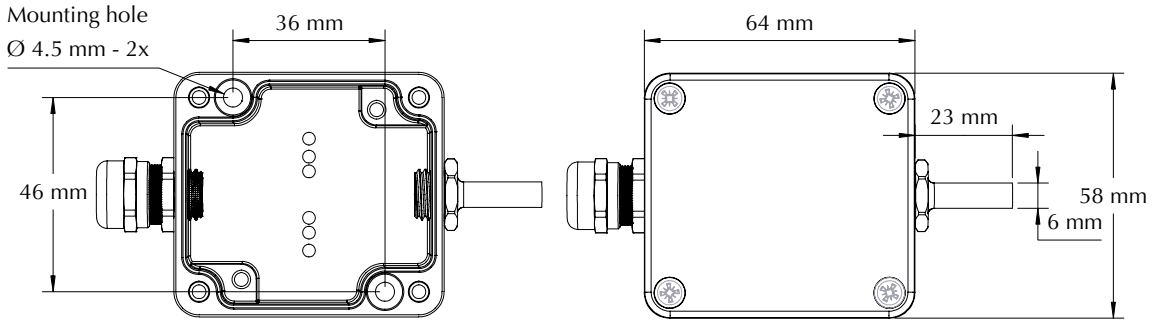
Short Description

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 (PV module temperature) environments.
If required, the sensors can be ordered with an inspectioncertificate 3.1 as per DIN EN 10204.

Technical Data

Type	Ta-Pt100	Ta-Pt1000
Sensor Element	Pt100 Class A as per EN 60751	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 mm²)	
Customs Tariff Number	90 25 19 00	

Drawing



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Ta-Pt100 and Ta-Pt1000

Ambient Temperature Sensor with Platinum Resistance

SafetyInstructions

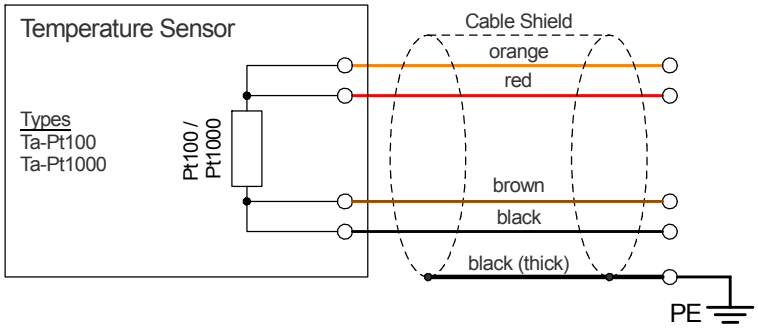
The installation and assembly of electrical equipment must be carried out by electrically qualified persons.

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 cable shield shall be connected to the PE during installation.



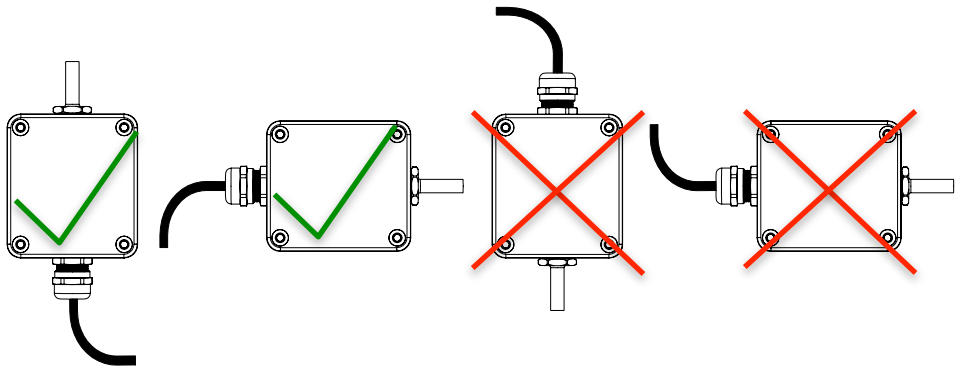
Maximum Cable Length of Temperature Sensors

Sensor Type	Cable Cross Section						
	0.14 mm²	0.25 mm²	0.34 mm²	0.5 mm²	0.75 mm²	1.0 mm²	1.5 mm²
Ta-Pt100, 2-Wire	2-wire Meassurement not allowed						
Ta-Pt100, 4-Wire	20 m	20 m	20 m	20 m	20 m	20 m	20 m
Ta-Pt1000, 2-Wire	5 m	10 m	10 m	15 m	20 m	20 m	20 m
Ta-Pt1000, 4-Wire	20 m	20 m	20 m	20 m	20 m	20 m	20 m

Installation Instructions

If mounted outdoors, avoid direct exposure to sun light 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

The sensors should be checked once a year for damage, contamination and correct fitting.

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.

Ta-ext-Pt1000

Ambient Temperature Sensor with external Sensor and Platinum Resistance

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).
If required, the sensors can be ordered with an inspection certificate 3.1 as per DIN EN 10204.
Furthermore the disturbance of the measurement accuracy can be reduced with the optional weather protection (Shield Tamb-Si).

Technical Data

Type	Ta-ext-Pt1000
Sensor Element	Pt1000 1/3 Class B as per EN 60751
Sensor Housing	INOX steel tube, 6 mm diameter, 50 mm length
Sensor Cable	3 m LiYC11Y, 4 x AWG 26, black, weather and uv-resistant
Case Material	Powder-Coated Aluminium
Case Dimension / Protection Level	64 mm x 58 mm x 34 mm / IP 67
Weight	approx. 275 g
Operating Condition	-40 to +80°C
Customs Tariff Number	90 25 19 00

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Ta-ext-Pt1000

Ambient Temperature Sensor with external Sensor and Platinum Resistance

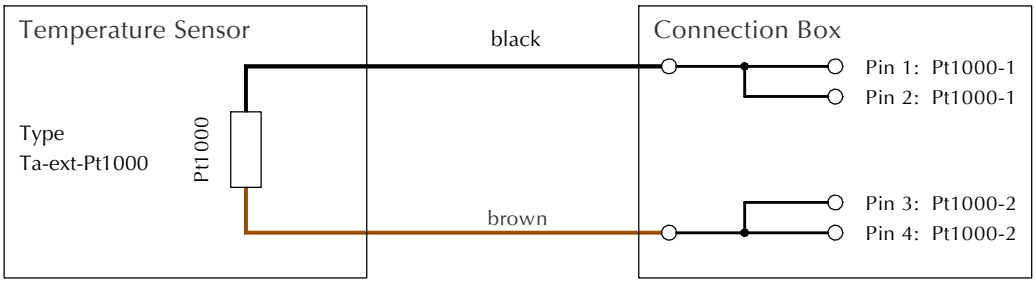
Safety Instructions

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.

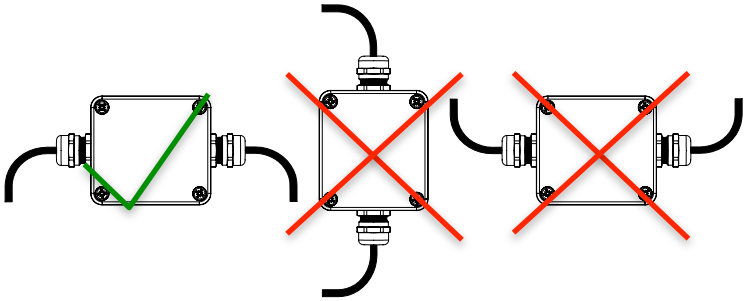


Installation Instructions

If mounted outdoors, avoid direct exposure to sunlight and rain to the sensor housing (INOX steel tube). If necessary, provide protection from the sun and rain with the optional Shield Tamb-Si.

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.

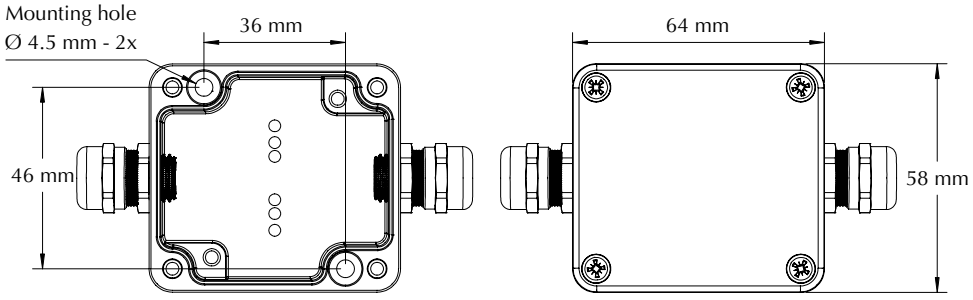


Optional weather protection
Shield Tamb-Si

Maintenance

The sensors should be checked once a year for damage, contamination and correct fitting.

Drawing



Ta-V-4090 and Ta-I-4090

Ambient Temperature Sensor with analog Output

Short Description

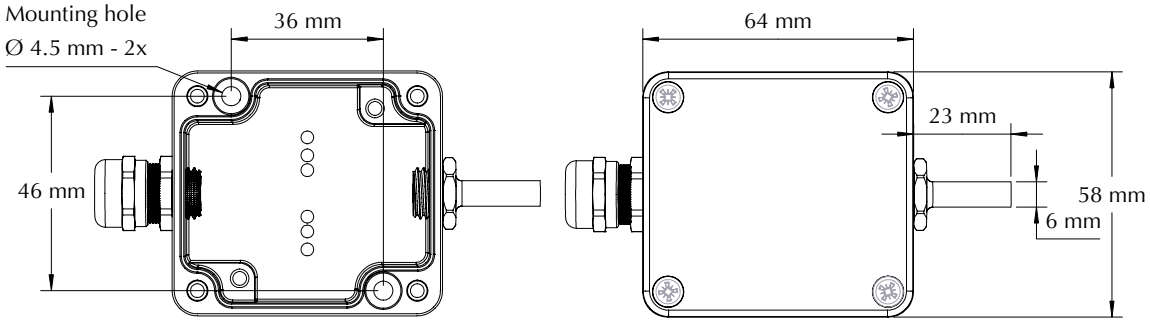
Our ambient temperature sensors come equipped with a stable Aluminium housing and a robust weatherproof cable. Thanks to the use of top quality components the sensors achieve very high accuracy and are ideal for use in industrial and field environments(PV plant or monitoring of engineering room).
All sensors are shipped with a calibration protocol for the measuring amplifier.
If required, the sensors can be ordered with an inspection certificate 3.1 as per DIN EN 10204.

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	1 K*
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 mm²)	
Customs Tariff Number	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



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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.

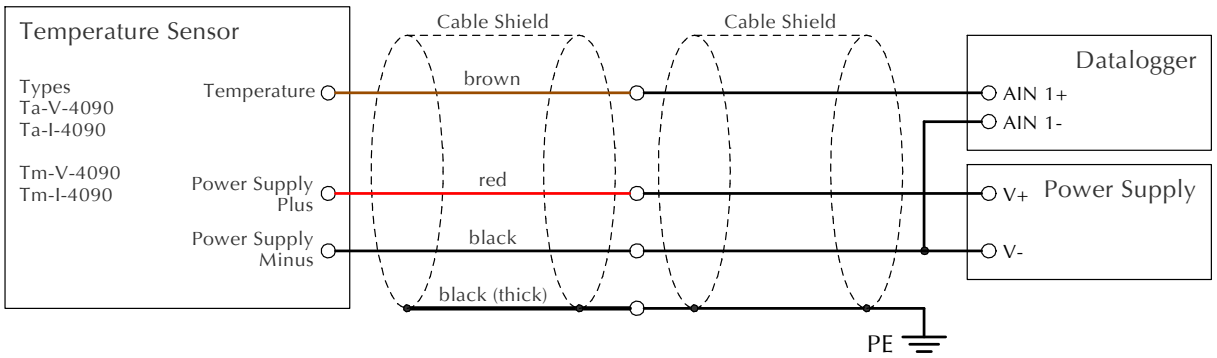
The sensor may not be used with equipment whose direct or indirect purpose is to prevent human death or injury, or whose operation poses a risk to humans, animals or property.

Electrical Connection

The sensors are designed for safety extra-low voltage (SELV) operation.

The 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

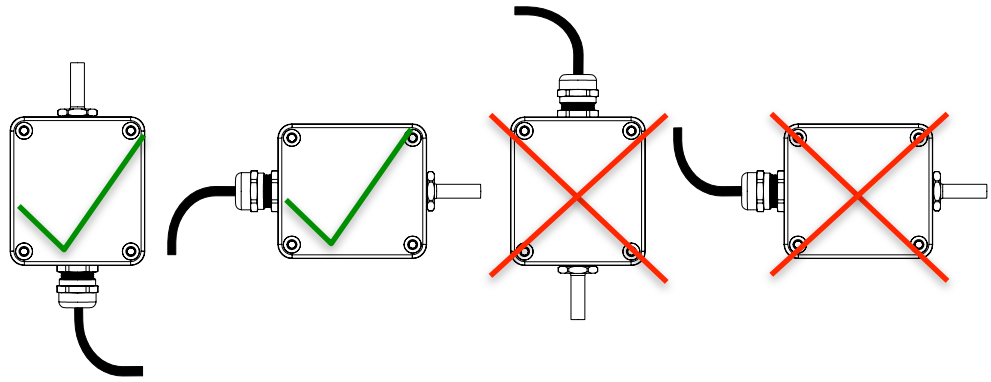
Sensor Type	Cable Cross Section						
	0.14 mm²	0.25 mm²	0.34 mm²	0.5 mm²	0.75 mm²	1.0 mm²	1.5 mm²
Ta-V-4090	30 m	50 m	70 m	100 m	100 m	100 m	100 m
Ta-I-4090	200 m	200 m	200 m	200 m	200 m	200 m	200 m

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

The sensors should be checked once a year for damage, contamination and correct fitting.

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.

Ta-ext-V-4090 and Ta-ext-I-4090

Ambient Temperature Sensor with external Sensor and analog Output

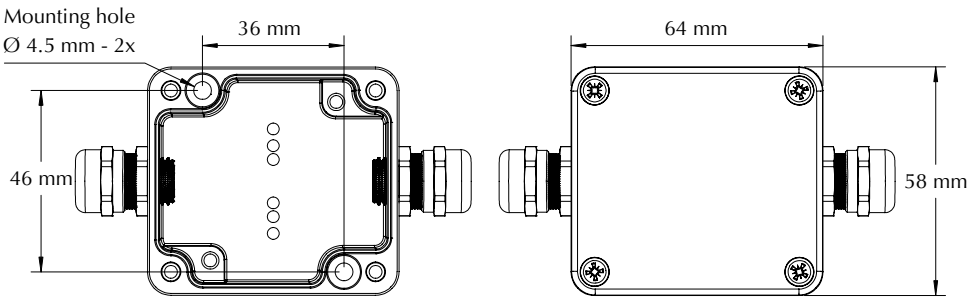
Short Description

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.
If required, the sensors can be ordered with an inspection certificate 3.1 as per DIN EN 10204.
Furthermore the disturbance of the measurement accuracy can be reduced with the optional weather protection (Shield Tamb-Si).

Technical Data

Types	Ta-ext-V-4090	Ta-ext-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	1 K*
Load	min. 100 kΩ	max. 400 Ω
Current	appr. 2 mA	max. 25 mA
Voltage Supply	12 to 28 VDC	
Sensor Element	Pt1000 1/3 Class B as per EN 60751	
Sensor Housing	INOX steel tube, 6 mm diameter, 50 mm length	
Sensor Cable	3 m 2/Y-FC11Y, 2 x 0.25 mm², black, weather and uv-resistant	
Case Material	Powder Coated Aluminium	
Case Dimension / Protection Level	64 mm x 58 mm x 34 mm / IP 67	
Weight	appr. 370 g	
Operating Condition	-40 to +80 °C	
Connection Cable	Length: 3 m, PUR coated, shielded (LiYC11Y, 4 x 0.14 mm²)	
Customs Tariff Number	90 25 19 20	

Drawing



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Ta-ext-V-4090 and Ta-ext-I-4090

Ambient Temperature Sensor

Safety Instructions

The installation and assembly of electrical equipment must be carried out by electrically qualified persons.

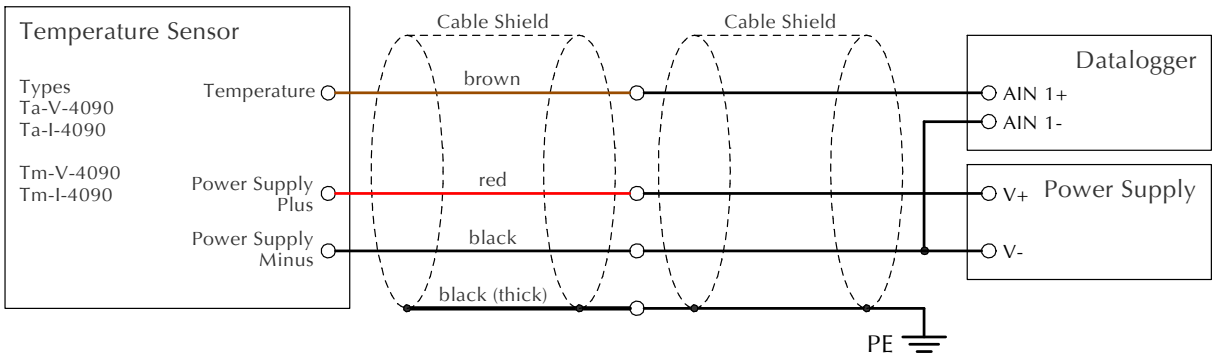
The sensor may not be used with equipment whose direct or indirect purpose is to prevent human death or injury, or whose operation poses a risk to humans, animals or property.

Electrical Connection

The sensors are designed for safety extra-low voltage (SELV) operation.

The 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 diameter						
	0.14 mm²	0.25 mm²	0.34 mm²	0.5 mm²	0.75 mm²	1.0 mm²	1.5 mm²
Ta-ext-V-4090	30 m	50 m	70 m	100 m	100 m	100 m	100 m
Ta-ext-I-4090	200 m	200 m	200 m	200 m	200 m	200 m	200 m

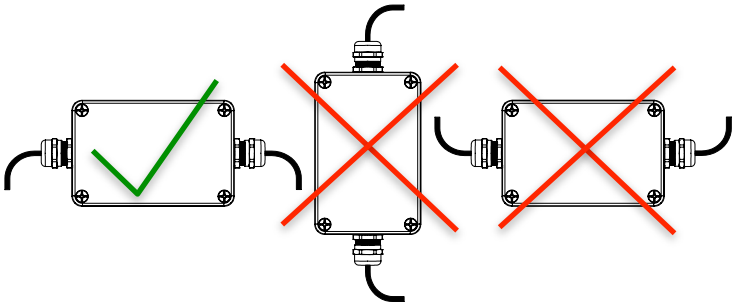
Note: For Ta-ext-I-4090 maximum internal resistance of data logger 200 Ω.

Installation Instructions

If mounted outdoors, avoid direct exposure to sunlight and rain to the sensor housing (INOX steel tube). If necessary, provide protection from the sun and rain with the optional Shield Tamb-Si.

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.



Optional weather protection
Shield Tamb-Si

Maintenance

The sensors should be checked once a year for damage, contamination and correct fitting.

Ta-ext-RS485-MB / Ta-ext-RS485-MT

Ambient Temperature Sensor with RS485 Interface

INGENIEURBÜRO
MENCKE & TEGTMEYER GMBH

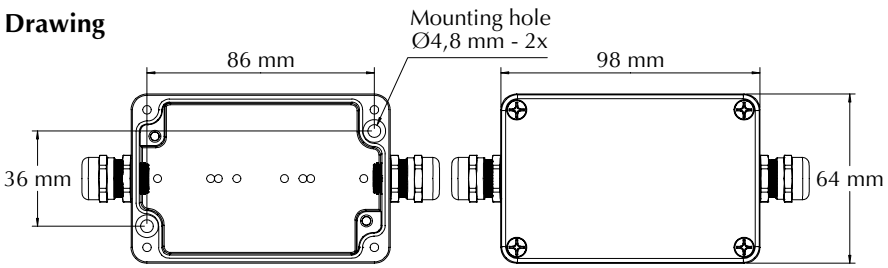
Short Description

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.
If required, the sensors can be ordered with an inspection certificate 3.1 as per DIN EN 10204.
Furthermore the measurement accuracy can be improoved with the optional weather protection (Shield Tamb-Si).

Technical Data

Type	Ta-ext-RS485-MB	Ta-ext-RS485-MT
Interface	RS485	
Protocol	MODBUS	MT
Measuring Range	-40 to +90°C	
Uncertainty (-40 to +90°C)	1 K	
Supply Voltage	24 VDC (10 to 28 VDC)	
Current	Typical 25 mA at 24 VDC	
Galvanic Isolation	1000 VDC between RS485 and Voltage Supply	
Sensor Element	Pt1000 1/3 Class B as per EN 60751	
Sensor Housing	INOX steel tube, 6 mm diameter, 50 mm length	
Sensor Cable	Length: 3 m, PUR coated, shielded (LiYC11Y, 4 x 0.14 mm²)	
Case Material	Powder Coated Aluminium	
Case Dimension / Protection Level	98 mm x 64 mm x 34 mm / IP 67	
Weight	approx. 530 g	
Operating Condition	Sensor Element -40 to +90°C / Case -40 to + 80°C	
Sensor Cable	Length: 6 m, PUR coated, shielded (LiYC11Y, 4 x 0.14 mm²)	
Customs Tariff Number	90 25 19 00	

Drawing



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Ta-ext-RS485-MB / Ta-ext-RS485-MT

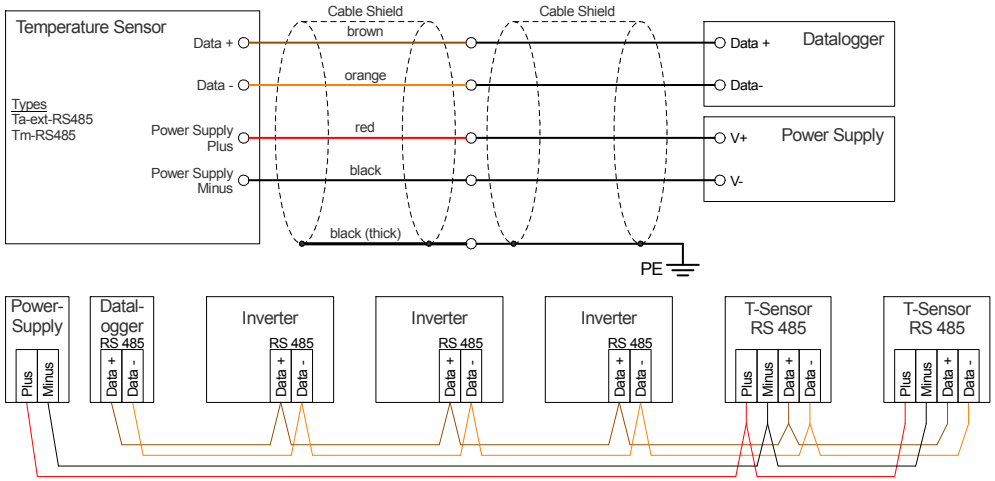
Ambient Temperature Sensor with RS485 Interface

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 cable shield shall be connected to the PE during installation.
WARNING: Connecting the supply voltage to the signal lines will damage the device.



Modbus Note: All bus participants with Modbus protocol (RTU) identical Modbus parameters but different address.

Maximum additional cable length for sensors with 6 m connection cable at voltage supply of 24 VDC / 12 VDC

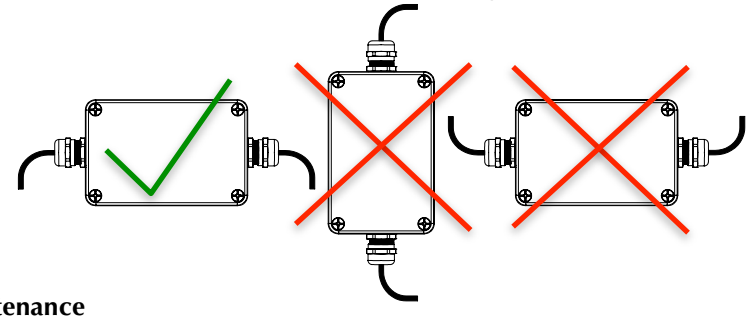
Cable Cross Section						
0.14 mm²	0.25 mm²	0.34 mm²	0.5 mm²	0.75 mm²	1.0 mm²	1.5 mm²
300m / 50m	600m / 100m	800m / 150m	1000m / 200m	1000m / 300m	1000m / 400m	1000m / 650m

Installation Instructions

If mounted outdoors, avoid direct exposure to sunlight and rain to the sensor housing (INOX steel tube). If necessary, provide protection from the sun and rain with the optional Shield Tamb-Si.

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.

The sensor cable fixed at the premounted cable grip.



Maintenance

The sensors should be checked once a year for damage, contamination and correct fitting.

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.

Optional weather protection
Shield Tamb-Si