

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

Ambient Temperature Sensor with RS485 Interface



## Short Description

Our ambient temperature sensors come equipped with a stable Aluminum 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).

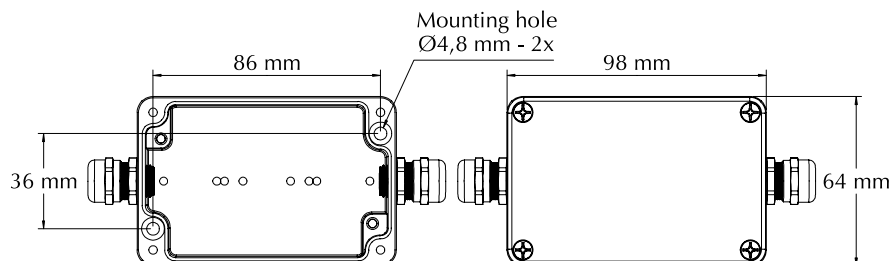
All sensors are shipped with a calibration protocol for the measuring amplifier.

Furthermore the measurement accuracy can be improved with the optional weather protection (Shield Tamb-Si). The sensors comply to all requirements (when used with Shield Tamb-Si) as per IEC 61724-1.

## 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 (-40 bis +90°C) / 0,7 K (-40 bis +60°C)	
Supply Voltage	24 VDC (10 to 28 VDC)	
Current	Typical 25 mA at 24 VDC	
Galvanic Isolation	1,000 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 (Pt1000)	Length: 3 m, PUR coated, shielded (LiYC11Y, 2 x 0,25 mm <sup>2</sup> )	
Case Material	Powder Coated Aluminum	
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 mm <sup>2</sup> )	
Customs Tariff Number / HS Code	90 25 19 00	

## Drawing



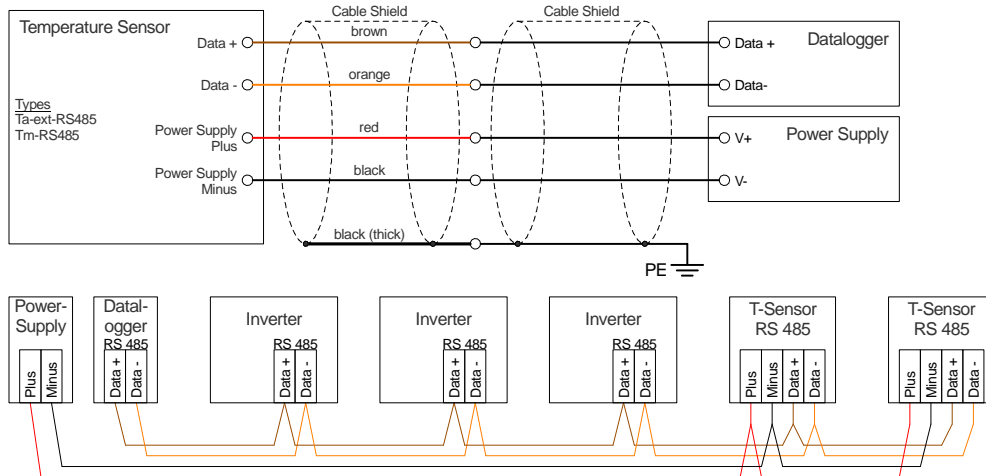
### Safety Instructions

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

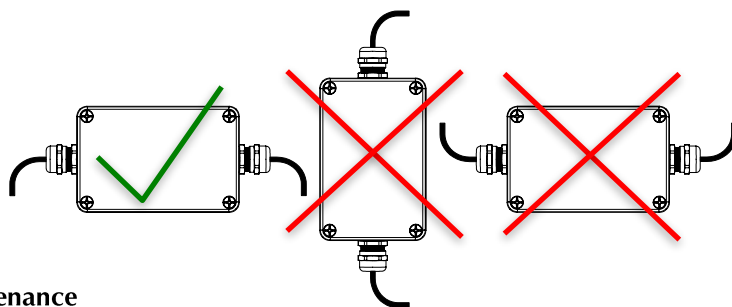
Cable Cross Section						
0.14 mm <sup>2</sup>	0.25 mm <sup>2</sup>	0.34 mm <sup>2</sup>	0.5 mm <sup>2</sup>	0.75 mm <sup>2</sup>	1.0 mm <sup>2</sup>	1.5 mm <sup>2</sup>
300m / 50m	600m / 100m	800m / 150m	1000m / 200m	1000m / 300m	1000m / 400m	1000m / 650m

### 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

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.



Optional weather protection  
**Shield Tamb-Si**