

PRODUCT CHANGE NOTIFICATION

New Design from July 2023

Due to the disproportionate increase in copper prices over the last 12 months, and reduced availability, it is no longer viable for Micha to continue manufacturing our existing range of temperature sensors which incorporate the M10 cable lug covering the sensor.

Recent feedback from customers suggests that there was no direct benefit or advantage in having the M10 terminal, and having carried out successful thermal testing with the revised design, we will be changing to the revised design with immediate effect.

As the temperature sensors are used with a variety of different charge controllers, they will no longer be described as an “MSRx Temperature Sensor” but by the simplified “MTS” (Micha Temperature Sensor) name.

Old version up to July 2023

Sensor housed in M10 Cable Lug.



New version from July 2023

Sensor housed in PVC cap.



In addition to the existing standard cable options, we are now offering the new range of MTS assemblies in UV resistant cable and H07RN-F (2 x 1mm²) cable.

Being electrically identical, the MTS range is 100% backward compatible with the previous version.

Please refer to the latest version of our Temperature Sensors Datasheet:
(www.micha.co.uk/pdf/Micha_Temperature_Sensors.pdf)
for full technical specifications, plus details and order codes for the full range.

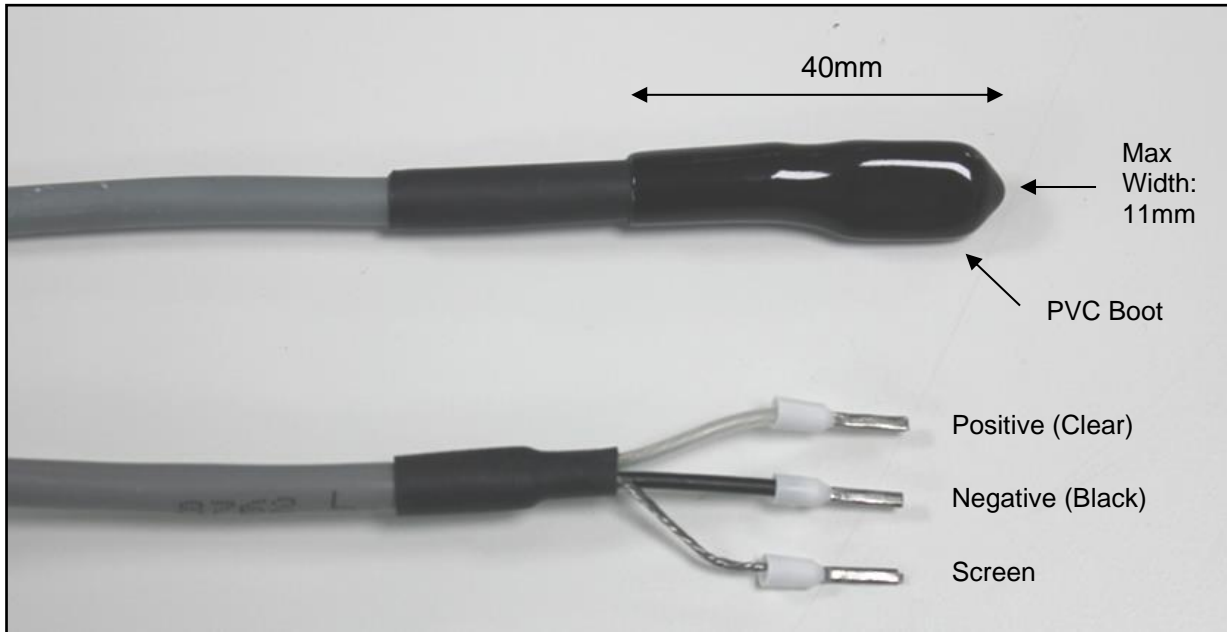
Note: It will be possible to order the original sensor with M10 copper lug if required – please contact sales@micha.co.uk for pricing and lead times.

Attached to this document are both the new and old datasheets for reference and comparison.

Update : New Design from July 2023

The **Micha Temperature Sensor** (MTS range) is manufactured with a PVC boot covering the sensor end, replacing the tinned-copper M10 cable lug. A variety of lengths of standard polyethylene cable are available, as well as alternative cable types – see table below for part numbers.

The sensing circuit utilizes the temperature characteristics of the LM334 Current Generator IC from National Semiconductor. Based on passing a current proportional to temperature, it is more immune to external interference than equivalent voltage sourcing temperature transducers, and is not affected by extending or shortening the cable. The use of the screen is optional but recommended.



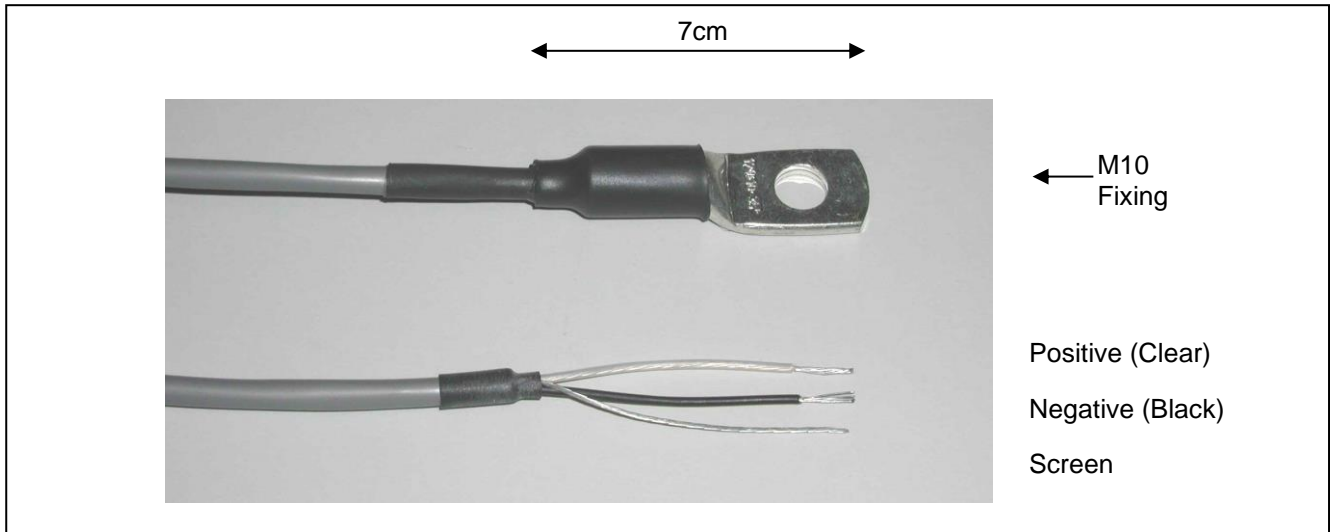
Specifications:	Standard Cable	UV Resistant Cable	H07RN-F Cable
Material:	Grey Polyethylene	Black PE	Black Elastomer
Cores:	2 x 0.56mm ² + screen	2 x 0.75mm ² + screen	2 x 1.0mm
Nom O/D:	5.2mm	5.8mm	7.5mm
Connection:	Clear: Pos Black: Neg	Clear: Pos Black: Neg	Brown: Pos Blue: Neg
Accuracy:	Nominal ±3°C	Nominal ±3°C	Nominal ±3°C
Temp Range:	-30°C to +60°C	-30°C to +60°C	-30°C to +60°C

Part Numbers:	Standard Cable	UV Resistant Cable	H07RN-F Cable
Length:	MTS-xx	MTS-UVR-xx	MTS-H07RN-xx
1m	103 880	-	-
5m	103 881	103 891	103 901
10m	103 882	103 892	103 902
15m	103 883	103 893	103 903
20m	103 884	103 894	103 904
25m	103 885	103 895	103 905
30m	103 886	103 896	103 906
35m	103 887	103 897	103 907

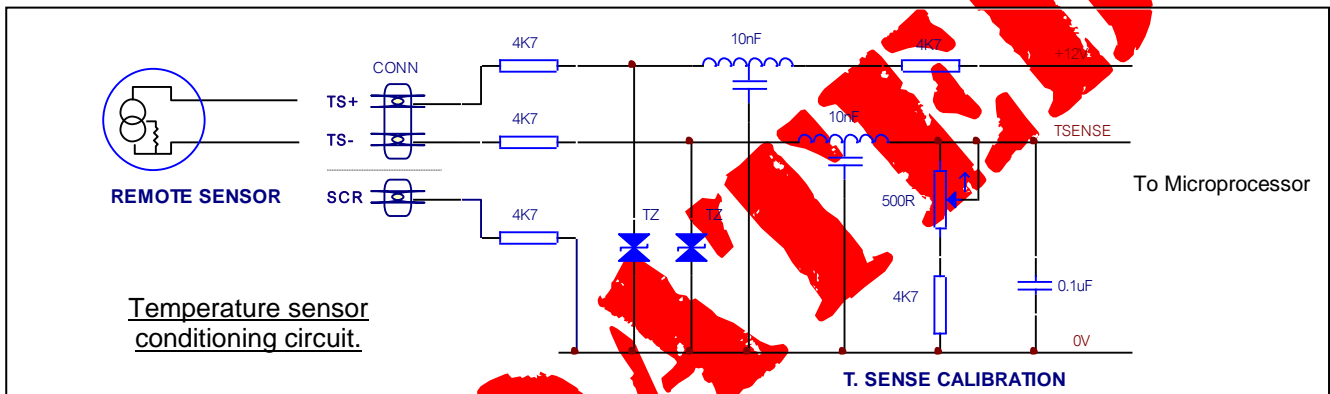
Custom cable lengths can be manufactured to order.

Country of Origin & Manufacture: United Kingdom - HS Code/Commodity Code: 90328900

The **MSRx Temperature Sensor** is encapsulated in a robust housing, suitable for fitting within a battery enclosure or directly to battery terminals for accurate battery temperature monitoring. It is supplied with a 10m cable as standard which may be easily cut to the appropriate length.



The sensing circuit utilizes the temperature characteristics of the LM334 Current Generator IC from National Semiconductor. Based on passing a current proportional to temperature, it is more immune to external interference than equivalent voltage sourcing temperature transducers. The use of the screen, which is not electrically connected to either the sensing wires or the housing, is optional but recommended. It may be connected to an adjacent terminal marked "SCR" which is connected to the circuit 0V via a 4K7 resistor.



The sensor passes $1\mu\text{A} / ^\circ\text{K}$ which is equivalent to $273.2\mu\text{A}$ at 0°C / $293.2\mu\text{A}$ at 20°C / $313.2\mu\text{A}$ at 40°C . This current is converted into a voltage (TSENSE) which is read by the microcontroller, and for greater accuracy, may be trimmed by adjusting the 500R potentiometer. See the Charge Controller manual for further details.

Specification:

Accuracy: Nominal 3%
Housing: Tinned copper lug with M10 fixing hole
Temp range: -30°C to $+60^\circ\text{C}$

Cable: Twisted pair of 0.52^2mm stranded conductors with polyethylene insulation.
 Screen: Aluminised tape with drain wire.
 Outer sheath: PVC
 Nominal outside diameter: 5.2mm

MSRx Temperature Sensor Part Numbers:		101 303 :	15m cable
101 369 :	1m cable	101 918 :	20m cable
101 301 :	5m cable	102 262 :	25m cable
101 302 :	10m cable (standard length)	102 192 :	30m cable

Part number 101 302 is a direct replacement for Temperature Sensor PN 100 823

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