

T1E0210A-20

➤ Miniature Thermocouple

Properties

- Fast response
- Thermocouples type J
- Low linearity error
- Miniature thermocouple

Application

- General test and measurement
- Fatigue
- Vehicle crash

Measurement principles

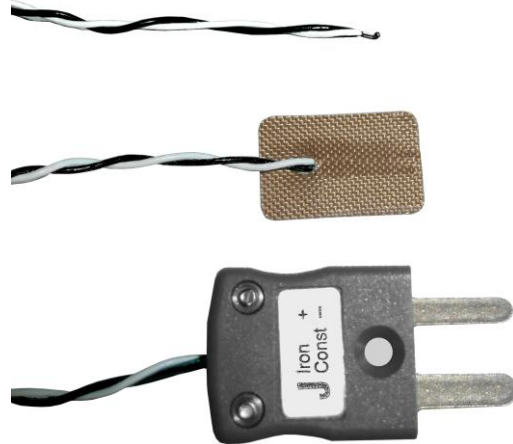
- Seebeck effect

Options

- Cable length

Technical description

If two different conductor materials contact each other, a potential difference arises related to a reference point that is directly proportional to the temperature difference of the measuring point and reference point. Different material pairings result in different thermal voltages (thermal EMFs) and linearity's. The nickel-chromium/nickel (type K, color code green according to IEC) and the iron-copper/nickel (type J, color code black according to IEC) are frequently used thereby. In order to prevent further thermo voltages, both the plug contacts of the connector as well as outgoing cables must consist of the same material pair or consist of materials with similar characteristics (compensating cable). The thermocouple module type T1E0B10A or other signal processing modules or display units with cold junction compensation are suitable for signal evaluation.



Technical Data Sheet



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Technical specification

	Unit	Value	Comment
Measuring range Type J	°C	-50 to +250	Restricted by the isolated material
Sensitivity ¹⁾ Type J	µV/°C	50	Depending on the applied temperature
Diameter Conductor Isolation	mm	0.2 1.0	Per core
Color coding Type J	–	Black	According to IEC
Isolated material	–	PFA	
Connection cable	m	2.0	Standard
Adhesive pad Length Width	mm	18 13	For surface mounting (loosely enclosed)
Weight (approximate)	g	< 10	Without connecter

All values measured at 10 V sensor supply voltage and at 23 °C.

¹⁾ Typical value