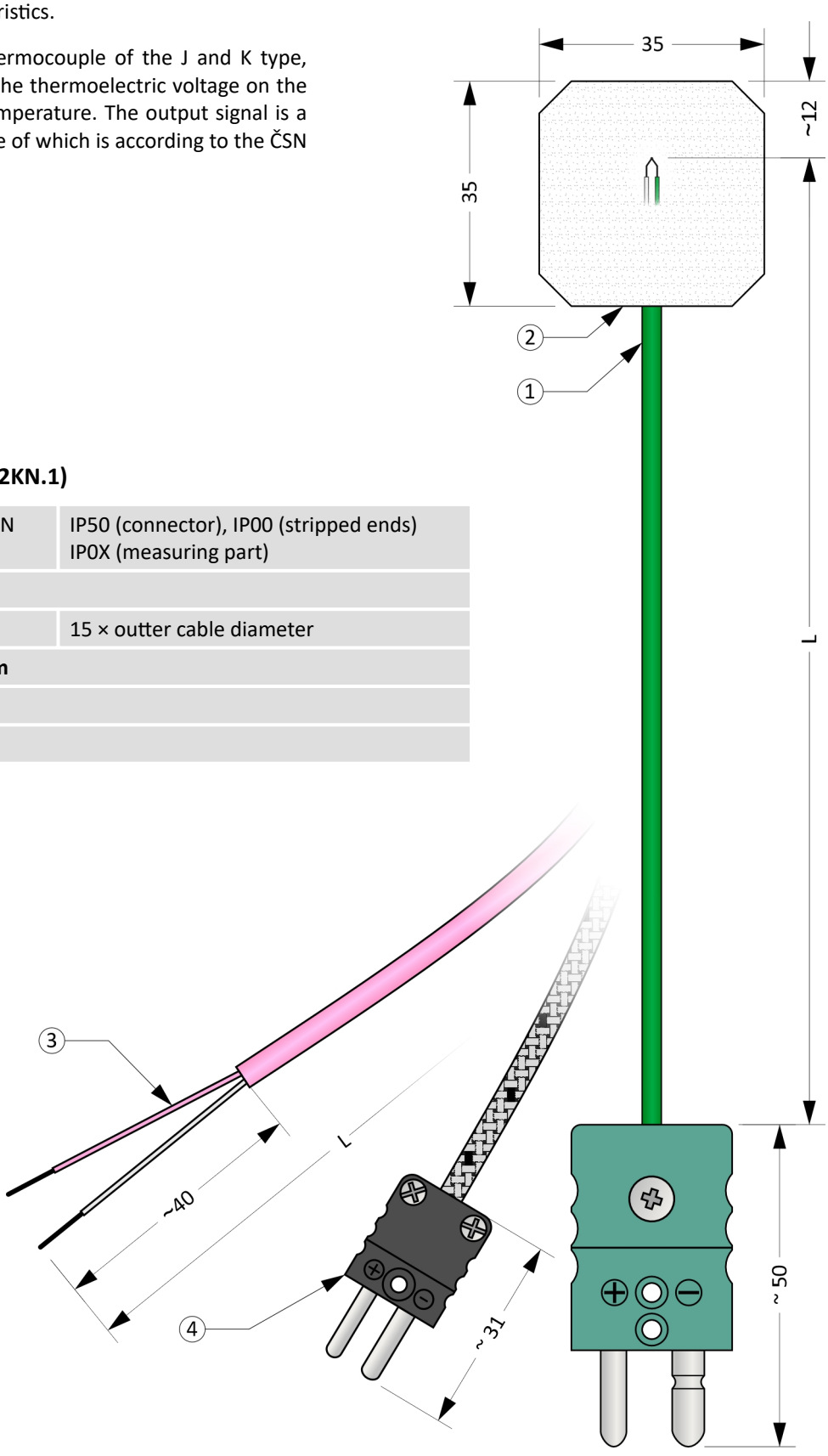
MTC12KN

CABLE THERMOCOUPLES

Temperature sensors of the MTC12KN series are cable temperature sensors designed to be glued to the measured object. They represent a cost-effective solution at the price of certain compromises in sensor characteristics.

The measuring element is a thermocouple of the J and K type, which uses the dependence of the thermoelectric voltage on the temperature to measure the temperature. The output signal is a thermoelectric voltage, the value of which is according to the ČSN EN 60584-1 ed. 2.



General Information (Table 12KN.1)

	Insulation class acc. ČSN EN 60529	IP50 (connector), IP00 (stripped ends) IP0X (measuring part)
①	**Cable thermocouple**	
	Min. bending radius	15 × outter cable diameter
②	**Adhesive tape 35 x 35 mm**	
③	**Stripped ends**	
④	**Connector**	

Figure 12KN.1: MTC12KN

Optional Parameters Including the Creation of an Order Code (Table 12KN.2)

Pos.	Code	MTC12KN - ❶❷ - ❸ - ❹
❶	**Thermocouple type J, accuracy class 2 acc. ČSN EN 60584-1 ed. 2 - cable type**	
	1	Cable GLGL wrap, 2 x 0,2 mm, solid
	Thermocouple type K, accuracy class 2 acc. ČSN EN 60584-1 ed. 2 - cable type	
	0	Cable GLGL wrap, 2 x 0,2 mm, solid
	2	Cable TT oval, 2 x 0,2 mm, solid
❷	**Thermocouple measuring end design**	
	0	Insulated thermocouple, IP5x dle ČSN EN 60529
	1	Non-insulated thermocouple, IP0x dle ČSN EN 60529
❸	**Sensor length L [cm]**	
	xxx	Selectable range from 50 cm to 450 cm (in 1 cm increments)
	xxx	Selectable range from 460 cm to 3 500 cm (in 10 cm increments)
❹	**Design of the cold junction**	
	0	Stripped ends, length 40 mm
	1	Standard connector, MTCK-S type, plug
	2	Standard connector, MTCK-S type, plug + socket
	3	Miniature connector, MTCK-M type, plug
	4	Miniature connector, MTCK-M type, plug + socket
	5	Ceramic standard connector, MTCK-CS type, plug
	6	Ceramic standard connector, MTCK-CS type, plug + socket
	7	Ceramic miniature connector, MTCK-CM type, plug
	8	Ceramic miniature connector, MTCK-CM type, plug + socket

Order code example: MTC12KN-00-500-0
... Thermocouple type K, accuracy class 2, GLGL wrap 2 x 0,2 mm, solid
... Insulated thermocouple, IP5x dle ČSN EN 60529
... Sensor length L = 500 cm
... Stripped ends

Approximate weight of the product: MTC12KN-00-500-0 ... 0,2 kg

Recommended Maximum Temperatures of Sensor Parts (Table 12KN.3)

Sensor part	Insulation type	Continuous operation	Short-term operation
Measuring end		0 ... 180 °C	-
Cable	TT	-200 ... 205 °C	-
	GLGL	-200 ... 400 °C	-
Connectors MTCK-S, MTCK-M		See cable insulation, max. 220 °C	-
Connectors MTCK-CS, MTCK-CM		See cable insulation	-

Length Tolerances (Table 12KN.4)

Length L	Tolerance L
50 ≤ L ≤ 250 cm	± 1 cm
250 < L ≤ 500 cm	± 1,5 cm
500 < L ≤ 3500 cm	± 0,5 % z L

Cable Parameters (Table 12KN.5)

Insulation	Number x cross-section / dia. of wires	Outer dia. / size of cable	Pros and cons
TT oval (teflon FEP / teflon FEP)	2 x 0,2 mm	~ 1,3 x 2,0 mm	↗ Great flexibility ↘ Low mechanical resistance
GLGL wrap (glass fiber braid / glass fiber braid)	2 x 0,2 mm	~ 0,6 x 1,0 mm	↗ Good flexibility ↘ Low moisture resistance, low abrasion resistance

Installation And Operating Instructions

The sensor is attached to the object to be measured with adhesive tape on a clean and degreased surface. Repeated sticking of the sensor is not recommended.

The electrical connection of the sensor is shown in Figures 12KN.2 and 12KN.3. The output signal is a thermoelectric voltage, the value of which is according to the ČSN EN 60584-1 ed. 2

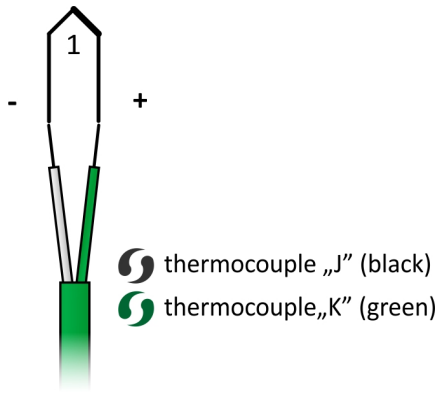


Figure 12KN.2: Single thermocouple wiring diagram

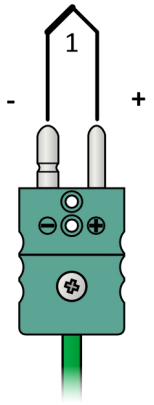


Figure 12KN.3: Connector wiring diagram

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