

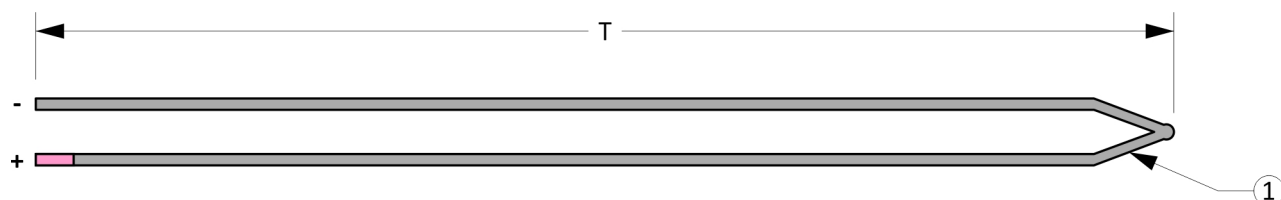
TPO

BASE METAL THERMOCOUPLES

Base metal thermocouples are intended for use in MTC assemblies or stand-alone.

voltage, the value of which is according to the ČSN EN 60584-1 ed. 2.

The output signal of thermocouple is a thermoelectric



General Information (Table TPO.1)

①	Bare thermocouple	
②	Thermocouple with one wire insulated with ceramic beads	
	Bead material	C610
③	Thermocouple insulated with ceramic beads	
	Bead material	C610
④	Thermocouple insulated with ceramic capillary	
	Material	C610

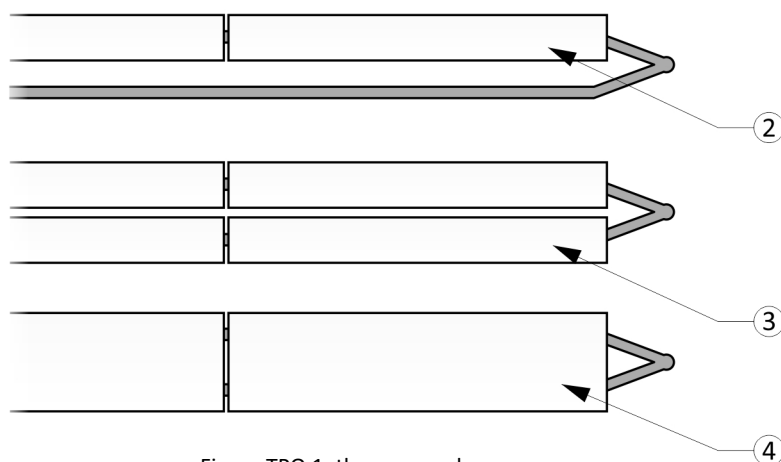


Figure TPO.1: thermocouples

Optional Parameters Including the Creation of an Order Code (Table TPO.1)

Pos.	Code	TPO - ① - ② - ③
①	Thermocouple type	
	N13	Thermocouple type „N“, wire diameter 1,3 mm, accuracy class according to ČSN EN 60584-1 ed. 2
	N30	Thermocouple type „N“, wire diameter 3,0 mm, accuracy class according to ČSN EN 60584-1 ed. 2
	K05	Thermocouple type „K“, wire diameter 0,5 mm, accuracy class according to ČSN EN 60584-1 ed. 2
	K10	Thermocouple type „K“, wire diameter 1,0 mm, accuracy class according to ČSN EN 60584-1 ed. 2
	K138	Thermocouple type „K“, wire diameter 1,38 mm, accuracy class according to ČSN EN 60584-1 ed. 2
	K15	Thermocouple type „K“, wire diameter 1,5 mm, accuracy class according to ČSN EN 60584-1 ed. 2
	K20	Thermocouple type „K“, wire diameter 2,0 mm, accuracy class according to ČSN EN 60584-1 ed. 2
	K30	Thermocouple type „K“, wire diameter 3,0 mm, accuracy class according to ČSN EN 60584-1 ed. 2
	J10	Thermocouple type „J“, wire diameter 1,0 mm, accuracy class according to ČSN EN 60584-1 ed. 2
	J30	Thermocouple type „J“, wire diameter 3,0 mm, accuracy class according to ČSN EN 60584-1 ed. 2
②	Length T [mm]	
	xxx	Selectable range from 60 to 4500 mm (in 1 mm increments)
	xxx	Selectable range from 4501 (in 100 mm increments)

Continuation of table TPO.2 on the next page

Continuation of table TPO.2 from the previous page

Pos.	Code	TPO - ① - ② - ③
		Insulation design
	0	Bare thermocouple
	1	Thermocouple with one wire insulated with ceramic beads $\varnothing 2,7/1,7 \times 50$ mm — Wire dia. ≤ 1 mm.
	2	Thermocouple insulated with ceramic beads $\varnothing 2,7/1,7 \times 50$ mm — Wire dia. ≤ 1 mm.
③	3	Thermocouple with one wire insulated with ceramic beads $\varnothing 4,0/2,0 \times 50$ mm — Wire dia. $1 < \varnothing \leq 1,5$ mm.
	4	Thermocouple insulated with ceramic beads $\varnothing 4,0/2,0 \times 50$ mm — Wire dia. $1 < \varnothing \leq 1,5$ mm.
	5	Thermocouple with one wire insulated with ceramic beads $\varnothing 6,0/4,0 \times 50$ mm — Wire dia. $1,5 < \varnothing \leq 3,0$ mm.
	6	Thermocouple insulated with ceramic beads $\varnothing 6,0/4,0 \times 50$ mm — Wire dia. $1,5 < \varnothing \leq 3,0$ mm.
	7	Thermocouple insulated with ceramic capillary $\varnothing 8,0 \times 50$ mm, bores $2 \times \varnothing 2,0$ mm — Wire dia. $\leq 1,5$ mm.
	8	Thermocouple insulated with ceramic capillary $\varnothing 8,5 \times 50$ mm, bores $4 \times \varnothing 1,8$ mm — Wire dia. $\leq 1,0$ mm.
	9	Thermocouple insulated with ceramic capillary $\varnothing 13 \times 50$ mm, bores $4 \times \varnothing 4,0$ mm — Wire dia. $1,5 < \varnothing \leq 3,0$ mm.

Order code example: TPO-K138-870-1

... Thermocouple type „K“, wire diameter 1,38 mm, třída přesnosti 2

... Length T = 870 mm

... Bare thermocouple

Approximate weight of the product: TPO-K138-870-1 ... < 30 g

Maximum operating temperature of thermocouples (Table TPO.3)

Thermocouple type	Recommended	With limited lifetime
Thermocouple type „N“, wire diameter 1,3 mm	< 950 °C	< 1090 °C
Thermocouple type „N“, wire diameter 3,0 mm	< 1100 °C	< 1260 °C
Thermocouple type „K“, wire diameter 0,5 mm	< 650 °C	< 750 °C
Thermocouple type „K“, wire diameter 1,0 mm	< 870 °C	< 980 °C
Thermocouple type „K“, wire diameter 1,38 mm	< 900 °C	< 1020 °C
Thermocouple type „K“, wire diameter 1,5 mm	< 900 °C	< 1020 °C
Thermocouple type „K“, wire diameter 2,0 mm	< 940 °C	< 1060 °C
Thermocouple type „K“, wire diameter 3,0 mm	< 1000 °C	< 1150 °C
Thermocouple type „J“, wire diameter 1,0 mm	< 400 °C	< 520 °C
Thermocouple type „J“, wire diameter 3,0 mm	< 650 °C	< 760 °C

Notes: Operating temperatures are related to temperature measurement in a chemically inert environment. The values are determined empirically.