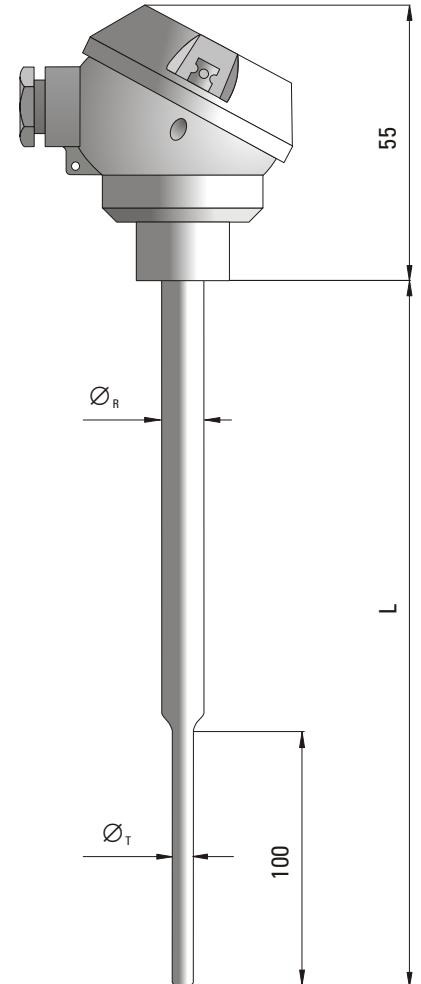


# TEMPERATURE SENSOR

## type 451, 452, 453

### SPECIFICATIONS

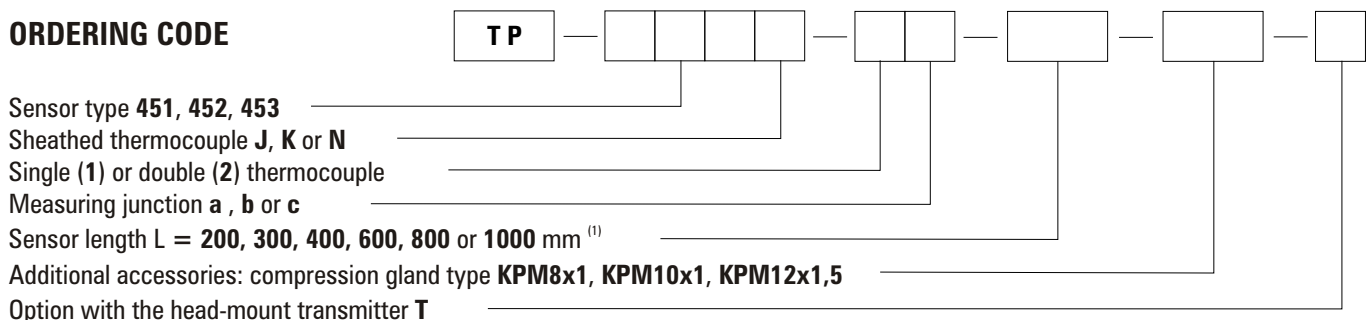
Temperature range	-40°C... +800°C	(J)
	-40°C... +1100°C	(K)
	-40°C... +1250°C	(N)
Sheathed thermocouple	Fe-CuNi	(J)
	NiCr-NiAl	(K)
	NiCrSi-NiSi	(N)
Class of thermocouple	1	
Measuring junction	grounded	(type a)
	insulated	(type b)
	exposed	(type c)
Sheath material	Inconel (J, K), Microbell (N)	
Connection head type	MA or B <sup>(3)</sup>	
Head operating temperature	-40°C... +100°C	
Additional accessories	compression gland type <b>KP</b>	
	compensation cable	
	temperature transmitter	



<sup>(1)</sup> Other parameters according to customer requirements  
<sup>(2)</sup> Connection head with protection class IP65 or acid resistant on demand

Sensor type	Sheathed thermocouple diameter $\varnothing_T$	Sheath outer diameter $\varnothing_R$
<b>TP-451</b>	3,0 mm	4,0 mm
<b>TP-452</b>	4,5 mm	6,0 mm
<b>TP-453</b>	6,0 mm	8,0 mm

### ORDERING CODE



**Example for order:**  
 TP-451K-1b-200 sensor with connection head type MA, with single sheathed thermocouple NiCr-NiAl (K) of diameter  $\varnothing_T=3\text{mm}$  with measuring junction galvanically insulated from the sheath (type b) and length  $L=200\text{mm}$ .  
 TP-451K-1b-200-T; TCH-2140-K sensor with connection head type B, option with the head-mount transmitter type TCH-2140-K.