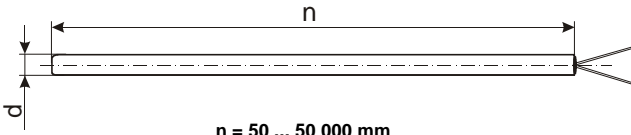
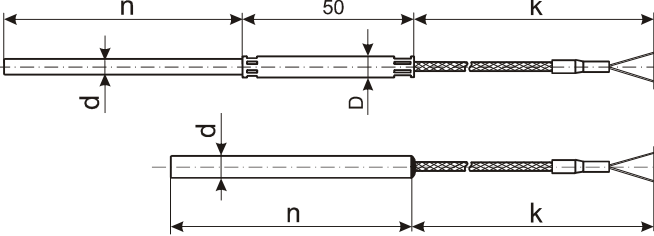
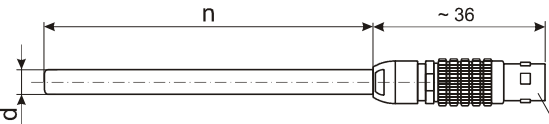
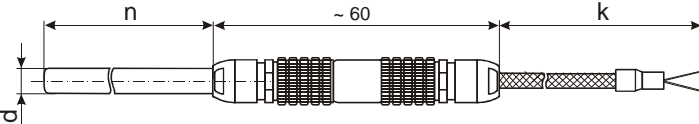


MINERAL-INSULATED RTD PROBE TSNx Sheath - see table Extension cable - see table notes	SENSITIVE ELEMENT	SHEATH MATERIAL	TEMPERATURE RANGE **	DIMENSIONS											
				d [mm]	wires										
<p>MI CABLE PROBE ONLY (TSN)</p>  <p>n = 50 ... 50 000 mm</p>	1 x Pt (RB,RD,RF,RG)	M1, M2, M3, M5, M8, M9	T7 0...200 °C T8 0...400 °C T9 -50...200 °C T22 -200...200 °C	3*, 4.5, 6, 8	2, 3, 4*										
	2 x Pt (RB,RD,RF,RG)	M1, M2, M3, M5, M8, M9	T1 -50...400 °C T11* -50...600 °C T4* 0...800 °C	4.5*, 6, 8	2x2 2x3*										
<p>DESIGN WITH EXTENSION CABLE (TSNA)</p>  <p>n = 50 ... 50 000 mm k = 1 ... 10 m</p> <table border="1" data-bbox="513 1064 794 1115"> <tr> <td>d</td> <td>3</td> <td>4.5</td> <td>6</td> <td>8</td> </tr> <tr> <td>D</td> <td>6</td> <td>6</td> <td>8</td> <td>d</td> </tr> </table>						d	3	4.5	6	8	D	6	6	8	d
d	3	4.5	6	8											
D	6	6	8	d											
<p>DESIGN WITH CONNECTOR (TSNH)</p>  <p>n = 50 ... 50 000 mm d ≤ 6 mm</p> <p>4-pin 9.5 mm LEMO metal connector</p>															
<p>DESIGN WITH CONNECTOR AND EXTENSION CABLE (TSNHA)</p>  <p>n = 50 ... 50 000 mm d ≤ 6 mm k = 1 ... 10 m</p>															
<p>Sheath material: 1.4301 (M1), 1.4541 (M2), 1.4571 (M3), 1.4841 (M5), 2.4816 (M8), 1.4404 (M9)</p> <p>Cable type: - GLGLP(V) (glass fiber w/ steel braid, max. 400 °C ambient temperature ***) - SLSL or TSL (silicone, max. 250 °C ambient temperature) - TT (Teflon®, max. 250 °C ambient temperature ***) - YY (PVC, max. 100 °C ambient temperature) - UU or YU (PUR, max. 80 °C ambient temperature)</p> <p>Tip shape: standard or narrowed * (see Appendix - Tip Shapes)</p> <p>Accuracy class: 'A', 'B', or '2xB' (see Appendix - RTD Tolerance)</p> <p>Cable connector: 4-pin (C3) (see Appendix - Connectors)</p> <p>Temperature limitation: The temperature around TSNA holding tube and TSNH(A) connector must not exceed -50...200 °C!</p>															
<p>* Please contact COMECO! ** Max. 550 °C (for chip RTD) or 800 °C (for wire-wound RTD) *** Sub-zero temperatures are not recommended</p>															

COMECO reserves the right of changing specifications without prior notice!

Ordering code TSN(A,H,HA) - G1G2.G3.G4.G6.G8.G10.G11.G12.G14.G15 - #1

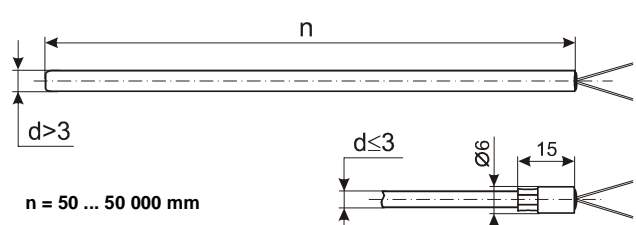
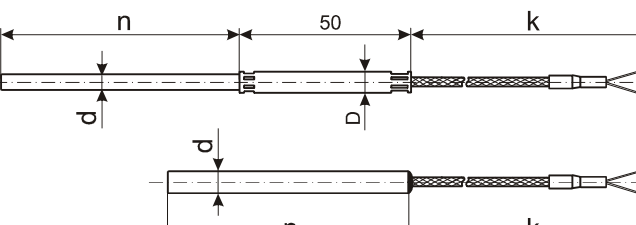
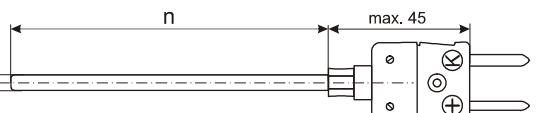
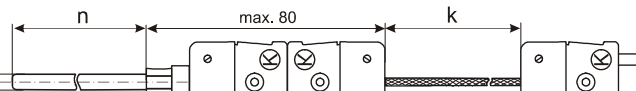
Code	Feature or option	Code values
G1	Number of RTD sensors	1 or 2
G2	Sensor	RB - Pt50, RD - Pt100, RF - Pt500, RG - Pt1000
G3	Temperature range	T7 - 0...200 °C, T9 - -50...200 °C, T22 - 200...200 °C, T8 - 0...400 °C, T1 - -50...400 °C, T11 - 50...600 °C ⁽⁴⁾ , T4 - 0...800 °C ⁽⁴⁾
G4	Diameter 'd' [mm] ⁽¹⁾	3 ⁽⁴⁾ , 4.5, 6, 8
G6	Probe length 'n' [mm]	50...50000
G8	Cable length 'k' [m] and type	X - no cable, 1GL...10GL - glass fiber, 1SL...10SL - silicone, 1TF...10TF - Teflon®, 1PU...10PU - polyurethane ⁽⁴⁾ , 1PV...10PV - PVC
G10	Sheath material	M1 - 1.4301, M2 - 1.4541, M3 - 1.4571, M5 - 1.4841, M8 - 2.4816 (Inconel 600), M9 - 1.4404
G11	Accuracy class	A - 'A', B - 'B', C - '2xB'
G12	Number of wires	2, 3, 4 ⁽⁴⁾
G14	Tip shape	X - standard (isolated from sheath), N - narrowed ^(2,4)
G15	Connector ⁽³⁾	X - none, C3 - 4-pin male plug-in connector ø8 (for H5700 thermometer only)
#1	Options	X - none, OS - cable protection SS spring (≈ 50 mm) ⁽³⁾ , OB - braid termination lead (only w/o connector) ⁽³⁾

⁽¹⁾ Up to 6 mm for TSNH and TSNHA

⁽²⁾ Only for TSN!

⁽³⁾ Only for TSNA and TSNHA!

⁽⁴⁾ Contact COMECO!

MINERAL-INSULATED THERMOCOUPLE PROBE Sheath - see table Extension cable - see table notes	TSNx	SENSITIVE ELEMENT	SHEATH MATERIAL	TEMPERATURE RANGE	d [mm]								
<p align="center">MI CABLE PROBE ONLY (TSN)</p>  <p>n = 50 ... 50 000 mm</p>		1 x J, 1 x T **	M1 M2,M3,M9,M5,M8 M4 M10	max. 400 °C max. 800 °C	1, 1.5, 2, 3, 4.5, 6, 8, 10* 6, 8 3, 4.5, 6								
<p align="center">DESIGN WITH EXTENSION CABLE (TSNA)</p>  <p>n = 50 ... 50 000 mm k = 1 ... 10 m</p> <table border="1" data-bbox="510 1108 766 1164"> <tr> <td>d</td> <td>< 6</td> <td>6</td> <td>8, 10</td> </tr> <tr> <td>D</td> <td>6</td> <td>8</td> <td>d</td> </tr> </table>		d	< 6	6	8, 10	D	6	8	d	2 x J 2 x T **	M1 M2,M3,M9,M5,M8 M4	max. 400 °C max. 800 °C	1.5, 2, 3, 4.5, 6, 8, 10* 6, 8
d	< 6	6	8, 10										
D	6	8	d										
<p align="center">DESIGN WITH CONNECTOR (TSNH)</p>  <p>n = 50 ... 50 000 mm d ≤ 6 mm</p>		1 x K, 1 x N, 1 x E **	M1 M2, M3, M9 M7* M8 M4 M5 M10	max. 400 °C max. 850 °C max. 1100 °C max. 1150 °C max. 1250 °C	1, 1.5, 2, 3, 4.5, 6, 8, 10* 3, 6, 10* 1, 1.5, 2, 3, 4.5, 6, 8, 10* 6, 8 1.5, 3, 4.5, 6, 8 3, 4.5, 6								
<p align="center">DESIGN WITH CONNECTOR AND EXTENSION CABLE (TSNHA)</p>  <p>n = 50 ... 50 000 mm d ≤ 6 mm k = 1 ... 10 m</p>		2 x K 2 x N 2 x E **	M2, M3, M9 M7* M8 M4 M5	max. 850 °C max. 1100 °C max. 1150 °C	1.5, 3, 4.5, 6, 8 3, 6, 10* 1.5, 3, 4.5, 6, 8 6, 8 1.5, 3, 4.5, 6, 8								
		1 x S(R), 2 x S(R)	M8	max. 1100 °C	3, 4.5, 6								
<p>Sheath material: 1.4301 (M1), 1.4541 (M2), 1.4571 (M3), 1.4762 (M4), 1.4841 (M5), 1.4876 (M7), 2.4816 (M8), 1.4404 (M9), Microbell® (M10)</p> <p>Cable type: - GLGLP(V) (glass fiber w/ steel braid, max. 400 °C ambient temperature) - SLSL or TSL (silicone, max. 250 °C ambient temperature) - TT (Teflon®, max. 250 °C ambient temperature)</p> <p>Tip shape (hot junction design): standard (isolated), grounded, open-tube, exposed (see Appendix - Tip Shapes)</p> <p>Accuracy class: '1' or '2' (see Appendix - T/C Tolerance)</p> <p>Thermocouple connector: 'standard' (C5) or 'miniature' (C6) (see Appendix - Connectors)</p> <p>Temperature limitation: The temperature around TSNA holding tube and TSNH(A) connector must not exceed -50...200 °C!</p>													
<p>* Please contact COMECO! ** For T/C type "T": max. 400 °C; for T/C type "E": max. 1000 °C</p>													

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Ordering code TSN(A,H,HA) - G1G2.G3.G4.G6.G8.G10.G11.G14.G15 - #1

Code	Feature or option	Code values
G1	Number of thermocouples	1 or 2 ⁽¹⁾
G2	Thermocouple	E - type "E", J - type "J", K - type "K", N - type "N", R - type "R", S - type "S", T - type "T"
G3	Temperature range	T7 - 0...200 °C, T9 - -50...200 °C, T8 - 0...400 °C, T1 - -50...400 °C, T4 - 0...800 °C, T3 - 0...850 °C, T16 - 0...1100 °C, T6 - 0...1150(1250) °C
G4	Diameter 'd' [mm] ⁽²⁾	1 ⁽³⁾ , 1.5 ⁽⁴⁾ , 2, 3, 4.5, 6, 8, 10
G6	Probe length 'n' [mm]	50...50000
G8	Cable length 'k' [m] and type	X - no cable, 1GL...10GL - glass fiber, 1SL...10SL - silicone, 1TF...10TF - Teflon®
G10	Sheath material	M1 - 1.4301, M2 - 1.4541, M3 - 1.4571, M4 - 1.4762 (1.4749), M5 - 1.4841, M7 - 1.4876 (Incolloy 800), M8 - 2.4816 (Inconel 600), M9 - 1.4404, M10 - Microbell®
G11	Accuracy class	1 - '1' ⁽⁶⁾ , 2 - '2'
G14	Tip shape (hot junction)	X - standard (isolated from sheath), G - grounded, E - exposed hot junction, O - open-tube design
G15	Connector ⁽⁵⁾	X - none, C5 - T/C connector, C6 - miniature T/C connector
#1	Options	X - none, OS - cable protection SS spring (≈ 50 mm) ⁽⁵⁾ , OB - braid termination lead (only w/o connector) ⁽⁵⁾

⁽¹⁾ Only for TSN. Ask for TSNA!

⁽²⁾ Up to 6 mm for TSNH and TSNHA

⁽³⁾ Always grounded

⁽⁴⁾ Grounded when G1="2"

⁽⁵⁾ Do not code for TSN!

⁽⁶⁾ Contact COMECO!