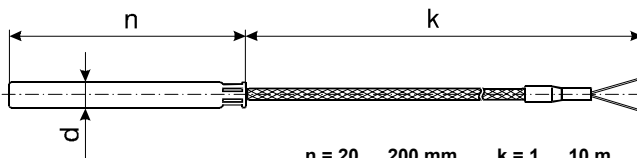
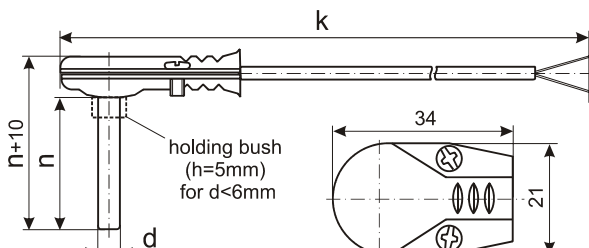
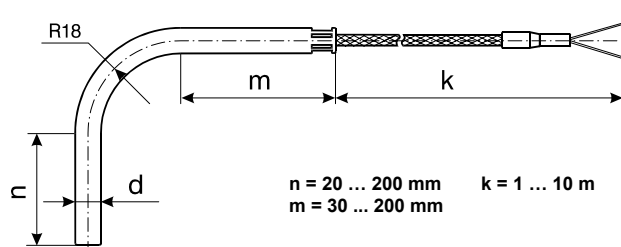


(MI**) RTD CABLE PROBE FOR FREE MOUNTING Sheath - stainless steel (see table notes) Cable - see table notes	TSAx	SENSITIVE ELEMENT	CABLE TYPE	TEMPERATURE RANGE	DIMENSIONS																				
					d [mm]	wires																			
<p>STRAIGHT-TUBE DESIGN (TSA)</p>  <p>n = 20 ... 200 mm k = 1 ... 10 m</p> <p>DESIGN WITH ANGLED TERMINATION (TSAL)</p>  <p>n = 20 ... 200 mm k = 1 ... 10 m</p> <p>BENDED-TUBE DESIGN (TSAB)</p>  <p>n = 20 ... 200 mm k = 1 ... 10 m m = 30 ... 200 mm</p>	<p>1 x Pt (RB,RD,RF,RG)</p> <p>GLGL</p> <p>T9 -50...200 °C T1* -50...400 °C</p> <p>T7 0...200 °C T8 0...400 °C</p>	<p>SLSL, TSL, TT, YY, UU, YU</p> <p>GLGL</p>	<p>T9 -50...200 °C T1* -50...400 °C</p> <p>T7 0...200 °C T8 0...400 °C</p>	<p>3*</p> <p>4, 4.5**</p> <p>5</p> <p>6</p> <p>8</p>	<p>2, 3*</p> <p>2, 3*</p> <p>2, 3*</p> <p>2, 3, 4*</p> <p>2, 3, 4</p>																				
	<p>2 x Pt (RB,RD,RF,RG)</p> <p>TT</p> <p>T22 -200...200 °C</p>	<p>TT</p>	<p>T22 -200...200 °C</p>	<p>6, 8</p>	<p>2x2, 2x3*</p>																				
	<p>1 x Cu (RH, RK)</p> <p>GLGL, TT</p> <p>T9 -50...200 °C T7 0...200 °C</p>	<p>SLSL, TSL, YY, UU, YU</p> <p>GLGL, TT</p>	<p>T9 -50...200 °C T7 0...200 °C</p>	<p>5*</p> <p>6</p> <p>8</p> <p>6, 8</p>	<p>2, 3*</p> <p>2, 3, 4*</p> <p>2, 3, 4</p> <p>2x2, 2x3*</p>																				
	<p>2 x Cu (RH, RK)</p> <p>GLGL, TT</p> <p>T9 -50...200 °C T7 0...200 °C</p>	<p>SLSL, TSL, YY, UU, YU</p> <p>GLGL, TT</p>	<p>T9 -50...200 °C T7 0...200 °C</p>	<p>5*</p> <p>6</p> <p>8</p> <p>6, 8</p>	<p>2, 3*</p> <p>2, 3, 4*</p> <p>2, 3, 4</p> <p>2x2, 2x3*</p>																				
	<p>1 x PTC (RP, RQ)</p> <p>GLGL, TT</p> <p>T12 -50...100 °C T19 0...100 °C</p>	<p>SLSL, TSL, YY, UU, YU</p> <p>GLGL, TT</p>	<p>T12 -50...100 °C T19 0...100 °C</p>	<p>6</p> <p>8</p>	<p>2, 3</p> <p>2x2</p>																				
	<p>2 x PTC (RP, RQ)</p> <p>GLGL, TT</p> <p>T12 -50...100 °C T19 0...100 °C</p>	<p>SLSL, TSL, YY, UU, YU</p> <p>GLGL, TT</p>	<p>T12 -50...100 °C T19 0...100 °C</p>	<p>6</p> <p>8</p>	<p>2, 3</p> <p>2x2</p>																				
	<p>Sheath material: 1.4301 (M1), 1.4541 (M2), 1.4571 (M3), 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>Applicable cables:</p> <table border="1"> <thead> <tr> <th>Probe design</th> <th>TSA, TSAB</th> <th>TSAL</th> </tr> </thead> <tbody> <tr> <td>Temp. range</td> <td></td> <td></td> </tr> <tr> <td>T12, T19</td> <td>all</td> <td>all</td> </tr> <tr> <td>T7, T9</td> <td>no PUR, no PVC</td> <td>all</td> </tr> <tr> <td>T22</td> <td>TT</td> <td>TT, SLSL, TSL</td> </tr> <tr> <td>T1, T8</td> <td>GLGLP</td> <td>no PUR, no PVC</td> </tr> </tbody> </table> <p>Tip shape: standard, narrowed, pitted (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>							Probe design	TSA, TSAB	TSAL	Temp. range			T12, T19	all	all	T7, T9	no PUR, no PVC	all	T22	TT	TT, SLSL, TSL	T1, T8	GLGLP	no PUR, no PVC
	Probe design	TSA, TSAB	TSAL																						
	Temp. range																								
	T12, T19	all	all																						
	T7, T9	no PUR, no PVC	all																						
	T22	TT	TT, SLSL, TSL																						
T1, T8	GLGLP	no PUR, no PVC																							
<p>* Please contact COMECO!</p> <p>** Available only for TSAL!</p>																									

Ordering code TSA(L,B) - (MI -⁽¹⁾) G1G2.G3.G4.G6.G7.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, RH - Cu50, RK - Cu100, RP - PTC 1k, RQ - PTC 2k	
G3	Temperature range	T1 - -50...400 °C, T7 - 0...200 °C, T8 - 0...400 °C, T9 - -50...200 °C, T12 - 50...100 °C, T19 - 0...100 °C, T22 - -200...200 °C	
G4	Diameter 'd' [mm]	regular design	4, 5, 6, 8
		MI design	3 ⁽⁵⁾ , 4.5, 6, 8
G6	Probe length 'n' [mm]	20...200	
G7	Probe length 'm' [mm] ⁽²⁾	30...200	
G8	Cable length 'k' [m] and type	1GL...10GL - glass fiber, 1SL...10SL - silicone, 1TF...10TF - Teflon®, 1PU...10PU - polyurethane ⁽⁵⁾ , 1PV...10PV - PVC	
G10	Sheath material (wetted parts)	M1 - 1.4301, M2 - 1.4541, M3 - 1.4571, M9 - 1.4404	
G11	Accuracy class	X - none ⁽³⁾ , A - 'A', B - 'B', C - '2xB'	
G12	Number of wires	2, 3, 4 ⁽⁵⁾	
G14	Tip shape	X - standard closed, N - narrowed ⁽⁴⁾ , P - pitted ⁽⁴⁾	
G15	Connector	X - none, C3 - 4-pin male plug-in connector ø8 (for H5700 thermometer only)	
#1	Options	X - none, OV - vibration proof (MgO or Silicone filled) ⁽⁴⁾ , OS - cable protection SS spring (≈ 50 mm), OB - braid termination lead (only w/o connector), OP - electrochemically polished sheath surface ⁽⁴⁾	

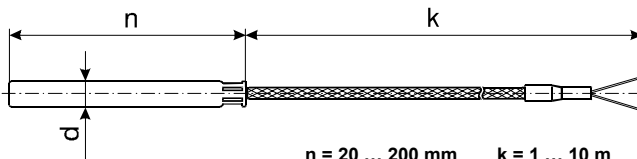
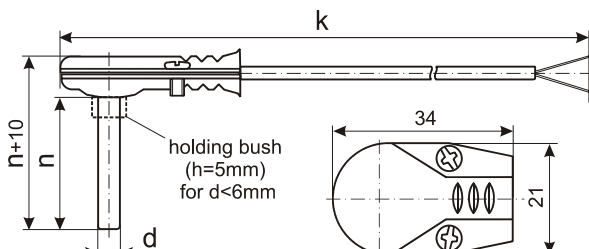
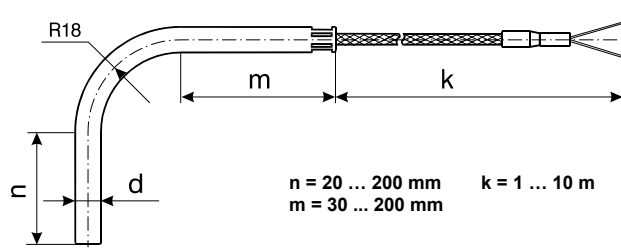
⁽¹⁾ Available only for TSAL!

⁽²⁾ Only for TSAB!

⁽³⁾ For non-Pt sensors

⁽⁴⁾ Only for non-MI (regular) design!

⁽⁵⁾ Contact COMECO!

(MI**) T/C CABLE PROBE FOR FREE MOUNTING Sheath - stainless steel (see table notes) Cable - see table notes	TSAx		DIMENSIONS																
	SENSITIVE ELEMENT	CABLE TYPE	TEMPERATURE RANGE	d [mm]	wires														
STRAIGHT-TUBE DESIGN (TSA)																			
 <p style="text-align: center;">$n = 20 \dots 200 \text{ mm}$ $k = 1 \dots 10 \text{ m}$</p>																			
DESIGN WITH ANGLED TERMINATION (TSAL)																			
 <p style="text-align: center;">$n = 20 \dots 200 \text{ mm}$ $k = 1 \dots 10 \text{ m}$</p>																			
BENDED-TUBE DESIGN (TSAB)																			
 <p style="text-align: center;">$n = 20 \dots 200 \text{ mm}$ $k = 1 \dots 10 \text{ m}$ $m = 30 \dots 200 \text{ mm}$</p>																			
Regular Design																			
1 x K	SLSL, TSL, YY, UU, YU GLGL, TT, SFSF	T9 -50...200 °C T1* -50...400 °C T7 0...200 °C T8 0...400 °C T4* 0...800 °C	4, 5, 6, 8	2															
1 x J, 1 x T	SLSL, TSL, YY, UU, YU GLGL, TT, SFSF	T9 -50...200 °C T1* -50...400 °C T7 0...200 °C T8 0...400 °C	4, 5, 6, 8	2															
MI Design **																			
1 x N, 1 x E	SLSL, TSL, YY, UU, YU GLGL, TT, SFSF	T9 -50...200 °C T1* -50...400 °C T7 0...200 °C T8 0...400 °C T4* 0...800 °C	3, 4.5, 6, 8	2															
1 x T	SLSL, TSL, YY, UU, YU GLGL, TT, SFSF	T9 -50...200 °C T1* -50...400 °C T7 0...200 °C T8 0...400 °C	3, 4.5, 6, 8	2															
<p>Sheath material: 1.4301 (M1), 1.4541 (M2), 1.4571 (M3), 1.4404 (M9), 1.4841 (M5), 2.4816 (M8)</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) - SFSF (mineral fiber, max. 1000 °C ambient temperature)</p> <p>Applicable cables:</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Probe design</th> <th>TSA, TSAB</th> <th>TSAL</th> </tr> </thead> <tbody> <tr> <td>Temp. range</td> <td></td> <td></td> </tr> <tr> <td>T7, T9</td> <td>no PUR, no PVC</td> <td>all</td> </tr> <tr> <td>T1, T8</td> <td>GLGLP, SFSF</td> <td>no PUR, no PVC</td> </tr> <tr> <td>T4</td> <td>SFSF</td> <td>GLGLP, SLSL*, TSL*</td> </tr> </tbody> </table> <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>Cable connector: 4-pin (C3), 'T/C standard' (C5) or 'T/C miniature' (C6) (see Appendix - Connectors)</p>					Probe design	TSA, TSAB	TSAL	Temp. range			T7, T9	no PUR, no PVC	all	T1, T8	GLGLP, SFSF	no PUR, no PVC	T4	SFSF	GLGLP, SLSL*, TSL*
Probe design	TSA, TSAB	TSAL																	
Temp. range																			
T7, T9	no PUR, no PVC	all																	
T1, T8	GLGLP, SFSF	no PUR, no PVC																	
T4	SFSF	GLGLP, SLSL*, TSL*																	
<p>* Please contact COMECO!</p> <p>** Available only for TSAL!</p>																			

Ordering code TSA(L,B) - (MI -⁽¹⁾) G2.G3.G4.G6.G7.G8.G10.G11.G14.G15 - #1

Code	Feature or option	Code values
G2	Thermocouple	regular design J - type "J", K - type "K", T - type "T"
		MI design E - type "E", N - type "N", T - type "T"
G3	Temperature range	T1 - -50...400 °C, T4 - 0...800 °C ⁽⁴⁾ , T7 - 0...200 °C, T8 - 0...400 °C, T9 - -50...200 °C
G4	Diameter 'd' [mm]	regular design 4 ⁽⁴⁾ , 5 , 6 , 8
		MI design 3 , 4.5 , 6 , 8
G6	Probe length 'n' [mm]	20...200
G7	Probe length 'm' [mm] ⁽²⁾	30...200
G8	Cable length 'k' [m] and type	1GL...10GL - glass fiber, 1MF...10MF - mineral fiber, 1SL...10SL - silicone, 1TF...10TF - Teflon®, 1PU...10PU - polyurethane ⁽⁴⁾ , 1PV...10PV - PVC
G10	Sheath material (wetted parts)	regular design M1 - 1.4301, M2 - 1.4541, M3 - 1.4571, M9 - 1.4404
		MI design M1 - 1.4301, M2 - 1.4541, M3 - 1.4571, M5 - 1.4841, M8 - 2.4816 (Inconel 600), M9 - 1.4404
G11	Accuracy class	1 - '1' ⁽⁴⁾ , 2 - '2'
G14	Tip shape (hot junction)	X - standard (isolated from sheath), G - grounded, E - exposed hot junction, O - open-tube design
G15	Connector	X - none, C3 - 4-pin male plug-in connector ø8 (for H5700 thermometer only), C5 - T/C connector, C6 - miniature T/C connector
#1	Options	X - none, OV - vibration proof (MgO or Silicone filled) ⁽³⁾ , OS - cable protection SS spring (≈ 50 mm), OB - braid termination lead (only w/o connector), OP - electrochemically polished sheath surface ⁽³⁾

⁽¹⁾ Available only for TSAL!

⁽²⁾ Only for TSAB!

⁽³⁾ Only for non-MI (regular) design!

⁽⁴⁾ Contact COMECO!