

T/C PROBE WITH PROTECTION HEAD AND CERAMIC PROTECTION TUBE (FOR IN-HEAD TRANSMITTER)** Holding tube - stainless steel 1.4301 or 1.4404 Protection tube - ceramic (see Accessories - Protection tubes) Head - aluminum, stainless steel, or plastic (see Appendix - Protection heads)	Zx (TSZx)	SENSITIVE ELEMENT	TEMPERATURE RANGE	WIRE [mm] / MI [mm]	TUBE MATERIAL	DIMENSIONS																			
	OZx (TSOZx)					d [mm]	D [mm]																		
<p>STRAIGHT DESIGN (Z)</p>	Regular Thermocouple Design																								
	<p>1 x K; 1 x N 2 X K, 2 X N</p>	<p>T13 0...1000 °C</p> <p>T6 0...1200 °C</p> <p>T6 0...1200 °C</p>	<p>1.0</p> <p>1.5</p> <p>3.0</p>	<p>C1(2),C6</p> <p>C1(2)</p> <p>C6, C7</p> <p>C5</p> <p>C1(2)</p> <p>C4, C7</p> <p>C5</p> <p>C6</p>	<p>10</p> <p>15</p> <p>16, 19</p> <p>17</p> <p>24</p> <p>22, 28</p> <p>23</p> <p>25, 32</p>	<p>16</p> <p>22</p> <p>22, 24</p> <p>24</p> <p>30, 36</p> <p>30</p> <p>32, 40</p>																			
<p>ANGLED DESIGN (ZL)</p>	<p>1 x S; 1 x R 2 X S, 2 X R</p>	<p>T21 0...1300 °C</p> <p>T5 0...1500 °C</p> <p>T14 0...1600 °C</p>	<p>0.35</p> <p>0.35, 0.5</p> <p>0.5</p>	<p>C1(2)</p> <p>C4</p> <p>C5</p> <p>C6</p> <p>C7*</p> <p>C1(2)</p> <p>C5</p> <p>C6</p> <p>C2</p> <p>C6</p>	<p>10,15,24</p> <p>22</p> <p>17, 23</p> <p>10,16,19,25</p> <p>16,22,28</p> <p>10,15,24</p> <p>17, 23</p> <p>10,16,19,25</p> <p>16,22,32</p> <p>10,15,24</p> <p>10,16,19,25</p> <p>16,22,32</p>	<p>16,22,32</p> <p>30</p> <p>24, 30</p> <p>16,22,24,32</p> <p>22,30,36</p> <p>16,22,32</p> <p>24, 30</p> <p>16,22,32</p> <p>16,22,24,32</p>																			
	<p>1 x B; 2 x B</p> <p>1 x B; 2 x B</p>	<p>T14 0...1600 °C</p> <p>T15 0...1700 °C</p>	<p>0.35</p> <p>0.5</p>	<p>C2</p> <p>C6</p> <p>C3</p> <p>C6*</p>	<p>10,15,24</p> <p>10,16,19,25</p> <p>10,15,24</p> <p>10,16,19,25</p>	<p>16,22,32</p> <p>16,22,24,32</p> <p>16,22,32</p> <p>16,22,24,32</p>																			
MI Thermocouple Design																									
<p>n = 200...n_{max} n_{max} can be defined from the table below:</p> <table border="1"> <thead> <tr> <th rowspan="2">n [mm]</th> <th colspan="2">d ≤ 16</th> <th>d ≤ 32</th> </tr> <tr> <th>single</th> <th>double</th> <th>any</th> </tr> </thead> <tbody> <tr> <td>≤ 400</td> <td>L - 50</td> <td>L - 70</td> <td>L - 100</td> </tr> <tr> <td>≤ 800</td> <td>L - 70</td> <td>L - 100</td> <td>L - 100</td> </tr> <tr> <td>≤ 1800</td> <td>L - 100</td> <td>L - 100</td> <td>L - 100</td> </tr> </tbody> </table> <p>where 'L' is the length of the protection tube (see Accessories - Protection tubes)</p> <p>Holding tube: - m1 = 100...1000 mm - OD 20(22) mm - tube/elbow material 1.4301 or 1.4541</p>	n [mm]	d ≤ 16		d ≤ 32	single	double	any	≤ 400	L - 50	L - 70	L - 100	≤ 800	L - 70	L - 100	L - 100	≤ 1800	L - 100	L - 100	L - 100	<p>1 x K; 1 x N 2 X K, 2 X N</p>	<p>T16 0...1100 °C</p> <p>T16 0...1100 °C (Inconel 600)</p> <p>T6 0...1200 °C (Microbell®)</p>	<p>3, 4,5</p> <p>3, 4,5, 6, 8</p> <p>3, 4,5, 6, 8, 10</p>	<p>C1, C6</p> <p>C1</p> <p>C6, C7</p> <p>C5</p> <p>C1</p> <p>C4, C7</p> <p>C6</p>	<p>10</p> <p>15</p> <p>16, 19</p> <p>17, 23</p> <p>24</p> <p>30, 36</p> <p>25, 32</p> <p>32, 40</p>	<p>16</p> <p>22</p> <p>22, 24</p> <p>24, 30</p> <p>32</p> <p>30, 36</p> <p>32, 40</p>
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<p>1 x S, 2 x S</p>	<p>T16 0...1100 °C (Inconel 600)</p>	<p>3, 4,5</p> <p>3, 4,5, 6</p>	<p>C1, C6</p> <p>C1</p> <p>C6, C7</p> <p>C5</p>	<p>10</p> <p>15</p> <p>16, 19</p> <p>17, 23</p>	<p>16</p> <p>22</p> <p>22, 24</p> <p>24, 30</p>																				
<p>Protection head: B, MA, MB, G, N, Dx, Ex, EX (see Appendix - Protection heads)</p> <p>Process connection: - welded or adjustable flange - no mounting appliances</p> <p>Extension length: m = 100...1000 mm</p> <p>Extension tube material: 1.4301(M1), 1.4541(M2), 1.4404(M9), 1.4571(M3)</p> <p>MI sheath material: 2.4816(M8), Microbell® (M10)</p> <p>Accuracy class: '1' or '2' (see Appendix - T/C Tolerance)</p>																									
<p>* Please contact COMECO!</p> <p>** Order transmitter separately!!!</p>																									

COMECO reserves the right of changing specifications without prior notice!

Ordering code TS*(L) - G0.G1G2.G3.G4.G5.G6.G7'.G7".G9.G10'.G10".G11 - #1

Code	Feature or option	Code values
*	Base model variant	Z - standard (w/ terminal block), OZ - prepared for in-head transmitter (w/o terminal block)
G0	Protection head	B - type "B", MA - type "MA", MB - type "MB", G - IP65, type "G", N - type "N", D - type "D", DW - windowed, type "DW", DH - w/ high cap, type "DH", DHW - windowed, type "DHW", E - IP65, type "E", ES - stainless-steel, type "ES", EG - IP68 ATEX-approved, type "EG", EGS - IP66 ATEX-approved, type "EGS", EGW - windowed ATEX-approved, type "EGW", EX - explosion-proof instrument housing (specify!)
G1	Number of thermocouples	1 or 2
G2	Thermocouple <u>Check wire-to-sheath compatibility in the specification table!</u>	K - type "K", N - type "N", S - type "S", R - type "R", B - type "B"
G3	Temperature range	T5 - 0...1500 °C, T6 - 0...1200 °C, T13 - 0...1000 °C, T14 - 0...1600 °C, T15 - 0...1700 °C, T16 - 0...1100 °C, T21 - 0...1300 °C
G4	Diameter 'd' [mm]	single tube 10, 15, 16, 17, 19, 22, 23, 24, 25, 28, 32 (see table overleaf)
		double tube 24/10, 24/15 , etc. (see 'Accessories - Protection tubes YA' for available combinations!)
G5	Diameter 'D' [mm]	16, 22, 24, 30, 32, 36, 40
G6	Probe length 'n' [mm]	200...1800 (see table overleaf)
G7'	Probe length 'm' [mm]	100...1000
G7"	Probe length 'm1' [mm]	100...1000
G9	Mounting connection	X - no mounting appliances, F - flange (specify!), Z - other connection (specify!)
G10'	Protection tube material	C1 - ceramic Pythagoras 610, C2 - ceramic Oxal 710, C3 - ceramic Alsint 799, C4 - metal-ceramic Ucar®, C5 - silicon carbide, C6 - Hexoloy®, C7 - Syalon
G10"	Extension tube material	M1 - 1.4301, M2 - 1.4541, M3 - 1.4571, M9 - 1.4404
G11	Accuracy class	1 - '1' ⁽²⁾ , 2 - '2'
#1	Local indicator	X - none, A - local indicator mounted ⁽¹⁾

⁽¹⁾ With windowed head only! See indicator datasheets and order separately!

⁽²⁾ Contact COMECO!