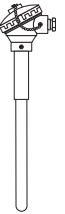




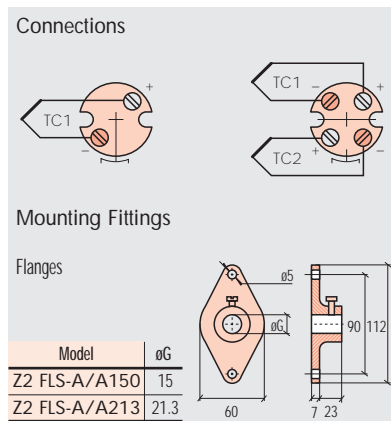
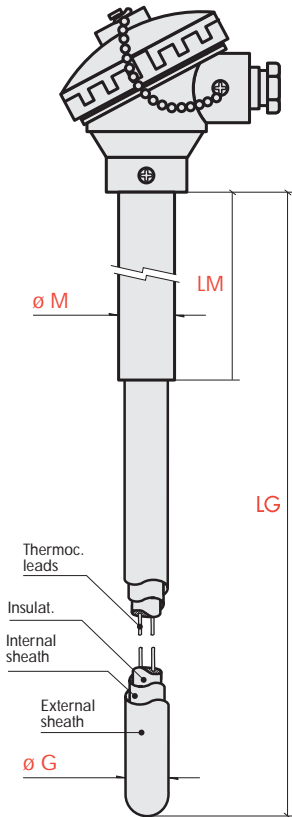
Certificata ISO 9002
Centro taratura SIT **JTC**

ELSI s.r.l. - via Milano, 11 - 20020 Lainate (MI)
Tel.: (02) 9370868 / 9373042 - Fax: (02) 9371724
Home page: www.elsi.it • e-mail: info@elsi.it

High temperature sensors



M1 Straight thermocouple with ceramic sheath, 10 to 26mm o.d., connection head.



Connection head	Diameter øG øM	Base code	Thermocouple type	Element N° and limits	Hot junction	Ceramic sheath material	Internal sheath material	Sheath LG mm	Thermocouple wire ø (mm)	Type of thread	Coupling LM mm
Miniature IP67 Leads ≤ ø 1,6	10 15	M1 M10	S Pt 10% Rh-Pt DIN - IEC	0 Single Cl. 2 (standard)	Insulated	L DIN 610	O None	O250	1 ø 0,35 only S/R 1300°C	S None	15 150
	15 21,3	M1 M15	K NiCr - Ni DIN - IEC	1 Dual Cl. 2 (std)		M DIN 710	1 DIN 610	O300	2 ø 0,25 only S/R 1000°C		08 80
Standard IP67	15 21,3	M1 M15	R Pt 13% Rh-Pt DIN - IEC	2 Single Cl. 1 (special)		I DIN 530	2 DIN 710	O350	3 ø 0,5 only S/R 1500°C		20 200
	10 15	M1 S10		3 Dual Cl. 1 (special)			3 DIN 610 DIN 710	O400	6 ø 1,6 (K only) 1090°C		
	15 21,3	M1 S15						O450	7 ø 2,3 (K only) 1150°C		
	20 26	M1 S20						O500	8 ø 3,2 (K only) 1260°C		
EEx d IIB IP65	26 32	M1 S26							O MgO (K only) (Inconel 600)		
	10 15	M1 X10									
	15 21,3	M1 X15									
	20 26	M1 X20									
	26 32	M1 X26						L min O200			
									REMARK for dual T/C max wire ø compatible with sheath ø (K only)		

Note: other lengths on request for LG and LM . Code ex.: LG = 135mm cod. 0135 / LM = 60mm cod. 06

Reference model:

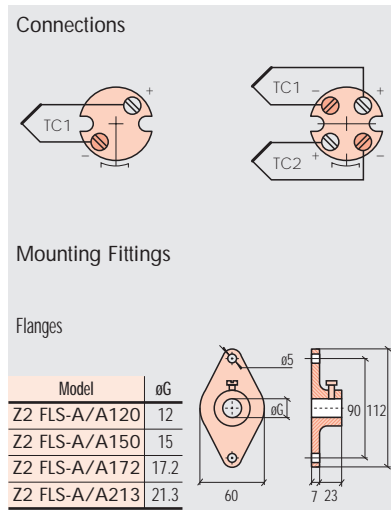
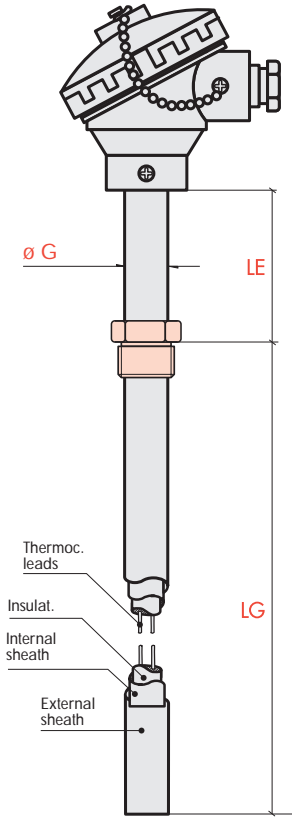
Straight thermocouple, standard head, 15mm ceramic sheath o.d., Pt Rh 10% Pt, single element, class 2 accuracy, ungrounded junction, DIN 610 external sheath, 250mm length, 0.35mm wire d., no attaching device, 150mm coupling.

M1 S15 - S 0 0 - L 0 0250 . 1 - S 15

□ - □ □ □ - □ □ □ □ . □ - □ □ □



High temperature sensors



M2 Metal sheathed straight thermocouple, 12 to 26mm o.d., connection head, with optional fixed attaching device

Connection head	Diameter ø G mm	Base code	Thermocouple type	Element N° and limits	Hot junction	External sheath material	Internal sheath material	Sheath LG mm	Thermocouple wire ø (mm)	Type of thread	Extension LE mm						
Miniature IP67 Leads ≤ ø 1,6 	12	M2 M12	L Fe - CuNi DIN	0 Single Cl. 2 (standard)		B AISI 316	O None	O200	3,2 8 J/L 760°C K 1260°C	S None	OO None						
	15	M2 M15															
	17,2	M2 M17	J Fe - CuNi IEC	1 Dual Cl. 2 (std)								C Inconel 600 21,3 only	1 DIN 610	O100	1 0,35 S/R 1300°C	H 3/8" Gas - L15 CH - 22 ø G mm 12	O5 050
	21,3	M2 M21	K NiCr - Ni DIN - IEC	2 Single Cl. 1 (special)								D AISI 310	2 DIN 710	O150	1,6 6 J/L 590°C K 1090°C	I 1/2" Gas - L15 CH - 24 ø G ≤ mm 17	10 100
Standard IP67 	12	M2 S12	S Pt 10% Rh - Pt DIN - IEC	3 Dual Cl. 1 (special)		E AISI 446 21,3 only		O250	2,3 7 J/L 650°C K 1150°C	J 3/4" Gas - L15 CH - 30 ø G ≤ mm 21,3	15 150						
	15	M2 S15	R Pt 13% Rh - Pt DIN - IEC									G SAF 2205 21,3 only		O300		L 1" Gas - L16 CH - 38	20 200
	17,2	M2 S17										H 253 MA 21,3 only		O350		P 3/8" NPT - L15 CH - 22 ø G mm 12	
	21,3	M2 S21												O400		Q 1/2" NPT - L15 CH - 24 ø G ≤ mm 17	
	26	M2 S26												O450		R 3/4" NPT - L15 CH - 30 ø G ≤ mm 21,3	
	26	M2 S26												O500		T 1" NPT - L25 CH - 36	
EEx d IIB IP65 	12	M2 X12							REMARK for dual T/C max wire ø compatible with sheath ø								
	15	M2 X15															
	17,2	M2 X17															
	21,3	M2 X21															
	26	M2 X26												L min O100			

Note: other lengths on request for LG and LE. Code ex.: LG = 135mm cod. 0135 / LE = 60mm cod. 06

Reference model:

Straight thermocouple, standard head, 21.3mm sheath ø, single elem., class 2 accuracy, ungrounded junction, AISI 316 ext.sheath, no internal sheath, 200mm length, 3.2 wire ø, no attaching device and no extension.

M2 S21 - L 0 0 - B 0 0200 . 8 - S 00

□ - □ □ □ - □ □ □ □ . □ - □ □ □

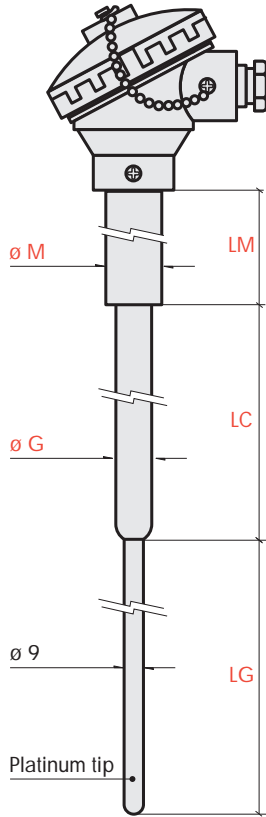
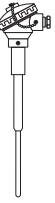




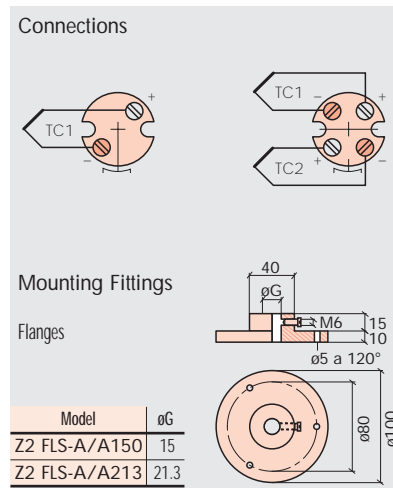
Certificata ISO 9002
Centro taratura SIT **JTC**

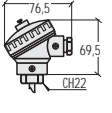

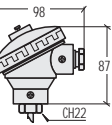
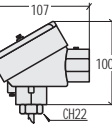
ELSI s.r.l. - via Milano, 11 - 20020 Lainate (MI)
Tel.: (02) 9370868 / 9373042 - Fax: (02) 9371724
Home page: www.elsi.it • e-mail: info@elsi.it

High temperature sensors for melted glass



M6 Thermocouple with ceramic sheath and $\varnothing 9 \times 0.6$ mm platinum tip, with connection head



Connection head	Diameter øG øM	Base code	Thermocouple type	Element N° and limits	Hot junction	External sheath material	Internal sheath material	Sheath LG mm	Thermocouple wire ø (mm)	Ceramic sheath LC mm	Coupling LM mm				
Miniature IP67  Leads ≤ ø 1,6	17	26	M6	M17	 Insulated	M DIN 710	2 DIN 710	0150	3 ø 0,5	60 600	15 150				
												R	Pt 10% Rh-Pt DIN - IEC	0	Single Cl. 2 (standard)
												R	Pt 13% Rh-Pt DIN - IEC	1	Dual Cl. 2 (std)
Standard IP67 	17	26	M6	S17											
												R	Pt 13% Rh-Pt DIN - IEC	2	Single Cl. 1 (special)
EEx d IIB IP65 	17	26	M6	X17											
												R	Pt 13% Rh-Pt DIN - IEC	3	Dual Cl. 1 (special)
								L min 0100							

Note: other lengths on request for LG, LC and LM. Code ex.: LG = 135mm cod. 0135 / LC = 750mm cod. 75

Reference model:

Straight thermocouple, standard head, 17mm ø ceramic sheath, Pt Rh 10% Pt, single elem., class 2 acc., ungrounded junction, 600mm length, 0.5mm ø wire, no attaching device, 300mm coupling.

M6 S17 - S 0 0 - M 2 0150 . 3 - 60 20

□ - □ □ □ - □ □ □ . □ - □ □

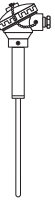




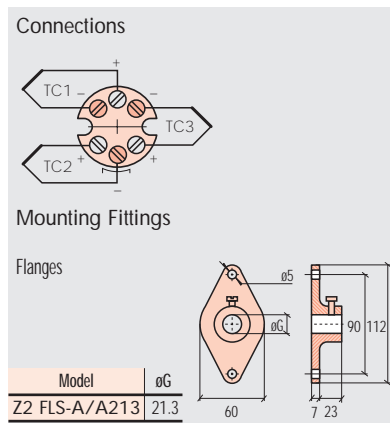
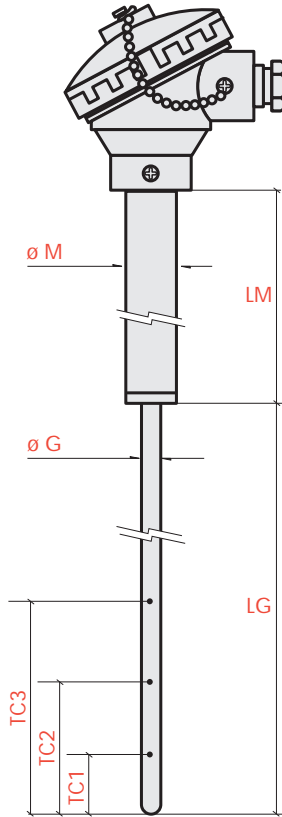
Certificata ISO 9002
Centro taratura SIT **JTC**

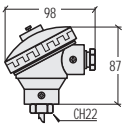

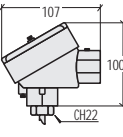
ELSI s.r.l. - via Milano, 11 - 20020 Lainate (MI)
Tel.: (02) 9370868 / 9373042 - Fax: (02) 9371724
Home page: www.elsi.it • e-mail: info@elsi.it

High temperature sensors for melted glass



M7 3-level thermocouple with 9mm \varnothing platinum sheath and connection head



Connection head	Diameter øG øM	Base code	Thermocouple type	Element N° and limits	Hot junction	External sheath material	Internal sheath material	Sheath LG mm	Thermocouple wire ø (mm)	T/C levels mm	Coupling LM mm
 Standard IP67	9	21.3	S Pt 10% Rh-Pt DIN - IEC	4 Three-el. Cl. 2 (standard)	 Insulated	M Platinum	2 DIN 710	0700	3 ø0,5	TC1 = 25 TC2 = 63 TC3 = 101	30 300
 EEx d IIB IP65	9	21.3	M7 X90								
								L min 0600			

Note: other lengths on request for LG and LM. Code ex.: LG = 135mm cod. 0135 / LM = 60mm cod. 06

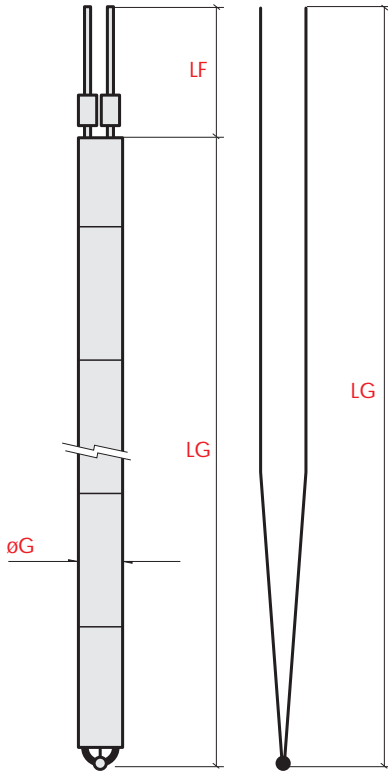
M7 S90 - S 4 0 - M 2 0700 . 3 - A 30

Reference model:
Straight thermocouple, standard head, 9 mm \varnothing platinum sheath, Pt Rh 10% Pt, triple elem., class 2 acc., ungrounded junctions, 700mm length, 0.5mm \varnothing wire, 300mm coupling.

□ - □ □ □ - □ □ □ . □ - □ □



High temperature sensors



M9 Thermocouple with optional ceramic insulators from 4 to 14mm ø.

Electrical connections

Thermocouple type	Ø lead	Working temp.
L - J	≤ 1.6	0...590 °C
	2.3	0...650 °C
	3.2	0...760 °C
K	≤ Ø 1.6	0...1090 °C
	2.3	0...1150 °C
	3.2	0...1260 °C
R - S	0.35	0...1300 °C
	0.5	0...1500 °C

Insulator shape	Ø E Insulator	Hole N.	Ø Lead max	Base code		Thermocouple type	Accuracy	Hot junction	Sheath LG mm	Lead length LF mm
				With insulator	Without insulator					
DIN 610 Single TC	4.0	2 x 1.2	1.0	M9 210	M9 S10	L Fe - CuNi DIN	0 Cl. 2 Standard	2 Exposed	0200	05 050
	4.5	2 x 1.5	1.3	M9 213	M9 S13					
	6.1	2 x 2.0	1.6	M9 216	M9 S16					
	8.2	2 x 2.6	2.3	M9 223	M9 S23					
DIN 610 Dual TC	6.2	4 x 1.8	1.6	M9 416	M9 S16	J Fe - CuNi IEC	2 Cl. 1 Special		0100	10 100
	12.0	4 x 3.0	2.3	M9 423	M9 S23	K NiCr - Ni DIN - IEC			0150	15 150
	14.0	4 x 4.0	3.2	M9 432	M9 S32	R Pt 13% Rh - Pt DIN - IEC			0250	20 200
DIN 610 Single TC	12.5 x 8.5	2 x 4.0	3.2	M9 232	M9 S32	S Pt 10% Rh - Pt DIN - IEC			0300	
DIN 710 1-pc. insulator Single TC	4.0	2 x 1.0	0.35	M9 235	M9 S35				0400	
	4.0	2 x 1.0	0.50	M9 250	M9 S50				0450	
DIN 710 1-pc. insulator Dual TC	4.0	4 x 1.0	0.35	M9 435	M9 S35				0500	
	4.0	4 x 1.0	0.50	M9 450	M9 S50				L min 0100	

Note: Other LG and LE lengths available upon request. Code example: LG = 135mm cod. 0135 / LE = 60mm cod. 06

M9 216 - K 0 2 - 0300 . 05

Reference model:
Straight ceramic insulated thermocouple, DIN 610 Ø6.1 insulators, NiCr-Ni DIN, class 2 single element, exposed hot junction, 300mm length, Ø1.6 wire, 50 mm wire

