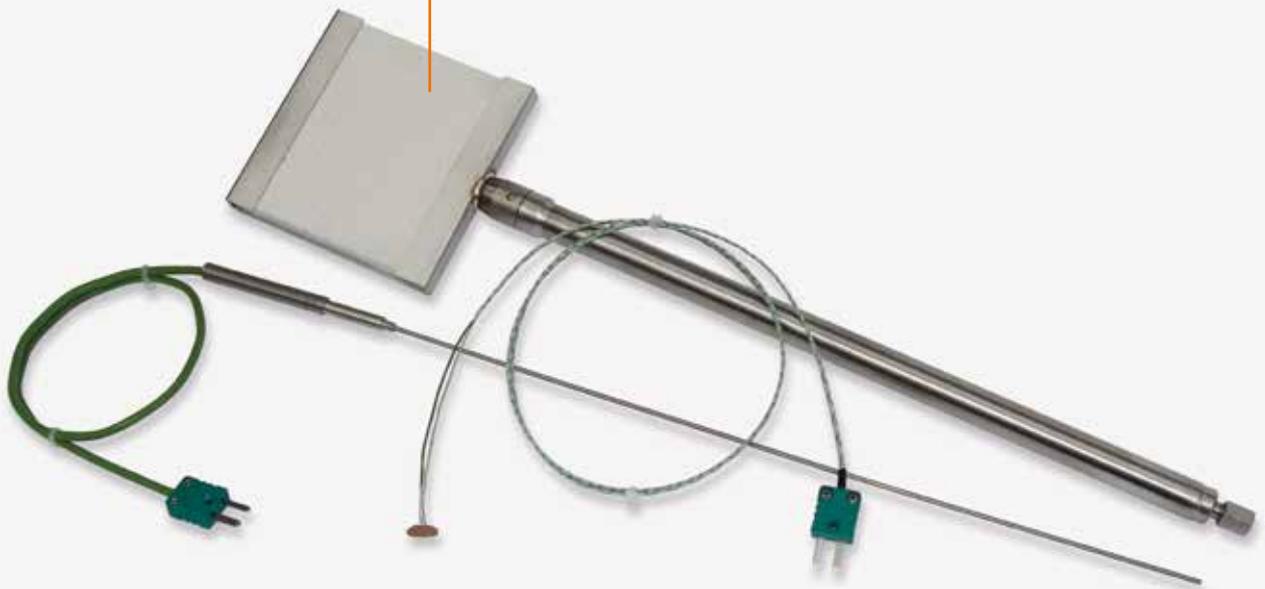




GUENTHER Polska

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Data sheet



Product group FT-FireTECH

Thermocouples and accessories acc. to EN 1363 Standard

Temperature Measurement Technology
Reliable . Precise . Certified

Product group FT-FireTECH

The temperature sensors of the FT-FireTECH series are designed for temperature measurements in and on fire test furnaces. Sensors in this product group include measurement on hot surfaces as well as of the air or the temperature of fire gases.

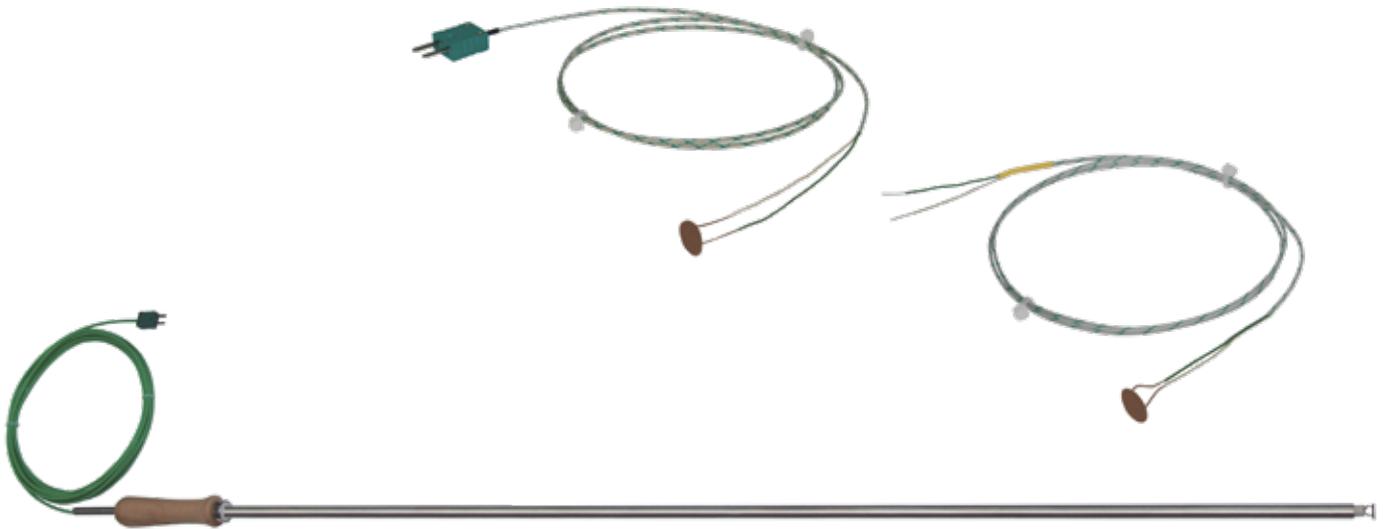
The series include:

- Furnace thermocouples (plate thermocouples)
- Surface thermocouples (with copper disc)
- Sheathed thermocouples with cables
- Roving thermocouples (with handle)
- Protective pipes
- Plates, insulators
- Accessories

Thermocouples and accessories are made in accordance with the requirements of EN 1363-1. As part of individual requirements, they are delivered with a calibration certificate at the temperature points agreed customer requirements.

A wide range of mounting accessories and electrical connectors (plugs, sockets etc.) allows for quick and reliable connection of temperature sensors with meters.





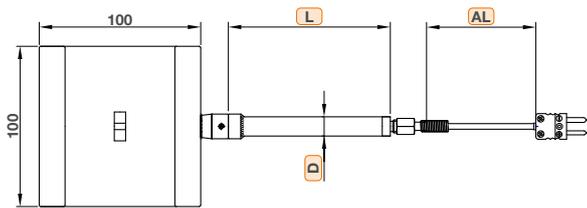
Product group FT-FireTECH

Furnace thermocouples with plate and insulation

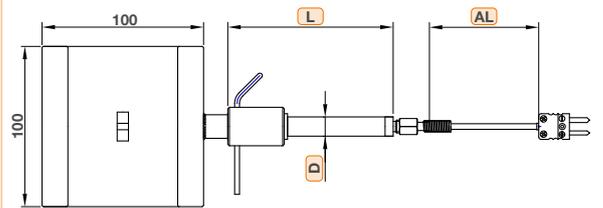
The measuring element here is a class 1 thermocouple type K. The measuring point is placed on a plate and protected by an insulating insert from direct contact with fire. The construction of the thermocouple is resistant to vibrations and the special protective tube material ensures a long service life with consistent measuring characteristics. Versions with straight or bent protective pipe are available. The connection between the plate and pipe is usually realized by a specially designed swivel connector or by a cotter pin. Both solutions allow the plate to be repositioned relative to the measurement location.



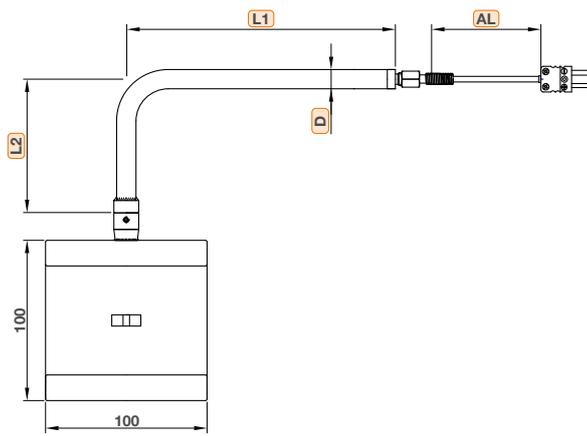
Construction with straight protective tube, plate mounted on swivel connection. Example with mini plug.



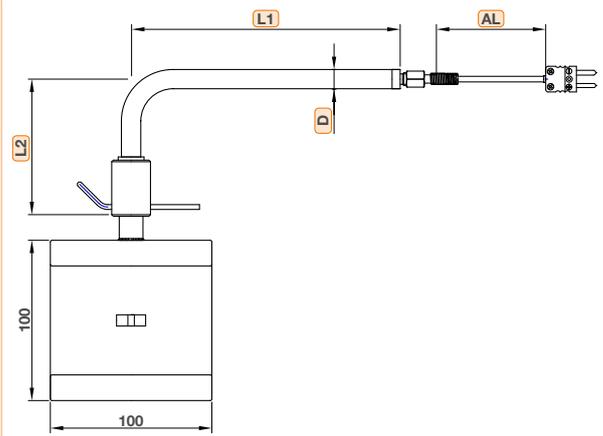
Construction with straight protective tube, plate mounted on a cotter pin. Example with mini plug.



Construction with a bent protective tube, plate mounted on swivel connection. Example with mini plug.



Construction with a bent protective tube, plate mounted on cotter pin. Example with mini plug.



Furnace thermocouples with plate and insulation – Article number key

Product group	F	T	-	A	1	2	0	1	1	1	0	-	0	1	5	0	.	1	0	0	0	.	S	1	5	0		
Construction																												
Thermocouple + exposition plate + straight pipe				A																								
Thermocouple + exposition plate + bent pipe				B																								
Straight pipe + exposition plate, no thermocouple, no insulator				C																								
Bent pipe + exposition plate, no thermocouple, no insulator				D																								
Other version				S																								
Thermocouple type																												
Sheathed thermocouple NiCr-Ni / Type K					1																							
Thermocouple diameter or positioner size																												
in mm, one decimal place						2	0																					
no thermocouple / no positioner						0	0																					
Pipe diameter (D)																												
Ø 15 x 2 mm, Mat. 1.4841										1																		
Ø 22 x 2 mm, Mat. 1.4841										2																		
Other										9																		
Connection of the pipe with the plate																												
See table below, standard typical version: 1										1																		
Thermocouple cable end																												
Free ends 50/10 mm																								1				
Ceramic standard plug																								2				
Ferrules																								4				
Standard plug																								5				
Mini plug																								6				
Free ends ready for Mini plug assembly																								A				
Free ends ready for Standard plug assembly																								B				
Other																								9				
Thermocouple sheath length																												
Length 500 mm																								0				
Length 1000 mm																								1				
Length 1500 mm																								2				
Length 2000 mm																								3				
Other version, agreed with the manufacturer																												
Cable length (AL)																												
Specified in meter with 2 decimal places e.g.: 1.5 m → 0150														0	1	5	0											
Pipe length (Total length L or Length L1 in case of bent version)																												
Specified in mm e.g. 1000 mm																									1	0	0	0
Cable insulation material																												
Silicone / Silicone (T _{max} +180°C)																									S			
Pipe length L2 (in case of bent version only)																												
Specified in mm (L2) e.g. 150 mm																										1	5	0

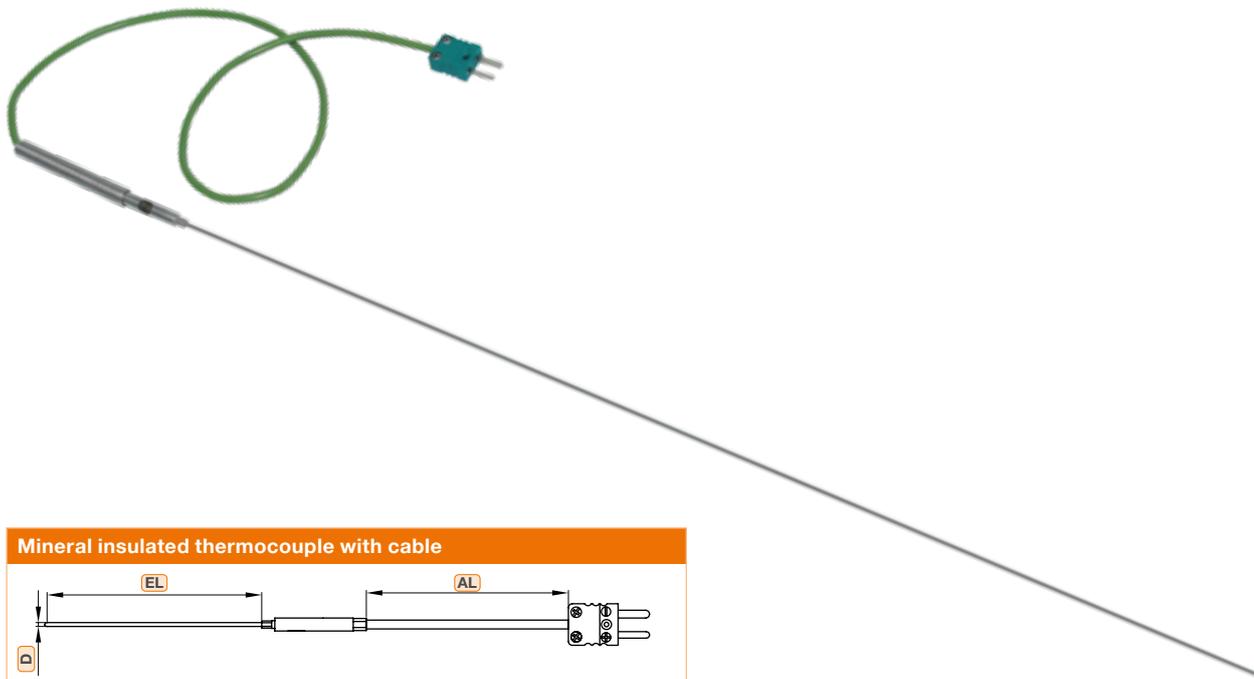
Connection of the pipe with the plate

Type of connection	Location of the connector on the plate			
	Standard	Side	Back	Other
Rotating connector 0°/90°/180°/270° for cotter pin U	1	2	3	
Rotating connector 360° for cotter pin U	4	5	6	
Thread connector	7	8	9	
Other	X	Y	Z	S

Product group FT-FireTECH

Sheathed thermocouple type K with cable

Sheathed thermocouples are made with a connection cable ended with free ends or with an electrical connector, e.g. a socket or plug. These thermocouples are made of a thermocouple compensating cable as standard, on request of a thermocouple extension cable.



Mineral insulated thermocouple with cable

Note:

FT-FireTECH series sheathed thermocouples are most often delivered with a calibration certificate. Calibration is performed at agreed temperature points in an Accredited Measurement Laboratory that meets the requirements of ISO / IEC 17025.

Sheathed thermocouple type K with cable – Article number key

Product group	F	T	-	7	1	1	0	1	0	0	1	-	0	1	5	0	.	1	8	0	0	.	S	0	0
Thermocouple Sheathed thermocouple type K with cable				7	1																				
Thermocouple diameter (D)																									
Ø 1.0 mm						1	0																		
Ø 1.5 mm						1	5																		
Ø 2.0 mm						2	0																		
Ø 3.0 mm						3	0																		
Others on request																									
Cable ends																									
Free ends																									
Ceramic standard plug																									
Ferrules																									
Standard plug																									
Mini plug																									
Free ends ready for Mini plug assembly																									
Free ends ready for Standard plug assembly																									
Others																									
Calibration certificate																									
Without																									
Included, please specify the number of calibration points, e.g.: 3																									
Version number																									
Standard, catalogue version																									
Modified version (number is given by producer)																									
Cable length (AL)																									
Specified in meter with 2 decimal places e.g.: 1.5 m → 0150																									
Thermouple length (EL)																									
Specified in mm, e.g. 1800 mm																									
Cable insulation material																									
Silicone / Silicone (T _{max} +180°C)																									
Others on request																									
Following number (in case of calibration)																									
Without calibration																									
Specified by producer																									

Code sample: FT-71201001-0300.1900.S00

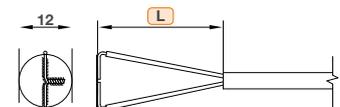
Thermocouple 1xNiCr-Ni/K with cable 3.0 m. Sheathed thermocouple 2 mm diameter, length 1900 mm, silicone/silicone cable length 3.0 m with free ends.

Product group FT-FireTECH

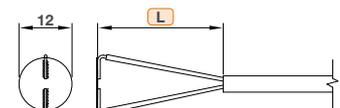
Surface thermocouple

Surface thermocouples with a copper disc are made of a cable with a mini, standard plug or free ends. The shape and method of connecting the measurement joint is made in accordance with the requirements of the standard.

Thermocouple hot junction Version A (twisted)



Thermocouple hot junction Version B (through the disc)



Note:

FT-FireTECH surface thermocouples are most often delivered with a calibration certificate. Calibration is performed at agreed temperature points in an Accredited Measurement Laboratory that meets the requirements of ISO / IEC 17025.

Surface thermocouple – Article number key

Product group	F	T	-	5	0	5	0	1	1	0	1	-	0	4	0	0	.	1	2	.	G	0	5	0
Surface thermocouple																								
Thermocouple with copper disc				5																				
Thermocouple wire diameter (D)																								
Ø 0.5 mm					0	5																		
Ø 0.8 mm					0	8																		
Others																								
Cable ends termination																								
Free Ends 50/10 mm								0	1															
Free Ends 15/10 mm ready for standard plug assembly								3	1															
Free Ends 10/7 mm ready for mini plug assembly								3	2															
Standard plug								1	1															
Mini plug								1	2															
HT standard plug								1	3															
HT mini plug								1	4															
Ceramic standard plug								1	5															
Thermocouple hot-junction																								
Version A (twisted)																								
Version B (through the disc)																								
Version number																								
Standard catalogue version																								
Modified version (number given by producer)																								
Cable length (AL)																								
Specified in meter with 2 decimal places e.g.: 4.0 m → 0400																								
Disc diameter																								
Ø 12 mm																								
Cable insulation material																								
G-Fiberglass / G-Fiberglass / PFA (T _{max} +260°C)																								
G-Fiberglass / G-Fiberglass (T _{max} +400°C)																								
R-Fiberglass / R-Fiberglass (T _{max} +650°C)																								
Length of leads to the copper disc (L)																								
Specified in mm, e.g.: 50 mm																								

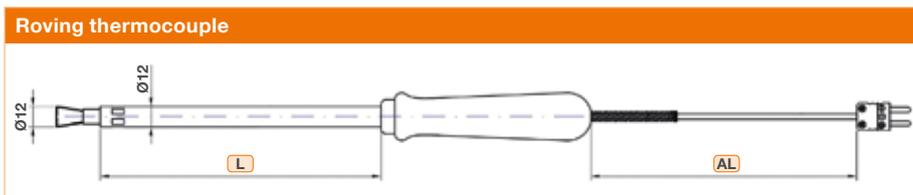
Code sample: FT-50532101-0400.12.G050

Surface thermocouple 1x NiCr-Ni/K with copper disc.
 Thermocouple cable 4.0 m length with free ends 10/7 mm (ready to connection mini plug),
 cable insulation G-Fiberglass (Up to +400°C), copper disc 12 mm diameter,
 50 mm single wire insulated (distance to copper disc).

Product group FT-FireTECH

Roving thermocouple with handle

Roving thermocouples, dedicated for instantaneous measurements are made of thermocouple wire with a diameter of 1.0 mm. They have a protection tube, a cable and a thermally insulating profiled handle. The contact element is a copper plate with a diameter of 12 mm and a thickness of 0.5 mm. Whole construction is made in accordance with the guidelines included in the standard EN1363. These thermocouples are made of a thermocouple compensating cable as standard, on request of a thermocouple extension cable.



Roving thermocouple with handle – Article number key

Product group	F	T	-	6	1	1	1	6	0	0	1	-	0	2	0	0	.	0	5	0	0	.	S	0	0		
Construction																											
Roving thermocouple				6	1																						
Handle																											
Profiled wooden handle							1																				
Lead-out of the measuring tip																											
Ceramic insulator, Ø 8 mm							1																				
Cable ends																											
Free ends																								1			
Ferrules																								4			
Standard plug																								5			
Mini plug																								6			
Calibration certificate																											
None, without																								0			
Included, please specify the number of calibration points, e.g.: 3																								3			
Version number																											
Standard version																								0	1		
Modified version (number given by producer)																											
Cable length (AL)																											
Specified in meter with 2 decimal places e.g.: 2.0 m → 0200														0	2	0	0										
Immersion length (L)																											
Specified in mm, e.g.: 500 mm																								0	5	0	0
Cable insulation material																											
Silicone / Silicone (T _{max} +180°C)																								S			
Others on request																											
Following number (in case of calibration)																											
Without calibration																								0	0		
Specified by producer																								0	1		

Code sample: FT-61116001-0150.0500.S00

Roving thermocouple 1x NiCr-Ni/K with profiled handle and cable.

Immersion length 500 mm. Cable length 1.5 m, insulation silicone / silicone with mini plug at the end.

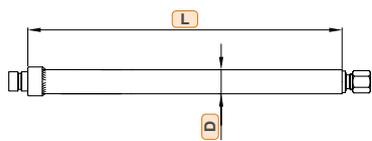
Product group FT-FireTECH

Protective pipes



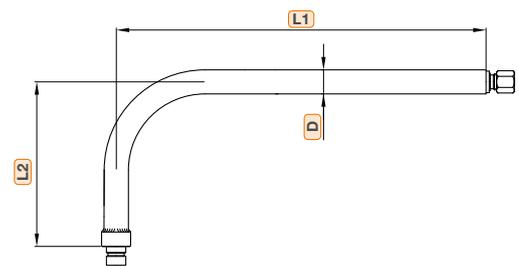
Straight pipe

End 1: swivel connection to the plate
End 2: compression fitting



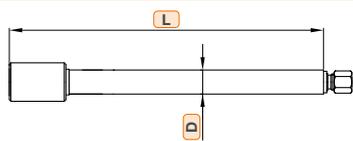
Bent pipe

End 1: swivel connection to the plate
End 2: compression fitting



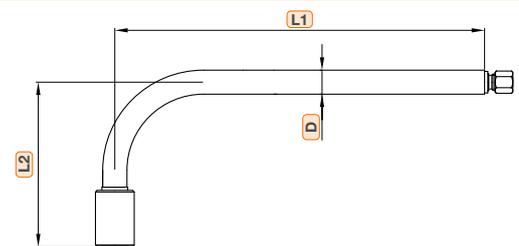
Straight pipe

End 1: connection on cotter pin
End 2: compression fitting



Bent pipe

End 1: connection on cotter pin
End 2: compression fitting



Protective pipes – Article number key

Product group	F	T	-	8	0	1	5	1	A	0	1	-	1	8	0	0	.	0	1	5	0
Protection pipe																					
Straight pipe				8	0																
Bent pipe				8	1																
Other construction																					
Pipe diameter (D)																					
Ø 15 mm						1	5														
Ø 16 mm (Mat. Inconel only)						1	6														
Ø 22 mm						2	2														
Material																					
Steel 1.4841								1													
Inconel								2													
Other								9													
Connection to the plate																					
Swivel connector 0°/90°/180°/270° with U cotter pin									A												
Swivel connector 360° with U cotter pin									B												
Swivel connector with inbus screw, old version, discontinued*									C												
Threaded connector									D												
Swivel connector with Beta cotter pin, old version, discontinued*									E												
Other									S												
Pipe end																					
Open										0											
Compression fitting for thermocouples Ø 1 mm										1											
Compression fitting for thermocouples Ø 2 mm										2											
Compression fitting for thermocouples Ø 3 mm										3											
Compression fitting for thermocouples Ø 1.5 mm										4											
Compression fitting for transition sleeve (Ø 5 mm)										5											
Version number																					
Standard catalogue version											1										
Modified version																					
Pipe length (L - straight pipe / L1 - bent pipe)																					
Specified in mm e.g.: 1800 mm													1	8	0	0					
Pipe length L2 (only bent version)																					
In mm, e.g. 150 mm																				0	1
Others (specified in mm)																				5	0

Notes:

L2 minimum length 150 mm in case of 15 mm diameter bent pipe

L2 minimum length 180 mm in case of 22 mm diameter bent pipe

* old, discontinued version. Available on demand only for existing, used on-site connection systems.

Code sample: FT-80151A21-2000

Protective pipe diameter 15 mm, Mat. 1.481

End 1: swivel connector 0°/90°/180°/270° for cotter pin form U

End 2: compression fitting on thermcouple diameter 2 mm

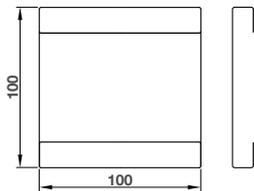
Product group FT-FireTECH

Exposition plates

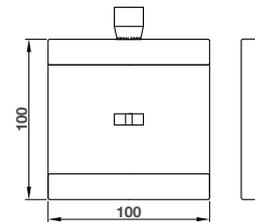
Exposition plate has a connection for mounting the tube.
The connector can be placed on either side of the plate.
The replaceable insulating insert is adjusted
to the size of the plate.



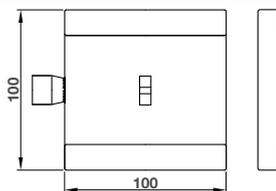
Version without connector



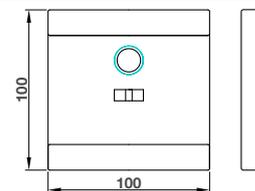
Version with standard connection



Version with side connection



Version with connection on the back



Exposition plates – Article number key

Product group	F	T	-	0	0	1	0	1	1	0	1	-	0	0	0	0
Versions																
Plate without insulator				0	0											
Plate with insulator				0	1											
Positioner for thermocouple																
Without						0	0									
For thermocouple diameter 1 mm - 1.5 mm						1	0									
For thermocouple diameter 2 mm						2	0									
For thermocouple diameter 3 mm						3	0									
Plate dimensions																
100 mm x 100 mm x 10 mm									1							
Other									9							
Connector to protective pipe																
Without										0						
Standard version										1						
Side connection										2						
Back connection										3						
Other construction on request										9						
Version number																
Standard version, annealed plate											0	1				
Standard version, non-annealed plate											0	2				
Other modified version, no. given by manufacturer																
Type of connection to the pipe																
None, without connector													0	0	0	0
Swivel connector, version with inbus screw													0	1	0	0
Connector on the beta cotter pin													0	2	0	0
U-type cotter pin connector (rotation 0°/90°/180°/270°)													0	2	0	1
U-type cotter pin connector (rotation 0°... 360°)													0	2	0	2
Thread e.g. 1/4-NPT male													N	0	1	4

Accessories and standard stock versions

Exposition plate for TC 1-1.5 mm dia., with connector 0°/90°/180°/270°, heated, cotter pin form U connection system	FT-00101101-0201
Exposition plate for TC 2 mm dia., with connector 0°/90°/180°/270°, heated, cotter pin form U connection system	FT-00201101-0201
Cotter pin form U, 3 mm diameter	FT-02300101-0000
Insulated plate 97x97x10 mm with Atest 2.2 (dimensions, density), bulk pack, 10 pieces per box	FT-08001101-0000
Insulated pad 30x30 mm with Atest 2.2 acc. (dimensions, density), bulk pack, 250 pieces per box	FT-08003001-0000



GÜNTHER GmbH Temperaturmesstechnik

Bauhofstraße 12 · 90571 Schwaig · Germany
Tel. +49 (0)911 / 50 69 95-0 · Fax +49 (0)911 / 50 69 95-55
info@guenther.eu · www.guenther.eu

LANGKAMP Technology B.V.

Molenvliet 22 · 3961 MV Wijk bij Duurstede · Nederland
Tel. +31 (0)343 / 59 54 10
info@ltbv.nl · www.ltbv.nl

GUENTHER Polska Sp. z o.o.

ul. Wrocławska 27C · 55-095 Długoleka · Polska
Tel. +48 (0)71 / 352 70 70 · Fax +48 (0)71 / 352 70 71
biuro@guenther.com.pl · www.guenther.com.pl

S.C. GUENTHER Tehnica Măsurării S.R.L.

Calea Aurel Vlaicu 28-32 · 310159 Arad · Romania
Tel. +40 (0) 257 / 33 90 15 · Fax +40 (0) 257 / 34 88 45
romania@guenther.eu · www.guenther.eu

Office and production complex with laboratory, Długoleka · Poland

