GUENTHER Polska
member of the GÜNTHER Group

Data sheet



Product group 6X-BTF

Temperature probes with bayonet lock
RTDs: Pt100, Pt1000 etc., Thermocouples J,K,L etc.

Temperature Measurement Technology
Reliable . Precise . Certified

Product group 6X-BTF
Temperature probes with bayonet lock

Temperature probes with a bayonet connection are used for measurement temperatures in machine blocks, installations and foundry molds, primarily in the plastics industry. Measuring range cover the most common applications, i.e. temperatures up to +400 °C, low or high temperature versions are available on request e.g. up to +600 °C.

Different versions of the measuring tips are available, including flat, rounded or ending with a 118° cone. The latter perfectly match the shape of standard drilled holes.

The probes are equipped as standard with a spring made of stainless steel with a bayonet lock connector. The rotating connector allows you to set the appropriate installation depth and clamping force. The spring also has a protective function for the cable.

The standard measuring element is a Pt100 sensor in a 2-, 3- or 4-wire circuit, accuracy class B or A (for 3-w or 4-wire) according to EN 60751 or a thermocouple type J, L or K in 1st class accuracy.
Versions with double measuring sensor or other are available on request.



Advantages of sensors with a bayonet connection:

- Quick installation
- High quality cables
- High measuring accuracy
  class 1 or 2 for thermocouples type J / K / L
  class B, A, AA for Pt100 resistance sensors etc.

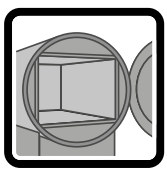
Application areas of resistance thermometers and thermocouples with bayonet lock



Plant and Mechanical engineering



Plastics industry



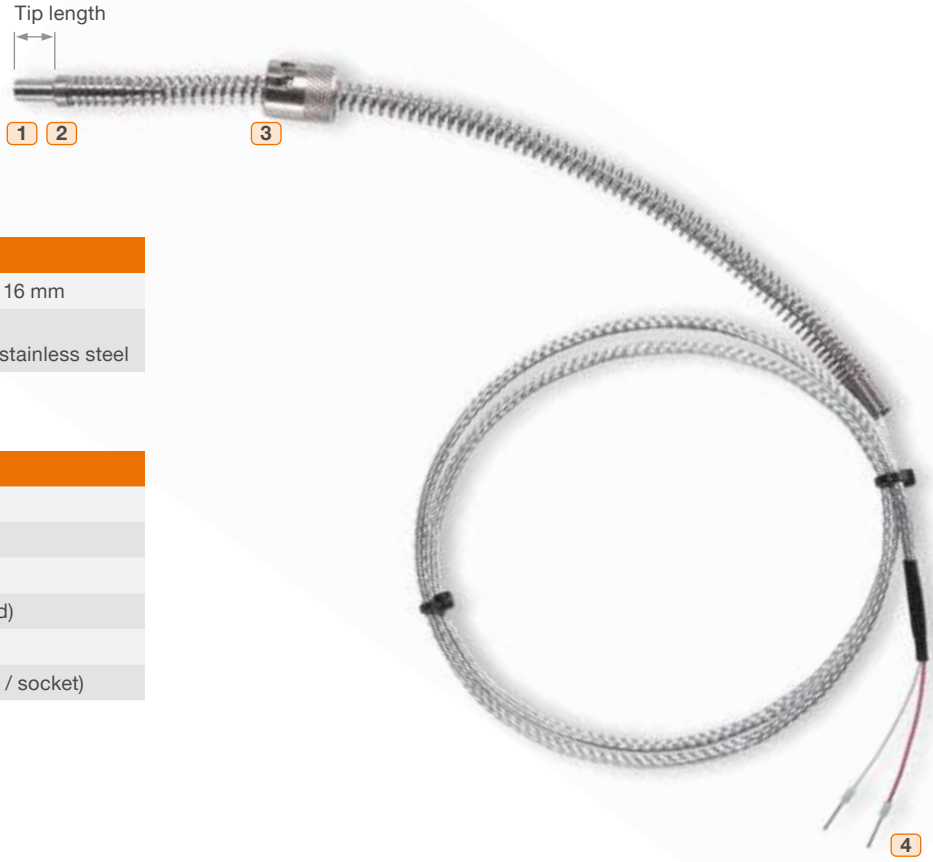
Heat treatment

Product group 6X-BTF
Temperature probes with bayonet lock

Example of a common design in this product group:

1 Measuring element / sensor	
1x Pt100-2 wire	
1x Pt100-3 wire	
1x Pt100-4 wire	
1x NiCr-Ni	/ Type K
1x Fe-CuNi	/ Type J
1x Fe-CuNi	/ Type L

2 Measuring tip	
Ø 6 mm	flat
Ø 6 mm	cone 118°
Ø 6 mm	rounded
Ø 8 mm	flat
Ø 8 mm	cone 118°
Ø ...mm	other



3 Bayonet lock
Internal diameter 11 to 16 mm
Material: Nickel plated brass or stainless steel

4 Cable termination
Free ends
Free ends (tinned)
Ferrules
Plug / socket (Standard)
Plug / socket (Mini)
LEMO connector (Plug / socket)

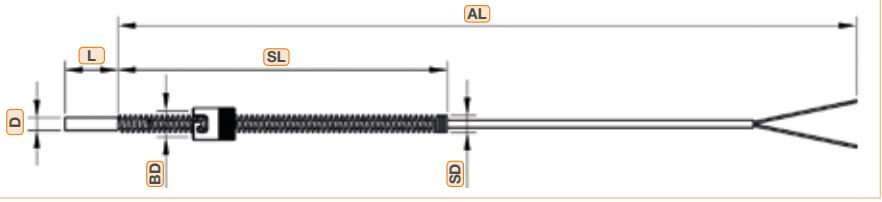
Individual solutions such as, for example materials, shape of measuring tip accessories, etc. not listed here, are often available on request.

Please feel free to contact us!

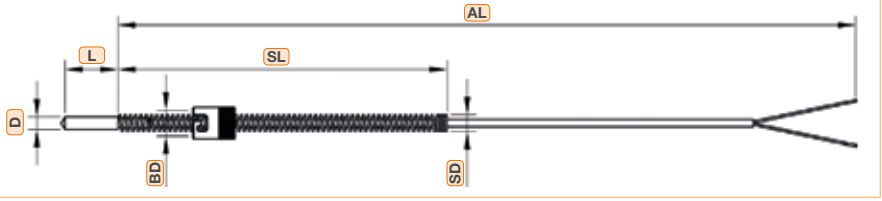
Product group 6X-BTF
Temperature probes with bayonet lock

Construction of straight probes

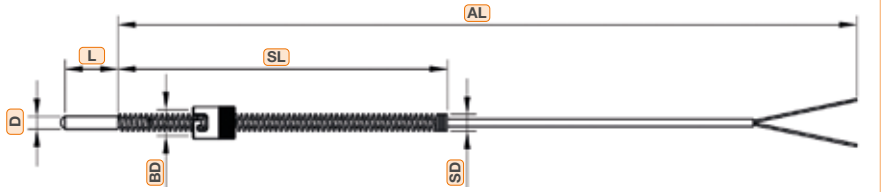
1: Flat measuring tip



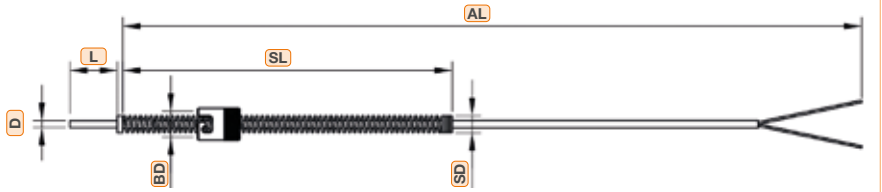
2: Cone 118° measuring tip



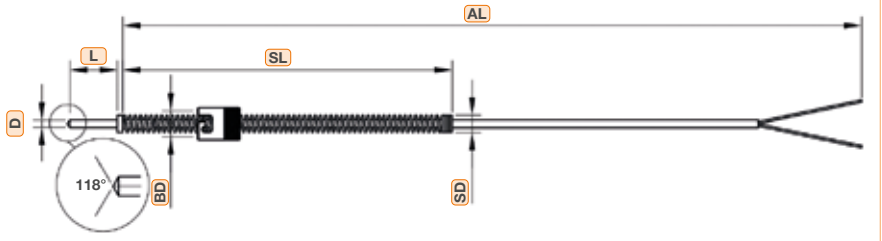
3: Rounded measuring tip



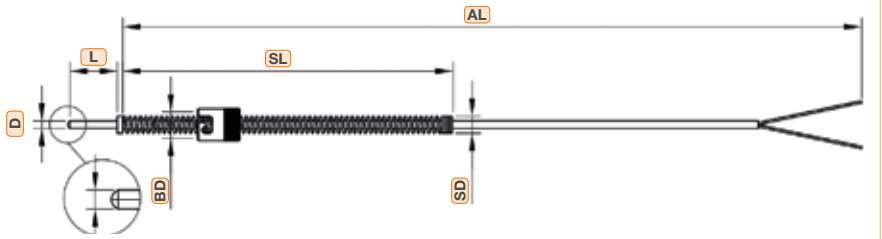
4: Flat measuring tip with ring for bayonet spring



5: Cone 118° measuring tip with ring for bayonet spring



6:Rounded measuring tip with ring for bayonet spring



- **D** Probe diameter
- **BD** Bayonet lock internal diameter
- **L** Measuring tip length
- **AL** Cable length
- **SD** Spring diameter
- **SL** Bayonet spring length

Product group 6X-BTF
Temperature probes with bayonet lock

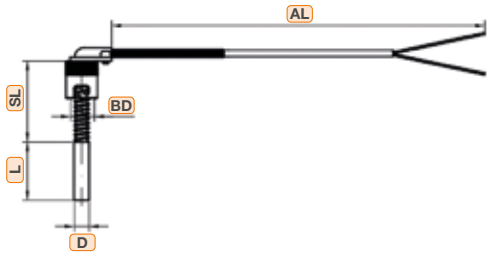
Straight probes – Article number key

Product group	6	A	-	1	1	2	1	6	3	3	6	-	0	2	0	0	.	2	0	.	2	0	Z	0	0
Construction																									
Straight probe, bayonet diameter BD = 12 mm		A																							
Straight probe, bayonet diameter BD = 14 mm		B																							
Straight probe, bayonet diameter BD = 15 mm		C																							
Straight probe, another bayonet diameter BD		S																							
Measuring tip																									
Flat				1																					
Cone, 118°				2																					
Rounded				3																					
Plat with ring				4																					
Cone 118°, with ring				5																					
Rounded with ring				6																					
Resistance thermometer / thermocouple																									
1 x Pt100-2 wire					1	2																			
1 x Pt100-3 wire					1	3																			
1 x Fe-CuNi / Type L insulated hot junction					4	1																			
1 x Fe-CuNi / Type J insulated hot junction					5	1																			
1 x NiCr-Ni / Type K insulated hot junction					6	1																			
Other: see table																									
Measuring accuracy																									
Class B (acc. to IEC 60751, e.g. Pt100)							1																		
Class A (acc. to IEC 60751, e.g. Pt100)							2																		
Class 1 (acc. to IEC 60584, e.g. T/C 1x Fe-CuNi)							1																		
Probe diameter (D)																									
6 mm								6																	
8 mm								8																	
Bayonet lock internal diameter (BD)																									
Only decimal point																									
2 ⟶ for design C (15,2)									2																
3 ⟶ for design A (12,3) or C (15,3)									3																
5 ⟶ for design A (12,5) or B (14,5)									5																
6 ⟶ for design A (12,6) or B (14,6)									6																
Cable termination																									
Free ends										3	0														
Ferrules										3	6														
Other: see table																									
Cable length (AL)																									
in meter with 2 decimal digit, e.g.: 2,0 m ⟶ 0200													0	2	0	0									
Measuring tip length (L)																									
in mm , e.g. 20 mm																		2	0						
Bayonet spring length (SL)																									
Length 200 mm ⟶ 20																					2	0			
Length 240 mm ⟶ 24																					2	4			
Length 300 mm ⟶ 30																					3	0			
Cable insulation																									
Fiberglass / fiberglass / metal braid (T_{max} +400 °C)																							Z		
Other: see table																									
Extras / next execution number																									
Given by manufacturer (if required)																								0	0

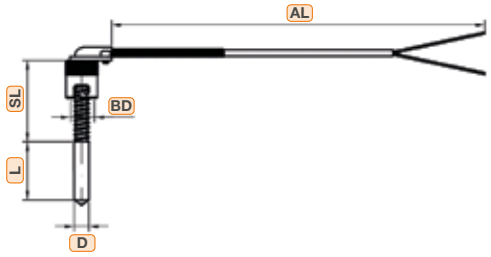
Product group 6X-BTF
Temperature probes with bayonet lock

Construction of angle probes

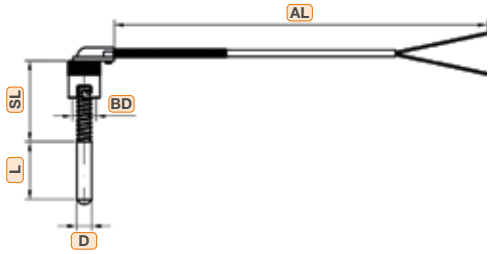
1: Flat measuring tip



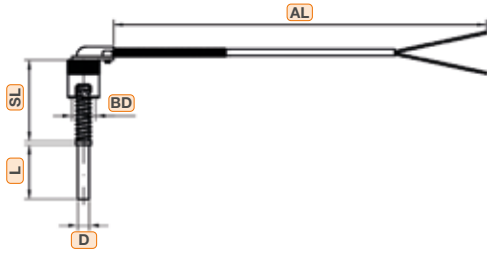
2: Cone 118° measuring tip



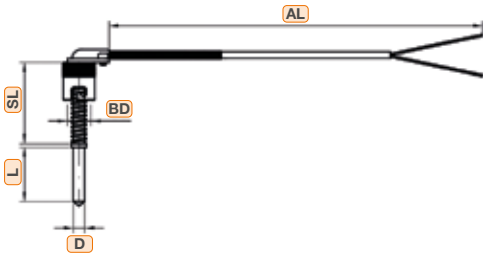
3: Rounded measuring tip



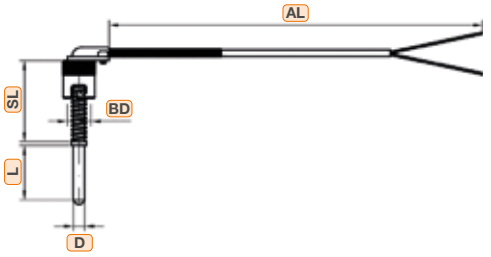
4: Flat measuring tip with ring for bayonet spring



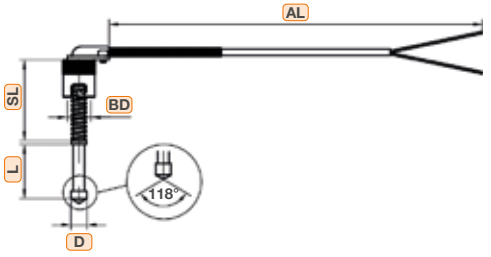
5: Cone 118° measuring tip with ring for bayonet spring



6: Rounded measuring tip with ring for bayonet spring



7: Cone, 118° extended measuring tip with ring for bayonet spring



- **D** Probe diameter
- **BD** Bayonet lock internal diameter
- **L** Measuring tip length
- **AL** Cable length
- **SD** Spring diameter
- **SL** Bayonet spring length

Product group 6X-BTF
Temperature probes with bayonet lock

Angel probes – Article number key

Product group	6	F	-	1	1	2	1	6	3	3	6	-	0	2	0	0	.	2	0	.	0	9	Z	0	0
Construction																									
Angle probe, bayonet diameter BD = 12 mm		F																							
Angle probe, bayonet diameter BD = 14 mm		G																							
Angle probe, bayonet diameter BD = 15 mm		H																							
Angle probe, another bayonet diameter BD		W																							
Measuring tip																									
Flat				1																					
Cone 118°				2																					
Rounded				3																					
Flat with ring for bayonet spring				4																					
Cone 118° with ring for bayonet spring				5																					
Rounded with ring for bayonet spring				6																					
Cone 118° expanded with ring for bayonet spring				7																					
Resistance thermometer / thermocouple																									
1 x Pt100-2 wire					1	2																			
1 x Pt100-3 wire					1	3																			
1 x Fe-CuNi / Type L insulated hot junction					4	1																			
1 x Fe-CuNi / Type J insulated hot junction					5	1																			
1 x NiCr-Ni / Type K insulated hot junction					6	1																			
Other: see tables																									
Measuring accuracy																									
Class B (acc. to IEC 60751, e.g. Pt100)							1																		
Class A (acc. to IEC 60751, e.g. Pt100)							2																		
Class 1 (acc. to IEC 60584, e.g. T/C 1x Fe-CuNi)							1																		
Probe diameter (D)																									
6 mm								6																	
8 mm								8																	
Bayonet lock internal diameter (BD)																									
Only decimal point																									
2 → for design H (15,2)									2																
3 → for design F (12,3) or H (15,3)									3																
5 → for design F (12,5) or G (14,5)									5																
6 → for design F (12,6) or G (14,6)									6																
Cable termination																									
Free ends										3	0														
Ferrules										3	6														
Other: see table																									
Cable length (AL)																									
in meter with 2 decimal digit, e.g.: 2,0 m → 0200													0	2	0	0									
Measuring tip length (L)																									
in mm e.g.: 20 mm																		2	0						
Bayonet spring length (SL)																									
Length 30 mm → 03																					0	3			
Length 90 mm → 09																					0	9			
Length 160 mm → 16																					1	6			
Cable insulation																									
Fiberglass / fiberglass / metal braid (T_{max} +400 °C)																							Z		
Other: see table																									
Extras / next execution number																									
Given by manufacturer (if required)																								0	0

Product group 6X-BTF
Temperature probes with bayonet lock

Allocation tables – Article number key

Resistance thermommeters	
Code	Construction
12	1x Pt100-2 wire IEC/EN 60751
13	1x Pt100-3 wire IEC/EN 60751
14	1x Pt100-4 wire IEC/EN 60751
16	1x Pt1000-2 wire IEC/EN 60751
19	1x Pt500-2 wire IEC/EN 60751

Measuring accuracy (Resistance thermommeters)	
Code	Construction
1	Class B acc. to IEC/EN 60751
2	Class A acc. to IEC/EN 60751
3	Class AA acc. to IEC/EN 60751
4	Class C acc. to IEC/EN 60751
5	Class 1/5 B (1/5 Class B, IEC 60751)
6	Class 1/10 B (1/10 Class B, IEC 60751)

Thermocouples	
Code	Construction
41	1x Fe-CuNi / Type L insulated hot junction
51	1x Fe-CuNi / Type J insulated hot junction
61	1x NiCr-NiAl / Type K insulated hot junction
45	1x Fe-CuNi / Type L grounded hot junction
55	1x Fe-CuNi / Type J grounded hot junction
65	1x NiCr-NiAl / Type K grounded hot junction

Measuring accuracy (Thermocouples)	
Code	Construction
1	Class 1 acc. to IEC 60584
2	Class 2 acc. to IEC 60584
3	Class 3 acc. to IEC 60584

Cable termination				
Code	Cable termination		Code	Cable termination
01	Standard Plug		51	Standard Socket
02	Mini Plug		52	Mini Socket
03	Standard HT Plug		53	Standard HT Socket
04	Mini-HT Plug		54	Mini-HT Socket
05	Standard ceramic Plug		55	Standard ceramic Socket
06	Mini ceramic Plug		56	Mini ceramic Socket
07	Standard -Duplex Plug		57	Standard -Duplex Socket
08	Mini Duplex Plug		58	Mini Duplex Socket
10	Lemo Plug Size 0		60	Lemo Plug Socket 0
11	Lemo Plug Size 1		61	Lemo Plug Socket 1
12	Lemo Plug Size 2		62	Lemo Plug Socket 2
13	Lemo Plug Size 3		63	Lemo Plug Socket 3
14	M12 Plug		64	M12 Socket
30	Free ends 50/10 mm		33	Free ends 50/10 mm, tinned
34	Free ends 50/10 mm with non-insulated ferrules		36	Free ends 50/10 mm with ferrules - Standard

Cable insulation		
Code	Insulation	Temperature max.
J	PVC / PVC	+90 °C
S	Silicone / Silicone	+180 °C
H	FEP / Silicone	+200 °C
M	FEP / Metal braid / FEP	+205 °C
A	PFA / PFA	+260 °C
W	PFA / Aluminum foil with copper wire / PFA	+260 °C
B	PFA / Silicone/ PFA	+260 °C
Y	Fiberglass / Fiberglass / Metalbraid VA	+400 °C
Z	Fiberglass / Fiberglass / Metalbraid	+400 °C
D	R-Fiberglass / R-Fiberglass / Metal braid VA	+650 °C

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Temperature probes with bayonet lock

Allocation tables – Article number key

Bayonet lock connector (BD, SD)			
Code	Diameter (BD)	Spring diameter (SD)	Material
3	Version A / Version F 12,3 mm	6 mm	Nickel plated brass
		8 mm	Nickel plated brass
5	Version A / Version F 12,5 mm	8 mm	Nickel plated brass
6	Version A / Version F 12,6 mm	6 mm	Nickel plated brass
5	Version B / Version G 14,5 mm	8 mm	Nickel plated brass
6	Version B / Version G 14,6 mm	5 mm	Nickel plated brass
		6 mm	Nickel plated brass
2	Version C / Version H 15,2 mm	6 mm	Nickel plated brass
3	Version C / Version H 15,3 mm	8 mm	Nickel plated brass

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