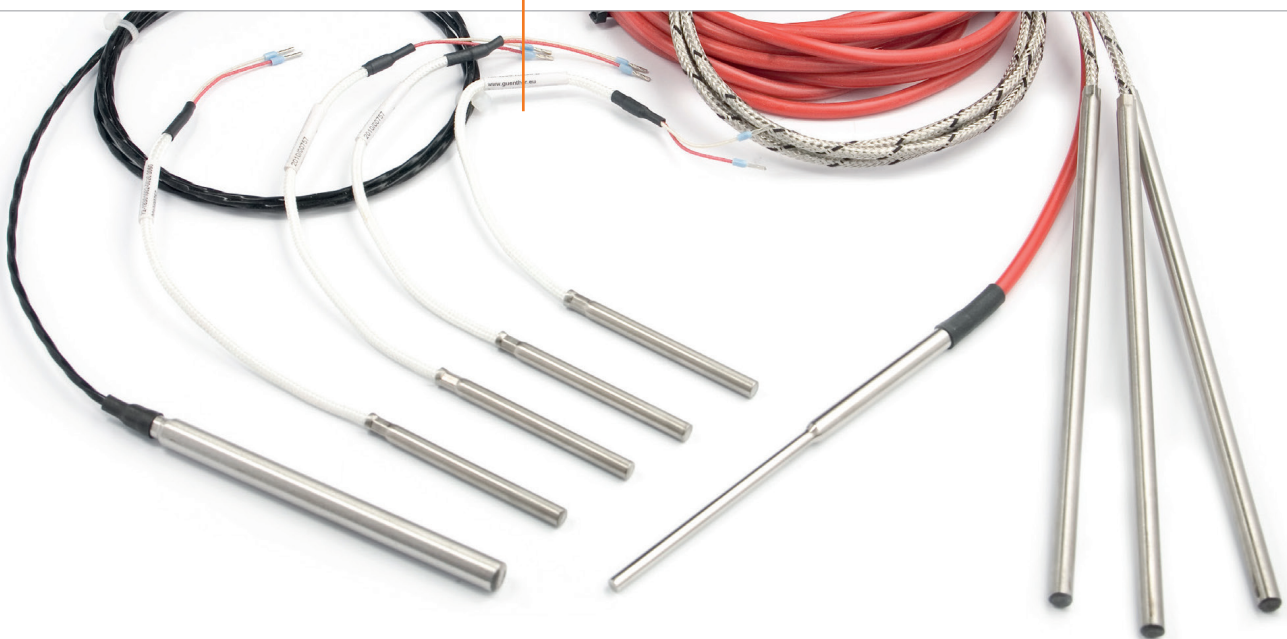


Data sheet



Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Product group **7X-KFT / KFW**

Cable thermocouples and cable resistance thermometers

Sensors of this type are mainly used for temperature in liquid and gaseous media.

There is a wide range of configuration and assembly options that can be adapted to the specific application.

Due to their design, these sensors can be used in temperature ranges from -200°C to +650°C.

The sensors can optionally be equipped with a Teflon sheath (protection against moisture) and / or springs (protection against cable breakage) at the point where the sleeve meets the cable.

Other types of temperature sensors similar to insertion resistance thermometers are named according to their type of construction or mounting, or the area of application, e.g.:

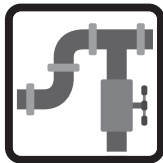
- Surface sensors
- Contact sensors
- Tube sensors
- Screw-in sensors
- Weld-on sensors



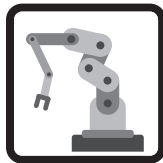
Advantages of cable thermocouples or resistance thermometers

- Reliable construction
- Partially waterproof versions
- Wide range of configuration options
- Acid and oil-tight versions possible

Application areas of resistance thermometers and thermocouples with bayonet fitting



Pipelines



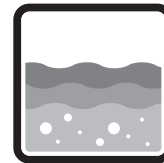
Industrial machinery and equipment



Heating devices



Freezer compartments



Liquids

► **Our resistance thermometers are also available in the explosion-proof ATEX version.**

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Example of a common design in this product group:

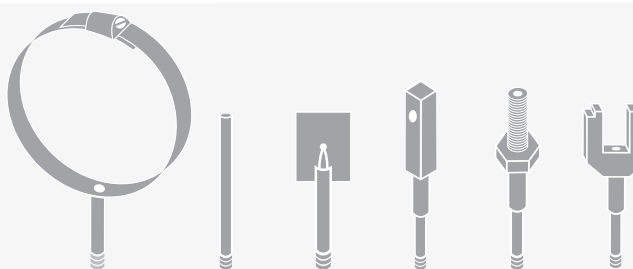
1

Measuring sensor / thermocouples
Pt100 Class A
Pt100 Class B
Pt100 Class B 1/3
Pt100 Class B 1/5
Pt100 Class B 1/10
Pt1000 Class A
Pt1000 Class B
NiCr-Ni/K
Fe-CuNi/J
Fe-CuNi/L
Cu-CuNi/T
Cu-CuNi/U
another Pt sensor (Pt ...)
another Ni sensor (Ni100, ...)
NTC/PTC



2

Construction
Cable probe with tension band
Cable probe with metallic protective sleeve
Cable sensor with welding plate
Cable sensor with screw-on block
Cable sensor with screw connection
Cable sensor with magnet



Special solutions such as materials not listed here, process connections, accessories, etc. are often available on request.

Feel free to contact us!

3

Cable ends
Free ends (not tinned)
Free ends (tinned)
Ferrules
Standard plug
Mini plug
Standard-HT plug
Mini-HT plug
Standard ceramic plug
LEMO connector, size 0 to 3

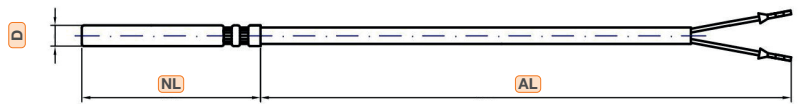
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7A

Cable temperature probe with metallic protection tube

1: Straight protection tube (D = 7 mm)



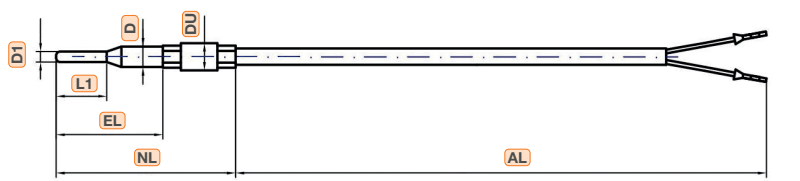
2: Extended protection tube (D = 8 mm)



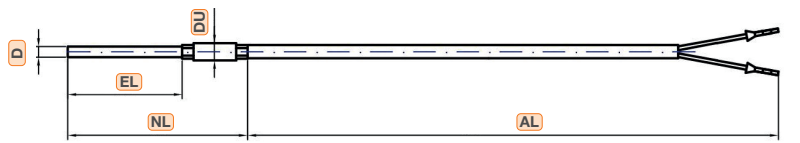
3: Stepped protection tube



4: Stepped protection tube with transition sleeve on the cable



5: Straight protection tube with transition sleeve on the cable



6: Perforated protection tube



- D** Protection tube diameter
- D1** Taper diameter
- DU** Transition sleeve diameter
- EL** Fitting length
- NL** Nominal length
- L1** Taper length
- AL** Cable length

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7A

Cable probe with metallic protective sleeve – Article number key

Product group	7	A	-	1	1	2	1	6	0	3	6	-	0	2	0	0	.	1	2	0	.	H	0	0	1	
Construction																										
Cable temperature probe with metal protection tube		A																								
Design																										
Protection sleeve straight				1																						
Straight pocket, reinforced measuring point				2																						
Tapered protective sleeve				3																						
Tapered protective sleeve with transition sleeve				4																						
Protection sleeve with transition sleeve				5																						
Protection sleeve perforated				6																						
Others				9																						
Resistance thermometer / thermocouple																										
1x Pt100-2L					1	2																				
1x Pt100-3L					1	3																				
1x Pt100-4L					1	4																				
1x Pt1000-2L					1	6																				
1x Pt1000-3L					1	7																				
1x Ni1000LG-2L					7	7																				
2x Pt100-2L					2	2																				
2x Pt100-3L					2	3																				
1x Fe-CuNi / Type L Measuring point isolated					4	1																				
1x Fe-CuNi / Type J Measuring point isolated					5	1																				
1x NiCr-Ni / Type K Measuring point isolated					6	1																				
1x Fe-CuNi / Type L Measuring point grounded					4	5																				
1x Fe-CuNi / Type J Measuring point grounded					5	5																				
1x NiCr-Ni / Type K Measuring point grounded					6	5																				
Other: see tables																										
Limit deviation																										
Class B (according to IEC 60751, e.g. for Pt100)						1																				
Class A (according to IEC 60751, e.g. for Pt100)						2																				
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)						1																				
Diameter (D)																										
2.0 mm to 9.9 mm with 1 decimal place e.g. 6.0 mm								6	0																	
10.0 mm to 15.0 mm without decimal place e.g. 10 mm								1	0																	
Cable ends																										
Free ends										3	0															
Ferrules										3	6															
Other: see tables																										
Cable length (AL)																										
In meter with 2 decimal digits, e.g. 2.0 m → 0200													0	2	0	0										
Installation length (EL) or nominal length (NL)																										
In mm e.g. 120 mm																			1	2	0					
Cable isolation																										
FEP / Silicone (T _{max} +200°C)																						H				
Other: see tables																										
Extra codes / Consecutive numbers (of the next version)																										
Spring strain relief																								0	0	1
Other as needed and agreed, the number is provided by the manufacturer																										

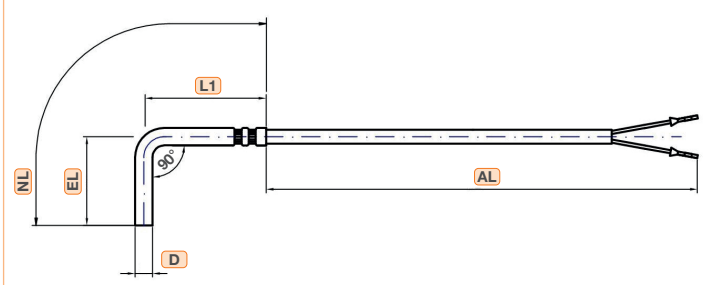
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

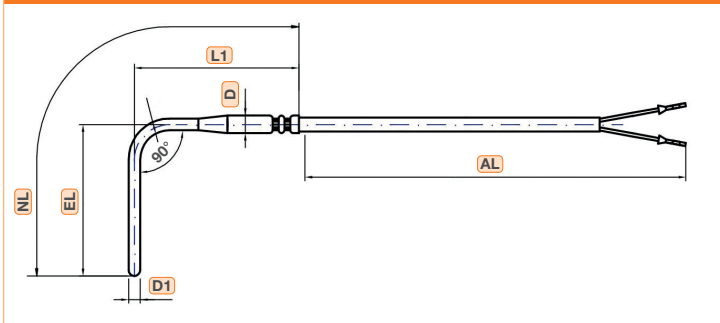
Series 7B

Cable temperature probe with bent protection tube or angle connector

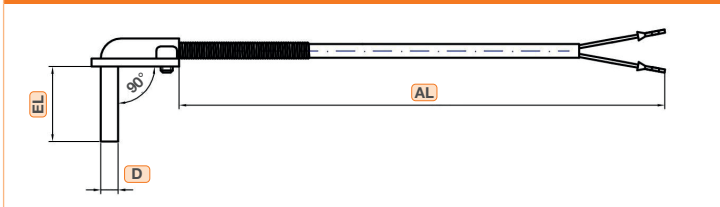
1: Cable temperature probe bent protection tube



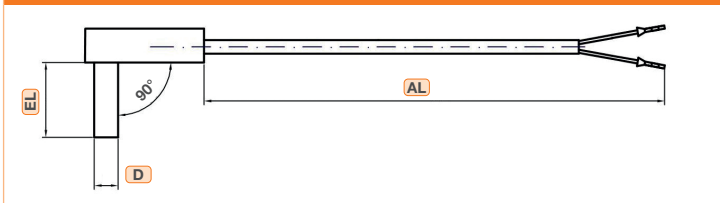
2: Cable temperature probe, bent and stepped protection tube



3: Cable temperature probe with protection tube and multipart 90° angle connector



4: Cable temperature probe with protection tube and one-piece 90° angle connector



- D** Protection tube diameter
- D1** Taper diameter
- EL** Insertion length
- NL** Nominal length
- AL** Cable length

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7B

Cable temperature probe with bent protection tube or angle connector – Article number key

Product group	7	B	-	1	1	2	1	6	0	3	6	-	0	2	0	0	.	1	2	0	.	Z	0	0	1
Construction Cable temperature probe with metallic protection tube, angled version		B																							
Design																									
Bent protection tube				1																					
Bent, tapered protection tube				2																					
Angled, screwed connector 90°				3																					
One-piece angle connector 90°				4																					
Other				9																					
Resistance thermometer / thermocouple																									
1x Pt100-2L					1	2																			
1x Pt100-3L					1	3																			
1x Pt100-4L					1	4																			
1x Pt1000-2L					1	6																			
1x Ni1000LG-2L					7	7																			
2x Pt100-2L					2	2																			
2x Pt100-3L					2	3																			
1x Fe-CuNi / Type L Measuring point isolated					4	1																			
1x Fe-CuNi / Type J Measuring point isolated					5	1																			
1x NiCr-Ni / Type K Measuring point isolated					6	1																			
1x Fe-CuNi / Type L Measuring point grounded					4	5																			
1x Fe-CuNi / Type J Measuring point grounded					5	5																			
1x NiCr-Ni / Type K Measuring point grounded					6	5																			
Other: see tables																									
Limit deviation																									
Class B (according to IEC 60751, e.g. for Pt100)							1																		
Class A (according to IEC 60751, e.g. for Pt100)							2																		
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)							1																		
Diameter (D)																									
2.0 mm to 9.9 mm with 1 decimal digit e.g. 6.0 mm								6	0																
10.0 mm to 15.0 mm without decimal place e.g. 10 mm								1	0																
Cable ends																									
Free ends										3	0														
Ferrules										3	6														
Other: see tables																									
Cable length (AL)																									
In meter with 2 decimal digits, e.g. 2.0 m → 0200													0	2	0	0									
Installation length (EL) or nominal length (NL)																									
In mm e.g. 120 mm																					1	2	0		
Cable isolation																									
Fiberglass / Fiberglass / Metal braid (T _{max} +400°C)																						Z			
Other: see tables																									
Extra codes / Consecutive numbers (of the next version)																									
Spring strain relief																							0	0	1
Heat shrink tube / sleeve strain relief																							0	0	2
Other as needed and agreed, the number is provided by the manufacturer																									

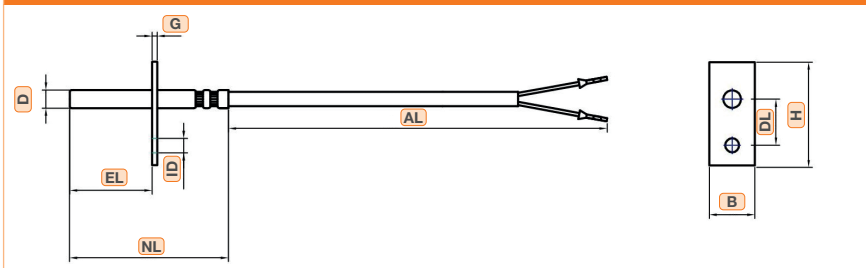
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

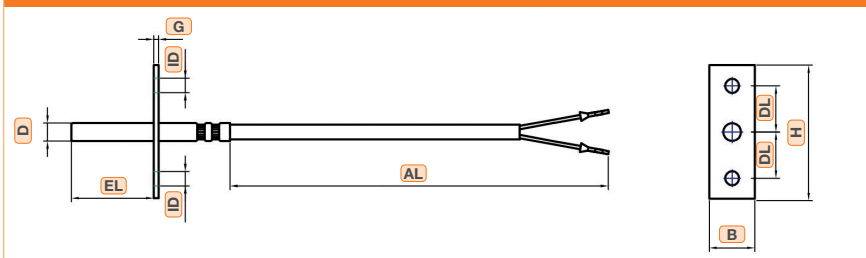
Series 7C

Cable temperature probe with metallic protection tube and mounting stop

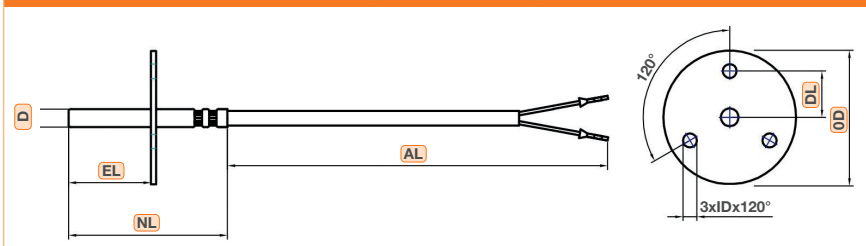
1: Metallic protection tube with plate and 1 mounting hole (Construction 1)



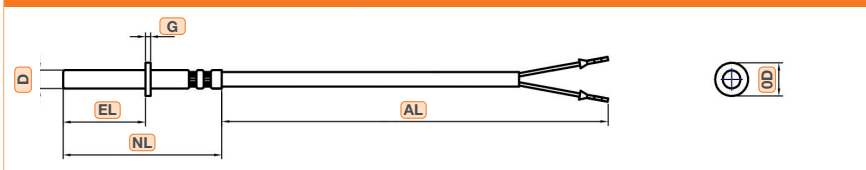
2: Metallic protection tube with plate and 2 mounting holes (Construction 2)



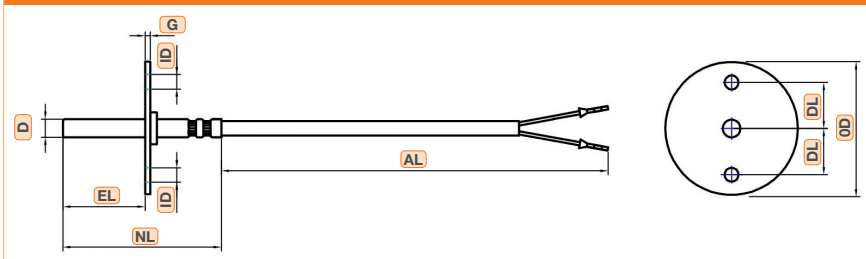
3: Metallic protection tube with flange and 3 mounting holes (Construction 3)



4: Metallic protection tube with ring (Construction 4)



5: Metallic protection tube with movable polyamide flange (Construction 5)



- D** Protection tube diameter
- EL** Insertion length
- NL** Nominal length
- AL** Cable length
- G** Thickness
- ID** Inside diameter
- DL** Distance between the holes
- OD** Outside diameter
- H** Height
- B** Width

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7C

Cable temperature probe with metallic protection tube and mounting stop – Article number key

Product group	7	C	-	1	1	2	1	6	0	3	6	-	0	2	0	0	.	1	2	0	.	Z	1	0	1
Construction																									
Cable temperature probe with mounting stop		C																							
Design																									
Protection tube with plate and 1 hole				1																					
Protection tube with plate and 2 holes				2																					
Protection tube with flange				3																					
Protection tube with ring				4																					
Protection tube with a polyamide flange				5																					
Other				9																					
Resistance thermometer / thermocouple																									
1x Pt100-2L					1	2																			
1x Pt100-3L					1	3																			
1x Pt100-4L					1	4																			
1x Pt1000-2L					1	6																			
2x Pt100-2L					2	2																			
2x Pt100-3L					2	3																			
1x Fe-CuNi / Type L Measuring point isolated					4	1																			
1x Fe-CuNi / Type J Measuring point isolated					5	1																			
1x NiCr-Ni / Type K Measuring point isolated					6	1																			
Other: see tables																									
Limit deviation																									
Class B (according to IEC 60751, e.g. for Pt100)						1																			
Class A (according to IEC 60751, e.g. for Pt100)						2																			
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)						1																			
Diameter (D)																									
2.0 mm to 9.9 mm with 1 decimal digit, e.g. 6.0 mm								6	0																
10.0 mm to 15.0 mm without decimal place e.g. 10 mm								1	0																
Cable ends																									
Free ends										3	0														
Ferrules										3	6														
Other: see tables																									
Cable length (AL)																									
In meter with 2 decimal digits, e.g.: 2.0 m → 0200													0	2	0	0									
Installation length (EL) or nominal length (NL)																									
In mm e.g. 120 mm																		1	2	0					
Cable isolation																									
Fiberglass / Fiberglass / Metal braid (T _{max} +400°C)																						Z			
Other: see tables																									
Plate / ring / flange																									
Metal plate 20x10x5 mm with 1 hole Ø 5 mm (Design 1)																							1	0	
Metal plate 15x38x5 mm with 1 hole Ø 6.3 mm (Design 2)																							1	1	
Metal flange diameter 30 mm with 3 holes (Design 3)																							3	3	
Stop Ring 2 mm wide (Design 4)																							0	2	
Polyamid flange, diameter 39 mm with 2 holes (Design 5)																							3	9	
Extra codes / Consecutive numbers (of the next version)																									
Spring strain relief																									1
Heat shrink tube / sleeve strain relief																									2

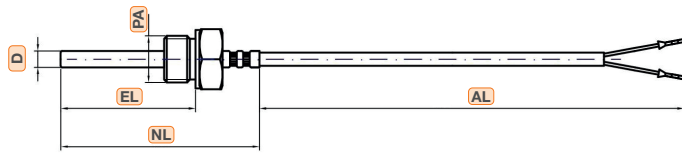
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

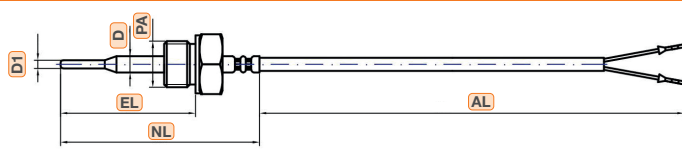
Series 7D

Cable temperature probe with fixed threaded process connection

1: Protection tube with fixed external thread



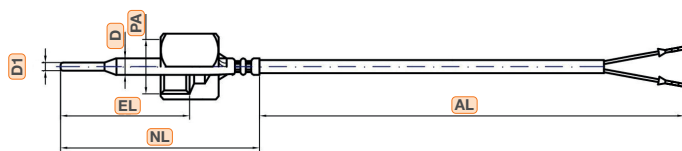
2: Stepped protection tube with fixed external thread



3: Protection tube with fixed internal thread



4: Stepped protection tube with fixed internal thread



- D** Protection tube diameter
- D1** Taper diameter
- EL** Insertion length
- NL** Nominal length
- AL** Cable length
- PA** Process connection

Threaded connections (PA): Thread

Code	Metric thread
53	M3 (x0,5)
54	M4 (x0,7)
55	M5 (x0,8)
56	M6 (x1)
57	M7 (x1)
58	M8 (x1,25)
59	M9 (x1,25)
50	M10 (x1,5)
76	M12 (x1,75)
77	M14 (x2)
79	M16 (x2,5)
81	M18 (x2,5)
52	M20 (x2,5)

Code	Metric fine thread
51	M10x1
61	M6x0,5
62	M6x0,75
64	M8x0,5
65	M8x0,75
66	M8x1
67	M9x1
68	M10x1,25
69	M10x0,75
70	M11x1,5
71	M12x0,75
72	M12x1
74	M12x1,25
75	M12x1,5
78	M14x1,5
80	M16x1,5
82	M18x2
83	M18x1,5
84	M20x1,5
86	M22x1,5
87	M24x1,5
88	M27x2

Code	Inch thread
11	G1/8 BSP
12	G1/2 BSP
13	G3/4 BSP
14	G1/4 BSP
15	G3/8 BSP
16	G1 BSP
21	1/8-NPT
22	1/2-NPT
23	3/4-NPT
24	1/4-NPT
25	3/8-NPT
31	R1/8
32	R1/2
33	R3/4
34	R1/4
35	R3/8

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7D

Cable temperature probe with fixed threaded process connection – Article number key

Product group	7	D	-	1	1	2	1	6	0	3	6	-	0	2	0	0	.	1	2	0	.	M	1	4	1
Construction Cable temperature probe with fixed thread		D																							
Design																									
External thread, straight protection tube				1																					
External thread, stepped protection tube				2																					
Internal thread, straight protection tube				3																					
Internal thread, stepped protection tube				4																					
Other				9																					
Resistance thermometer / thermocouple																									
1x Pt100-2L					1	2																			
1x Pt100-3L					1	3																			
1x Pt100-4L					1	4																			
1x Pt1000-2L					1	6																			
2x Pt100-2L					2	2																			
2x Pt100-3L					2	3																			
1x Fe-CuNi / Type L Measuring point isolated					4	1																			
1x Fe-CuNi / Type J Measuring point isolated					5	1																			
1x NiCr-Ni / Type K Measuring point isolated					6	1																			
Other: see tables																									
Limit deviation																									
Class B (according to IEC 60751, e.g. for Pt100)						1																			
Class A (according to IEC 60751, e.g. for Pt100)						2																			
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)						1																			
Diameter (D) 2.0 mm to 9.9 mm with 1 decimal digit, e.g. 6.0 mm								6	0																
Cable ends																									
Free ends										3	0														
Ferrules										3	6														
Other: see tables																									
Cable length (AL) In meter with 2 decimal digits, e.g.: 2.0 m → 0200														0	2	0	0								
Installation length (EL) In mm e.g. 120 mm																				1	2	0			
Cable isolation FEP / Metal braid / FEP (T _{max} +205°C) Other: see tables																						M			
Process connection (PA)																									
Thread G1/4																							1	4	
Thread G1/2																							1	2	
Thread M6																							5	6	
Thread M8																							5	8	
Other: see tables																									
Extra codes / Consecutive numbers (of the next version)																									
Spring strain relief																								1	
Heat shrink tube / sleeve strain relief																								2	
Others depending on needs and possibilities on request																									

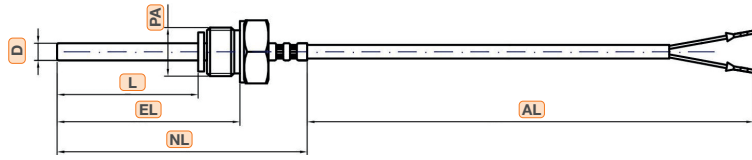
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

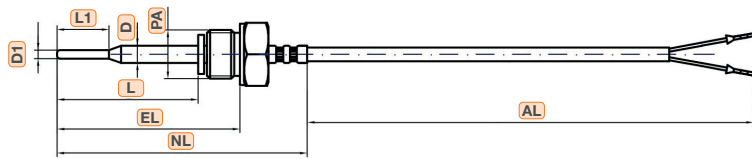
Series 7E

Cable temperature probe with loose threaded process connection

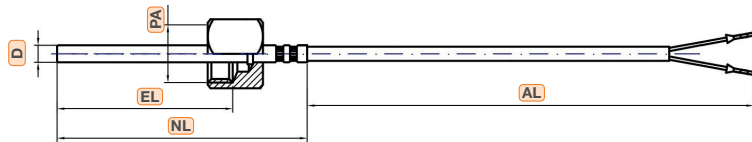
1: Straight protection tube and loose external thread



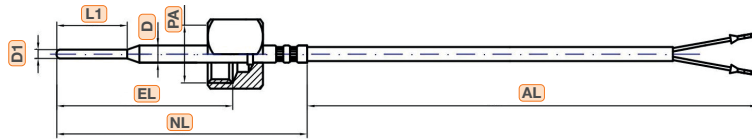
2: Stepped protection tube and loose external thread



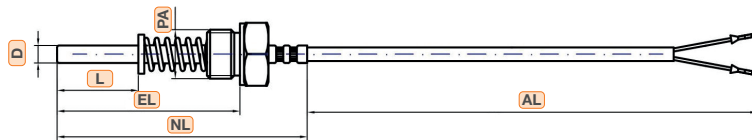
3: Straight protection tube and loose internal thread



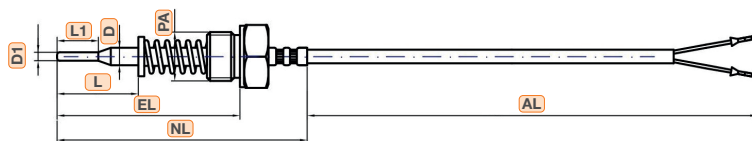
4: Stepped protection tube and loose internal thread



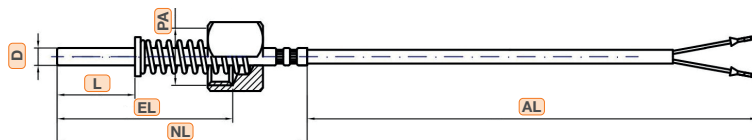
5: Straight protection tube, loose external thread and spring



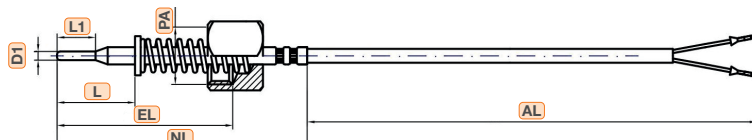
6: Stepped protection tube, loose external thread and spring



7: Straight protection tube, loose internal thread and spring



8: Stepped protection tube, loose internal thread and spring



- D** Protection tube diameter
- D1** Taper diameter
- EL** Insertion length
- L** Measuring tip length
- L1** Taper length
- NL** Nominal length
- AL** Cable length
- PA** Process connection

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7E

Cable temperature probe with loose threaded process connection – Article number key

Product group	7	E	-	1	1	2	1	6	0	3	6	-	0	2	0	0	.	1	2	0	.	Z	1	4	1
Construction Cable temperature probe with protection tube and loose threaded process connection		E																							
Design																									
Straight protection tube, external thread				1																					
Stepped protection tube, external thread				2																					
Straight protection tube, internal thread				3																					
Stepped protection tube, internal thread				4																					
Straight protection tube, external thread and spring				5																					
Stepped protection tube, external thread and spring				6																					
Straight protection tube, internal thread and spring				7																					
Stepped protection tube, internal thread and spring				8																					
Other				9																					
Resistance thermometer / thermocouple																									
1x Pt100-2L					1	2																			
1x Pt100-3L					1	3																			
1x Pt100-4L					1	4																			
1x Pt1000-2L					1	6																			
2x Pt100-2L					2	2																			
2x Pt100-3L					2	3																			
1x Fe-CuNi / Type L Measuring point isolated					4	1																			
1x Fe-CuNi / Type J Measuring point isolated					5	1																			
1x NiCr-Ni / Type K Measuring point isolated					6	1																			
Other: see tables																									
Limit deviation																									
Class B (according to IEC 60751, e.g. for Pt100)						1																			
Class A (according to IEC 60751, e.g. for Pt100)						2																			
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)						1																			
Diameter (D) 2.0 mm to 9.9 mm with 1 decimal digit, e.g. 6.0 mm								6	0																
Cable ends																									
Free ends										3	0														
Ferrules										3	6														
Other: see tables																									
Cable length (AL) In meter with 2 decimal digits, e.g.: 2.0 m → 0200														0	2	0	0								
Installation length (EL) In mm e.g. 120 mm																					1	2	0		
Cable isolation Fiberglass / Fiberglass / Metal braid (T _{max} +400°C) Other: see tables																						Z			
Process connection (PA)																									
Thread G1/4																							1	4	
Thread M8																							5	8	
Other: see tables																									
Extra codes / Consecutive numbers (of the next version)																									
Spring strain relief																								1	
Heat shrink tube / sleeve strain relief																								2	

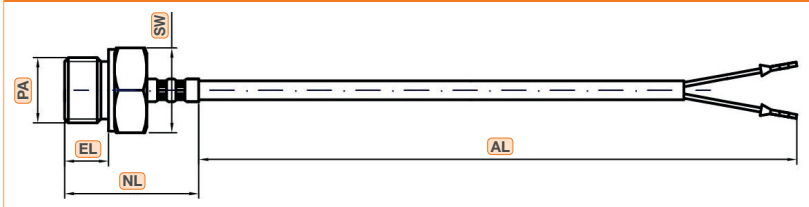
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

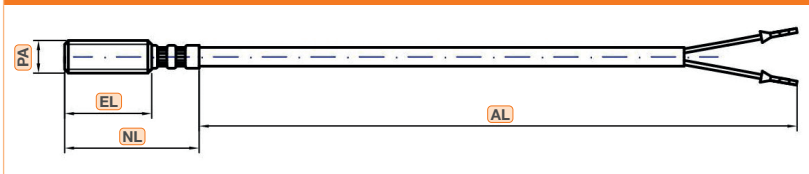
Series 7F

Cable temperature probe with thread

1: Cable temperature probe with thread and hexagon



2: Cable temperature probe with threaded protection tube



- EL** Insertion length
- NL** Nominal length
- AL** Cable length
- PA** Process connection
- SW** Wrench size

Threaded connections (PA): Thread

Code	Metric thread
53	M3 (x0,5)
54	M4 (x0,7)
55	M5 (x0,8)
56	M6 (x1)
57	M7 (x1)
58	M8 (x1,25)
59	M9 (x1,25)
50	M10 (x1,5)
76	M12 (x1,75)
77	M14 (x2)
79	M16 (x2,5)
81	M18 (x2,5)
52	M20 (x2,5)

Code	Metric fine thread
51	M10x1
61	M6x0,5
62	M6x0,75
64	M8x0,5
65	M8x0,75
66	M8x1
67	M9x1
68	M10x1,25
69	M10x0,75
70	M11x1,5
71	M12x0,75
72	M12x1
74	M12x1,25
75	M12x1,5
78	M14x1,5
80	M16x1,5
82	M18x2
83	M18x1,5
84	M20x1,5
86	M22x1,5
87	M24x1,5
88	M27x2

Code	Inch thread
11	G1/8 BSP
12	G1/2 BSP
13	G3/4 BSP
14	G1/4 BSP
15	G3/8 BSP
16	G1 BSP
21	1/8-NPT
22	1/2-NPT
23	3/4-NPT
24	1/4-NPT
25	3/8-NPT
31	R1/8
32	R1/2
33	R3/4
34	R1/4
35	R3/8

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7F

Cable temperature probe with thread – Article number key

Product group	7	F	-	1	1	2	1	6	0	3	6	-	0	2	0	0	.	1	2	0	.	Z	1	4	1
Construction																									
Cable temperature probe with thread		F																							
Design																									
Cable probe with protective sleeve and thread with hexagon					1																				
Cable sensor with thread without hexagonal head					2																				
Other					9																				
Resistance thermometer / thermocouple																									
1x Pt100-2L					1	2																			
1x Pt100-3L					1	3																			
1x Pt100-4L					1	4																			
1x Pt1000-2L					1	6																			
2x Pt100-2L					2	2																			
2x Pt100-3L					2	3																			
1x Fe-CuNi / Type L Measuring point isolated					4	1																			
1x Fe-CuNi / Type J Measuring point isolated					5	1																			
1x NiCr-Ni / Type K Measuring point isolated					6	1																			
Other: see tables																									
Limit deviation																									
Class B (according to IEC 60751, e.g. for Pt100)							1																		
Class A (according to IEC 60751, e.g. for Pt100)							2																		
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)							1																		
Hexagon size (SW)																									
Without								0	0																
Size, e.g. SW10								1	0																
Cable ends																									
Free ends										3	0														
Ferrules										3	6														
Other: see tables																									
Cable length (AL)																									
In meter with 2 decimal digits, e.g. 2.0 m → 0200													0	2	0	0									
Installation length (EL) or nominal length (NL)																									
In mm e.g. 20 mm																				0	2	0			
Cable isolation																									
Fiberglass / Fiberglass / Metal braid (T _{max} +400°C)																						Z			
Other: see tables																									
Process connection (PA)																									
Thread G1/4																							1	4	
Thread G1/2																							1	2	
Thread M6																							5	6	
Thread M8																							5	8	
Other: see tables																									
Extra codes / Consecutive numbers (of the next version)																									
Spring strain relief																									1
Heat shrink tube / sleeve strain relief																									2
Others depending on needs and possibilities on request																									

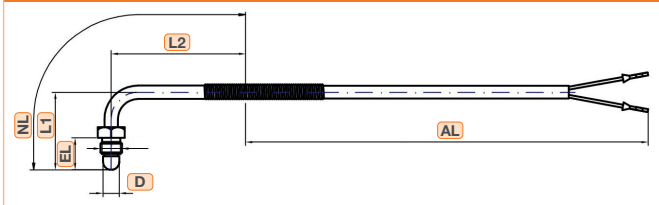
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7G

Angled cable probe, loose screw connection

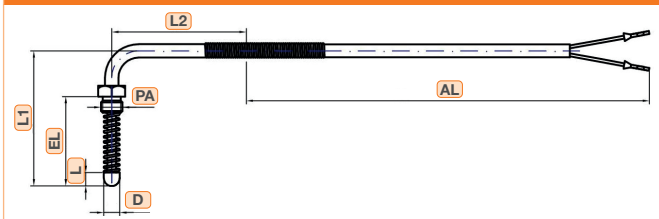
1: Bent protection tube and loose threaded connection



2: Protection tube and multiparts angle connector, loose threaded connection



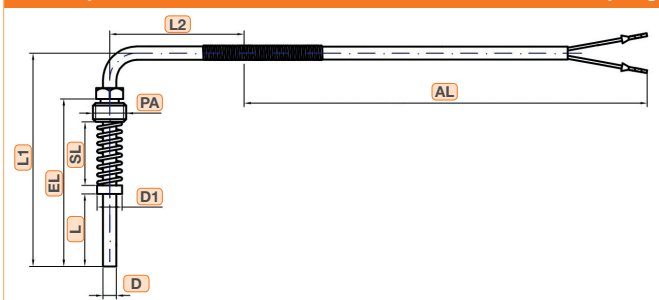
3: Bent protection tube and loose threaded connection with spring



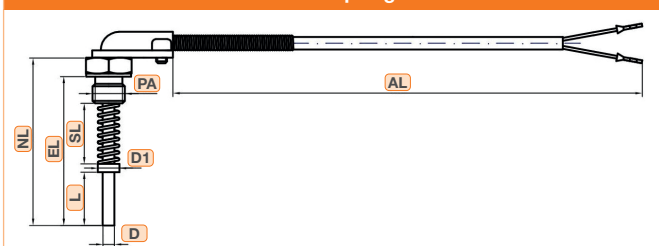
4: Protection tube and multiparts angle connector, loose threaded connection with spring



5: Bent protection tube and loose threaded connection with spring



6: Protection tube and multiparts angle connector, loose threaded connection with spring



- D** Protection tube diameter
- D1** Ring diameter
- EL** Insertion length
- NL** Nominal length
- SL** Spring length
- L** Measuring tip length
- L1** Length
- L2** Length
- AL** Cable length
- PA** Process connection

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7G

Angled cable probe, loose screw connection – Article number key

Product group	7	G	-	1	1	2	1	6	0	3	6	-	0	2	0	0	.	0	2	0	.	Z	1	4	1
Construction Angled cable probe with loose screw connection		G																							
Design																									
Bent protection tube, loose thread				1																					
Multiparts angle connector 90°, loose thread				2																					
Bent protection tube, loose thread and spring				3																					
Multiparts angle connector 90°, loose thread and spring				4																					
Bent protection tube, loose thread and spring				5																					
Multiparts angle connector 90°, loose thread and spring				6																					
Other				9																					
Resistance thermometer / thermocouple																									
1x Pt100-2L					1	2																			
1x Pt100-3L					1	3																			
1x Pt100-4L					1	4																			
1x Pt1000-2L					1	6																			
2x Pt100-2L					2	2																			
2x Pt100-3L					2	3																			
1x Fe-CuNi / Type L Measuring point isolated					4	1																			
1x Fe-CuNi / Type J Measuring point isolated					5	1																			
1x NiCr-Ni / Type K Measuring point isolated					6	1																			
Other: see tables																									
Limit deviation																									
Class B (according to IEC 60751, e.g. for Pt100)							1																		
Class A (according to IEC 60751, e.g. for Pt100)							2																		
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)							1																		
Diameter (D) 2.0 mm to 9.9 mm with 1 decimal digit, e.g. 6.0 mm								6	0																
Cable ends																									
Free ends										3	0														
Ferrules										3	6														
Other: see tables																									
Cable length (AL) In meter with 2 decimal digits, e.g. 2.0 m → 0200													0	2	0	0									
Installation length (EL) In mm e.g. 20 mm																		0	2	0					
Cable isolation Fiberglass / Fiberglass / Metal braid (T _{max} +400°C) Other: see tables																						Z			
Process connection (PA)																									
Thread G1/4																							1	4	
Thread G1/2																							1	2	
Thread M6																							5	6	
Thread M8																							5	8	
Other: see tables																									
Extra codes / Consecutive numbers (of the next version)																									
Spring strain relief																								1	
Heat shrink tube / sleeve strain relief																									2

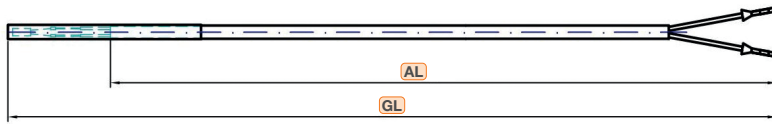
Product group **7X-KFT / KFW**

Cable thermocouples and cable resistance thermometers

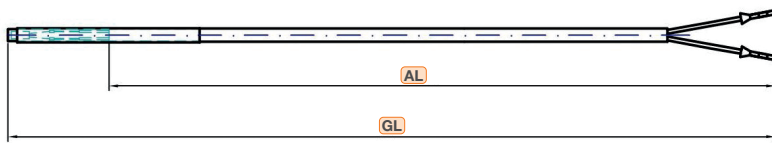
Series 7J

Cable temperature probe without metallic protection tube

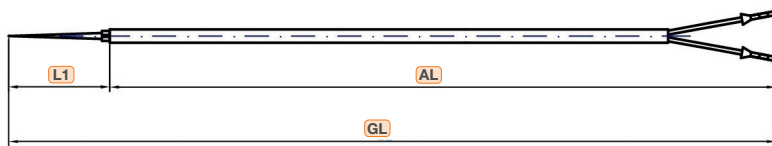
1: Cable temperature probe without metallic protection tube (Construction 1)



2: Cable temperature probe without metallic protection tube with partially exposed sensor (Construction 2)



3: Thermocouple with exposed hot junction (Construction 3)



- AL** Cable length
- GL** Total length
- L1** Measuring tip length

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7J

Cable temperature probe without metallic protection tube – Article number key

Product group	7	J	-	1	1	2	1	2	0	3	6	-	0	2	0	0	.	A	0	0	0
Construction																					
Cable temperature probe without metallic protection tube		J																			
Design																					
Sensor in heat-shrink tube				1																	
Sensor in heat-shrink tube, partially exposed				2																	
Thermocouple with exposed hot junction				3																	
Other				9																	
Resistance thermometer / thermocouple																					
1x Pt100-2L					1	2															
1x Pt100-3L					1	3															
1x Pt100-4L					1	4															
1x Pt1000-2L					1	6															
2x Pt100-2L					2	2															
2x Pt100-3L					2	3															
1x Fe-CuNi / Type L Measuring point isolated					4	1															
1x Fe-CuNi / Type J Measuring point isolated					5	1															
1x NiCr-Ni / Type K Measuring point isolated					6	1															
Other: see tables																					
Limit deviation																					
Class B (according to IEC 60751, e.g. for Pt100)						1															
Class A (according to IEC 60751, e.g. for Pt100)						2															
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)						1															
Sensor width																					
In mm with 1 decimal place, e.g. 2.0 mm								2	0												
for design 3 (exposed hot junction)								0	0												
Cable ends																					
Free ends										3	0										
Ferrules										3	6										
Other: see tables																					
Total length (GL)																					
In meter with 2 decimal digits, e.g. 2.0 m → 0200													0	2	0	0					
Cable isolation																					
FFA / PFA (T _{max} +260°C)																				A	
Other: see tables																					
Extra codes / Consecutive numbers (of the next version)																					
Without																					0 0 0

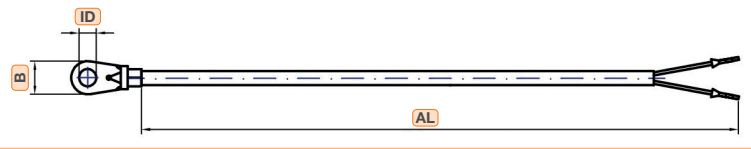
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

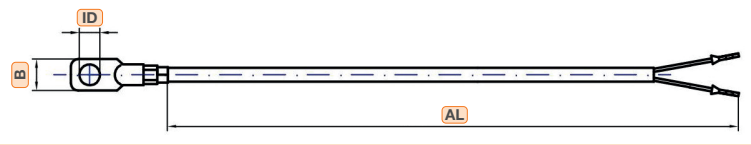
Series 7K

Cable temperature probe with mounting hole

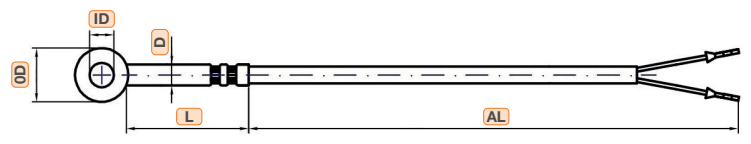
1: Cable temperature probe with cable lug, only thermocouples with grounded (non-insulated) hot junction



2: Cable temperature probe with cable lug and transition sleeve



3: Cable temperature probe with protection tube and ring



4: Cable temperature probe with metal protection tube and mounting hole



L / **NL** Protective sleeve length

AL Cable length

ID Internal diameter

OD Outside diameter

B Width

D Protection tube diameter

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7K

Cable temperature probe with mounting hole – Article number key

Product group	7	K	-	1	1	2	1	0	6	3	6	-	0	2	0	0	.	0	5	0	.	S	0	0	1
Construction Cable probe with cable lug		K																							
Design Cable probe with cable lug (thermocouples only) Cable sensor with cable lug and protective sleeve Cable sensor with protective sleeve and ring Cable sensor with protective sleeve and fixing hole Other				1 2 3 4 9																					
Resistance thermometer / thermocouple 1x Pt100-2L 1x Pt100-3L 1x Pt100-4L 1x Pt1000-2L 2x Pt100-2L 2x Pt100-3L 1x Fe-CuNi / Type L Measuring point isolated 1x Fe-CuNi / Type J Measuring point isolated 1x NiCr-Ni / Type K Measuring point isolated 1x Fe-CuNi / Type J Measuring point grounded 1x NiCr-Ni / Type K Measuring point grounded Other: see tables				1 1 1 1 2 2 4 5 6 5 6	2 3 4 6 2 3 1 1 1 5 5																				
Limit deviation Class B (according to IEC 60751, e.g. for Pt100) Class A (according to IEC 60751, e.g. for Pt100) Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)								1 2 1																	
Mounting hole (ID)																									
for screw	M3	M3,5	M4	M5	M6	M8	M10																		
code	03	02	04	05	06	08	01																		
or hole diameter specified in mm Diameter 3 mm ≤ ID ≤ 9.9 mm with 1 decimal place, e.g. 4.3 mm Diameter 10 mm ≤ ID < 20 mm without decimal place, e.g. 12 mm								4 1	3 2																
Cable ends Free ends Ferrules Other: see tables										3 3	0 6														
Cable length (AL) In meter with 2 decimal digits, e.g. 2.0 m → 0200													0	2	0	0									
Protective sleeve Length (L or NL) In mm e.g. 50 mm																		0	5	0					
Cable isolation Silicone / Silicone (T _{max} +180°C) Other: see tables																						S			
Extra codes / Consecutive numbers (of the next version) Spring strain relief Heat shrink tube / sleeve strain relief																							0 0	0 0	1 2

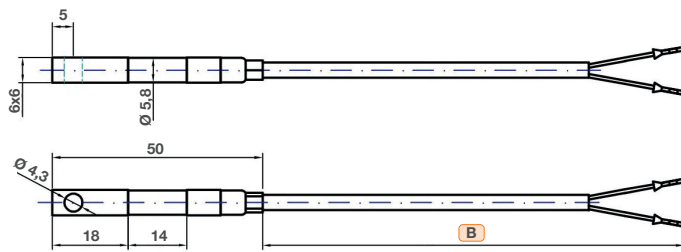
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

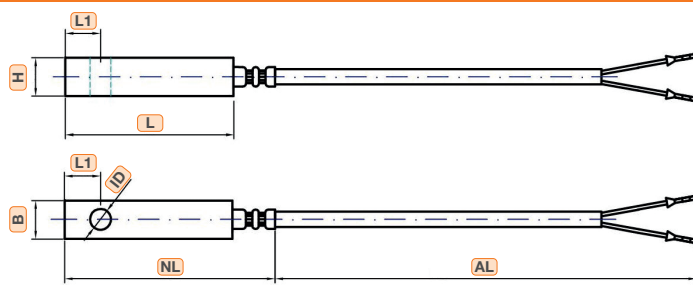
Series 7L

Cable temperature probe with surface cube and mounting hole

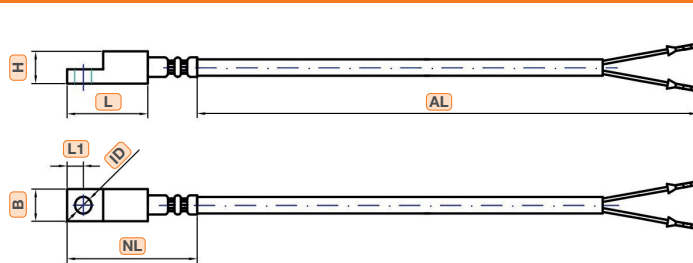
1: Cable temperature probe with universal metal surface cube with mounting hole and /or for band mounting (Construction 1)



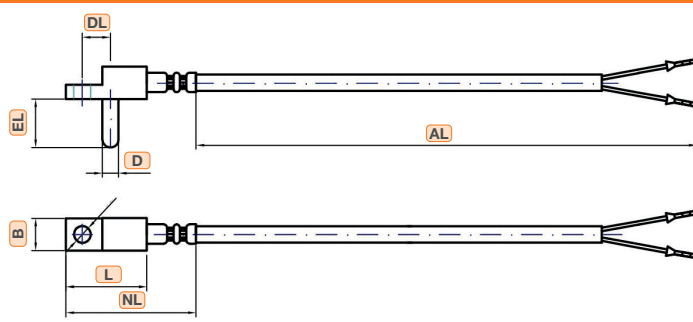
2: Cable temperature probe with metal surface cube with mounting hole (Construction 2)



3: Cable temperature probe with metal surface cube and mounting hole (Construction 3)



4: Cable temperature probe with metal surface cube with pin and mounting hole (Construction 4)



- AL** Cable length
- NL** Nominal length
- L** Length
- L1** Length
- ID** Internal diameter
- H** Height
- B** Width
- D** Protection tube diameter
- DL** Distance between axes

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7L

Cable temperature probe with surface cube and mounting hole – Article number key

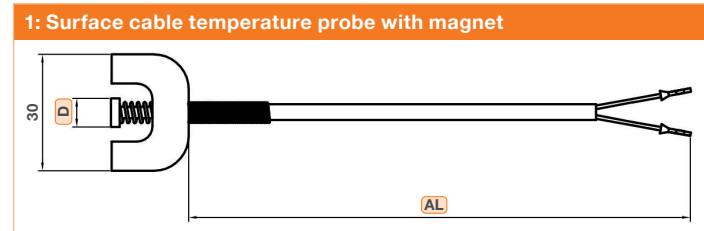
Product group	7	L	-	1	1	2	1	6	0	3	6	-	0	2	0	0	.	1	6	6	.	B	0	1
Construction																								
Cable temperature probe with surface cube		L																						
Design																								
Universal surface cube with mounting hole				1																				
Surface cube with mounting hole				2																				
Surface cube with reduction for mounting hole				3																				
Surface cube with reduction, pin and mounting hole				4																				
Other				9																				
Resistance thermometer / thermocouple																								
1x Pt100-2L					1	2																		
1x Pt100-3L					1	3																		
1x Pt100-4L					1	4																		
1x Pt1000-2L					1	6																		
1x Fe-CuNi / Type L Measuring point isolated					4	1																		
1x Fe-CuNi / Type J Measuring point isolated					5	1																		
1x NiCr-Ni / Type K Measuring point isolated					6	1																		
Other: see tables																								
Limit deviation																								
Class B (according to IEC 60751, e.g. for Pt100)																							1	
Class A (according to IEC 60751, e.g. for Pt100)																							2	
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)																							1	
Mounting hole (ID)																								
for screw	M3	M3,5	M4	M5	M6	M8	M10																	
code	03	02	04	05	06	08	01																	
or hole diameter specified in mm																								
Diameter 3 mm ≤ ID ≤ 9.9 mm with 1 decimal place, e.g.: 4.3 mm																							4	3
Diameter 10 mm ≤ ID < 20 mm without decimal place, e.g.: 12 mm																							1	2
Cable ends																								
Free ends																								3 0
Ferrules																								3 6
Other: see tables																								
Cable length (AL)																								
In meter with 2 decimal digits, e.g. 2.0 m → 0200																								0 2 0 0
Surface cube (block) material																								
Stainless steel																								1
Brass																								2
Aluminium																								3
Contacting cube (block) dimensions																								
Dimensions: 6x6x50 mm (Design 1)																								6 6
Dimensions: 8x8x40 mm (Design 2)																								8 8
Dimensions: 10x10x50 mm (Design 3)																								1 1
Dimensions: 8x6x20 mm, pin 3x10 mm, (Design 4)																								8 6
Cable isolation																								
PFA / Silicone / PFA (T _{max} +260°C)																								B
Andere: siehe Tabellen																								
Extra codes / Consecutive numbers (of the next version)																								
Spring strain relief																								0 1
Heat shrink tube / sleeve strain relief																								0 2

Product group **7X-KFT / KFW**

Cable thermocouples and cable resistance thermometers

Series 7M

Cable temperature probe with magnet



AL Cable length

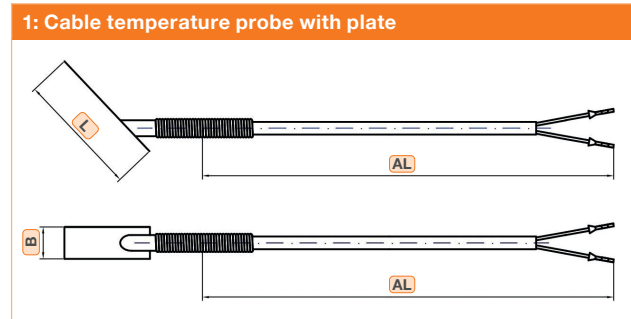
D Diameter

Product group **7X-KFT / KFW**

Cable thermocouples and cable resistance thermometers

Series 7P

Cable temperature probe with metal plate



- AL** Cable length
- B** Metal plate width
- L** Metal plate length

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7P

Cable temperature probe with metal plate – Article number key

Product group	7	P	-	1	1	2	1	0	7	3	6	-	0	2	0	0	.	0	3	0	.	Z	0	0	1	
Construction Cable sensor with welding plate		P																								
Design Cable sensor with welding plate Other				1 9																						
Resistance thermometer / thermocouple 1x Pt100-2L 1x Pt100-3L 1x Pt100-4L 1x Pt1000-2L 2x Pt100-2L 2x Pt100-3L 1x Fe-CuNi / Type L Measuring point isolated 1x Fe-CuNi / Type J Measuring point isolated 1x NiCr-Ni / Type K Measuring point isolated 1x Fe-CuNi / Type J Measuring point grounded 1x NiCr-Ni / Type K Measuring point grounded Other: see tables					1 1 1 1 2 2 4 5 6 5 6	2 3 4 6 2 3 1 1 1 5 5																				
Limit deviation Class B (according to IEC 60751, e.g. for Pt100) Class A (according to IEC 60751, e.g. for Pt100) Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)							1 2 1																			
Plate width (B) In mm, e.g. 7 mm								0	7																	
Cable ends Free ends Ferrules Other: see tables										3 3	0 6															
Cable length (AL) In meter with 2 decimal digits, e.g. 2.0 m → 0200													0	2	0	0										
Plate length (L) In mm e.g. 30 mm																			0	3	0					
Cable isolation Fiberglass / Fiberglass / Metal braid (T _{max} +400°C) Other: see tables																						Z				
Extra codes / Consecutive numbers (of the next version) Spring strain relief																								0	0	1

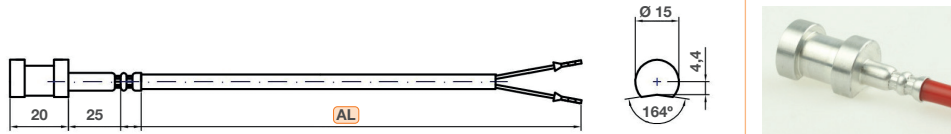
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

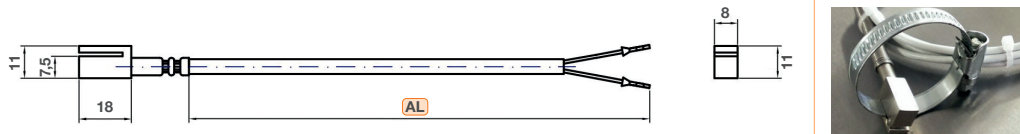
Series 7S

Cable temperature probe clamping band installation

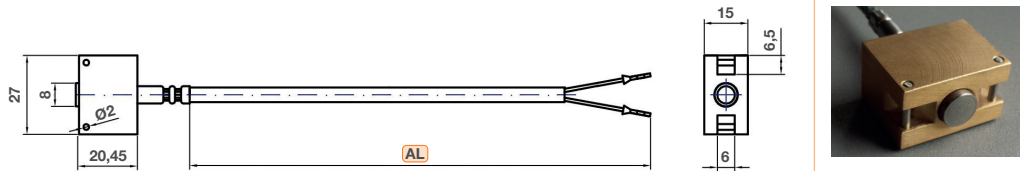
1: Surface block with prism for pipe mounting



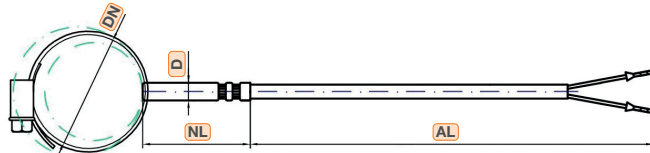
2: Surface block with groove for clamping band



3: Surface block with spring pressure



4: Protection tube with clamping band



- AL** Cable length
- NL** Nominal length
- D** Diameter
- DN** Diameter clamping strap / hose clamp

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7S

Cable temperature probe clamping band installation – Article number key

Product group	7	S	-	1	1	2	1	1	5	3	6	-	0	2	0	0	.	0	6	0	.	Y	0	0	1
Construction Cable temperature probe for clamping band		S																							
Design																									
Surface block with prism				1																					
Surface block with groove				2																					
Surface block with spring				3																					
Protection tube with clamping band				4																					
Other				9																					
Resistance thermometer / thermocouple																									
1x Pt100-2L					1	2																			
1x Pt100-3L					1	3																			
1x Pt100-4L					1	4																			
1x Pt1000-2L					1	6																			
1x Fe-CuNi / Type L Measuring point isolated					4	1																			
1x Fe-CuNi / Type J Measuring point isolated					5	1																			
1x NiCr-Ni / Type K Measuring point isolated					6	1																			
1x Fe-CuNi / Type J Measuring point grounded					5	5																			
1x NiCr-Ni / Type K Measuring point grounded					6	5																			
Other: see tables																									
Limit deviation																									
Class B (according to IEC 60751, e.g. for Pt100)																									
Class A (according to IEC 60751, e.g. for Pt100)																									
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)																									
Diameter / width of surface part																									
Diameter (D) in mm (Design 1)										1	5														
Width in mm (Design 2)										0	8														
Surface cube (Design 3)										2	0														
Protection tube diameter in mm e.g. 6.0 mm (Design 4)										6	0														
Cable ends																									
Free ends																									
Ferrules																									
Other: see tables																									
Cable length (AL)																									
In meter with 2 decimal digits, e.g. 2.0 m → 0200																									
Clamping band																									
Size	Pipe diameter	Band width																							
060	40 mm - 60 mm	9 mm																							
080	60 mm - 80 mm	9 mm																							
100	80 mm - 100 mm	9 mm																							
360	max. 360 mm	9 mm																							
500	max. 125 mm	4,5 mm																							
900	max. 250 mm	8 mm																							
000	without band																								
Cable isolation																									
Fiberglass / Fiberglass / Metal braid (T _{max} +400°C)																									
Other: see tables																									
Extra codes / Consecutive numbers (of the next version)																									
Spring strain relief																									

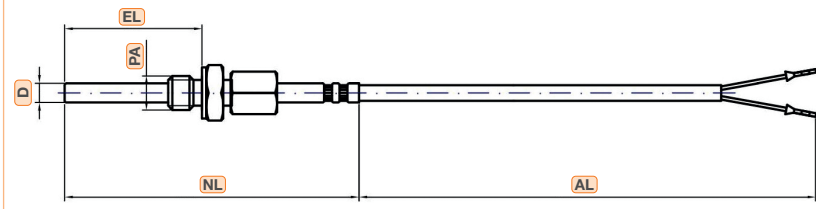
Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

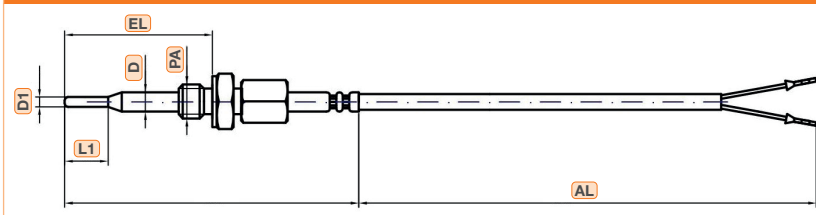
Series 7V

Cable temperature probe with protection tube and compression fitting

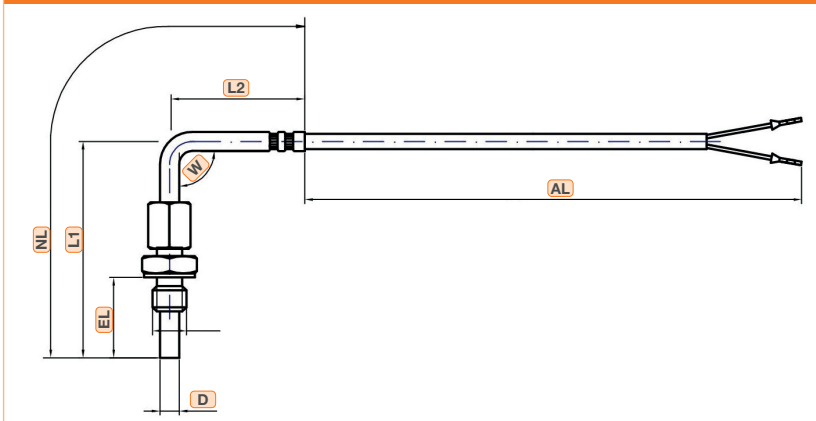
1: Straight protection tube and compression fitting



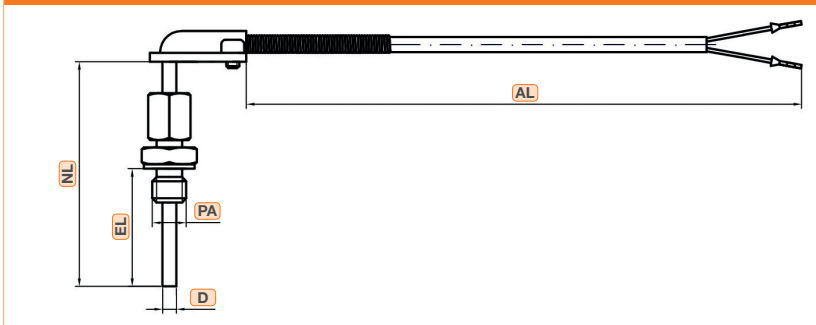
2: Stepped down protection tube and compression fitting



3: Bent protection tube and compression fitting



4: Protection tube with angle connector and compression fitting



- D** Protection tube diameter
- D1** Taper diameter
- EL** Fitting length
- NL** Nominal length
- L** Measuring tip length
- L1** Taper length
- L2** Length
- AL** Cable length
- PA** Process connection
- W** Angle

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

Series 7V

Cable temperature probe with protection tube and compression fitting – Article number key

Product group	7	V	-	1	1	2	1	6	0	3	6	-	0	2	0	0	.	0	2	0	.	Z	1	4	1
Construction Cable temperature probe with compression fitting		V																							
Design																									
Straight protection tube				1																					
Stepped down protection tube				2																					
Bent protection tube				3																					
Protection tube with angle connector 90°				4																					
Other				9																					
Resistance thermometer / thermocouple																									
1x Pt100-2L					1	2																			
1x Pt100-3L					1	3																			
1x Pt100-4L					1	4																			
1x Pt1000-2L					1	6																			
2x Pt100-2L					2	2																			
2x Pt100-3L					2	3																			
1x Fe-CuNi / Type L Measuring point isolated					4	1																			
1x Fe-CuNi / Type J Measuring point isolated					5	1																			
1x NiCr-Ni / Type K Measuring point isolated					6	1																			
Other: see tables																									
Limit deviation																									
Class B (according to IEC 60751, e.g. for Pt100)							1																		
Class A (according to IEC 60751, e.g. for Pt100)							2																		
Class 1 (according to IEC 60584, e.g. for 1x Fe-CuNi)							1																		
Diameter (D) 2.0 mm to 9.9 mm with 1 decimal digit, e.g. 6.0 mm								6	0																
Cable ends																									
Free ends										3	0														
Ferrules										3	6														
Other: see tables																									
Cable length (AL) In meter with 2 decimal digits, e.g. 2.0 m → 0200													0	2	0	0									
Installation length (EL) In mm e.g. 20 mm																			0	2	0				
Cable isolation Fiberglass / Fiberglass / Metal braid (T _{max} +400°C) Other: see tables																						Z			
Compression fitting, thread (PA)																									
Thread G1/4																							1	4	
Thread G1/2																							1	2	
Thread M6																							5	6	
Thread M8																							5	8	
Other: see tables																									
Extra codes / Consecutive numbers (of the next version)																									
Spring strain relief																									1
Heat shrink tube / sleeve strain relief																									2

Product group 7X-KFT / KFW

Cable thermocouples and cable resistance thermometers

List of examples of additional options, extras

- Spring strain relief
- Heat shrink tube / sleeve strain relief
- The grounding conductor is led from the cable shield
- Other: on request, as agreed

► **Note: Each combination of the individual options and type codes must be technically checked and approved by us.**

Table Sensors and Thermocouples

Resistance thermometer		
Code	Description	
12	1x Pt100-2L	IEC/EN 60751
13	1x Pt100-3L	IEC/EN 60751
14	1x Pt100-4L	IEC/EN 60751
16	1x Pt1000-2L	IEC/EN 60751
17	1x Pt1000-3L	IEC/EN 60751
18	1x Pt1000-4L	IEC/EN 60751
19	1x Pt500-2L	IEC/EN 60751
22	2x Pt100-2L	IEC/EN 60751
23	2x Pt100-3L	IEC/EN 60751
24	2x Pt100-4L	IEC/EN 60751
25	2x Pt500-2L	IEC/EN 60751
26	2x Pt1000-2L	IEC/EN 60751
27	2x Pt1000-3L	IEC/EN 60751
28	2x Pt1000-4L	IEC/EN 60751
29	2x Pt500-3L	IEC/EN 60751
77	1x Ni1000LG-2L	
78	1x NTC 1,8kOhm-2L	
82	1x NTC 50kOhm-2L	

Thermocouples			
Code	Description		
41	1x Fe-CuNi / Type L	Measuring point isolated	
51	1x Fe-CuNi / Type J	Measuring point isolated	
61	1x NiCr-Ni / Type K	Measuring point isolated	
71	1x Cu-CuNi / Type T	Measuring point isolated	
42	2x Fe-CuNi / Type L	Measuring point isolated	
52	2x Fe-CuNi / Type J	Measuring point isolated	
62	2x NiCr-Ni / Type K	Measuring point isolated	
45	1x Fe-CuNi / Type L	Measuring point grounded	
55	1x Fe-CuNi / Type J	Measuring point grounded	
65	1x NiCr-Ni / Type K	Measuring point grounded	
74	1x Cu-CuNi / Type T	Measuring point grounded	
46	2x Fe-CuNi / Type L	Measuring point grounded	
56	2x Fe-CuNi / Type J	Measuring point grounded	
66	2x NiCr-Ni / Type K	Measuring point grounded	
60	1x NiCr-Ni / Type K	exposed measuring point	
54	1x Fe-CuNi / Type J	exposed measuring point	
49	1x NiCr-NiSi / Type N	exposed measuring point	

Limit deviation (resistance sensors)	
Code	Description
1	Class B according to IEC/EN 60751
2	Class A according to IEC/EN 60751
3	Class AA according to IEC/EN 60751
4	Class C according to IEC 60751
5	Class 1/5 B (1/5 Class B, IEC 60751)
6	Class 1/10 B (1/10 Class B, IEC 60751)

Limit deviation (thermocouples)	
Code	Description
1	Class 1 according to IEC 60584
2	Class 2 according to IEC 60584
3	Class 3 according to IEC 60584

Digital 1-wire interface	
Code	Description
85	DS18B20

Product group **7X-KFT / KFW**

Cable thermocouples and cable resistance thermometers

Table Cables / Isolations / End Terminations

Cable isolation			
Code	Isolation material	Short description	Permissible ambient temperature
J	PVC / PVC	PVC-PVC	+90°C
S	Silicone / Silicone	SL-SL	+180°C
H	FEP / Silicone	FEP-SP	+200°C
M	FEP / Metal braid / FEP	FEP-Cu-FEP	+205°C
A	PFA / PFA	PFA-PFA	+260°C
W	PFA / Aluminum foil with copper core/ PFA	PFA-Cu-PFA	+260°C
B	PFA / Silicone / PFA	PFA-SL-PFA	+260°C
Y	Fiberglass / Fiberglass / Metal braid VA	GL-GL-VA	+400°C
Z	Fiberglass / Fiberglass / Metal braid	GL-GL-P	+400°C
D	Fiberglass- R / Fiberglass -R / Metal braid VA	RL-RL-VA	+650°C
G	Fiberglass / Fiberglass	GL-GL	+400°C
R	Fiberglass / Fiberglass	GL-GL	+650°C
AE	PFA / Silicone / FEP	PFA-SL-FEP	+205°C
Q	Silicone / Silicone / Metal braid	SL-SL-P	+200°C

Cable termination	
Code	Plugs
01	Standard plug
02	Mini plug
03	Standard HT plug
04	Mini-HT plug
05	Standard ceramic plug
06	Mini ceramic plug
07	Standard-duplex plug
08	Mini duplex plug
10	Lemo plug size 0
11	Lemo plug size 1
12	Lemo plug size 2
13	Lemo plug size 3
14	M12 plug
30	Free ends 50/10 mm
34	non-insulated ferrules

Cable termination	
Code	Sockets
51	Standard socket
52	Mini socket
53	Standard HT socket
54	Mini-HT socket
55	Standard ceramic socket
56	Mini ceramic socket
57	Standard duplex socket
58	Mini duplex socket
60	Lemo socket size 0
61	Lemo socket size 1
62	Lemo socket size 2
63	Lemo socket size 3
64	M12 socket
33	Free ends 50/10 mm, tinned
36	Ferrules - standard

Cable termination	
Code	Junction boxes
74	Diecast light alloy, size 104
75	Polyamide
76	Diecast light alloy, size 130



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