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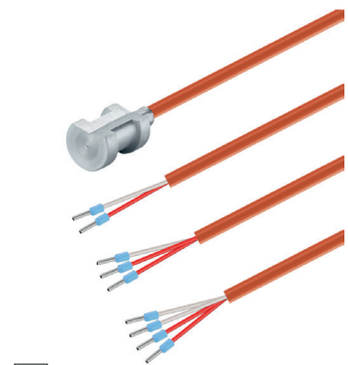
Pipe contact probe with silicone cable

Article no.: 802160 1011

Pipe contact probes with aluminum prism measure the surface temperature on curved surfaces such as pipes. The radius of the contact body is particularly suitable for pipes with a diameter of 30 mm - 110 mm. We offer the probes with a PVC or a silicone cable.



Customizable options
A - Measuring element
B - Connection Type
E - Material connection cable
F - Length connection cable
G - Connector

General Information	
Measuring range	-50 °C to +180 °C depending on sensor Type and connection cable
Perm. °C range cable	-50 °C to +180 °C
Accuracy	depending on sensor Type
Supply and output	
Max. meas. current	max. 1 mA
Supply voltage	approx. 5 V depending on measurement current
Measurement signal	passive (resistance value)
Ambient conditions	
Protection class	IP54 according DIN 60529
Humidity and moisture condensation resistance	according to application-specific qualification
Certificates and Standards	
Standards	DIN EN 61326-1:2013 | DIN EN IEC 63000:2019-05
Directive	RoHS 2011/65/EU | 2014/30/EU

A - Measuring element

Code	Sensor	Accuracy / Tolerance resistance	From (°C)[1)]	To (°C)[1)]
A012	Pt100	Cl. B dT = ±(0,30 °C + 0,005|t|)[1)]	-50 °C	+400 °C
A011	Pt100	Cl. A dT = ±(0,15 °C + 0,002|t|)[1)]	-50 °C	+300 °C
A022	Pt500	Cl. B dT = ±(0,30 °C + 0,005|t|)[1)]	-70 °C	+500 °C
A032	Pt1000	Cl. B dT = ±(0,30 °C + 0,005|t|)[1)]	-50 °C	+400 °C
A031	Pt1000	Cl. A dT = ±(0,15 °C + 0,002|t|)[1)]	-50 °C	+300 °C
A105	NTC 5 kOhm	R25 = 5 KOhm ±1 %	-40 °C	+125 °C
A110	NTC 10 kOhm	R25 = 10 KOhm ±1 %	-40 °C	+125 °C
A120	NTC 20 kOhm	R25 = 20 KOhm ±1 %	-40 °C	+125 °C
A210	Ni1000	-60 °C to 0 °C: dT = ±(0,4 °C + 0,028 · T) | 0 °C to +150 °C: dT = ±(0,4 °C + 0,007 · T)	-60 °C	+150 °C
A323	LM235Z	typical ±1 °C	-40 °C	+125 °C
A421	KTY 81-210	R25 = 2 KOhm ±1 %	-50 °C	+150 °C
A411	KTY 81-110	R25 = 1 KOhm ±1 %	-50 °C	+150 °C
A520	DS18B20	-10 °C to +85 °C: ±0,5 °C | -30 °C to +100 °C: ±1 °C | -55 °C to +125 °C: ±2 °C	-55 °C	+125 °C

[1)]according to IEC 751 / EN 60751 | [2)] Perm. range °C | Please note that the measuring range depends on the measuring element and the connecting cable. | Detailed information and the characteristics can be found in our download area.

B - Connection Type

Code	Conn. Type
B2	2-Wire (2W)
B3	3-Wire (3W)
B4	4-Wire (4W)

Possible connections

Sensor	2W	3W	4W
Pt	✓	✓	✓
NTC	✓		
Ni	✓	✓	✓
LM235Z	✓		
KTY	✓		
DS18B20		✓	

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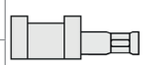
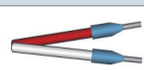
Contact body					
Picture	**Contact body**		**Dimensioning**		**Drawing**
	Contact geometry	Prism	Length (mm)	20	
			Total length (mm)	32	
	Material	Aluminium	Ø (mm)	15	
	Contact angle	162°			
	We offer other contact bodies on request.				

E - Cable material and configuration connection cable												
Picture	**Code**	**Connection Type**	**Color**	**IP**	**From (°C)[1]**	**To (°C)[1]**	**Outside material**	**Material strand**	**Color strand**	**Ø (mm)[2]**	**Q (mm²)[3]**	**Ω / m[4]**
	E2200	2-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	rd, wt	4,7	0,22	0,08
	E2201	3-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	rd, wt, rd	4,9	0,22	0,08
	E2203	3-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	br, gn, wt	4,4	0,22	0,08
	E2202	4-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	rd, wt, rd, wt	4,9	0,22	0,08

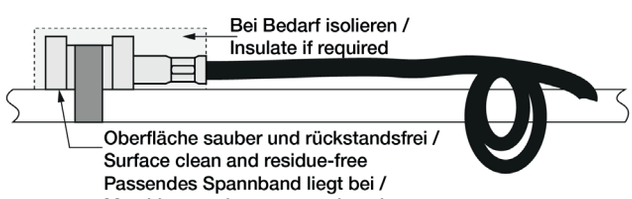
Insulation resistance: ≥ 100 MOhm at min. 100 VDC | [1]Perm. range °C | [2]Tolerance ± 0,2 mm | [3] Tolerance ± 0,03 mm² | [4] per single strand | [5]We use this cable only when using a DS18B20 or LM34 sensor. Litz color brown, green, white

F - Length									G - Connector		
Code	F010	F020	F030	F040	F050	F100	F150	F200	**Code**	G01	
m	1	2	3	4	5	10	15	20	**Feature**	Insulated end ferrules (50 mm)	
Other lengths on request											

Your order code					
Article no.	Measuring element	Connection Type	Material connection cable	Length connection cable	Connector
802160 1011	A_____	B_____	E_____	F_____	G_____

Delivery and Assembly	
Assembly instructions	by means of quick-release strap, clamping range Ø 30 mm to 110 mm.
Delivery and Packaging	Probe, Quick-release strap, Heat-conducting paste, seperatly packaged in PE bag

Important assembly advices



The surface must be brightly polished and free of residues. Please attach the probe firmly. Use the quick-release strap supplied. Ensure good thermal contact, use the enclosed thermal paste. Depending on the requirements, it may be useful to insulate the probe to minimize the influence of the ambient temperature.

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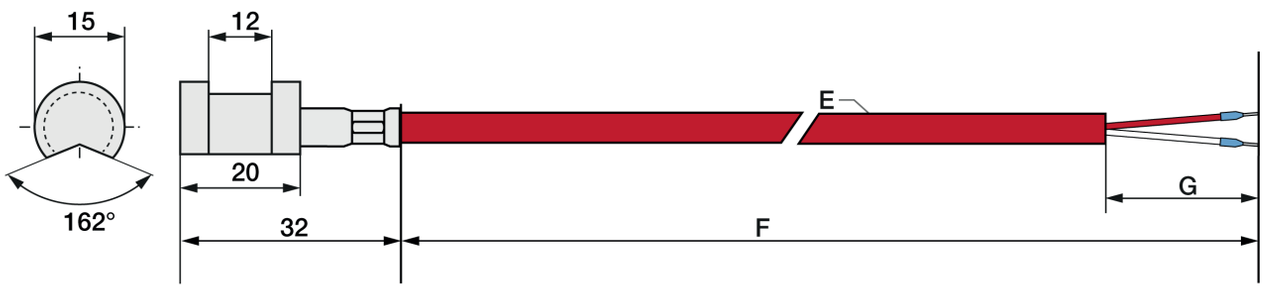
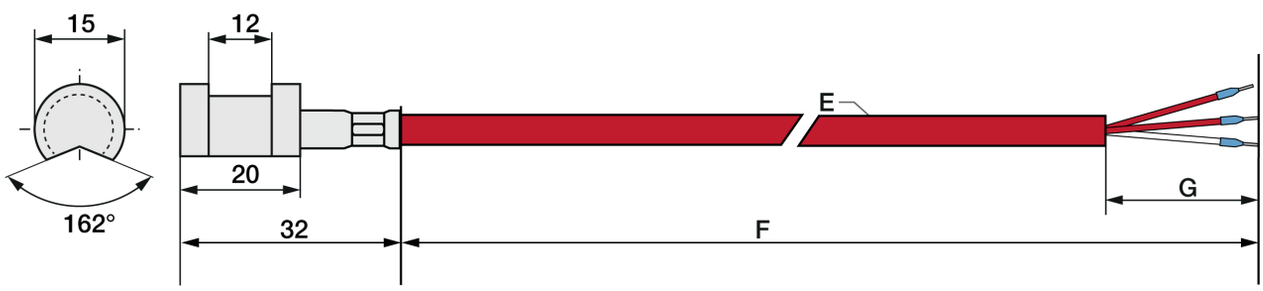
Technical drawing

Customizable options A-Measuring element B-Connection Type -	E-Material connection cable F-Length connection cable G-Connector	All dimensions in mm

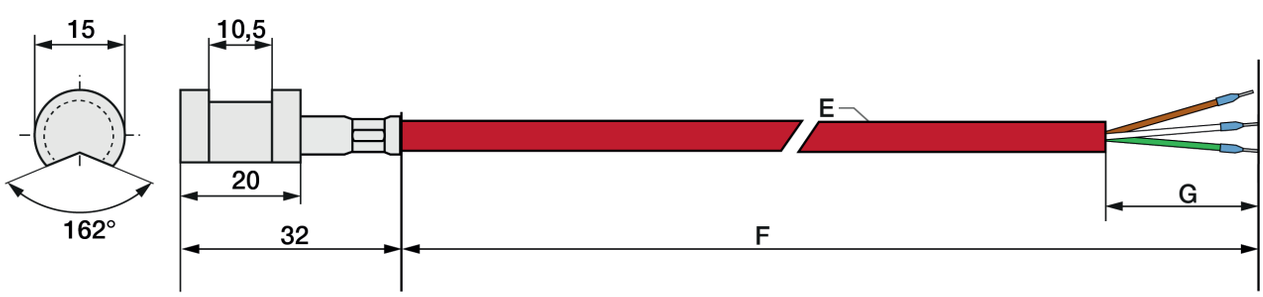
2-Wire version



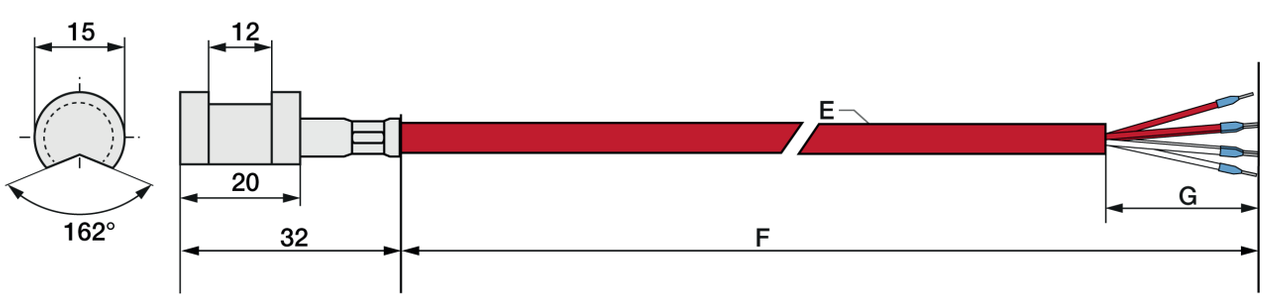
3-Wire version



3-Wire version (only for DS18B20 und LM34 sensors)



4-Wire version



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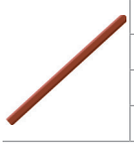
Matching accessories: Connection cable

Connection cable

Please select your desired cable first.

Picture	Code	Connection Type	Color	IP	From (°C)[1]	To (°C)[1]	Outside material	Material strand	Ø (mm)[2]	Q (mm²)[3]	Color strand	Ω / m[4]
	809210 0	2-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	4,7	0,22	rd, wt	0,08
	809210 1	3-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	4,9	0,22	rd, wt, rd	0,08
	809210 3[5]	3-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	4,4	0,22	br, gn, wt	0,08
	809210 2	4-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	4,9	0,22	rd, wt, rd, wt	0,08

Insulation resistance: ≥ 100 MOhm at min. 100 VDC | [1]Perm. range °C | [2]Tolerance ± 0,2 mm | [3]Tolerance ± 0,03 mm² | [4]per single strand | [5]We use this cable only when using a DS18B20 or LM34 sensor. Litz color brown, green, white | Please also note the connection Type of your selected temperature sensor.

Now please select the length and add the code to the article no. of the cable.

Length (m)	1	2	5	10	20
Code	010	020	050	100	200

Please append these digits to the part number of your desired cable.

Matching accessories: Heat-conducting paste

Heat-conducting paste

Article no.	809540 1000
Content	10 ml
Thermal conductivity	>2.5 W/mK
Min / Max °C	-30 °C to +280 °C
Thermal resistance	< 0.126

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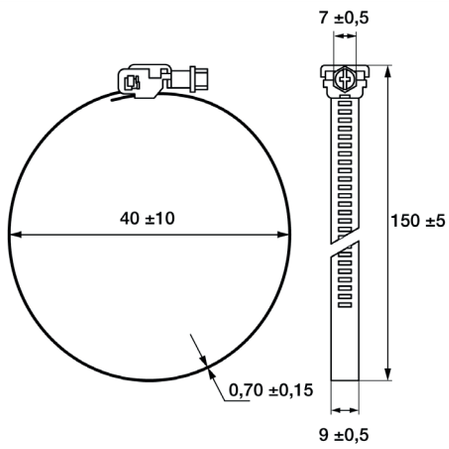
Matching accessories: Quick-release strap

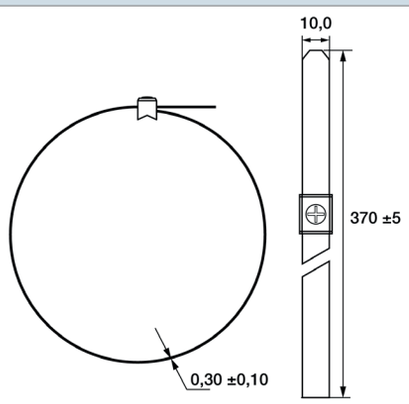
Quick-release strap



Article no.	809550 1000
Clamping range (mm)	Ø 25 to 40
Material	Stainless Steel
Dimensions (L/W) (mm)	150[1] / 9[2]
Closure	Screw closure

1}± 5 mm | 2}± 0,5 mm

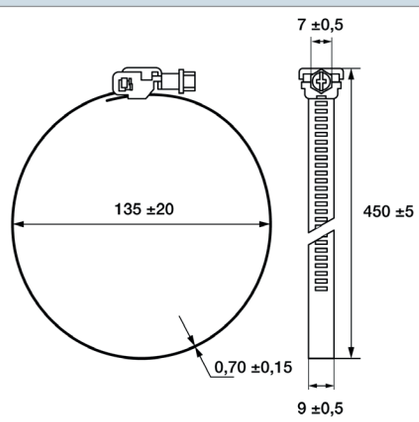
Quick-release strap



Article no.	809550 2000
Clamping range (mm)	Ø 30 to 110
Material	Stainless Steel
Dimensions (L/W) (mm)	370[1] / 10
Closure	Screw closure

1}± 5 mm | 2}± 0,5 mm

Quick-release strap



Article no.	809550 3000
Clamping range (mm)	Ø 25 to 135
Material	Stainless Steel
Dimensions (L/W) (mm)	450[1] / 9[2]
Closure	Screw closure

1}± 5 mm | 2}± 0,5 mm

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