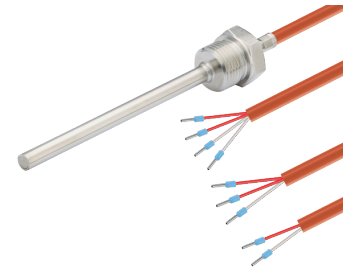


# Screw-in probe G1/4 " with silicone cable

**Order nr.: 803160 4011**

Screw-in probes with silicone cable measure the temperature in pipes or vessels and can be used from -50 °C to +180 °C. Silicone seals well and remains flexible even at temperatures below freezing. To configure your screw-in probe for your measuring task, simply select the required configuration features and send us the order code.



### Customizable options

- A - Measuring element
- B - Connection type
- C - Mounting length
- E - Material connection cable
- F - Length connection cable
- G - Connector
- H - Bend protection

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
Response time	t63 / t99: information is available on request
Pull-out force	≥ 30 N
Supply and output	
Max. measurement current	max. 1 mA
Supply voltage	approx. 5 V depending on measurement current
Measurement signal	passive (resistance value)
Ambient conditions	
Protection class	IP65 according DIN 60529 (depending on cable)
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
Certificates	Certificate of suitability (on request)

A - Measuring element				
Code	Sensor	Accuracy / Tolerance resistance	min <sup>2)</sup>	max <sup>2)</sup>
A012	Pt100	Cl. B dT = ±(0,30 °C + 0,005 t ) <sup>1)</sup>	-50 °C	+400 °C
A011	Pt100	Cl. A dT = ±(0,15 °C + 0,002 t ) <sup>1)</sup>	-50 °C	+300 °C
A013	Pt100	1/3 Cl. B dT = ±(1/3 · (0,30 °C + 0,005 t )) <sup>1)</sup>	-50 °C	+200 °C
A014	Pt100	1/10 Cl. B dT = ±(1/10 · (0,30 °C + 0,005 t )) <sup>1)</sup>	±0 °C	+100 °C
A022	Pt500	Cl. B dT = ±(0,30 °C + 0,005 t ) <sup>1)</sup>	-70 °C	+500 °C
A032	Pt1000	Cl. B dT = ±(0,30 °C + 0,005 t ) <sup>1)</sup>	-50 °C	+400 °C
A031	Pt1000	Cl. A dT = ±(0,15 °C + 0,002 t ) <sup>1)</sup>	-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
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
A334	LM34	typical ±0,5 °F at 77 °F   ±1,5 °F at -50 °F to +300 °F	-50 °F	+300 °F

<sup>1)</sup>according to IEC 751 / EN 60751 | <sup>2)</sup> Perm. range °C | A334 only on request | 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		✓	
LM34		✓	



Screw-in thread					
Bild	Screw-in thread		C - Mounting length		Bild
	Material	Stainless steel 1.4301   SUS 304	Code	Length (mm)	
	Length (mm)	12	C0050	50 <sup>1)</sup>	
	Process connection	G1/4 "	C0100	100 <sup>1)</sup>	
	Wrench size	19	C0150	150 <sup>1)</sup>	
	<b>Protection sleeve</b>		C0200	200 <sup>1)</sup>	
	Material	Stainless steel 1.4571   316TI	C0250	250 <sup>1)</sup>	
	Mounting length (mm)	please choose	C0300	300 <sup>1)</sup>	
	Ø (mm)	6 <sup>2)</sup>	C0400	400 <sup>1)</sup>	
			C0500	500 <sup>1)</sup>	

<sup>2)</sup> Tolerance ± 0,1 mm | Other mounting lengths on request | <sup>1)</sup>Tolerance ± 1%

E - Cable material and configuration connection cable													
Picture	Code	Connection type	Color	IP	From (°C) <sup>1)</sup>	To (°C) <sup>1)</sup>	Outside material	Material strand	Color strand	Ø (mm) <sup>2)</sup>	Q (mm <sup>2</sup> ) <sup>3)</sup>	Ω / m <sup>4)</sup>	
	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 | <sup>1)</sup>Perm. range °C | <sup>2)</sup>Tolerance ± 0,2 mm | <sup>3)</sup> Tolerance ± 0,03 mm<sup>2</sup> | <sup>4)</sup> per single strand<sup>5)</sup>We use this cable only when using a DS18B20 or LM34 sensor. Litz color brown, green, white

F - Length									
Code	F010	F020	F030	F040	F050	F100	F150	F200	
m	1	2	3	4	5	10	15	20	

Other lengths on request

G - Connector		
Picture	Code	Feature
	G01	Insulated end ferrules (50 mm)

H - Bend protection				
Picture	Length (mm)	Material	Code	Feature
	50	Stainless steel spring 1.4310   SUS 302	H0	Without (Standard)
			H1	Metal bend protection

Delivery and Assembly	
Assembly instructions	via process connection
Delivery and Packaging	Probe, separately packaged in PE bag

Your order code							
Order nr.	Measuring element	Connection type	Mounting length	Material connection cable	Length connection cable	Connector	Bend protection
803160 4011	A_____	B_____	C_____	E_____	F_____	G_____	H_____

RL / KS / 29.07.2021



**Technical drawing**

**Customizable options**

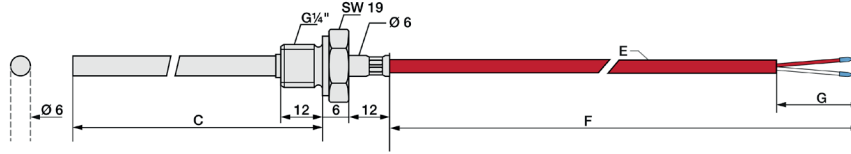
A - Measuring element  
B - Connection type

C - Mounting length  
E - Material connection cable

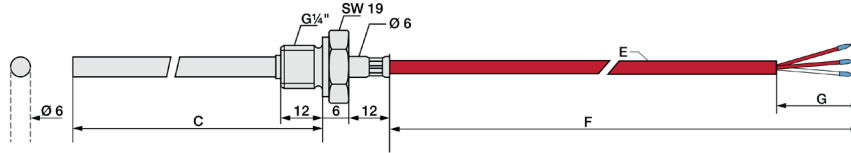
F - Length connection cable  
G - Connector

H - Bend protection  
All dimensions in mm

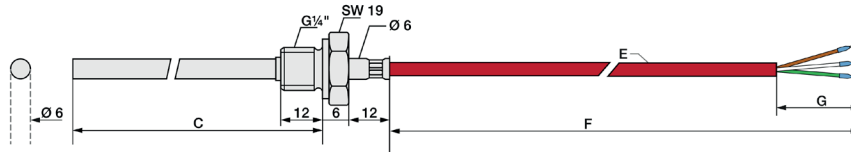
**Ausführung 2-Leiter / 2-Wire version**



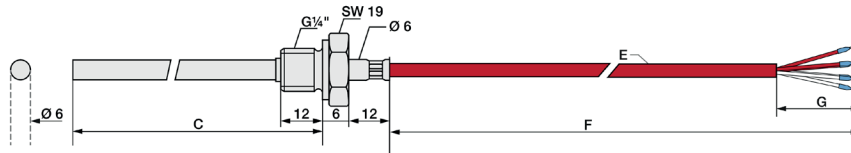
**Ausführung 3-Leiter / 3-Wire version**



**Ausführung 3-Leiter (nur für DS18B20 und LM34 Sensoren) / 3-Wire version (only for DS18B20 und LM34 sensors)**



**Ausführung 4-Leiter / 4-Wire version**

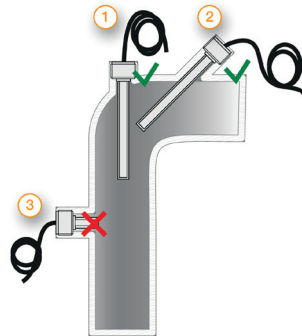


**Delivery and Assembly**

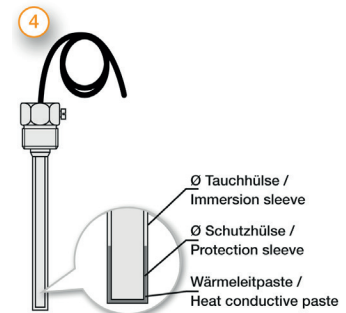
Delivery and Packaging

Probe, separatly packaged in PE bag

**Important assembly advices**



Measurement errors can occur due to heat dissipation to the environment. To keep these as small as possible, we recommend immersing the protection sleeve of your temperature probe as deeply as possible in the medium to be measured during installation. The optimum installation depth should be 10-15 times the Ø of the protection sleeve or, when using an immersion sleeve, the Ø of the immersion sleeve. When installing in pipelines whose Ø does not have a sufficiently deep installation depth, you should install the probe either at an angle or in a pipe elbow. Make sure that you have sufficient space so that the probe can be removed again. 1) Installation with sufficient installation depth 2) Installation at an angle with small pipe Ø 3) Not like this: Minimum installation depth not reached



Installation by using an immersion sleeve (4): Please ensure that the Ø and length of the immersion sleeve are selected to suit the installation situation so that the minimum immersion depth can be achieved. Please also pay attention to the correct process connection. Since the probe is not inserted directly into the medium, but via the immersion sleeve, the response times are somewhat slower. The probe should be selected in such a way that the protection sleeve touches the bottom of the immersion sleeve and that the air cushion around the protection sleeve is as small as possible. The use of thermal paste can improve the response times.

Please lay the cable in such a way that no water can penetrate the probe and with reserve loop (4). This allows you to extend the probe without disconnecting the electrical connection.

RL / KS / 29.07.2021




# Matching accessories

Details of accessories can be found on our website.

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

## Connection cable

Please select your desired cable first.

Picture	Code	Connection type	Color	IP	From (°C) <sup>1)</sup>	To (°C) <sup>1)</sup>	Outside material	Material strand	Ø (mm) <sup>2)</sup>	Q (mm <sup>2</sup> ) <sup>3)</sup>	Color strand	Ω / m <sup>4)</sup>
	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 <sup>5)</sup>	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 | <sup>1)</sup>Perm. range °C | <sup>2)</sup>Tolerance ± 0,2 mm | <sup>3)</sup>Tolerance ± 0,03 mm<sup>2</sup> | <sup>4)</sup>per single strand | <sup>5)</sup>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.

<b>Length (m)</b>	1	2	5	10	20
<b>Code</b>	010	020	050	100	200

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

