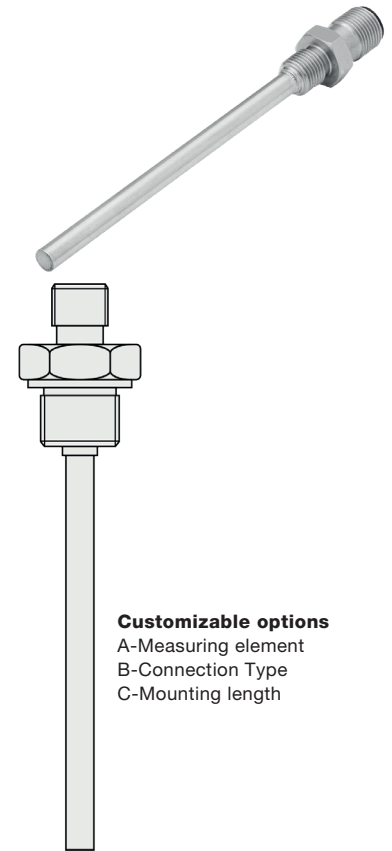


# Screw-in probe G1/2 " with M12-connector

Article no.: 803210 1011

Screw-in probes with M12 connectors are used in process measurement technology and measure the temperature in cables or containers in the range from -30 °C to +200 °C in gaseous or liquid media. The protection sleeve is made of stainless steel and can be inserted into the process permanently, pressure-tight and vibration-resistant with the G1/2 inch thread. To order your probe, select the required configuration and send us the order code.

General Information	
Measuring range	-50 °C to +200 °C depending on the sensor Type
Tmax connector	-40 °C to +85 °C
Accuracy	depending on sensor Type
Response time	t63 / t99: information is available on request
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	IP65 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
Certificates	Certificate of suitability (on request)



**Customizable options**  
 A-Measuring element  
 B-Connection Type  
 C-Mounting length

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

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		✓	

<sup>1)</sup>according to IEC 751 / EN 60751 | <sup>2)</sup> Perm. range °C | A334 only on request | Detailed information and the characteristics can be found in our download area.

MWA / KS / 11.07.2022

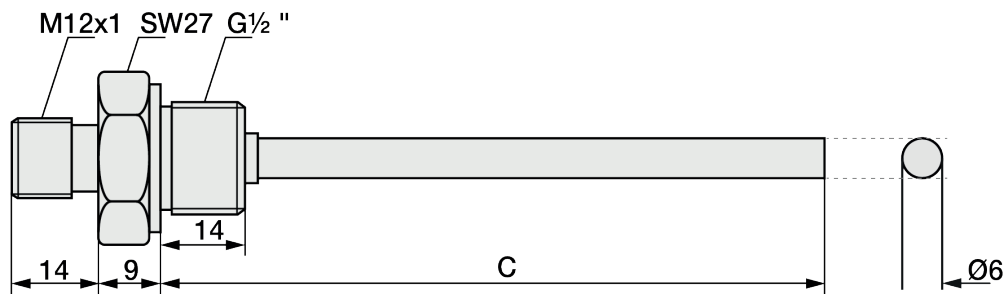
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Connector	
Electrical connection	M12 Connector
Tmax connector	-40 °C to +85 °C

Screw-in thread		Protection sleeve		C - Mounting length			
Length (mm)	siehe Zeichnung	Material	Stainless steel 1.4571   316TI	Code	Length (mm)	Code	Length (mm)
Process connection	G1/2 "	Mounting length (mm)	please choose	C0050	50 <sup>1)</sup>	C0250	250 <sup>1)</sup>
Wrench size	siehe Zeichnung	Ø (mm)	6 <sup>2)</sup>	C0100	100 <sup>1)</sup>	C0300	300 <sup>1)</sup>
Other mounting lengths on request   <sup>1)</sup> Tolerance ± 1%   <sup>2)</sup> Tolerance ± 0,1 mm				C0150	150 <sup>1)</sup>	C0400	400 <sup>1)</sup>
				C0200	200 <sup>1)</sup>	C0500	500 <sup>1)</sup>

Technical drawing			
<b>Customizable options</b> A - Measuring element	B - Connection Type	C - Mounting length	All dimensions in mm

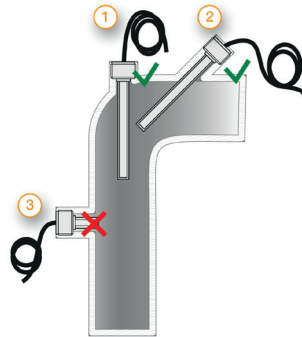


Delivery and Assembly	
Assembly instructions	via process connection
Delivery and Packaging	Probe, separately packaged in PE bag

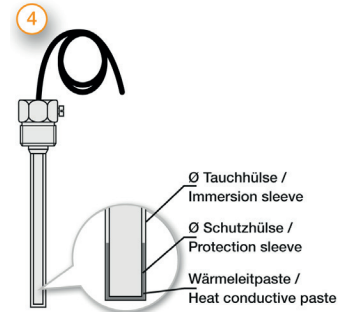
Your order code			
Article no.	Measuring element	Connection Type	Mounting length
803210 1011	A_____	B_____	C_____



**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.

## Matching accessories: Connection cable

**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>
	809200 0	2-Wire	black	IP67	-30	+105	PVC	PVC	4,8	0,22	rd, wt	0,07
	809200 1	3-Wire	black	IP67	-30	+105	PVC	PVC	4,8	0,22	rd, wt, rd	0,07
	809200 2	4-Wire	black	IP67	-30	+105	PVC	PVC	4,8	0,22	rd, wt, rd, wt	0,07
	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	0,08	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.

