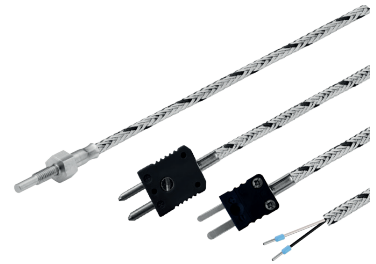


# Thermocouple type J M4 with glass fibre cable

**Order nr.: 803181 1111**

Screw-in thermocouples with glass fibre cables are shielded and measure the temperature in pipelines or vessels up to +400 °C. They are crimped and also have a poorer seal than other cables due to the insulation material used. To configure your screw-in thermocouple for your measurement task, simply select the required configuration features and send us the order code.



General Information	
Measuring range	-40 °C to +400 °C
Perm. °C range cable	-50 °C to +400 °C
Accuracy	-40 °C to +375 °C: ±1,5 °C   375 °C to 750 °C: ±0,004  t  according to DIN IEC 60584 Class 1
Response time	t63 / t99: information is available on request
Pull-out force	≥ 30 N
Supply and output	
Measuring element	Thermocouple Type J
Measuring point	Measuring point isolated
Measurement signal	Thermovoltage
Ambient conditions	
Protection class	IP20 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)



**Customizable options**

- E - Material connection cable
- F - Length connection cable
- G - Connector
- H - Bend protection

Screw-in thread					
Bild	Screw-in thread		Bild	Protection sleeve	
	Material	Stainless steel 1.4301   SUS 304		Material	Stainless steel 1.4301   SUS 304
	Length (mm)	9		Mounting length (mm)	17
	Process connection	M4		Ø (mm)	3 <sup>1)</sup>
	Wrench size	8			

other protective sleeve lengths and Ø available on request | <sup>1)</sup> Tolerance ± 0,1 mm |

E - Cable material and configuration connection cable											
	Code	Type	Color	From (°C) <sup>1)</sup>	To (°C) <sup>1)</sup>	Outside material	Material strand	Ø (mm) <sup>2)</sup>	Q (mm <sup>2</sup> )	Color strand	Ω / m <sup>4)</sup>
	E8310	Thermocouple cable	Type J <sup>3)</sup>	-50	+400	Varnish	Glass fibre	3,0	0,22	bk, wt	2,50




Insulation resistance: ≥ 100 MOhm at min. 100 VDC | <sup>1)</sup>Perm. range °C | <sup>2)</sup>Tolerance ± 0,2 mm | <sup>3)</sup>Color according to IEC 584 | <sup>4)</sup>per thermocouple

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

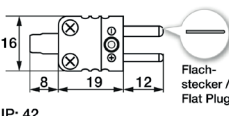
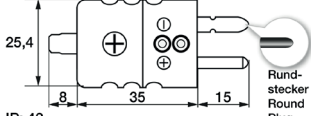
Other lengths on request


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G - Connector					
Picture	Code	Feature	Picture	Code	Feature
	G01	Insulated end ferrules (50 mm)			
	G11	Mini-TC connector Type J bk		G31	TC connector Type J bk

Other connectors available on request

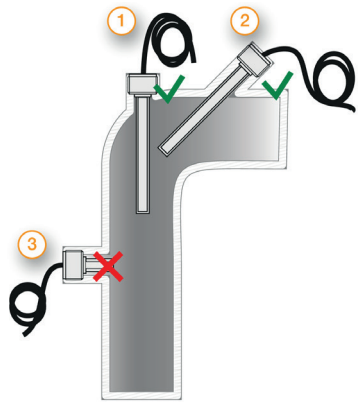
Technical drawing - Connector	
 <p>IP: 42</p> <p>Flachstecker / Flat Plug</p>	 <p>IP: 42</p> <p>Rundstecker / Round Plug</p>

H - Bend protection		
Picture	Length (mm)	Material
	50	Stainless steel spring 1.4310   SUS 302
	Code	Feature
	H0	Without (Standard)
	H1	Metal bend protection <sup>1)</sup>

<sup>1)</sup>on request

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

Your order code				
Order nr.	Material connection cable	Length connection cable	Connector	Bend protection
803181 1111	E_____	F_____	G_____	H_____

Important assembly advices	
	<p>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 there is sufficient space for the probe to be removed. 1) Installation with sufficient installation depth 2) Installation at an angle with small pipe Ø 3) Not like this: Minimum installation depth not reached</p> <p>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.</p>

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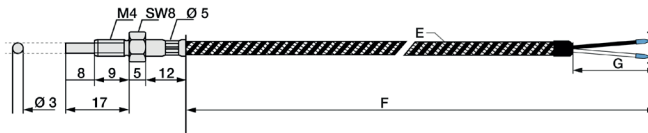
**Technical drawing (All dimensions in mm)**

**Customizable options**  
 E - Material connection cable  
 F - Length connection cable

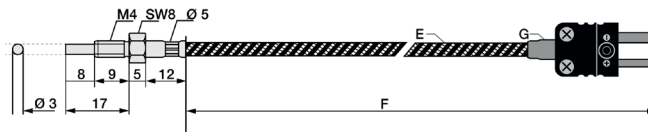
G - Connector  
 H - Bend protection

All dimensions in mm

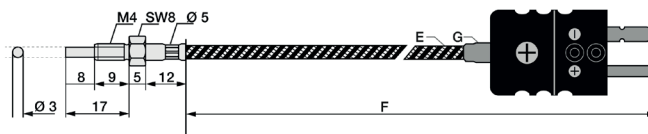
**Version with insulated end ferrules**



**Version with mini TE connector**



**Version with TE connector**



# Matching accessories: Thermocouple cables & Connector

Thermocouple cables - Please select your desired cable first.											
Order code	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> )	Color strand	Ω / m <sup>4)</sup>
809340 1	Thermocouple cable	Type J <sup>3)</sup>	IP20	-50	+400	Varnish	Glass fibre	3,0	0,22	bk, wt	2,50

Insulation resistance: ≥ 100 MOhm at min. 100 VDC | <sup>1)</sup>per. °C range | <sup>2)</sup>Tolerance ± 0.2 mm | <sup>3)</sup> Color according to IEC 584 | <sup>4)</sup>per thermocouple

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: Connector

Connector					
Picture	Code	Feature	Picture	Code	Feature
	809140 1000	Mini-TC connector Type J bk		809100 1000	Mini-TC coupling Type J bk
	809150 1000	TC connector Type J bk		809110 1000	TC coupling Type J bk

Other connectors available on request

### Technical drawing - Connector

Technical drawings showing dimensions and IP: 42 rating for three connector types:

- Rundstecker / Round Plug:** Dimensions: 25,4 mm height, 8 mm width, 35 mm length, 15 mm plug length.
- Flachstecker / Flat Plug:** Dimensions: 16 mm height, 8 mm width, 19 mm length, 12 mm plug length.
- Another Round Plug:** Dimensions: 25,4 mm height, 8 mm width, 35 mm length.

## 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	

Details of accessories can be found on our website.

