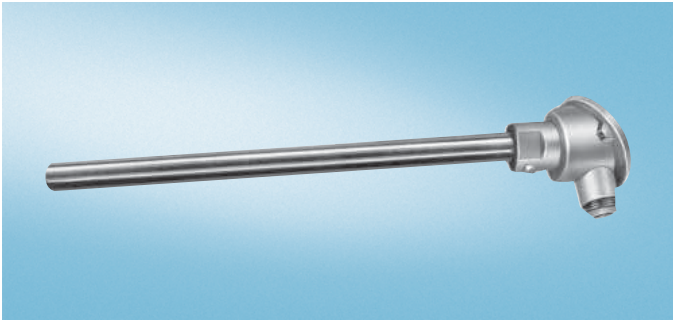


SITRANS T measuring instruments for temperature

Thermocouples

Straight thermocouples to DIN 43733, with connection head

Overview

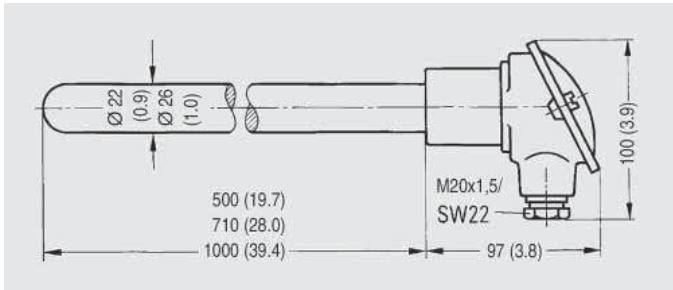


The straight thermocouple together with a metal protective tube is suitable for temperatures from 0 to 1250 °C (32 to 2282 °F) and can be supplied with a built-in temperature transmitter.

Technical specifications

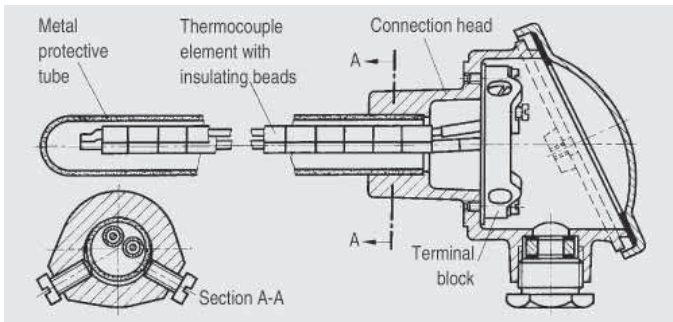
Thermocouples	Ni Cr/Ni type K
• Number	1 or 2
• Leg diameter	2 ... 3 mm (0.08 ... 0.12 inch)
• Insulation of legs	Insulating beads
Protective tube	Metal
Connection head	Form A, DIN 43729; made of cast light alloy, with one cable bushing

Dimensional drawings



Straight thermocouple, dimensions in mm (inches)

Design



Straight thermocouple with base-metal element Ni Cr/Ni with metal protective tube

Selection and Ordering data

Order No.

Straight thermocouple with Ni Cr/Ni thermocouple (type K) with metallic protective tube

to 1000 °C (1832 °F)

X 10 CrAl 24, mat. No. 1.4762

22 mm Ø x 2 mm (0.87 inch x 0.079 inch)

1 thermocouple

Leg diameter 2 mm (0.08 inch)

Weight: 1.1 ... 2.9 kg (2.4 ... 6.4 lb)

Nominal length in mm (inch):

• 500 (19.7)

• 710 (28.0)

• 1000 (39.4)

2 thermocouples

Leg diameter 2 mm (0.08 inch)

Weight: 1.1 ... 3.2 kg (2.4 ... 7.0 lb)

Nominal length in mm (inch):

• 500 (19.7)

• 710 (28.0)

• 1000 (39.4)

7MC2000 - 1DC0

7MC2000 - 2DC0

7MC2000 - 3DC0

7MC2000 - 1DD0

7MC2000 - 2DD0

7MC2000 - 3DD0

to 1100 °C (2012 °F)

X 18 CrNi28, material No. 1.4749

26 mm Ø x 4 mm (1.02 inch x 0.16 inch)

1 thermocouple

Leg diameter 3 mm (0.12 inch)

Weight: 1.3 ... 2.2 kg (2.7 ... 4.8 lb)

Nominal length in mm (inch):

• 500 (19.7)

• 710 (28.0)

• 1000 (39.4)

2 thermocouples

Leg diameter 3 mm (0.12 inch)

Weight: 1.4 ... 2.4 kg (3.1 ... 5.3 lb)

Nominal length in mm (inch):

• 500 (19.7)

• 710 (28.0)

• 1000 (39.4)

7MC2000 - 1EC0

7MC2000 - 2EC0

7MC2000 - 3EC0

7MC2000 - 1ED0

7MC2000 - 2ED0

7MC2000 - 3ED0

to 1200 °C (2192 °F)

X 15 CrNi Si 24 19, material No. 1.4841

22 mm Ø x 2 mm (0.87 inch x 0.079 inch)

1 thermocouple

Leg diameter 2 mm (0.08 inch)

Weight: 1.7 ... 2.9 kg (3.7 ... 6.4 lb)

Nominal length in mm (inch):

• 500 (19.7)

• 710 (28.0)

• 1000 (39.4)

2 thermocouples

Leg diameter 2 mm (0.08 inch)

Weight: 1.9 ... 3.1 kg (4.2 ... 6.8 lb)

Nominal length in mm (inch):

• 500 (19.7)

• 710 (28.0)

• 1000 (39.4)

7MC2000 - 1FC0

7MC2000 - 2FC0

7MC2000 - 3FC0

7MC2000 - 1FD0

7MC2000 - 2FD0

7MC2000 - 3FD0

To 1250 °C (2282 °F)

CrAl 205 (Megapyr), material No. 1.4767

22 mm Ø x 2 mm (0.87 inch x 0.079 inch)

1 thermocouple

Leg diameter 2 mm (0.08 inch)

Weight: 1 ... 2.9 kg (2.2 ... 6.4 lb)

Nominal length in mm (inch):

• 500 (19.7)

• 710 (28.0)

• 1000 (39.4)

2 thermocouples

Leg diameter 3 mm (0.12 inch)

Weight: 1.1 ... 3.2 kg (2.4 ... 7.0 lb)

Nominal length in mm (inch):

• 500 (19.7)

• 710 (28.0)

• 1000 (39.4)

7MC2000 - 1HC0

7MC2000 - 2HC0

7MC2000 - 3HC0

7MC2000 - 1HD0

7MC2000 - 2HD0

7MC2000 - 3HD0

Connection head, form A,

- made of cast light alloy, with 1 cable inlet and
 - screw cover
 - high hinged cover

SITRANS T measuring instruments for temperature

Thermocouples

Straight thermocouples

Individual parts and accessories

Selection and Ordering data	Order No.	Selection and Ordering data	Order No.
Straight thermocouple with Ni Cr/Ni thermocouple (type K) for temperatures to 1250 °C (2282 °F); with metallic protective tube		Thermocouples elements for straight thermocouple according to DIN 43733	
Further designs Please add "-Z" to Order No. and specify Order code(s) and plain text.	Order code	Base-metal thermocouple with insulating beads Wire diameter 3 mm (0.12 inch) Ni Cr/Ni, to 1000 °C (maximal 1300 °C), (to 1832 °F (max. 2372 °F)) 0.55 ... 2.10 kg (1.21 ... 4.63 lb)	
- Different design (mounting length, protective tube material etc.), specify in plain text. - TAG plate made of stainless steel specify TAG No. in plain text - Calibration carried out at one point, specify desired temperature in plain text (order equivalent number of times for several calibration points).	Y01 Y15 Y33	Nominal length L1 in mm (inch): Thermocouple length L2 in mm (inch): • 500 (19.7) 540 (21.3) • 710 (28.0) 750 (29.5) • 1000 (39.4) 1040 (40.9)	7MC2903-1CA 7MC2903-2CA 7MC2903-3CA
To order a temperature transmitter installed in the connection head, see "Temperature transmitters for installation in the connection head" (page 3/83).			
Installation of a transmitter is only possible here in the versions with a high hinged cover (7MC2000-....6).			
Selection and Ordering data	Order No.		
Metallic protective tubes for straight thermocouple elements according to DIN 43733			
X 10 CrAl 24, material No. 1.4762 Ø 22 mm x 2 mm (Ø 0.87 inch x 0.08 inch), 0.55 ... 1.10 kg (1.21 ... 2.42 lb), dished Nominal length Protective tube length in mm (inch): in mm (inch): • 500 (19.7) 520 (20.5) • 710 (28.0) 730 (28.7) • 1000 (39.4) 1020 (40.2)	7MC2900-1DA 7MC2900-2DA 7MC2900-3DA		
X 10 CrAl 24, material No. 1.4749 Ø 26 mm x 4 mm (Ø 1.02 inch x 0.16 inch), 1.25 ... 2.20 kg (2.76 ... 4.85 lb), dished Nominal length Protective tube length in mm (inch): in mm (inch): • 500 (19.7) 520 (20.5) • 710 (28.0) 730 (28.7) • 1000 (39.4) 1020 (40.2)	7MC2900-1EC 7MC2900-2EC 7MC2900-3EC		
X 15 CrNiSi 25 20, material No. 1.4841 Ø 22 mm x 2 mm (Ø 0.87 inch x 0.08 inch), 1.05 kg (2.31 lb), dished Nominal length Protective tube length in mm (inch): in mm (inch): • 1000 (39.4) 1020 (40.2)	7MC2900-3FA		
CrAl 205 (Megapyr), material No. 1.4767 Ø 22 mm x 2 mm (Ø 0.87 inch x 0.05 inch), 0.55 ... 1.10 kg (1.21 ... 2.42 lb) Nominal length Protective tube length in mm (inch): in mm (inch): • 500 (19.7) 520 (20.5) • 710 (28.0) 730 (28.7) • 1000 (39.4) 1020 (40.2)	7MC2900-1HA 7MC2900-2HA 7MC2900-3HA		

SITRANS T measuring instruments for temperature

Thermocouples

Straight thermocouples Individual parts and accessories

Connection heads

Connection head, form A (without terminal block and terminals)
for protective tube diameter (bore = protective tube diameter
+0.5 mm (0.02 inch))

Selection and Ordering data

Order No.

Connection head, form A, (without terminal block and terminals)

1 Cable inlet, degree of protection IP53,
0.35 kg (0.77 lb)

Cast light alloy

fastener, unscrewable

for protective tube diameter in mm (inch)
(bore = protective tube diam. +0.5 mm)
(0.02 inch):

- 22 (0.87)
- 26 (1.02)

7MC2905-1AA
7MC2905-1BA

Cast light alloy

high hinged cover

for protective tube diameter in mm (inch)
(bore = protective tube diam. +0.5 mm)
(0.02 inch):

- 22 (0.87)
- 26 (1.02)

7MC2905-4AA
7MC2905-4BA

Mounting accessories for connection heads

- Terminal block
- Terminal
- Set of gaskets
- Set of washers
- Mounting flange
- Threaded sleeve

Selection and Ordering data

Order No.

Mounting accessories

Terminal block without terminals

for base-metal thermocouples;
0.06 kg (0.13 lb)

7MC2998-1AA

Terminal

for base-metal thermocouples;
0.01 kg (0.02 lb)

7MC2998-1BA

Set of gaskets (100 off)

for the connection head cover;
0.01 kg (0.02 lb)

7MC2998-1CA

Set of washers (100 off)

for the terminal block; 0.01 kg (0.02 lb)

7MC2998-1CB

Mounting flange, adjustable; made of GTW

- for protective tube outer diameters
22 mm (0.87 inch); 0.35 kg (0.77 lb)

7MC2998-2CB

- for protective tube outer diameters
26 mm (1.02 inch); 0.32 kg (0.71 lb)

7MC2998-2CC

Threaded sleeve

Gas-tight up to bar (14.5 psi), adjustable,
material No. 1.0718, with gasket;
0.40 kg (0.88 lb)

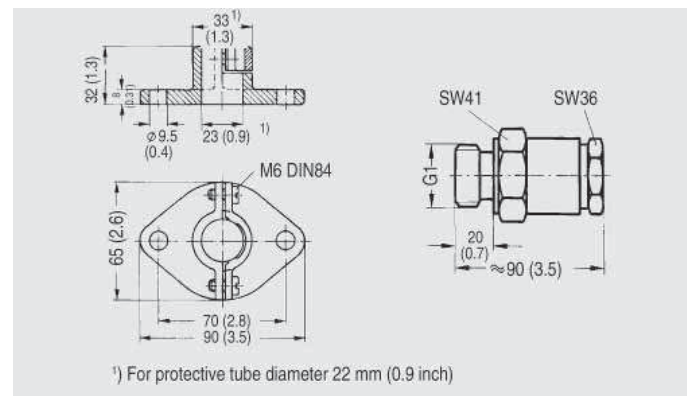
- for protective tube outer diameters
22 mm (0.87 inch), **G1**

7MC2998-2DB

- for protective tube outer diameters
26 mm (1.02 inch), **G1**

7MC2998-2DC

Dimensional drawings



Mounting flange to DIN 43734 (left) and threaded sleeve (right) for installing straight thermocouples, dimensions in mm (inches)