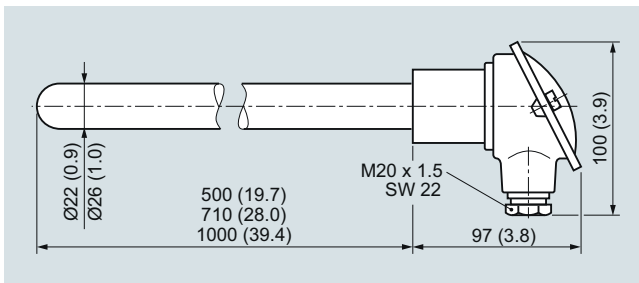


Straight thermocouples according to EN 50446, with connection head
Overview

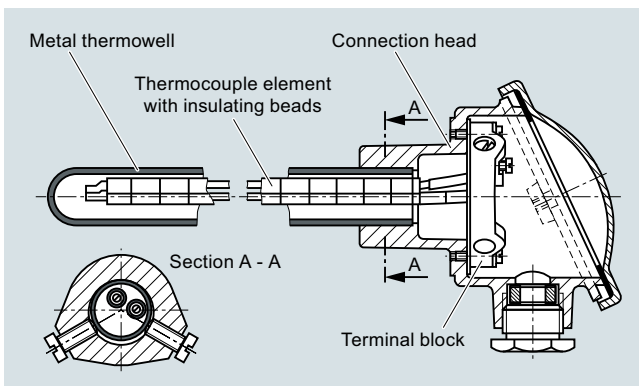

The straight thermocouple together with a metal thermowell is suitable for temperatures from 0 to 1250 °C (32 to 2282 °F) and can be supplied with a built-in temperature transmitter.

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
Thermowell	Metal
Connection head	Form A; 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 thermowell

Selection and Ordering data

Article No.

Straight thermocouple with Ni Cr/Ni thermocouple (type K)

with metallic thermowell

7MC2000 - 0

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Nominal length

Enter customer specific length with Y44, see Order codes below

300 ... 500 mm (11.81 ... 19.68 inch)
Initial: 500 mm (19.68 inch)

501 ... 710 mm (19.72 ... 27.95 inch)
Initial: 710 mm (27.95 inch)

711 ... 1 000 mm (27.11 ... 39.37 inch)
Initial: 1 000 mm (39.37 inch)

Thermowell

to 1 000 °C (1 832 °F)
X 10 CrAl 24, material No. 1.4762
Ø 22 mm x 2 mm (0.87 inch x 0.079 inch)
Leg diameter 2 mm (0.08 inch)

to 1 100 °C (2 012 °F)
X 18 CrNi28, material No. 1.4749
Ø 26 mm x 4 mm (1.02 inch x 0.16 inch)
Leg diameter 3 mm (0.12 inch)

to 1 200 °C (2 192 °F)
X 15 CrNi Si 24 19, material No. 1.4841
Ø 22 mm x 2 mm (0.87 inch x 0.079 inch)
Leg diameter 2 mm (0.08 inch)

to 1 250 °C (2 282 °F)
CrAl 205 (Kantal AF), material No. 1.4767
Ø 22 mm x 2 mm (0.87 inch x 0.079 inch)
Leg diameter 3 mm (0.12 inch)

Number of thermocouples

1 thermocouple
2 thermocouples

Connection head, form A,

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

Selection and Ordering data

Order code

Straight thermocouple with Ni Cr/Ni thermocouple (type K)

for temperatures to 1250 °C (2282 °F);
with metallic thermowell

Further designs

Please add "-Z" to Article No. and specify
Order code(s) and plain text.

Special version, specify in plain text

Y98

Process number for special version

Y99

TAG plate made of stainless steel
specify TAG No. in plain text

Y15

Calibration carried out at one point, specify
desired temperature in plain text (order
equivalent number of times for several cali-
bration points).

Y33

Insertion length customer-specific

Select range,
enter desired length in plain text
(No entry = standard length)

Y44

To order a temperature transmitter installed in the connection head, see "Temperature transmitters for installation in the connection head" (page 2/113).

Installation of a transmitter is only possible here in the versions with a high hinged cover (7MC2000-...6).

Temperature Measurement

Temperature sensors
Thermocouples

Straight thermocouples, individual parts and accessories

Selection and Ordering data

Metal thermowells for straight thermocouples according to EN 50446

	Article No.
X 10 CrAl 24, material no. 1.4762 Ø 22 x 2 mm (Ø 0.87 x 0.08 inch), 0.55 ... 1.10 kg (1.21 ... 2.42 lb), dished Nominal length/thermowell length in mm (inch): • 500 (19.7)/520 (20.5) • 710 (28.0)/730 (28.7) • 1 000 (39.4)/1 020 (40.2)	7MC2900-1DA 7MC2900-2DA 7MC2900-3DA
X 18 CrN28, material no. 1.4749 Ø 26 x 4 mm (Ø 1.02 x 0.16 inch), 1.25 ... 2.20 kg (2.76 ... 4.85 lb), dished Nominal length/thermowell length in mm (inch): • 500 (19.7)/520 (20.5) • 710 (28.0)/730 (28.7) • 1 000 (39.4)/1 020 (40.2)	7MC2900-1EC 7MC2900-2EC 7MC2900-3EC
X 15 CrNiSi 25 20, material no. 1.4841 Ø 22 x 2 mm (Ø 0.87 x 0.08 inch), 1.05 kg (2.31 lb), dished Nominal length/thermowell length in mm (inch): • 1 000 (39.4)/1 020 (40.2)	7MC2900-3FA
CrAl 205 (Kantal AF), material no. 1.4767 Ø 22 x 2 mm (Ø 0.87 x 0.05 inch), 0.55 ... 1.10 kg (1.21 ... 2.42 lb) Nominal length/thermowell length in mm (inch): • 500 (19.7)/520 (20.5) • 710 (28.0)/730 (28.7) • 1 000 (39.4)/1 020 (40.2)	7MC2900-1HA 7MC2900-2HA 7MC2900-3HA

Thermocouple elements for straight thermocouples according to EN 50446

	Article No.
Base thermocouple with isolating pipe Wire diameter 3 mm (0.12 inch) Ni Cr/Ni, up to 1 000 °C (max. 1 300 °C), (up to 1 832 °F (max. 2 372 °F)) 0.55 ... 2.10 kg (1.21 ... 4.63 lb) Nominal length L1/Thermowell length L2 in mm (inch): • 500 (19.7)/540 (21.3) • 710 (28.0)/750 (29.5) • 1 000 (39.4)/1 040 (40.9)	7MC2903-1CA 7MC2903-2CA 7MC2903-3CA

Connection heads for straight thermocouples

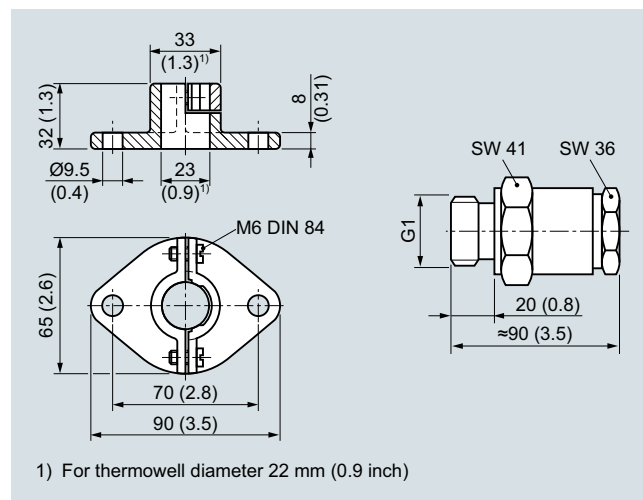
	Article No.
Connection head, type A (without terminal base and terminals) , 1 cable entry, degree of protection IP53, 0.35 kg (0.77 lb) Light metal casting, screw-on cover, for thermowell diameter in mm (inch) (hole = thermowell diameter +0.5 mm) (0.02 inch) • 22 (0.87) • 26 (1.02)	7MC2905-1AA 7MC2905-1BA
Light metal, high spring flap, for thermowell diameter in mm (inch) (hole = thermowell diameter +0.5 mm) (0.02 inch) • 22 (0.87) • 26 (1.02)	7MC2905-4AA 7MC2905-4BA

Installation accessories for connection heads for straight thermocouples

- Terminal base
- Terminal
- Sealing rings
- Washer
- Stop flange
- Threaded sleeve

	Article No.
Terminal base without terminals for base thermocouples; 0.06 kg (0.13 lb)	7MC2998-1AA
Terminal for base thermocouples; 0.01 kg (0.02 lb)	7MC2998-1BA
Set of sealing rings (100 units) for the lid of the connection head; 0.01 kg (0.02 lb)	7MC2998-1CA
Set of washers (100 units) for the terminal base; 0.01 kg (0.02 lb)	7MC2998-1CB
Stop flange, adjustable, from GTW For thermowell outer diameter 22 mm (0.87 inch); 0.35 kg (0.77 lb) For thermowell outer diameter 26 mm (1.02 inch); 0.32 kg (0.71 lb)	7MC2998-2CB 7MC2998-2CC
Threaded sleeve, gas-tight up to 1 bar (14.5 psi), adjustable, material no. 1.0718, with seal; 0.40 kg (0.88 lb) For thermowell outer diameter 22 mm (0.87 inch), G1 For thermowell outer diameter 26 mm (1.02 inch), G1	7MC2998-2DB 7MC2998-2DC

Dimensional drawings



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