Thermocouple KT 4

Cable sensor

Datablad 1704

FRODE PEDERSEN

Application

- Measurement of temperature in ducts, pockets, machine construction, containers, enviromental chambers and test
- Operating range is in solid, fluid and gaseous medias up to 400°C
- Fields of application
  - Containers, pipelines, chemical apparatus
  - Machinery
  - Laboratories and experimental plants

Technical features

- Thermocouple type J and K acc. to IEC 584-1
- Different types of cable types adapted to the actual application
- The protective tube is in stainless and acid proof steel
- Connected to the process by adjustable fittings or other mechanical brackets

Ordering

The requested sensor is selected from the table below
The colour code means:

Standard:	Built of standard modules (short delivery time)
Variant:	Modified standard modules
Special:	Special versions and material. We are specialist in temperature measurement. Please contact us and we will do our best to solve your specific measuring task

Fig. 1

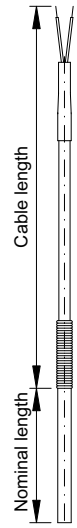


Fig. 2

Ordering information

Sensor

Specification number 1704-

Type

Fig. 1 for max. 70°C	0
Fig. 2 for application greater than 70°C	1
Special:	s

Protective tube

SS, acidproof steel, W.no. 1.4571 (AISI 316Ti)

6mm OD. 0.3mm wall	0
Special:	s

Nominal length (mm)

60	060
120	120
200	200
Interim lengths (Min. 40, max. 400mm)	xxx

Process connection (see page 2)

Type and thread

Ingen	0
Fig. 3 1/4" BSP (tapered). Compression fittings	1
Fig. 3 3/8" BSP (tapered). Compression fittings	2
Fig. 3 1/2" BSP (tapered). Compression fittings	3
Fig. 4 Adjustable flange	4
Special:	s

Material

None	0
Stainless steel AiSi 316 (allways for flange)	1
Galvanized steel	2

Sealing

None (allways for flange)	0
Steel ferrule, max. 40 bar	1
Teflon olive, max. 10 bar and 100°C	2

Cable length (meter)

1 meter	01
Special (Min 0.1 meter)	x x.x

Measuring range and cable type

	Temp. 2)	Type	mm²	Insulation	For T/C
0	-5 +70°C	XPP	0.22	PVC	J and K
1	-50 +180°C	XSS	0.22	Silicone	J and K
2	-20 +400°C	XGLGLO	0.22	Fibreglass+steel braid	J
3	-20 +400°C	XGLGLO	0.22	Fibreglass+steel braid	K
s	Special:				

Note 2: The temperature range is limited of the insulation of the cable

Tolerance acc to IEC 584-2

0	Class 2, for J, K and N, i.e. ±2.5°C or 0.0075 x t_{actual} (°C) 1)
s	Special:

Note 1: The highest value apply

Hot Junction

0	Grounded (thermocouple bonded to outer sheath)
1	Insulated from outer sheath

Number of thermocouples

0	1
s	Special:

Thermocouple

0	Fe-CuNi	type J
1	NiCr-Ni	type K
s	Special:	

Accessesories

Process connection:	See data sheet 9113
Compensation cable:	Se data sheet 9150

Customer information

Name:

Tel.:

TECHNICAL DATA

All dimensions in mm

Dimensions

Fig. 1

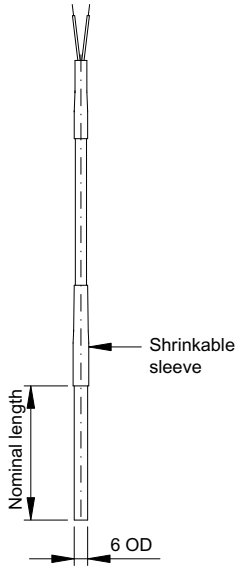
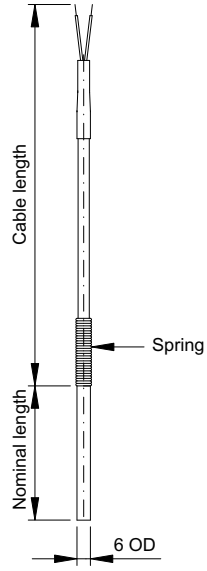


Fig. 2

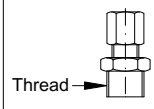


Properties for cable

Insulation	Temperature range	Application
PVC	- 5 + 70°C	General use
Silicone	-50 +180°C	Flexible, heat resistance
GLGLO	-20 +400°C	High temperature, not water tight

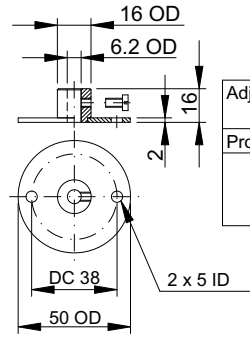
Process connection

Fig. 3



Compression fitting				
Protective tube	Thread	Material	Sealing	
4 OD	1/4" BSP	Steel, SS AISI 316	Steel olive Teflon olive	max. 400°C, max. 40 bar max. 100°C, max. 10 bar
6 OD	1/4" BSP 3/8" BSP 1/2" BSP	Steel, SS AISI 316	Steel ferrule Teflon olive	max. 400°C, max. 40 bar max. 100°C, max. 10 bar
6 OD	1/4" BSP 3/8" BSP 1/2" BSP	Steel, galvanized	Steel ferrule Teflon olive	max. 400°C, max. 40 bar max. 100°C, max. 10 bar

Fig. 4



Adjustable flange	
Protective tube	Material
6 OD	Steel AISI 316

Response time

Protective tube	Response time in seconds (guidelines)			
	In water @ 0.4m/sec.		In air @ 3m/sec.	
	$t_{0.5}$	$t_{0.9}$	$t_{0.5}$	$t_{0.9}$
6 OD	3	10	30	90

Note:

The 0.5/0.9 time is the time that it takes the sensor to reach 50%/90% of the final value of a temperature change of a medium.

If media and velocity are different from the ones stated, the time can change significantly.

Connection diagram - cable

1xJ	1xK
Black + − White	Green + − White

L-KT1704-200603-UK

AMETEK DENMARK A/S GYDEVANG 32-34, DK-3450 ALLERØD TEL.: +45 48168000 FAX: +45 48168080