

PAUL-GOTHE-GmbH Bochum

Wittener Straße 82
D-44789 Bochum



Gebrauchsanweisung und Technisches Datenblatt

für Mantel-Thermoelemente NiCr-Ni Typ K

Anwendung zwischen -270 °C bis +1200 °C.

Mantelwerkstoff: Inconel 600. Typ K (NiCr - Ni).

Grenzabweichung Klasse 1 nach DIN EN 60 584-2: 1,5 °C oder 0,004 * (t) °C.

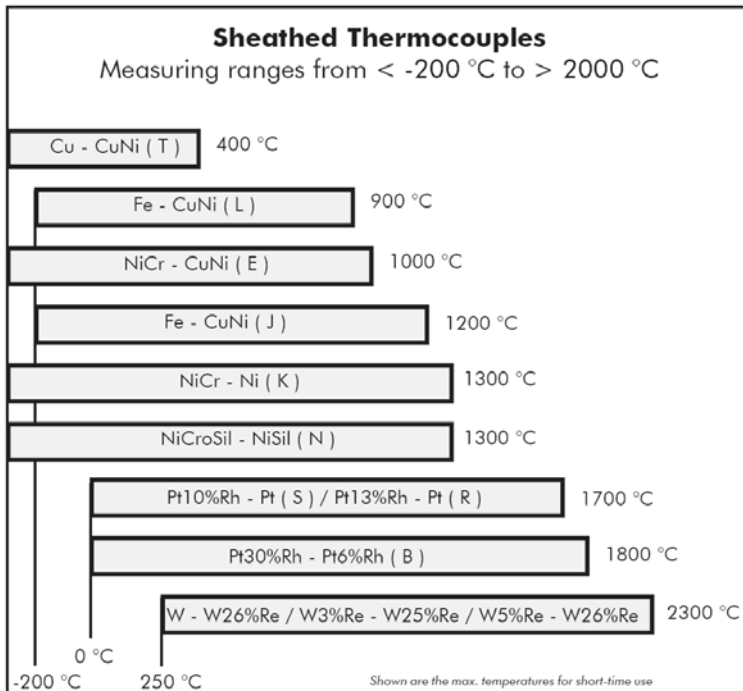
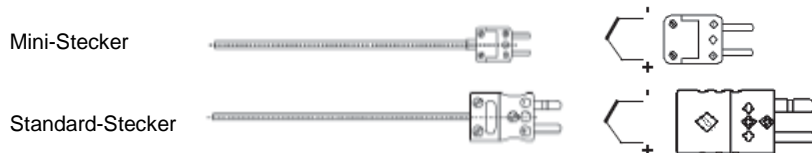
((t) = Zahlenwert der Temperatur in °C ohne Vorzeichen)

Ansprechzeit von Mantel-Thermoelementen in Sekunden (Luft 2 m/s):

Manteldurchmesser 3 mm: 80 Sekunden

Manteldurchmesser 6 mm: 200 Sekunden

Mit fest angeschlossenem Thermoelementstecker, Mini oder Standard:



Product Info: Ni-Cr-Ni

Technical Data about our Thermocouple type K (NiCr-Ni) acc. to IEC 60 584-1.

Mineral-Insulated Thermocouples for Measurements in Industry, Laboratories and Research

The thermocouple wires are embedded in a compact insulation of high-purity MgO and enclosed by a metal sheath of Inconel. The compact insulation fixes the wires securely so that no damage can occur because of strong vibrations or high bending loads. Also, short circuits between the wires or between wire and sheath are virtually impossible.

**Response time of MI-thermocouples
 in seconds (-5 % / +15 %)**

Condi- tions	Time sec.	Measuring junction insulated from sheath Sheath diameter in mm							
		0.5	1.0	1.5	3.0	4.5	6.0	8.0	
Water 50 %	0.06	0.15	0.21	1.2	2.5	4.0	7		
0.2 m/s	90 %	0.13	0.5	0.6	2.9	5.9	9.6	17	
Air 50 %	1.8	3	8	23	37	60	100		
2 m/s	90 %	5.9	15	25	80	120	200	360	



Measuring tip type:

Cross-section of sheathed cable

Thermal EMF Values acc. to DIN EN 60 584-1
 (Type L acc. to DIN 43 710 (standard withdrawn 07/97))

Temperature [°C]	[µV]
-200	-5891
0	0
100	4096
300	12209
500	20644
700	29129
900	37326
1100	45119

Technical Data:

Standard for the thermocouples:

according to IEC 60 584-1

Permitted Deviations: acc. to DIN EN 60 584-2; IEC 60 584-2 Class 1 (Measuring range types K: -40 ... +1000 °C):

1.5 °C or 0.004 x (t) °C [(t) = Numeric value of temperature in °C without algebraic signs]

Insulation resistance:

>= 5000 MOhm m at 23 °C Min. 1000 MOhm m (EN 61 515)

Insulation material:

High-purity magnesium-oxide (MgO)

Sheath material:

Inconel 600, mat. no: 2.4816

Version 04/10