

# Sheathed Thermocouple

TTeMi

With connection cable or plug connector

## Application

The sheathed thermocouple models TTeMiL, TTeMiD and TTeMiSt consist of a temperature sensor, made of sheathed, mineral insulated cable, and a connection cable and/or plug connector. They are versatile for temperature measurements.

For all models, we offer various thermocouples according to DIN EN 60 584, thermocouple plug connectors as well as connection cables.

## Standard Versions

### Version

TTeMiL: with connection cable  
TTeMiD: with connecting wires  
TTeMiSt: plug connector acc. to DIN EN 50 212 (T)  
plug connector LEMO series S (L)

### Measuring Element

Thermocouple types K, N, J and S according to DIN EN 60 584 as single or dual element

### Operating Temperature Ranges

Type K (NiCr-Ni): -40 °C to +1175 °C (-40 °F to +2147 °F)<sup>1)</sup>  
Type N (NiCrSi-NiSi): -40 °C to +1175 °C (-40 °F to +2147 °F)<sup>1)</sup>  
Type J (Fe-CuNi): -40 °C to +750 °C (-40 °F to +1382 °F)  
Type S (Pt10Rh-Pt): 0 °C to +1175 °C (+32 °F to +2147 °F)<sup>1)</sup>

### Ambient Temperature Ranges<sup>2)</sup>

Models TTeMiL, TTeMiD: -40 °C to +120 °C (-40 °F to +248 °F)  
Model TTeMiSt: -55 °C to +220 °C (-67 °F to +392 °F)

### Accuracy

Class 1 according to DIN EN 60 584

Tolerance value<sup>3)</sup> J, K, N: +1.5 °C or 0.004 · |t|

for type J in the range: -40 °C to +750 °C (-40 °F to +1382 °F)

for type K, N in the range: -40 °C to +1000 °C (-40 °F to +1832 °F)

Tolerance value<sup>3)</sup> S: +1.0 °C or (1+(t-1100)·0.003) °C

in the entire operating temperature range

### Temperature Sensor

Made of sheathed, mineral insulated cable

Sheath material: Inconel 600 (2.4816) for type K, N, S  
1.4401 for type J

Insulation: MgO

Diameter (dF): 0.5, 1.0, 1.5, 2, 3 or 6 mm  
(0.02, 0.04, 0.06, 0.08, 0.12, 0.24")

Min. bending radius: 5-fold diameter (Ø dF)

### Connection Cable

Material	Types	Temperature range
PFA	KX, NX, JX, SX	-200 / +250 °C (-328 / +482 °F)
silicone	KC, NC, JC, SC	-50 / +180 °C (-58 / +356 °F)

### Degree of Protection (DIN EN 60 529)

IP65



### Hot Junction

Hot junction insulated

### Colour Coding

Connection cable and plug connector according to DIN EN 60 584

## Ordering Information

See page 3

## Special Versions (Upon Request)

- Other sheath diameter
- Other thermocouples
- Other connection cables
- Other colour codings, e.g. according to ANSI MC 96.1
- Hot junction welded to sheath
- Triple elements
- Special sheath materials

<sup>1)</sup> application range limited due to the sheath material Inconel 600

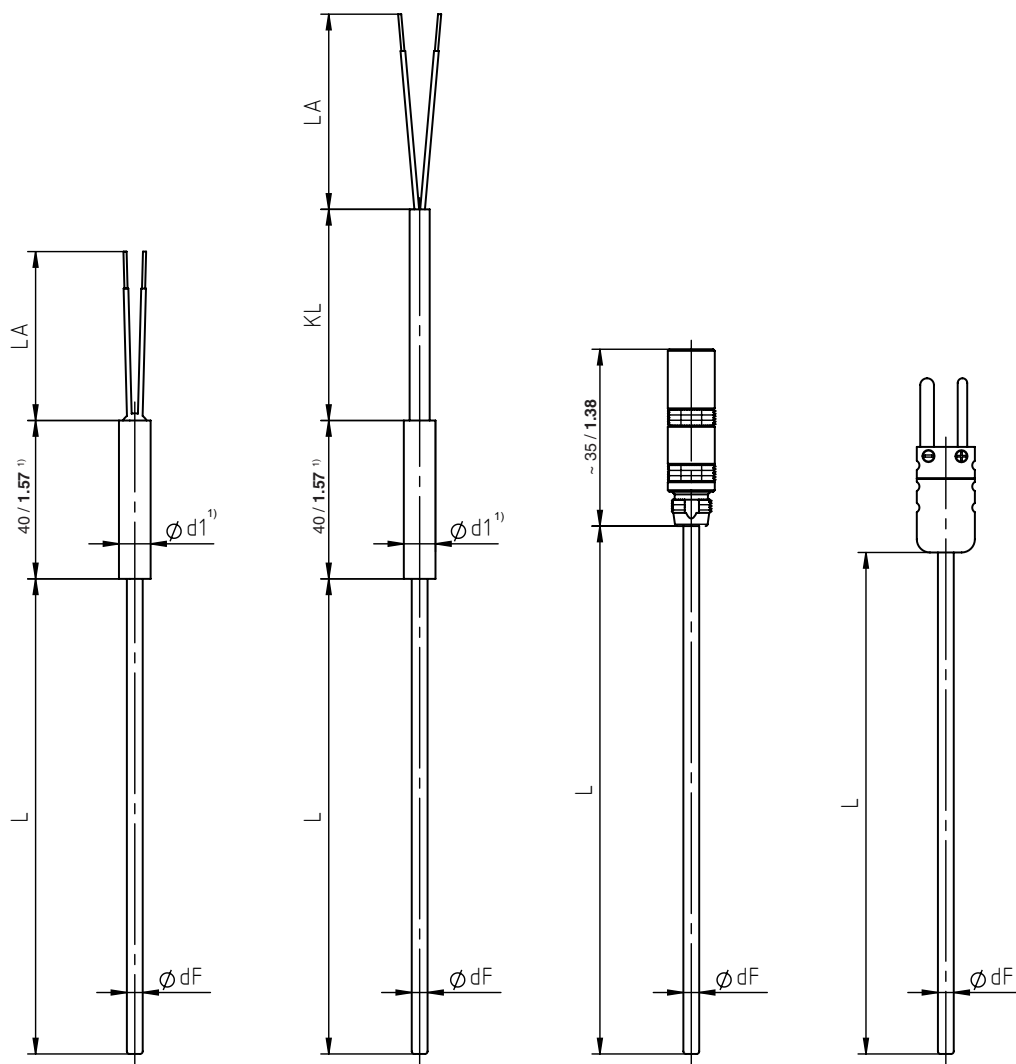
<sup>2)</sup> permissible temperature at the cable sleeve or at the plug connector

<sup>3)</sup> whichever value is higher

# Dimensional Data (mm/inches)

Dimensional Data				
Version:	TTeMiD	TTeMiL	TTeMiSt (L)	TTeMiSt (T)

$\varnothing$ dF	$\varnothing$ d1 <sup>1)</sup>
3	6
0.12	0.24
6	8
0.24	0.31



<sup>1)</sup> The dimensions of the cable sleeve may vary from the drawing for versions with special cables or with shielded cables such as spiral protection hose.

