Measuring insert
For high-temperature thermocouple
Model TC85

Applications

- Replacement measuring insert for servicing
- Furnaces, kilns and ovens
- Furnaces with oxidizing and neutral atmosphere
- Glass, fibre and ceramic industries
- Research and development facilities

Special features

- Application ranges from 0 ... 1,700 °C
- Manufactured from the finest high-purity, high-temperature ceramics and metals
- Suitable for mounting in ceramic thermowells

Fig. left: fish spine insulators
Fig. centre: transition with lead wire
Fig. right: terminal plate with lead wire

Description

TC85 series thermocouples are alumina ceramic insulated sensors for use in extreme high-temperature applications. The high-purity ceramic insulator is designed with continuous multiple holes and houses the noble metal thermocouple wire. A variety of mounting and termination styles are available.

Data sheets showing similar products:
Thermocouple straight version per DIN 50446; model TC80; see data sheet TE 65.80

Sensor

Thermocouple per IEC 60584-1 or ASTM E230
Type S, R or B (single or dual thermocouple)

Sensor types

Type	Operating temperatures of the thermocouple				
	IEC 60584-1			ASTM E230	
	Class 1	Class 2	Class 3	Standard	Special
S	1,600 °C	1,600 °C	-	1,480 °C	1,480 °C
R	1,600 °C	1,600 °C	-	1,480 °C	1,480 °C
B	-	1,700 °C	1,700 °C	1,700 °C	-

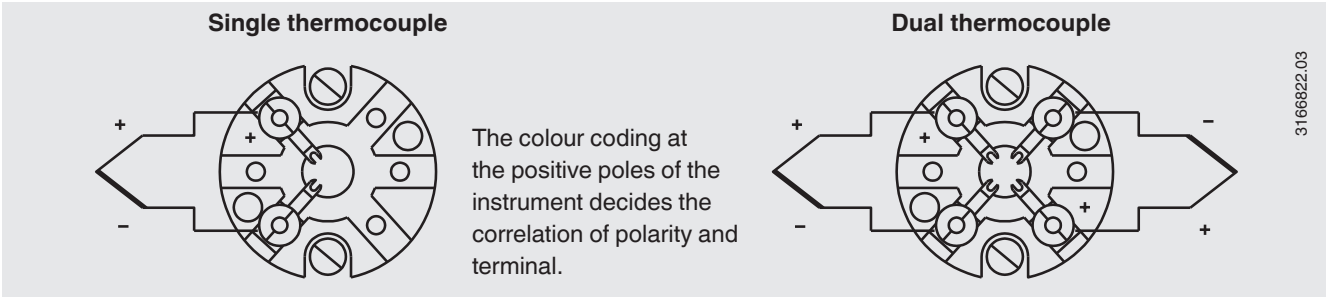
The application range of these thermometers is limited by the permissible maximum temperature of the thermocouple and by the maximum permissible temperature of the thermowell material.

Listed thermocouples are available both as single and dual. The measuring point (hot junction) of the probe is supplied ungrounded.

For detailed specifications for thermocouples, see IEC 60584-1 or ASTM E230 and Technical information IN 00.23 at www.wika.com.

Tolerance value
For the tolerance value of thermocouples, a cold junction temperature of 0 °C has been taken as the basis.

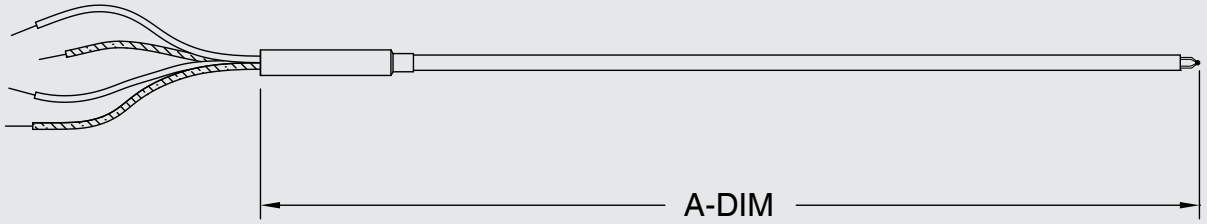
Electrical connection



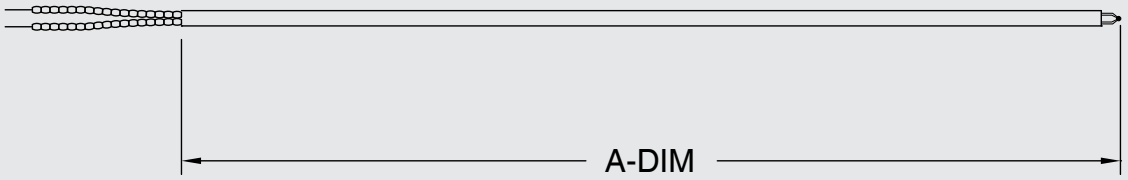
For the electrical connections of built-in temperature transmitters see the corresponding data sheets or operating instructions.

Examples of sensor designs

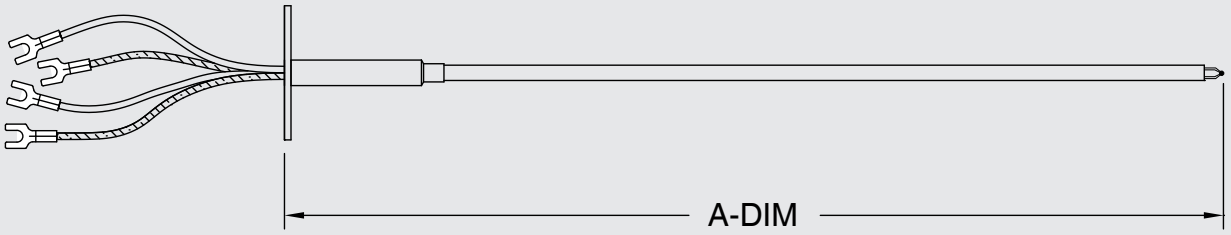
Transition with lead wire



Fish spine insulators



Terminal plate with lead wire



Lead wire insulation

- Individual fibreglass leads
- Individual PTFE leads
- Fish spines

Terminations

- Stripped leads
- Spade lugs
- Standard plug 2-pin (male)
- High-temperature standard plug 2-pin (male)
- Standard solid pin plug 2-pin (male)
- Copper sleeves

Termination accessories

- Wire clamp
- Compression adapter
- Dual compression adapter

Materials

Sheath material
Aluminum oxide ceramic (alumina)

Ordering information

Model / Sensor / Sensor design / Lead wire insulation / Terminations / Termination accessories / Options

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