

Multipoint thermocouple sensor

Miniature design

Model TC97

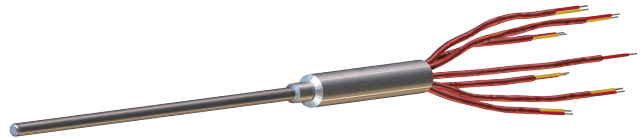
WIKA data sheet TE 70.12

Applications

- Tubesheet reactors
- Pilot plant temperature measurement
- Food industry

Special features

- Real-time temperature readings
- Optimisation of the catalyst filling of the reactor
- Low-mass designed to avoid influencing process conversion and temperatures
- Centring instrument for loading in the catalyst tube for accurate process temperatures



Multipoint thermocouple sensor, model TC97

Description

Multipoint thermocouple sensors model TC97 are generally small diameter, individual sensors, which measure temperatures at different positions or heights.

Each individual sensor is protected with a stainless steel (or other alloy) sheath. These sensors may then be combined within a single protection tube. These assemblies are used where the generation of a temperature profile is required, but the weight or size of the multipoint is limited. These designs are available in a number of variants to suit the specific application.

For example, it is possible in some applications to add a traversing ability to the temperature measuring instrument. This allows for continuous data to be collected over the distance of the traverse stroke. This feature can help gather important information relating to catalyst or process activity. These traversing units can be electrically driven with precise feedback on position.

Specifications

Materials

MI cable or outer tubing made of 316, 308, 321, 347, alloy 600 or other specialty metals

Process connections

Special connections to customer specifications

Sensors

- Single or double element
- Measuring point ungrounded or grounded
- For details, see Technical information IN 00.23 on www.wika.com

Shipping

Special considerations to customer specifications

Sensor element

Outer tubing specification	
Diameter	<ul style="list-style-type: none">■ 3.2 mm (1/8")■ 4.7 mm (3/16")■ 6.4 mm (1/4")■ 7.9 mm (5/16")■ 9.5 mm (3/8")■ 12.7 mm (1/2")■ 19.1 mm (3/4")■ 25.4 mm (1")
Sheath material	Stainless steel 316, 308, 321, 347, alloy 600
Length min ... max	0.3 ... 20 m (1 ... 150 ft)
Number of measuring points	1 ... 100

MI cable specification	
Diameter	0.020" (0.5 mm), 0.040" (1.0 mm), others as required
Type (single/double)	K, E, J others as specified
Sheath material	Stainless steel 316, 308, 321, 347, alloy 600

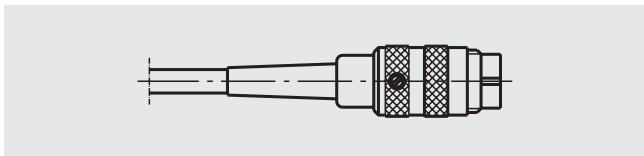
Transition specification	
Diameter	Designed to customer application
Material	Stainless steel 316
Length	Designed to customer application

Connection cable (standard)	
Thermocouple	Adapted to the sensor
Cross-section	min. 0.22 mm ²
Number of thermocouples	Dependent on the connection method
Insulation material	PVC, silicone, PTFE or fiberglass
Screen (option)	Recommendation for connection to transmitter

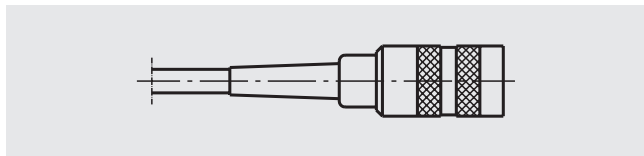
Connector (option)

Multipoint thermometers can be supplied with connectors fitted.
The following options are available:

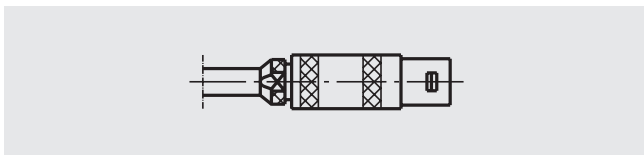
- **Screw-in-connector, Binder (male)**



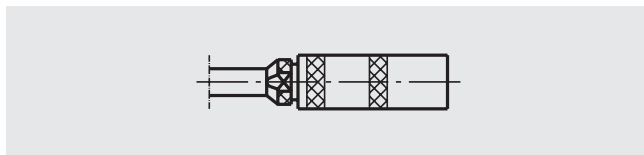
- **Screw-in-connector, Binder (female)**



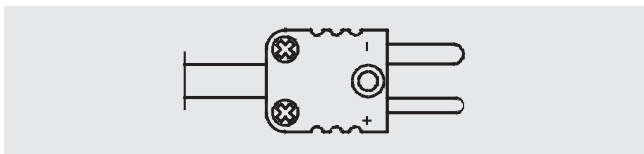
- **Lemosa connector size 1 S (male)**
- **Lemosa connector size 2 S (male)**



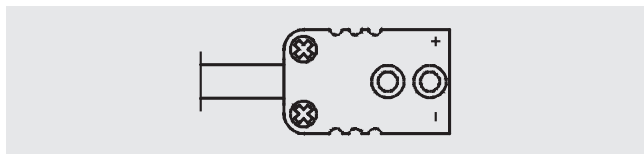
- **Lemosa coupling size 1 S (female)**
- **Lemosa coupling size 2 S (female)**



- **Standard thermo connector 2-pin (male)**
- **Miniature thermo connector 2-pin (male)**

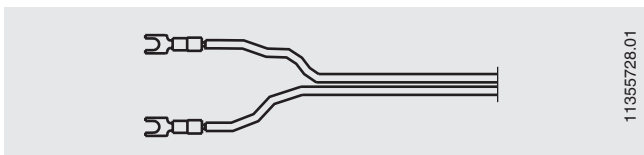


- **Standard thermo connector 2-pin (female)**
- **Miniature thermo connector 2-pin (female)**



- **Spade lugs**

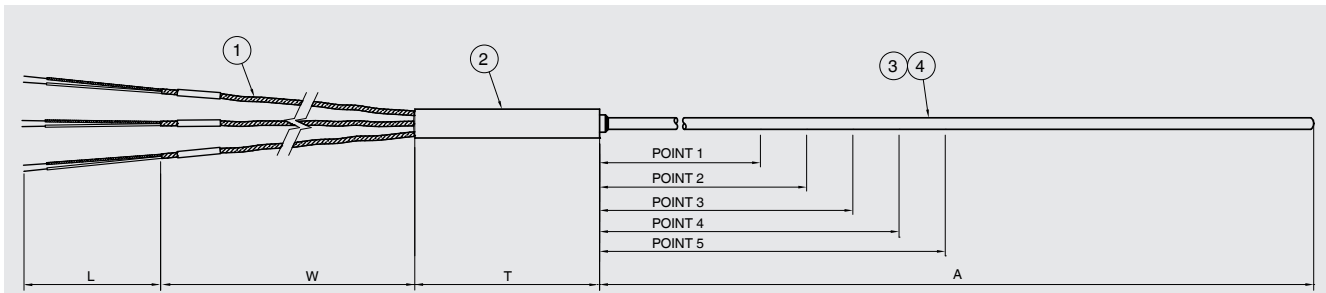
(not suitable for versions with bare connecting wires)



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Other connector variants (sizes) on request.

Dimensions in mm



Legend:

- L Lead wire strip length
- W Lead wire length
- T Transition length
- A Protection tube length

- ① Lead wire
- ② Transition
- ③ Outer tubing
- ④ MI cable

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