

Resistance Thermometers or Thermocouples

with cable connection



Description

Resistance thermometers or thermocouples with cable connection are used as universal thermometers in liquids and gases. If high temperatures should be measured, mineral insulated cables will be used.

The versatility of this kind of thermometers is given by the amount of different protection tubes in several materials, diameters and lengths. Higher temperatures can be measured with thermometers build of mineral insulated cables. This type can even be used if one needs to bend the protection tube to access the process. Furthermore there are a lot of process connections available. tecsis can weld a fixed screw connection on the protection tube or you can also use an adjustable compression fitting to fix the thermometer in the process. Depending on the temperature to be measured and the ambient temperature different cables will be used. The protection tube is fixed on the cable by crimping or optionally by rolling.

The standard measuring element is a platinum resistor (PT100, PT1000) in 2-, 3- or 4-wire connection, or a thermocouple (Type K, Type J). Thermometers with NTC's, KTY's or other sensors can also be build. It is also possible to offer multi sensor probes with two or three sensor elements in one protection tube.

tecsis can design special geometries, to adapt the sensor to your application. The possibilities are almost unlimited.

Special Features

- Many different protection tubes
- Big choice of cable types
- Different process connections available
- Optionally with plug for fast electrical connection
- Special versions on request

Temperature Ranges

- -20... + 105°C (PVC-cable)
- -50... + 200°C (Silicone -cable)
- -50... + 260°C (PTFE-cable)
- -50... + 350°C (Glassfiber insulated cable)
- -200... + 600°C (Mineral insulated resistance thermometers)
- -200... + 1200°C (Mineral insulated thermocouples)

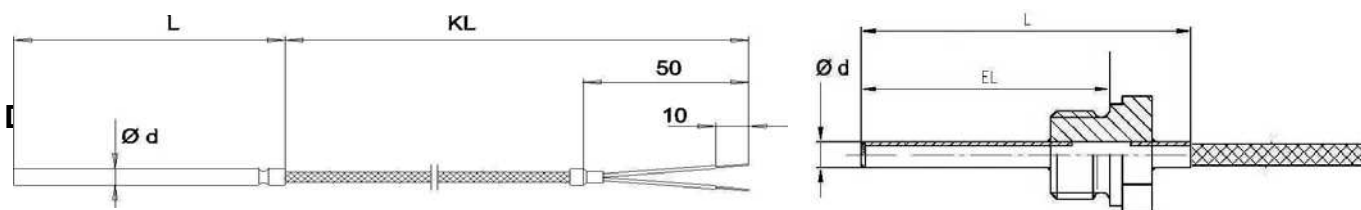
Applications

- Engineering
- Heating and cooling circuits,
Air condition technology
- Plant construction
- Environment engineering

Models: TEK00, TEK10

Technical data

| | Resistance thermometers or thermocouples - model TEK | |
|---------------------------------|---|--|
| Model | TEK00 | TEK10 |
| Mounting | Cable resistance thermometer Cable thermocouple | Mineral insulated resistance thermometer Mineral insulated thermocouple |
| Sensor | PT100 or PT1000 Class B Class A or 1/3DIN, 1/5DIN, 1/10DIN as option Thermocouples Type K (NiCr-Ni) or Type J (Fe-CuNi) | |
| | Other sensors (NTC, Ni1000, KTY; ...) on request | |
| Temperature range | <ul style="list-style-type: none"> -20... + 105°C with PVC cable -50... + 200°C with silicone cable -50... + 260°C with PTFE cable -50... + 350°C with glass fiber insulated cable -50... + 600°C with mineral insulated cable thin film RTD -200... + 600°C with mineral insulated cable and wire wound RTD element -200... +1200°C for thermocouples (depending on type and diameter) | |
| Protection tube | <ul style="list-style-type: none"> Diameter ($\varnothing d$) <ul style="list-style-type: none"> $\varnothing 3\text{mm}$ $\varnothing 4\text{mm}$ $\varnothing 6\text{mm}$ Insertion length (L), with thread (EL=L-Length of thread-10mm): <ul style="list-style-type: none"> 30mm 50mm 100mm 200mm Other diameters, lengths or designs on request | |
| Material protection tubes | stainless Steel 316Ti (1.4571) other materials or coatings on request | |
| Process connections | standard: Plain fixed thread: $G\frac{1}{2} A$, $G\frac{1}{4} A$, $G\frac{3}{8} A$, $\frac{1}{2}"NPT$ adjustable compression fitting: $G\frac{1}{2} A$, $G\frac{3}{8} A$, $G\frac{1}{4} A$, $\frac{1}{2}"NPT$, M8x1 other process connections on request | |
| Length of cable (KL) | to be defined by customer | |
| Ambient and storage temperature | see cable temperature at section „temperature range“ | |
| Electrical connection | free ends option: electrical plugs on customer demand | |



Subject to technical modifications