

# Cable thermocouples



**Cable thermocouples are characterized by their small structure and fast response times**

## General

Cable thermocouples can be built to be very small and are generally used for difficult-to-access measuring locations. Manufactured with shrink hose or metal sheath, these temperature sensors are frequently used to handle a broad range of temperature measurement tasks. Their application area is primarily in the lower to mid temperature range from -70°C to 200°C.

Special versions with a working temperature of up to 400°C can also be supplied.

## Models

- Standard models with a measuring range of up to +200°C
- Special models with a measuring range of up to +400°C when using special leads
- Spring-loaded model with screwed connection or bayonet cap
- Protective tube diameter: Ø 2.5 mm – Ø 12 mm or on request
- Stock types are: types "K", "N", "J", "E" and "T"
- If desired, protective tube insulated with PTFE, Halar or on request
- Fitting of various plug connections possible
- Assembled using screw fitting, flange or by means of compression fitting
- Humidity-resistant, ATEX-approved or extremely high-voltage-resistant sensors can be implemented  
Temperature range from -70°C to +200°C
- Customised dimensions or leads are possible
- Lengths of protective tube from 10 mm to 1500 mm or on request

## Application

The sensors are primarily used for thermal monitoring of warehouse, air and water temperatures. They are also suitable for measuring temperatures in laboratories or test facilities in gaseous, liquid or solid media.

With the corresponding certificate, the sensors can also be used in potentially explosive atmospheres.

## Approvals:

ATEX Exi

ATEX Exe

## Functional principle

The measured temperature value is converted by a thermocouple into electric voltage using no other auxiliary power supply.

If two metals with the greatest-possible difference in thermoelectric power are connected to a thermocouple, voltage is generated between the free ends; that voltage depends on the temperature difference of the connection points and the difference in the thermoelectric power of the two metals. This also makes it possible to determine the respective temperature.

The most important and the most frequently used material combinations with their temperature-voltage properties are outlined in the DIN EN 43710 and DIN EN 60584 standards.