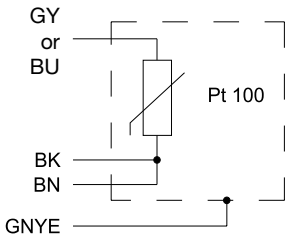
Pt100 Ex Resistance thermometer

Features

- Very fast response time
- Compact dimensions, compact design
- Extensive temperature range
- Flexible supply cable

Electrical connection 3-wire



Description

This Pt100 Ex sheathed resistance thermometer has been particularly designed for use in potentially explosive areas. As it meets the requirements of the Ex m type of protection, intrinsically safe circuits can be dispensed with. Thanks to the pliable part of the resistance thermometer, the device is excellently suitable for application areas requiring a high degree of flexibility and replaceability (e.g. chemical and power plants).

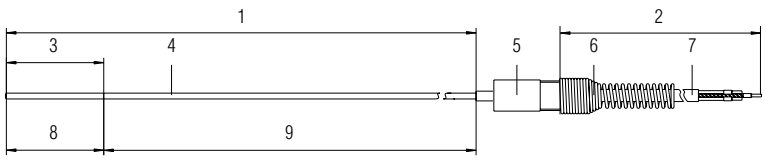
Structure

The resistance thermometer is made of a 3 mm thick light plastic-sheathed cable with different lengths. This light plastic-sheathed cable is filled with magnesium oxide.
The pliable part of the resistance thermometer starts after 50 mm. Via a transition gland, the connection to a flexible supply cable is created.

Function

Metals increase the electrical resistance with rising temperatures. The platinum element of the resistance thermometer has a resistance of 100 Ω at 0 °C. This characteristic is used for this type of resistance thermometers to get an image of the temperature. The resistance changes of the Pt100 Ex are converted into a temperature value and displayed by a control unit.

Structure



1 NL-20	4 Sheathed cable	7 connection cable
2 AL	5 Transition gland	8 rigid
3 Length 50 mm	6 Anti-kink protection	9 flexible

Explosion protection

Ex protection type
Ⓔx II 2G Ex mb II T6
Ⓔx II 2D Ex mbD 21 T80 °C

Certification
PTB 03 ATEX 2152 X

Technical data

Transducer
in 3-wire circuit

Temperature range
-50 °C to +600 °C or
-200 °C to +600 °C
tolerancen: class B (EN 60751)

Ambient temperature range
-20 °C to +60 °C or
-50 °C to +70 °C

Dimensions

sensor tube diameter	3 mm
sensor length	280 resp. 980 mm
active sensor length	50 mm
flexible part	230 resp. 930 mm
bending radius	min. 20 mm

Sheath material
stainless steel 1.4541

Connection cable
Rubber or silicone hose
4 x 0.75 mm²

Protection class
IP 65/EN 60529

Electrical data

Operating voltage
max. AC/DC 60 V

Signal circuit
max. AC/DC 6 V
max. AC/DC 10 mA
max. AC/DC 60 mW

Selection chart

Measurement range	Ambient temperature range	Nominal length NL	Connecting cable AL Length	Connecting cable Version	Order no.
-50 °C to +600 °C	-20 °C to +60 °C	300 mm	2 m	rubber	**27-7125-13330220**
-50 °C to +600 °C	-20 °C to +60 °C	300 mm	5 m	rubber	**27-7125-13330520**
-200 °C to +600 °C	-20 °C to +60 °C	300 mm	2 m	rubber	**27-7128-13330220**
-50 °C to +600 °C	-50 °C to +70 °C	300 mm	2 m	silicone	**27-7125-13330250**
-50 °C to +600 °C	-50 °C to +70 °C	300 mm	5 m	silicone	**27-7125-13330550**
-200 °C to +600 °C	-50 °C to +70 °C	300 mm	2 m	silicone	**27-7128-13330250**
-200 °C to +600 °C	-50 °C to +70 °C	1000 mm	2 m	silicone	**27-7128-13130250**