Ex-Resistance Temperature Detector WR14 measuring insert R144

for gas explosion hazardous areas and areas with combustible dust

In general

The temperature sensors manufactured by Reckmann GmbH (R58®) are solely intended for the measurement of process temperatures in solid, liquid and gaseous media. The replaceable measuring insert (fig. 1) is, so to speak, the carrier of the sensor element of our WR15 type. The projected nominal length guarantees contact with the ground, while the spring-mounted ceramic connection socket (fig. 1/1-5) compensates for different thermal expansion coefficients of the measuring insert and the protective fitting**.**

Application area:
Use in potentially explosive atmospheres is only permissible with the installation into a suitable protection fitting
type WR15 or type B type WR14-J-D!

Depended on electrical and thermal parameters for operating with the following types of protection:
II 2G Ex ia IIC T1…T6 Gb or
II 2D Ex ia IIIC T135 °C Db.
Ambient temperature at the connection point -40 °C up to + 100 °C.
For installation please see our operating instructions.
Ex- Stock-number-code: WR14-X-D.

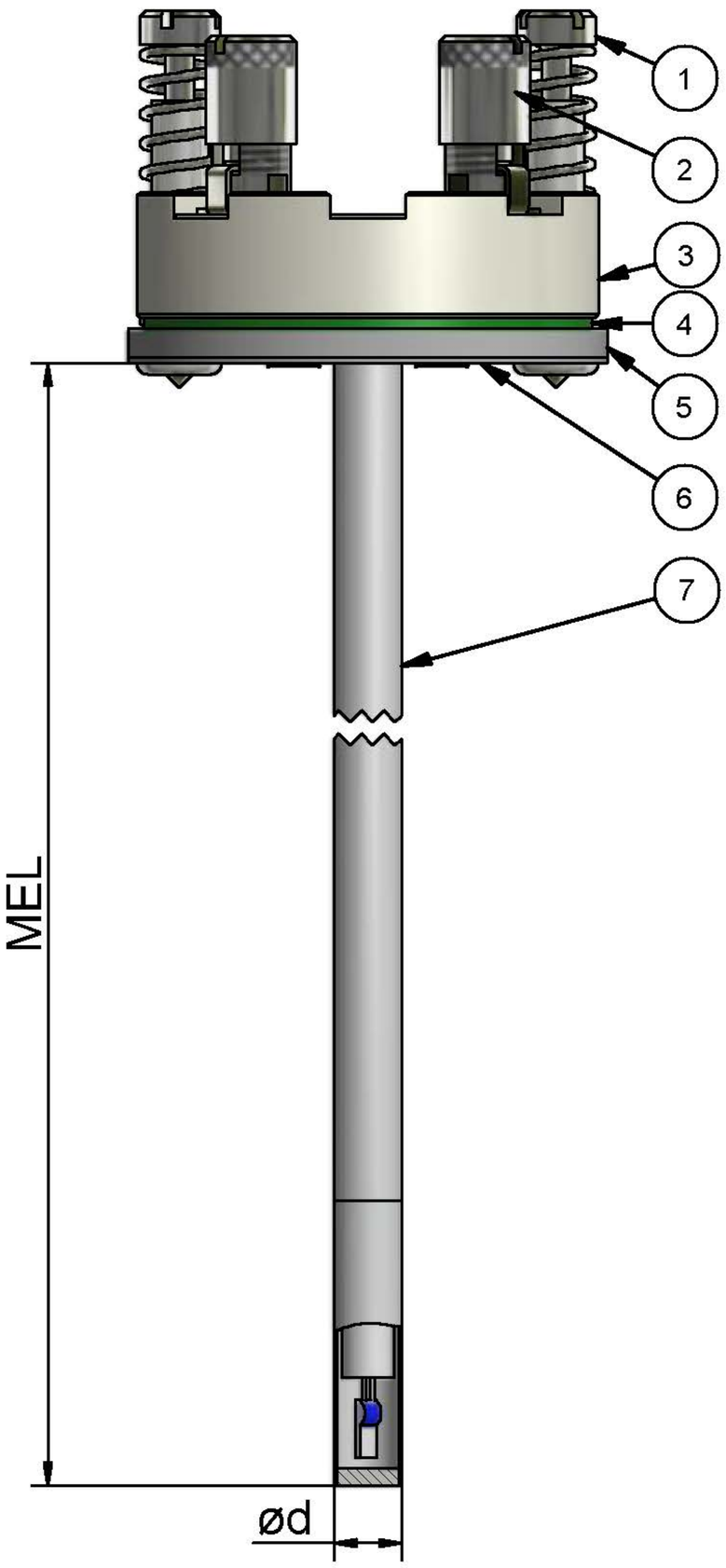

fig. 1

Technical datas

- **Measuring insert** according or similar to DIN 43735

- **Sensor** depending on use:
  thin film or ceramic according to IEC / EN 60751,
  standard in 1 x 3-, 1 x 4 wire or 2 x 3 wire circuit.
  Recommended operating temperature on the measuring tip depended on accuracy class according to IEC / EN 60751
  - 40°C up to + 500°C by thin film sensors,
  - 40°C up to + 600°C by ceramic sensors.

- **Notice:** Process temperatures above 450 °C are only possible with appropriate process decoupling.

- **Sheath material** (fig.1/7) according to IEC / EN 61515.
  Standard material 1.4404,
  Standard diameter 3 or 6 mm.
  Notice: Sensors with Ø 3 mm and more than 4 inner conductors, Ø < 3 mm, Ø > 3 mm and more than 6 inner conductors are considered to be non-insulated or grounded in accordance with IEC / EN 60079-11 (dielectric strength) and must be connected to equipotential bonding of the system throughout the intrinsically safe circuit for safety reasons, taking into account the special conditions according to IEC / EN 60079-14.

- **Optional materials for gas and dust explosion protection:**
  see ex-operating instructions chapter 4 X-Conditions.

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Your partner for temperature

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Deviations according to the sensor type

Resistance temperature detector with PT 100 sensor

table 1

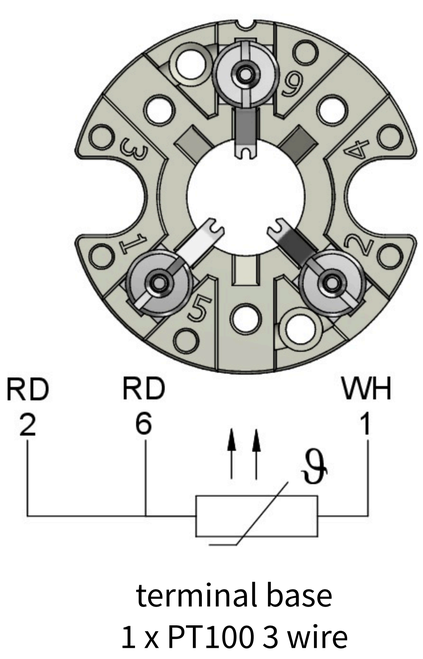
class	accuracy in °C		Deviations in °C
	ceramic	thin film	
AA[1)]	-50 bis +250	0 bis +150	± (0,1 + 0,0017 x |t|) [2)]
A	-100 bis +450	-30 bis 300	± (0,15 + 0,002 x |t|) [2)]
B	-196 bis +600	-50 bis +500	± (0,3 + 0,005 x |t|) [2)]
C	-196 bis +600	-50 bis +600	± (0,6 + 0,01 x |t|) [2)]

[1)] out of date marking 1/3 DIN, [2)] t = unsigned amount of the measured temperature in °C

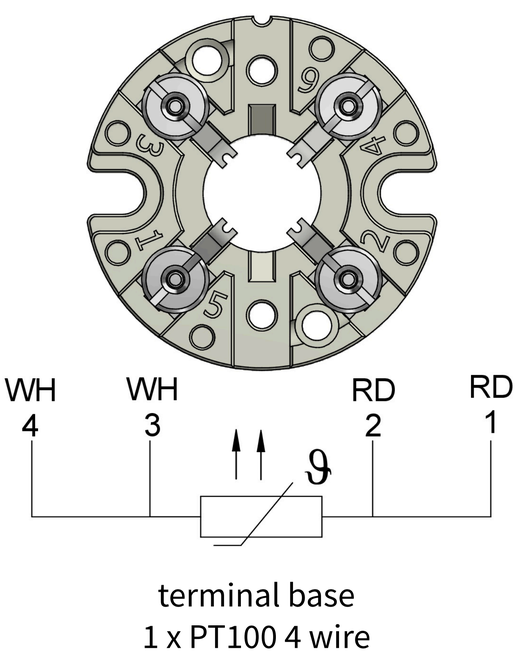
Source: Technical dates from IEC / EN 60751:2009-05 chapter 5.1.3

electrical circuit diagram

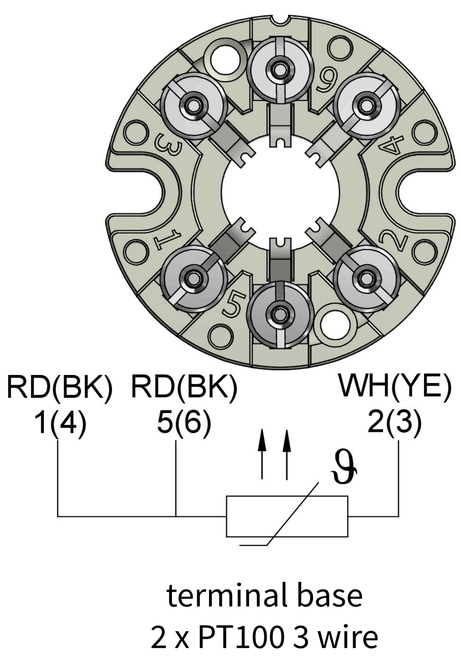
color code according to IEC / EN 60751



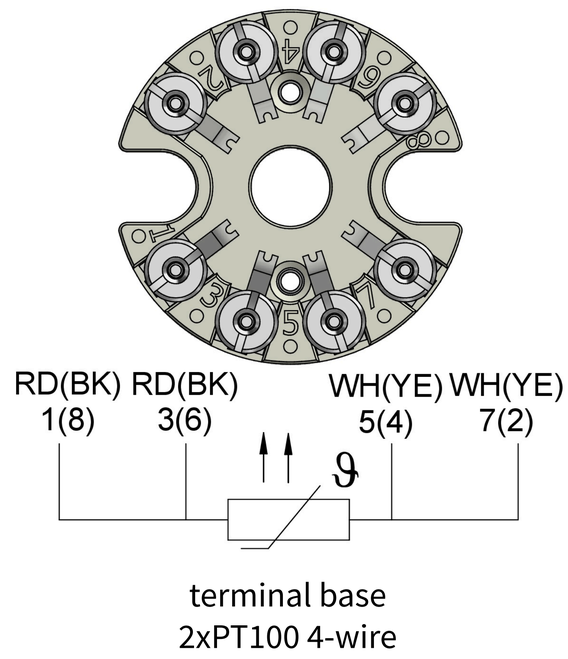
terminal base
1 x PT100 3 wire



terminal base
1 x PT100 4 wire



terminal base
2 x PT100 3 wire



terminal base
2xPT100 4-wire

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