

Ex-resistance temperature detector BWR15 model 2G

for areas exposed to firedamp (mining)

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. This design allows a direct screwing into the process connection of a container or a pipeline.

Application area:

Plant engineering for mining technology

Ignition protection marking: I M2 Ex ia I Mb.

Ambient temperature at connection head max. - 40°C up to + 80°C.
Max. surface temperature 150 °C on all surfaces where pulverized coal can deposit as a layer.

For installation please see our operating instructions.

Stock-number-code: BWR 15-D.

Technical datas

- **Connection head** (fig. 1/1) according to DIN EN 50446.
Standard connection heads: Form B-VA, Dimension see page 2.
- **Protection shell** (fig. 1/3 up to 4) according or similar to DIN 43772.
Standard material 1.4571.
Standard diameter 9 or 11 mm.
- **Process connection** via VA compression fitting or VA union nut, standard thread: G1/2".
- **Measuring insert** (fig.1/2) replaceable 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-, 2 x 3-, oder 2 x 4 wire circuit.
Operation temperature max. 150°C
Tolerance class according to IEC / EN 60751
Sheath material according to IEC / EN 61515.
Standard material 1.4404,
Standard diameter 3 or 6 mm.
Notice: Sensors with \varnothing 3 mm and more than 4 inner conductors, \varnothing < 3 mm, \varnothing > 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.
- **Protection shell** (fig. 1/3 up to 5) the following dimension are acceptable:
outer diameter(D) \geq 6,0 mm, wall thickness(S) \geq 1,0 mm,
ground high \geq 1,3 x S [mm]
neck tube length (HRL) max. 2000 mm.
fitting length (EBL) max. 6000 mm.
- **Optional materials for mining explosion protection:**
please see ex operation instructions chapter 4 X-Conditions.

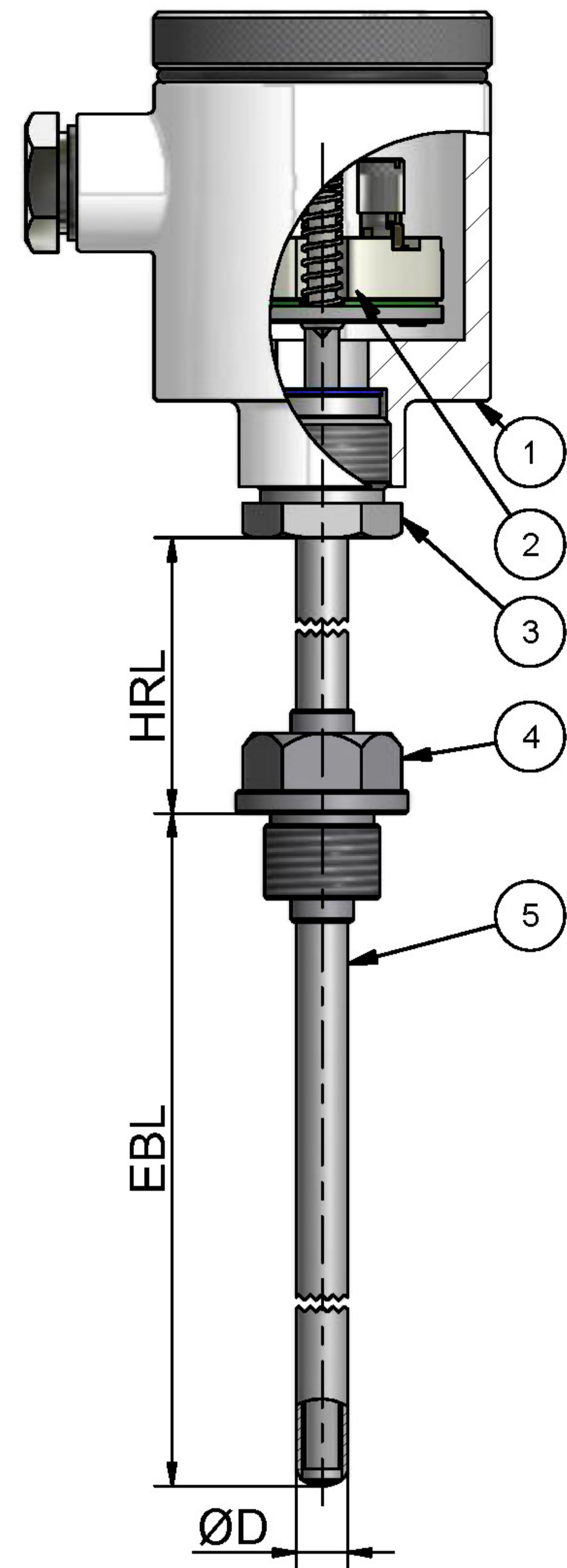


fig. 1

Deviations according to the sensor type

Resistance temperature detector with PT 100 sensor

table 1

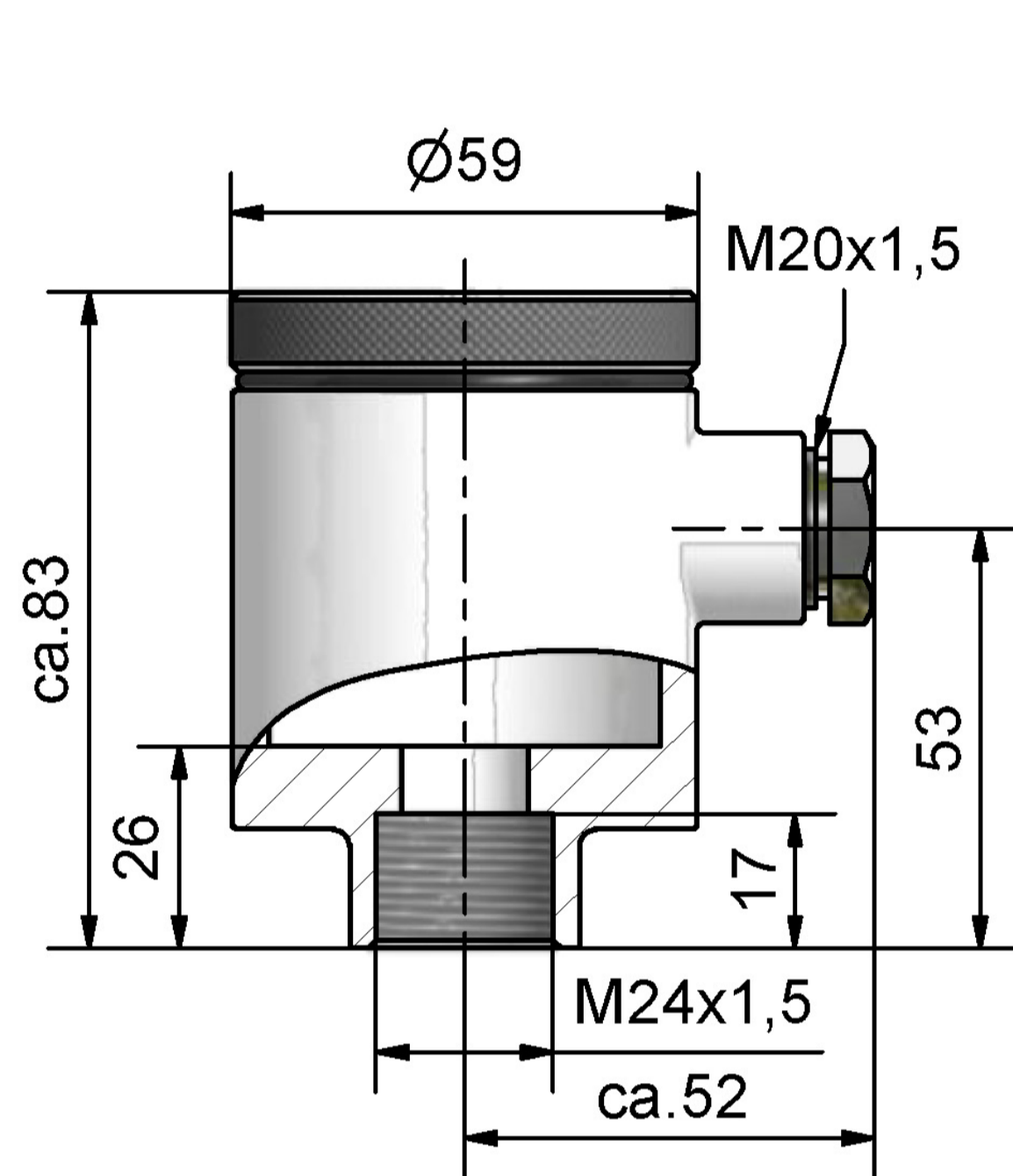
| class | accuracy in °C | | Deviations in °C |
|------------------|----------------|--------------|--------------------------------------|
| | ceramic | thin film | |
| AA ¹⁾ | -50 bis +250 | 0 bis +150 | $\pm (0,1 + 0,0017 \times t)^{2)}$ |
| A | -100 bis +450 | -30 bis 300 | $\pm (0,15 + 0,002 \times t)^{2)}$ |
| B | -196 bis +600 | -50 bis +500 | $\pm (0,3 + 0,005 \times t)^{2)}$ |
| C | -196 bis +600 | -50 bis +600 | $\pm (0,6 + 0,01 \times t)^{2)}$ |

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

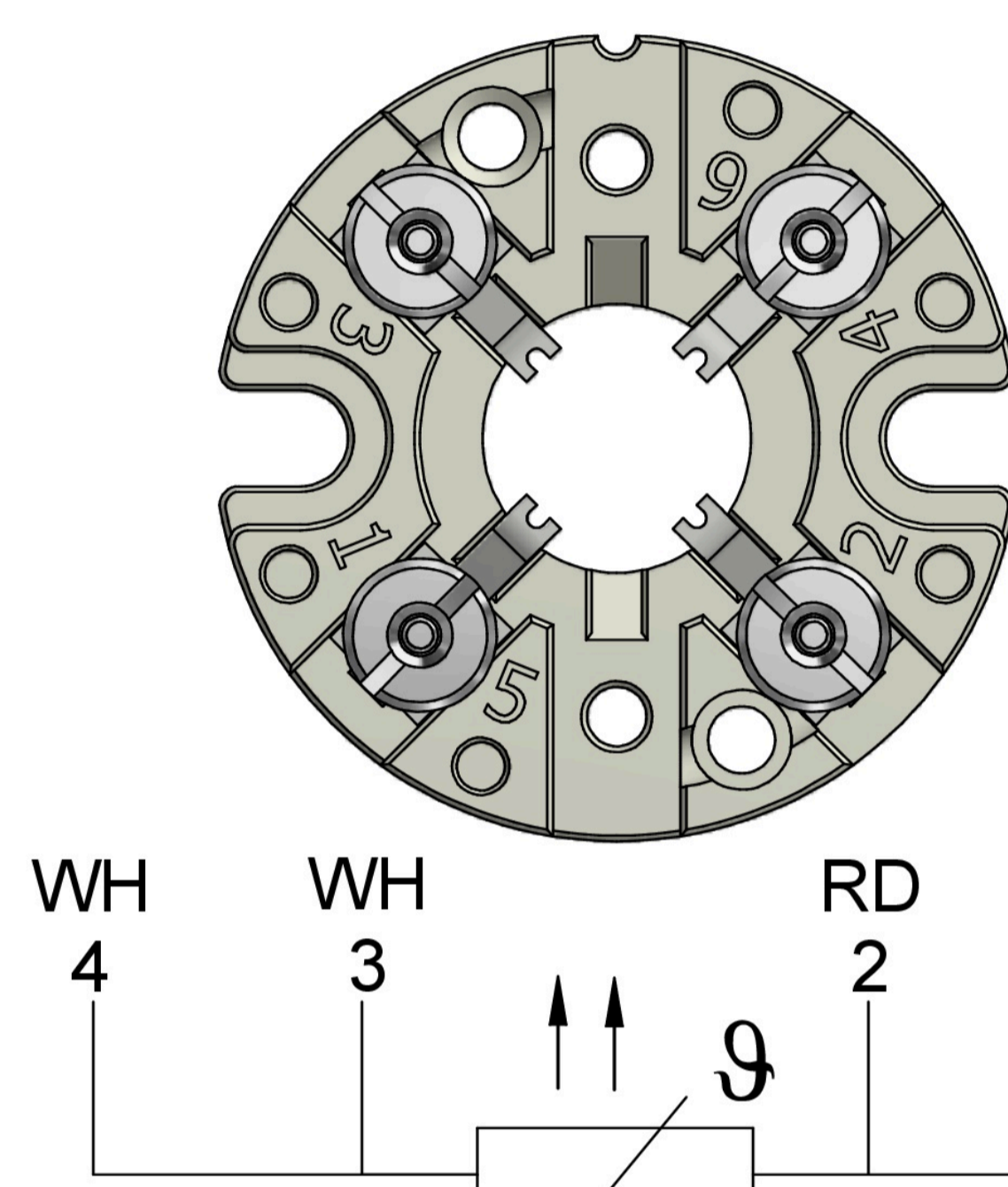
Source: Technical dates from IEC / EN 60751:2009-05 chapter 5.1.3

connecting head / circuit diagram

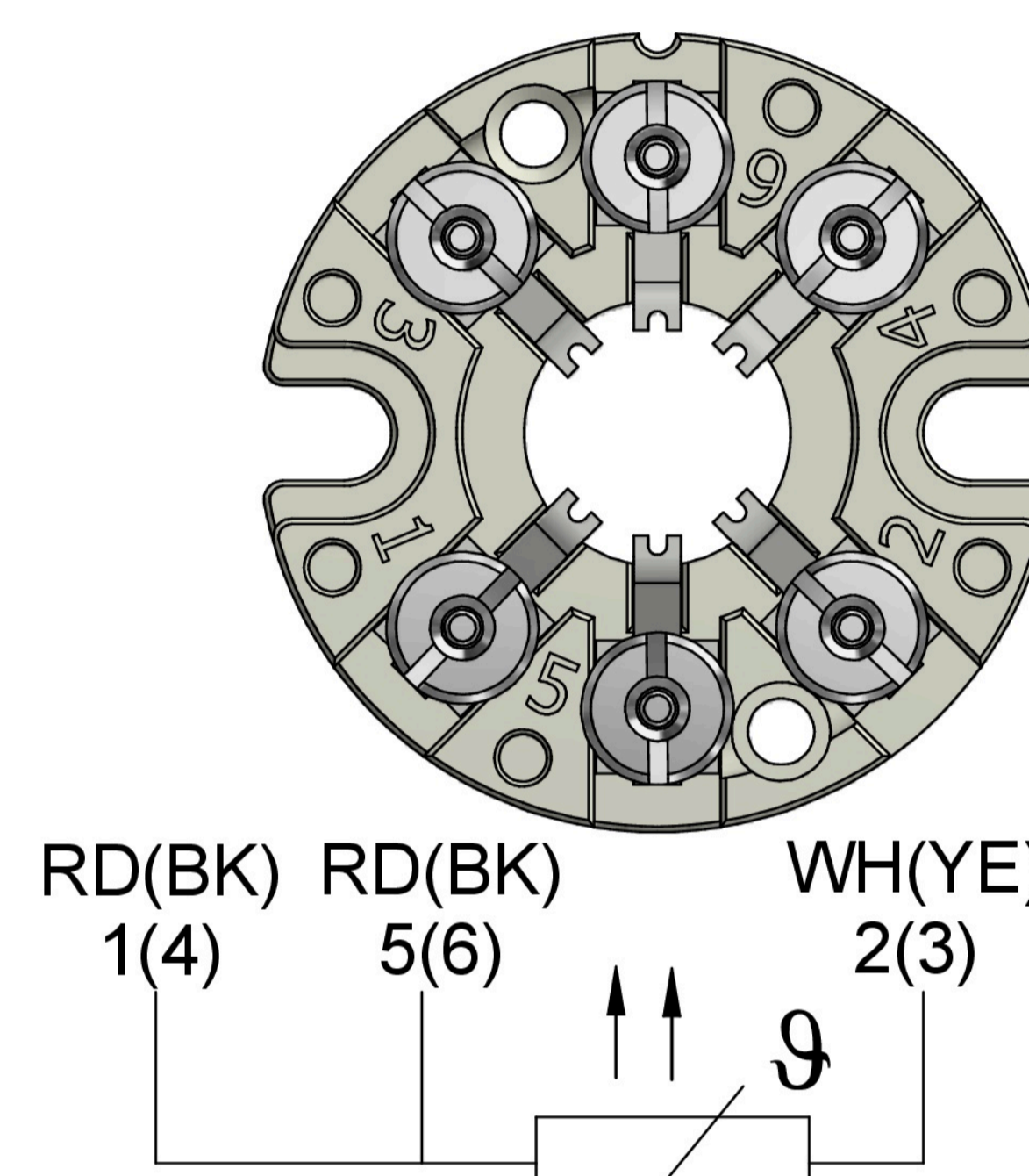
Alternative to the cable gland a stainless steel M12 insert plug is possible.



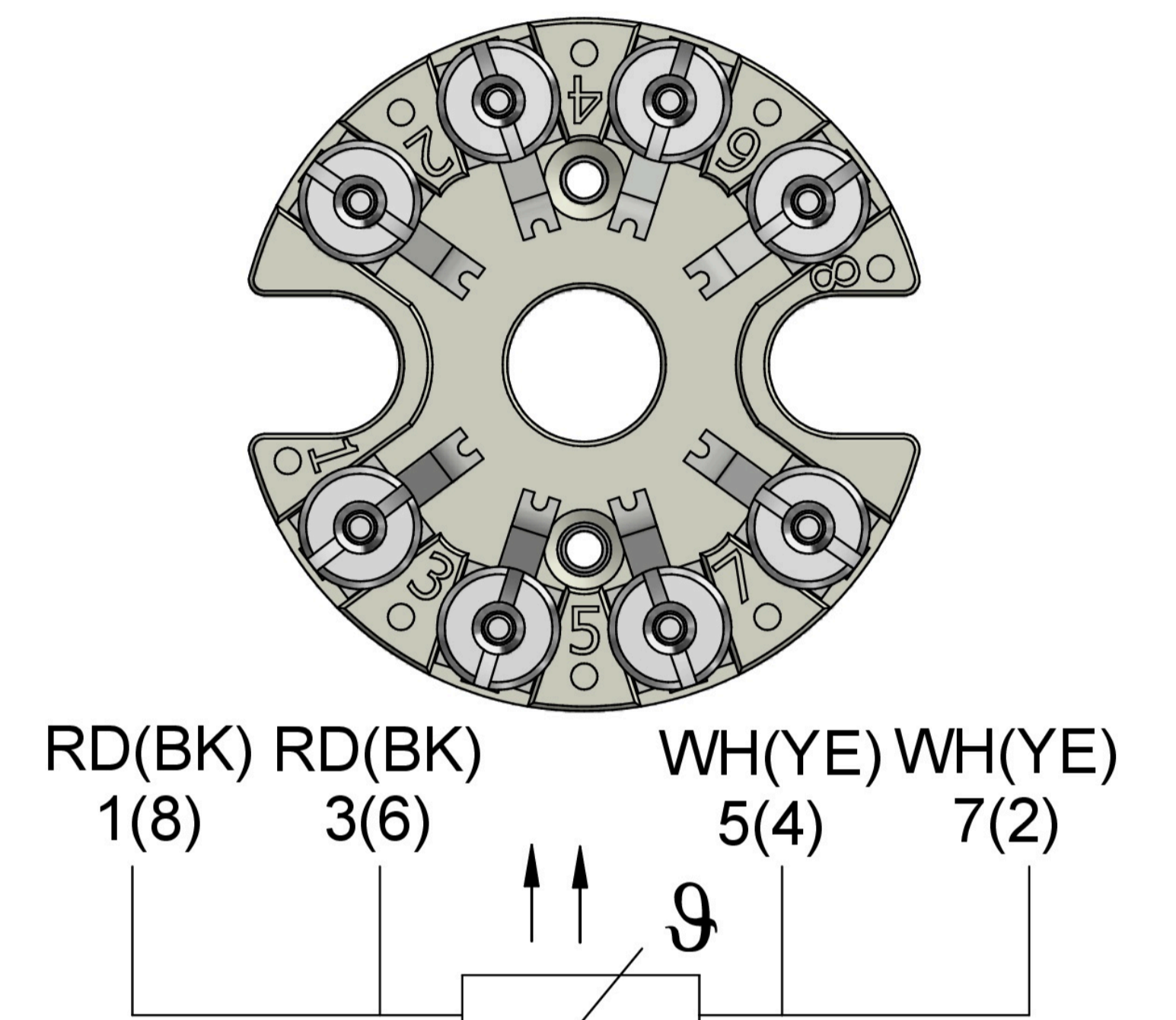
connection head model B-VA
M24 x 1,5



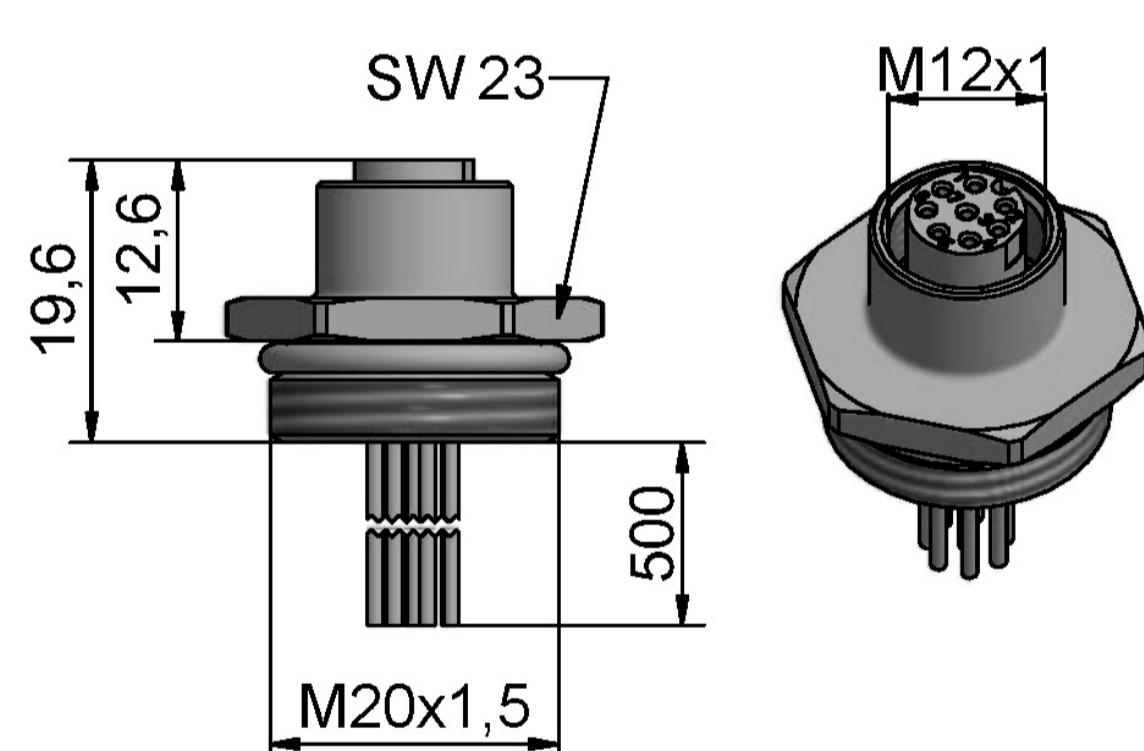
terminal base
1 x PT100 4 wire



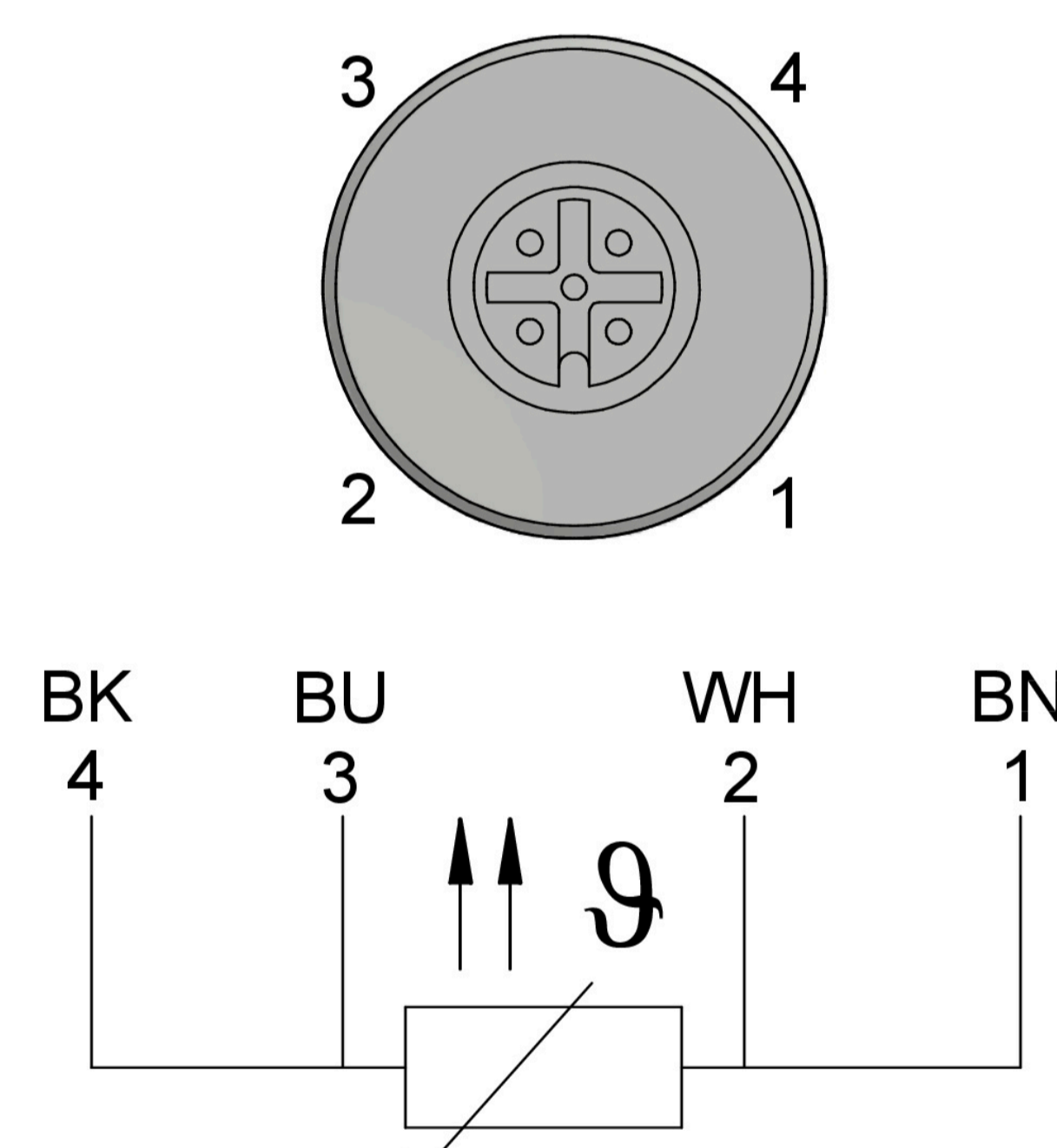
terminal base
2 x PT100 3 wire



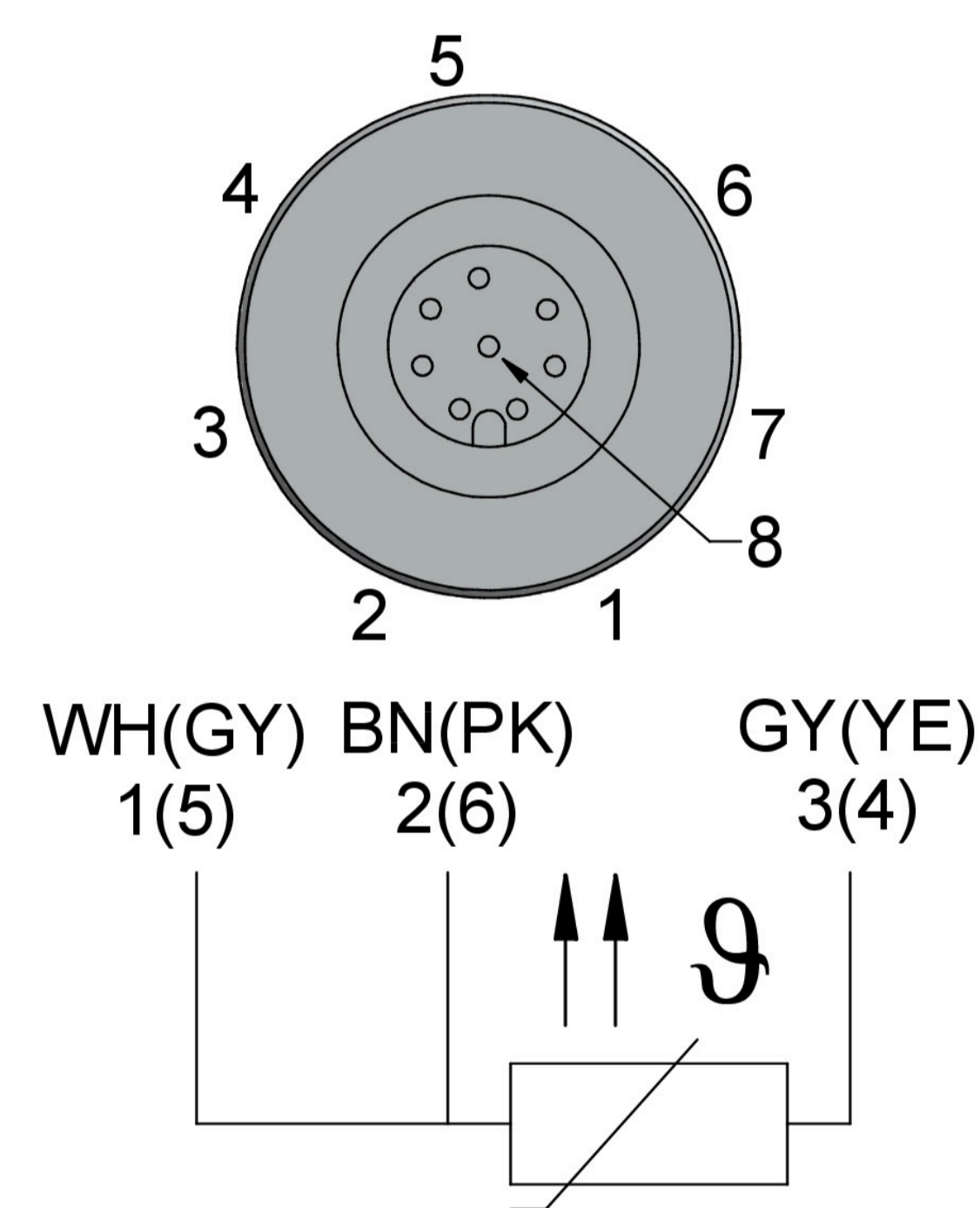
terminal base model B
2xPT100 4-wire



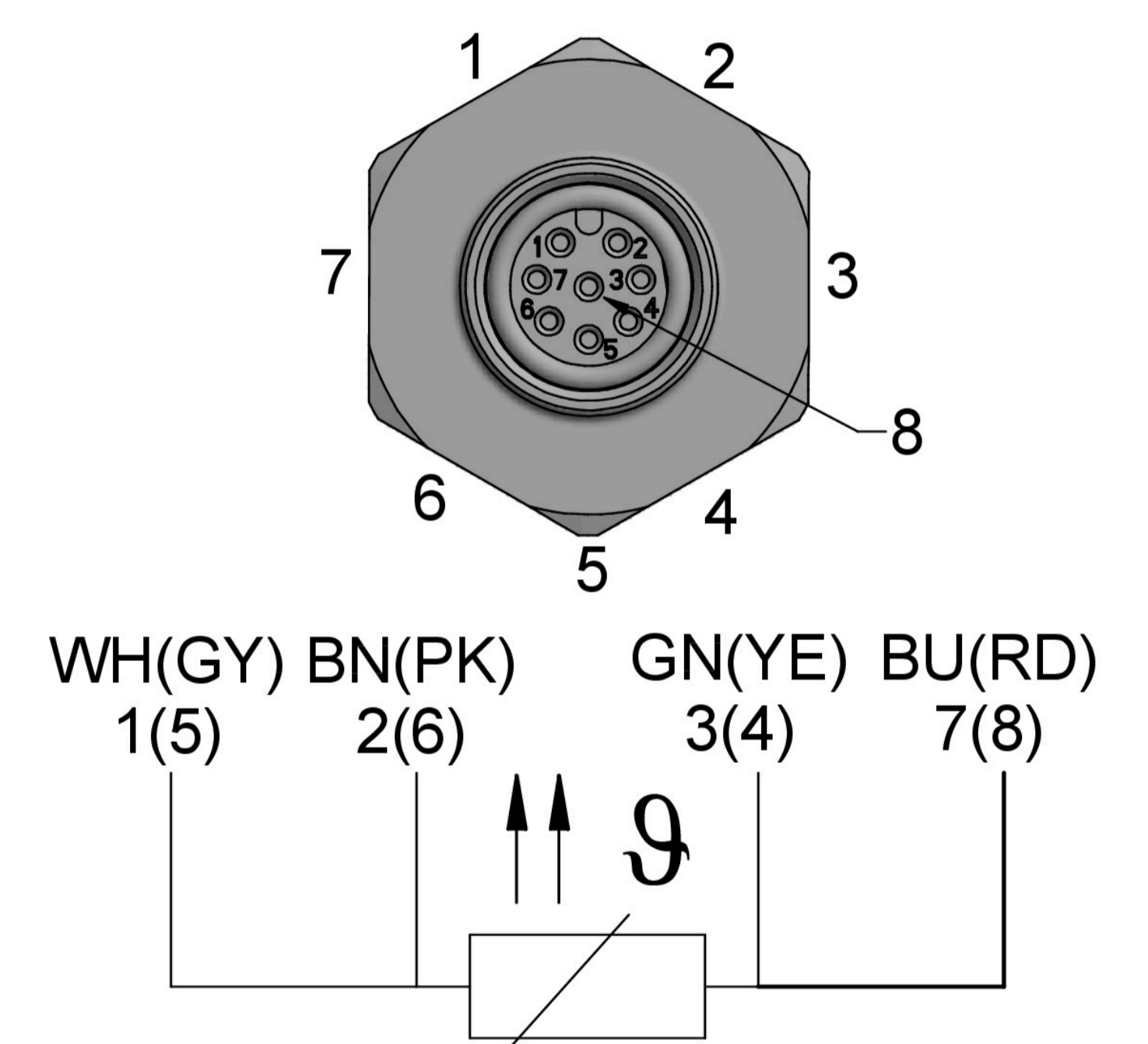
M12 insert socket
8 - terminal, stainless steel



M12 insert socket
1 x PT100 4 wire



M12 insert socket
2 x PT100 3 wire



M12 insert socket
2xPT100 4-wire