

Ex-Resistance Temperature Detector WR14 model L

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. This version with flexible sheath material allows to detect the temperature even in hard-to-reach places. The plug connection simplified the exchange of the sensor.

Application area:

machine and plant engineering,
Research / Development
chemicals industry, food industry

Depended on electrical and thermal parameters for operating with the following types of protection:

II 1G Ex ia IIC T1...T6 Ga or
II 1D Ex ia IIIC T135 °C Da.

Ambient temperature at the connection point max. -40 °C up to +100 °C.

For installation please see our operating instructions.

Stock-number-code: WR14-M.

Technical datas

- **Measuring insert** (fig.1/2) similar to DIN 43735.
- **Sensor** depending on use:
 - thin film or ceramic according to IEC / EN 60751,
 - in 1 x 3- , 1 x 4- , 2 x 2- , 2 x 3- or 2 x 4 wire circuit,
 - Tolerance 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- and operating temperature are the same and depended on the plug connector. Process temperatures above 450 °C are only possible with appropriate process decoupling
- **Sheath material** according to IEC / EN 61515.
 - Standard material 1.4404,
 - Standard diameter 1,5; 3 or 6 mm.
 - Notice:** Sensors with Ø 3 mm and more than 4 inner conductors, 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.
- **Temperature range plug connector** (fig. 1/1):
 - compensation plug (model B) -40 °C up to 200 °C, Lemo -40 °C up to 200 °C and -40 °C M12 up to 85 °C.
- **Process connection** via sliding compression fitting, union nut or welded-on clamping fitting DIN 32676.
- **Optional materials** for gas and dust explosion protection:
 - please see operation instructions chapter 4 X-Conditions .

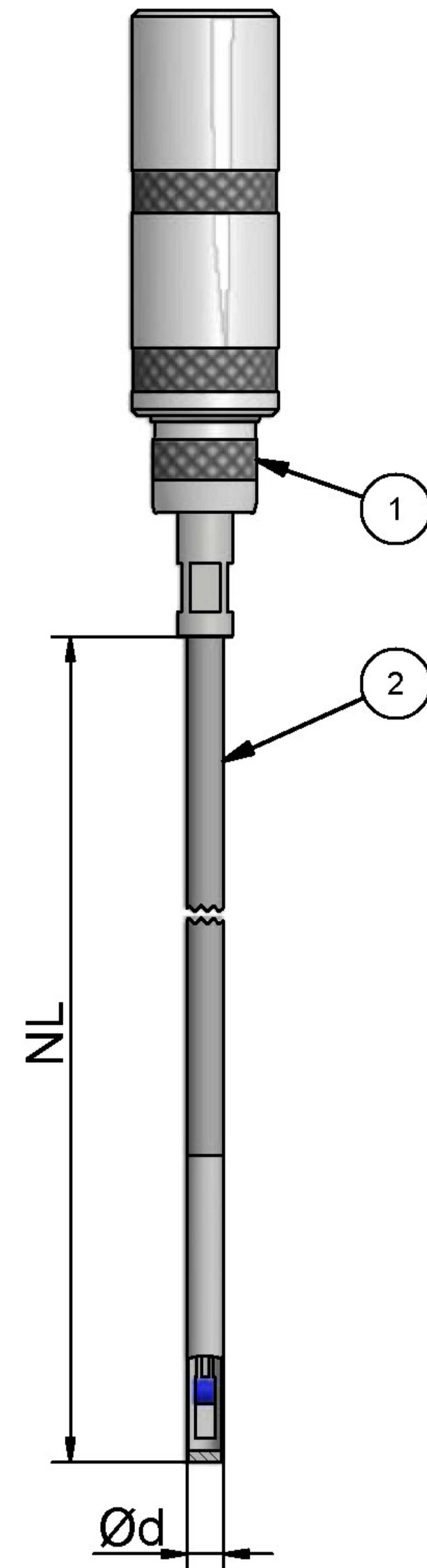


fig. 1

Deviations according to the sensor type

Resistance temperature detector with PT 100 sensor

table 1

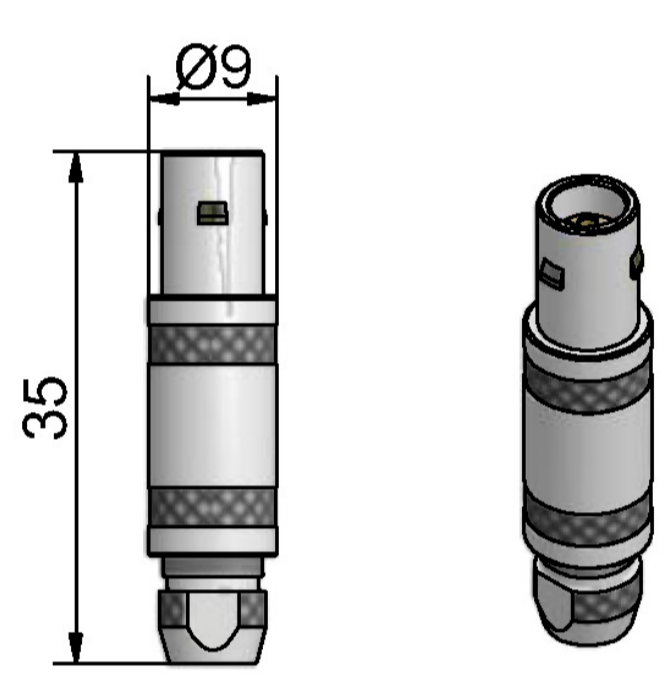
class	accuracy in °C		Deviations in °C
	ceramic	thin film	
AA ¹⁾	-50 bis +250	0 bis +150	$\pm (0,1 + 0,0017 \times t)$ ²⁾
A	-100 bis +450	-30 bis 300	$\pm (0,15 + 0,002 \times t)$ ²⁾
B	-196 bis +600	-50 bis +500	$\pm (0,3 + 0,005 \times t)$ ²⁾
C	-196 bis +600	-50 bis +600	$\pm (0,6 + 0,01 \times t)$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

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

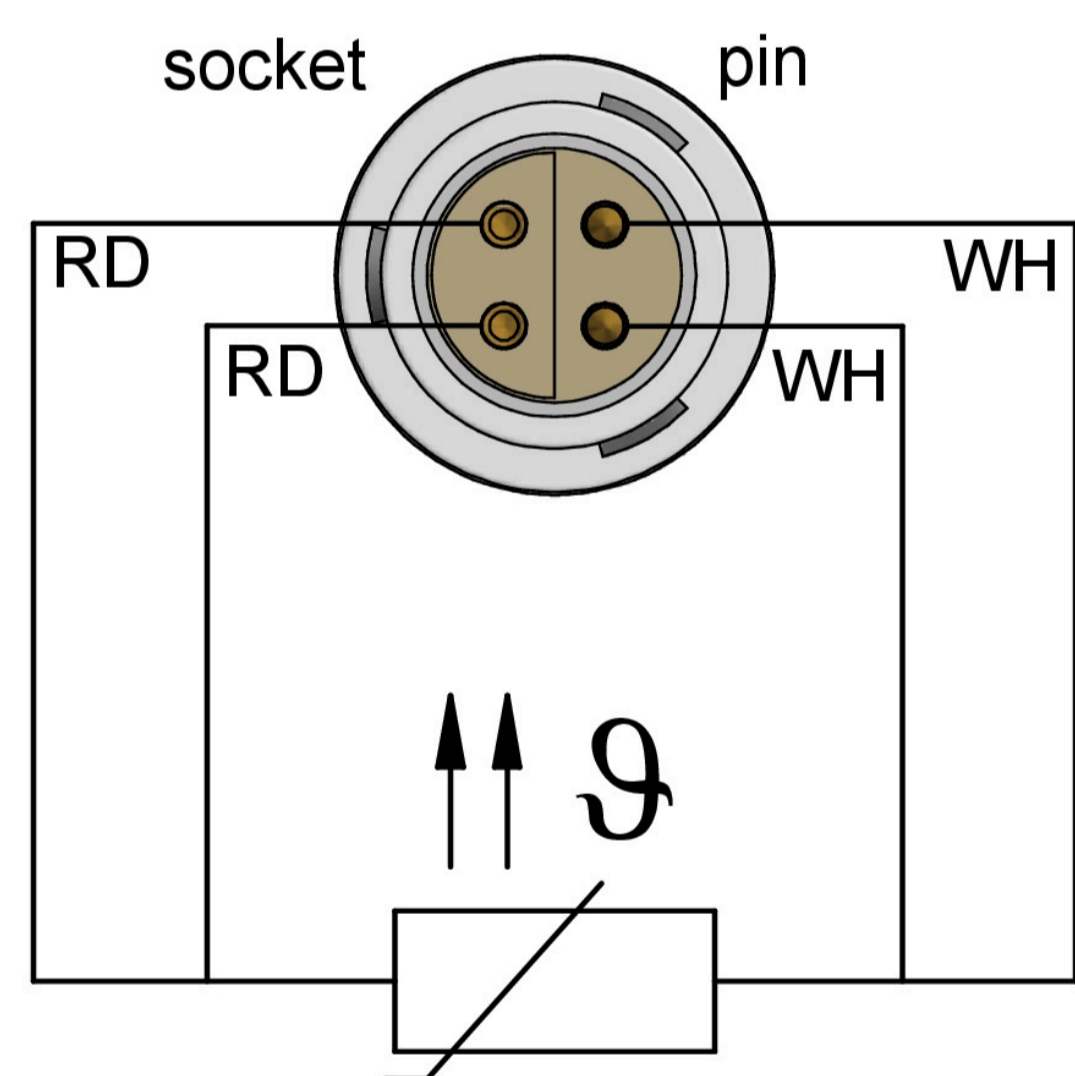
Source: Technical dates from IEC / EN 60751:2009-05 chapter 5.1.3

Examples of plug connectors with connection scheme

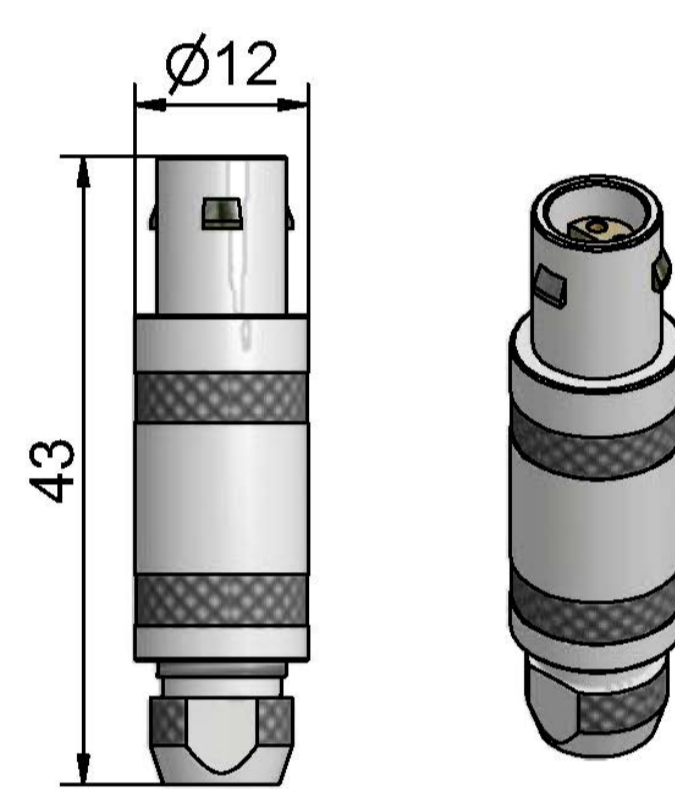
Examples of plug connectors with connection scheme: Lemo- (2, 4, or 6 -terminal)



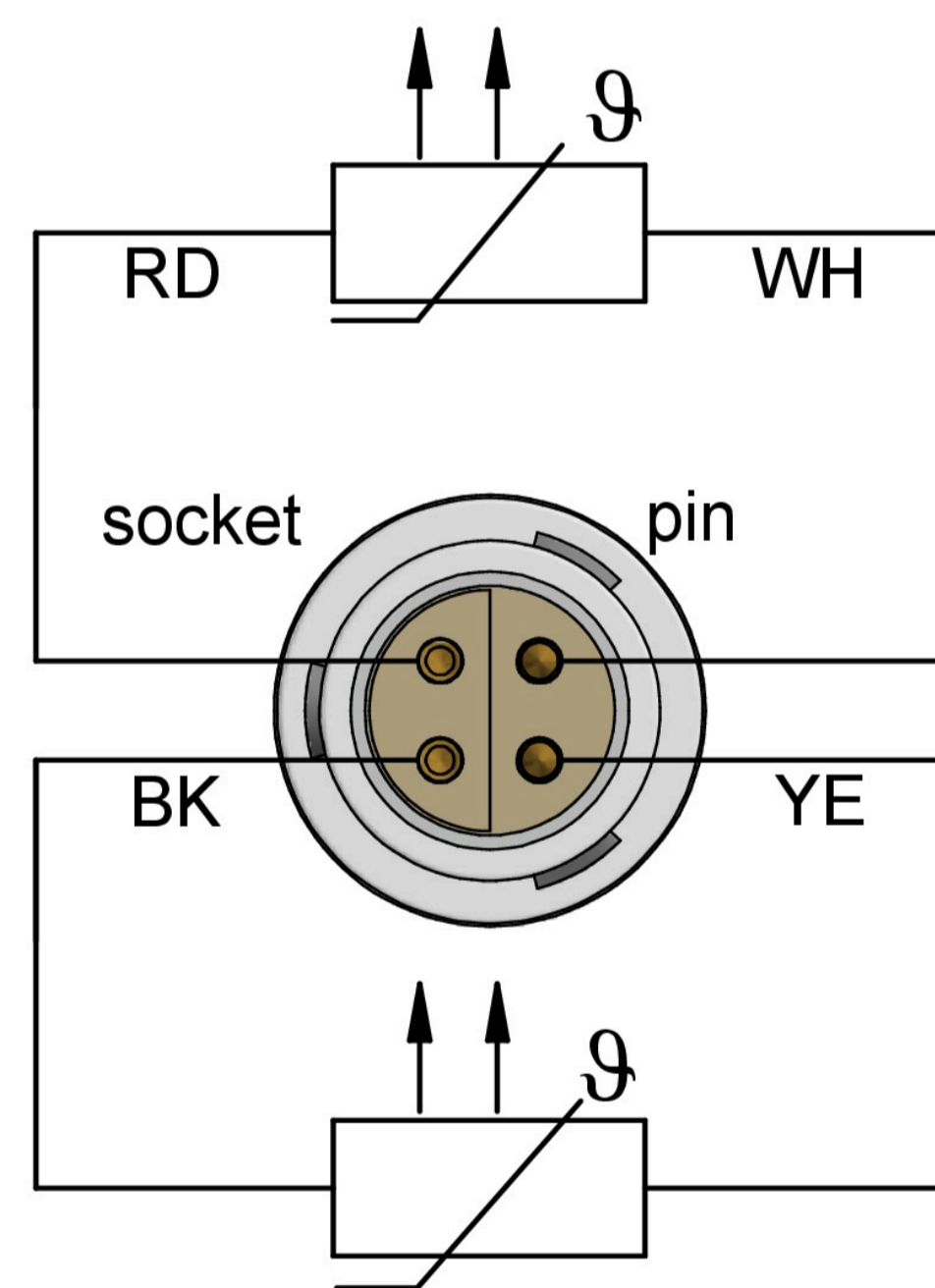
Lemo plug size 0



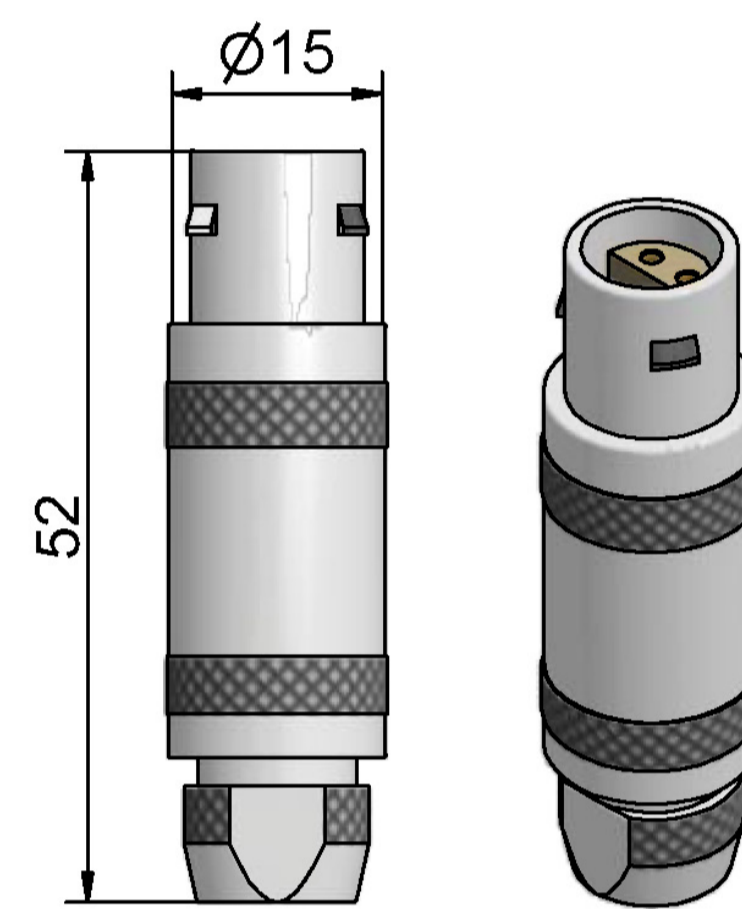
Lemo plug 1 x 4 wire front view



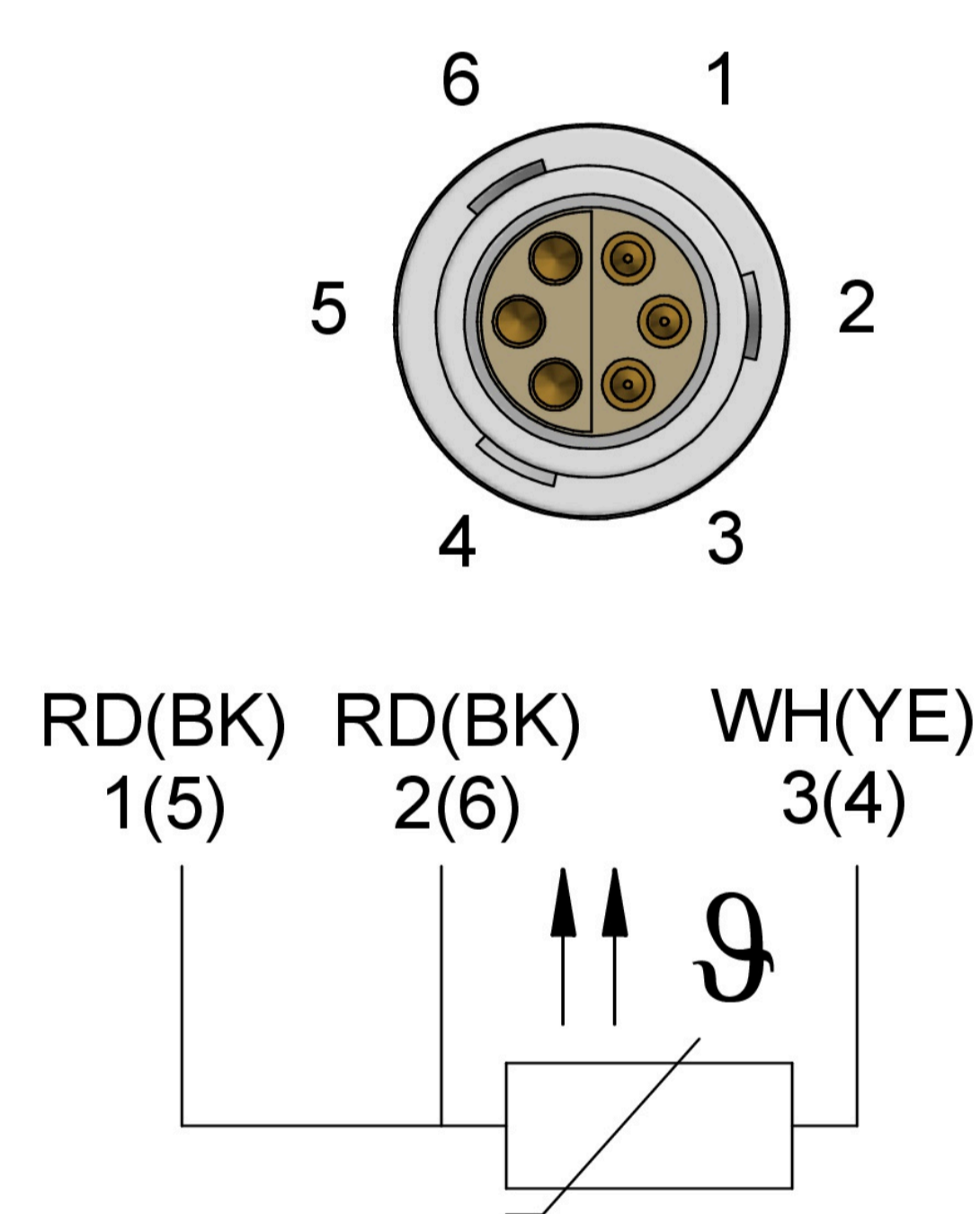
Lemo plug size 1



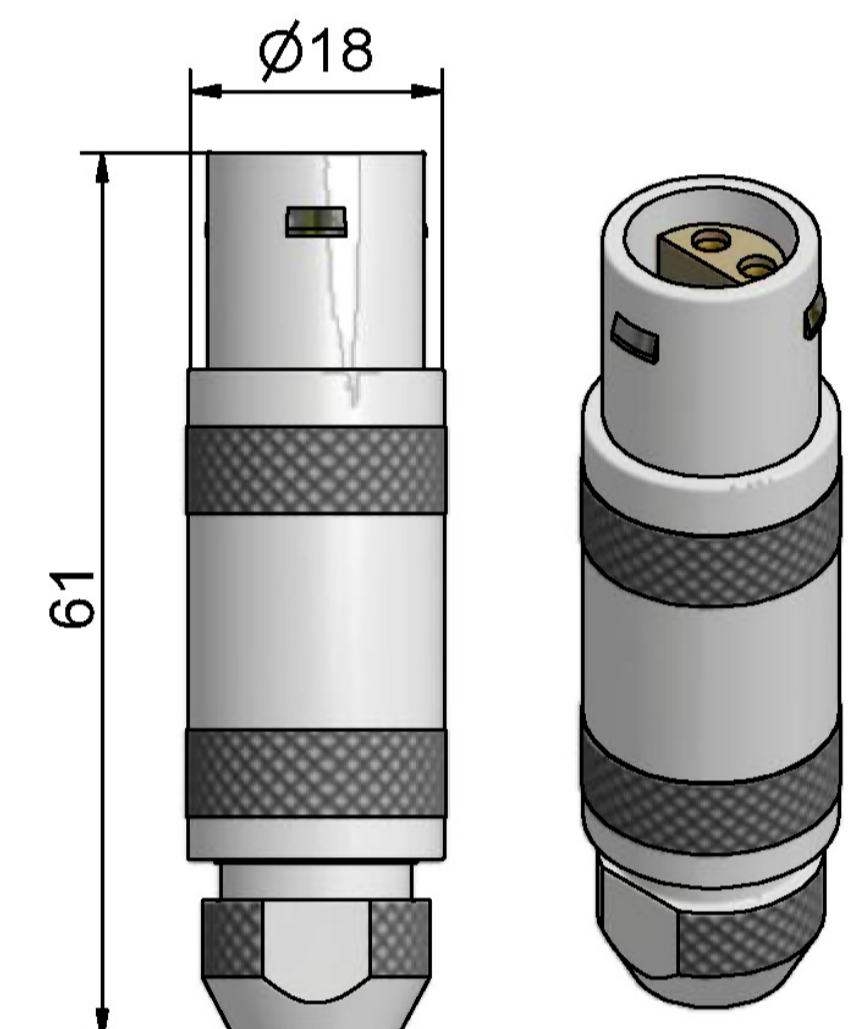
Lemo plug 2 x 2 wire front view



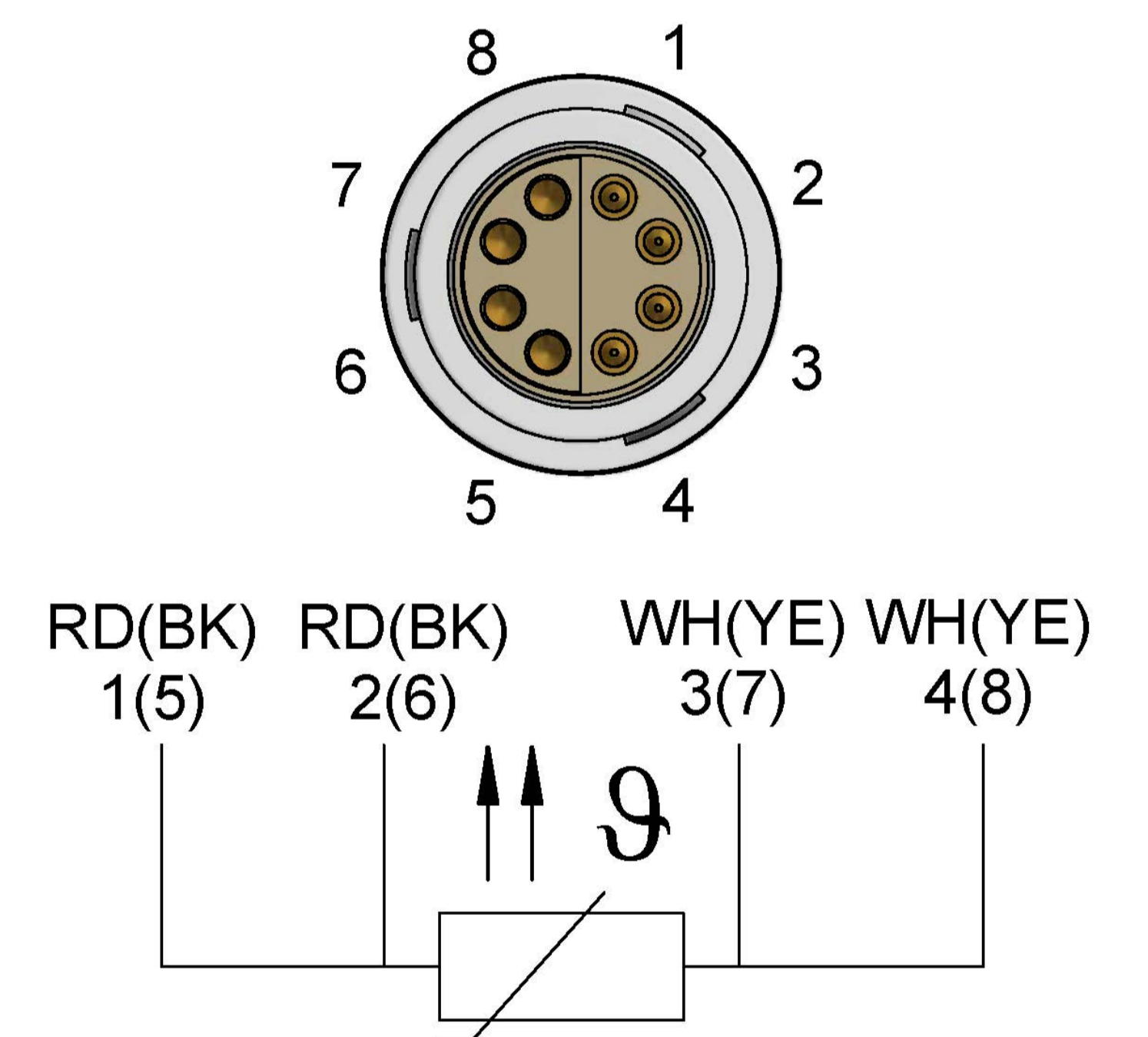
Lemo plug size 2



Lemo plug 2 x 3 wire front view



Lemo plug size 3



Lemo plug 2 x 4 wire front view