Ex-Mineral Insulated Thermocouple TR14 model D/DKM/DL/DM12

for operation in the hazardouse area with gas or dust

In general

The temperature sensors manufactured by Reckmann GmbH are solely intended for the measurement of process temperatures in solid, liquid and gaseous media. This design with bendable sheath material makes it possible to record the temperature even in places that are difficult to access. **Application area:** machine and plant engineering, chemicals industry, Research / Development, 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 -40 °C up to +100 °C, depending on the connection cable and connector..
For installation please see our operating instructions
Stock-number-code: TR14-O or TR14-P.

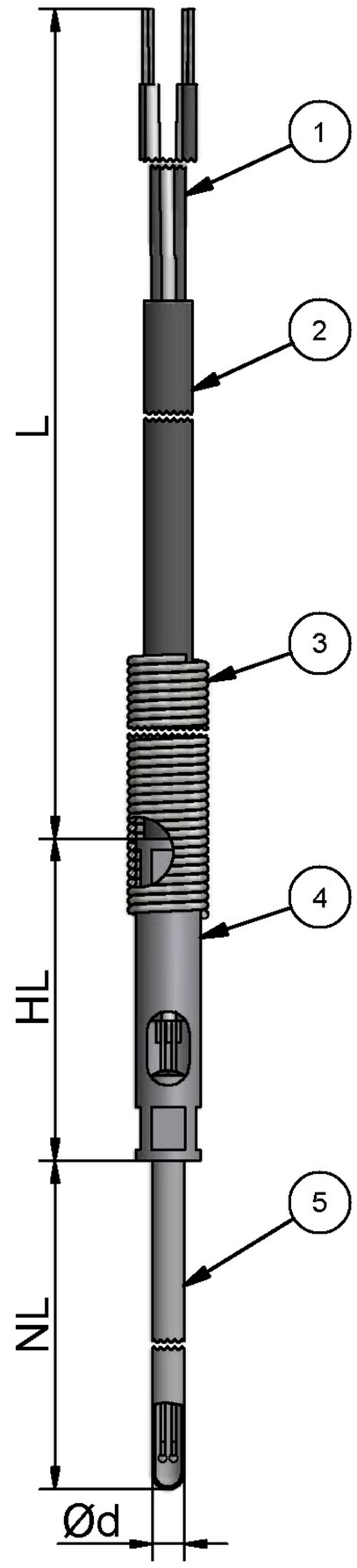

fig. 1

Technical datas

- **Measuring unit** (fig. 1/5) according or similar to DIN 43735 without terminal base, with sleeve (fig. 1/4) and connecting cable (fig. 1/2).
- **Sensor** depended on use:
  with 1 or 2 thermocouples according to IEC / EN 60584-1.
  Operating temperature MIT (fig. 1/5)
  depended on the thermocouple type and diameter:
  Type J: Ø 1,5 and 2,0 mm up to 440°C, Ø 3,0 mm up to 520°C,
  Ø 4,5 up to 620°C, 6,0 und 8,0 mm up to 720°C.
  Type K: Ø 1,5 and 2,0 mm up to 920°C, Ø 3,0 mm up to 1070°C,
  Ø 4,5; 6,0 and 8,0 mm up to 1100°C.
  Type N: Ø 1,5 and 2,0 mm bis 920°C, Ø 3,0 mm bis 1070°C,
  Ø 4,5; 6,0 and 8,0 mm up to 1100°C.
  Type E: Ø 1,5 and 2,0 mm up to 510°C, Ø 3,0 mm up to 650°C,
  Ø 4,5 up to 730°C, 6,0 und 8,0 mm up to 820°C.
  Type T: Ø 1,5 and 2,0 mm up to 260°C,
  Ø 3,0 mm up to 315°C, Ø 4,5 / 6,0 and 8,0 mm up to 350°C.
- **Sheath material** type according to IEC / EN 61515.
  Standard - material 2.4816 or 1.4541 depended on process temperature,
  preference diameter 1,5 / 3 or 6 mm.
- **Process connection** with compression fitting, union nut or "compression connection pipe according or similar to DIN 32676.
- **sleeve** (fig.1/4) stainless steel (1.4404).
  Standard dim. 4x30, 6x30, 6x50, 8x50, 9,5x55 mm.
  Optional with antikink spring. (fig. 1/3)
- **Note:** Process and application temperature are the same and depend on the connecting cable and / or plug-in connection used. Higher process temperatures and temperatures above 100 °C are only possible with appropriate process decoupling. MIT ground welded or 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.
- **Temperature range** of the cable (fig.1/2) static cable system:
  PVC isolated -20 °C up to 80 °C, silicone isolated -50 °C up to 180 °C, FEP isolated -100 °C up to 205 °C,
  PFA with VA shield -190 °C up to 250°C, PTFE isolated -100 °C up to 260 °C, Gls with VA shield -50 °C up to 350 °C.
- **Operating temperature connectors**: fig. 1/1) see page 2:
  Compensation connector -40°C up to 200°C / high temperature- up to 350°C /
  Ceramic- up to 650°C, Lemo -55°C up to 200 °C and M12 -40°C up to 85 °C.

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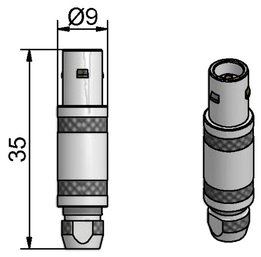
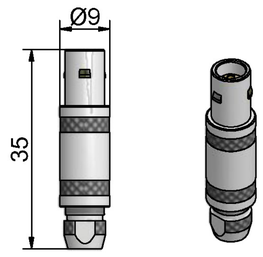
Optional plug connector / wiring diagram

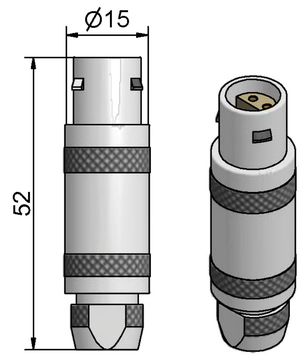
Examples and dimensions of possible connectors,
TP 1 is marked with a red dot on the Lemo connector.



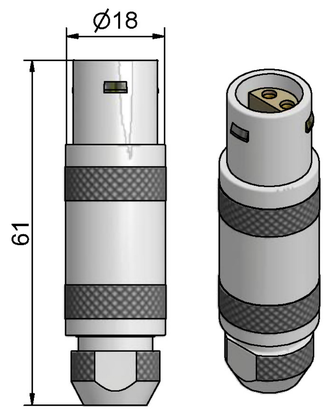
Lemo plug
size 0



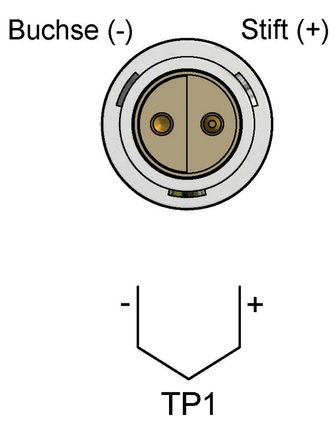
Lemo plug
size 1



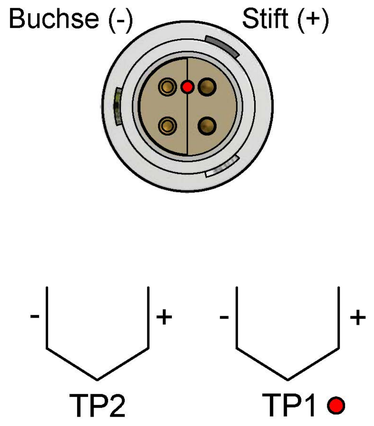
Lemo plug
size 2



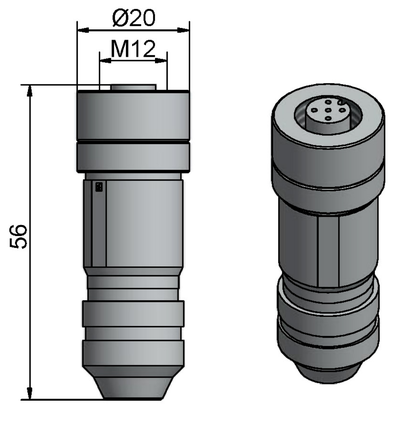
Lemo plug
size 3



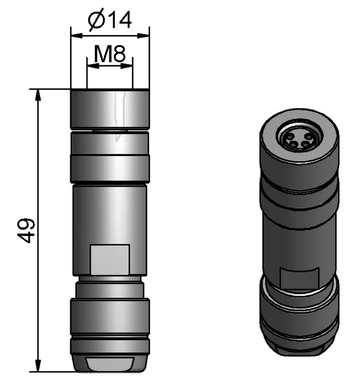
Lemo plug
fr



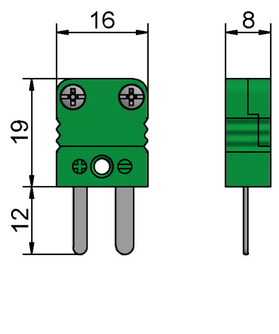
Lemo plug
front view



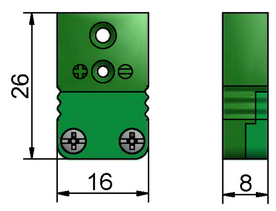
M12 socket
4 - terminal screened



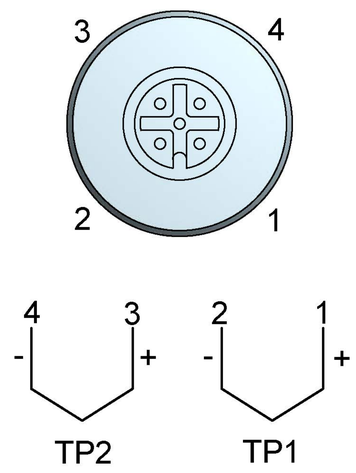
M8 socket
4 - terminal screened



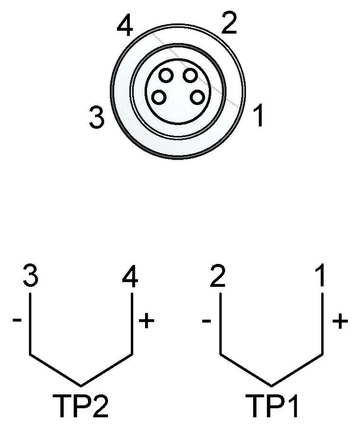
Mini plug



Mini socked



M12 socket
front view A- code



M8 socket
front view

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