

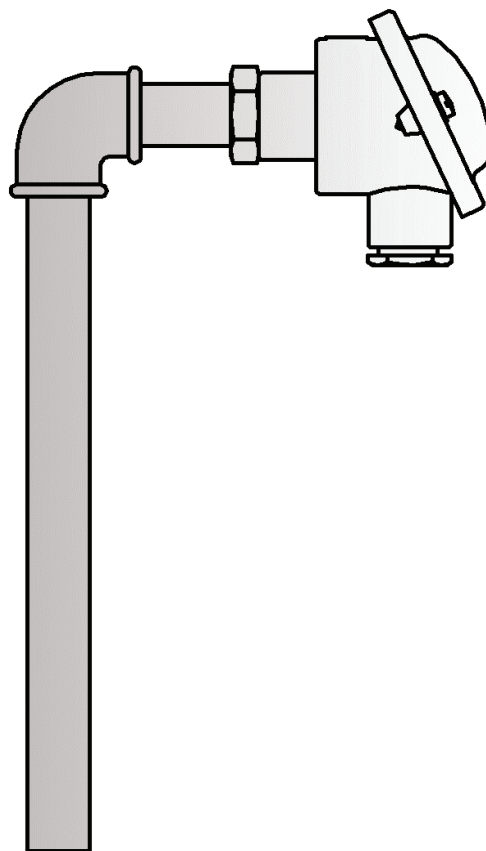


This sensor is suitable for temperature measurements of media with slow temperature changes. Sheath made of heat-resistant and creep-resistant steel enables temperature measurement of e.g. burned gases and exhaust gases in furnaces.

### Specification

| Temperature range / sensing element                     |   |         |
|---------------------------------------------------------|---|---------|
| -40÷700°C                                               | J | class 2 |
| -40÷1150°C                                              | K | class 2 |
| Measuring insert                                        |   |         |
| – thermocouple WD, ceramic insulation dimensions 12x8mm |   |         |
| Thermowell                                              |   |         |
| – material: steel 1.4841 max. temp. 1150°C              |   |         |
| – material: steel 15Cr25T max. temp. 1000°C             |   |         |
| – length [mm]: 500÷1000                                 |   |         |
| – length [mm]: 300, 400, 500, 600                       |   |         |
| Connection head                                         |   |         |
| – BA, IP54, -40÷100 °C                                  |   |         |

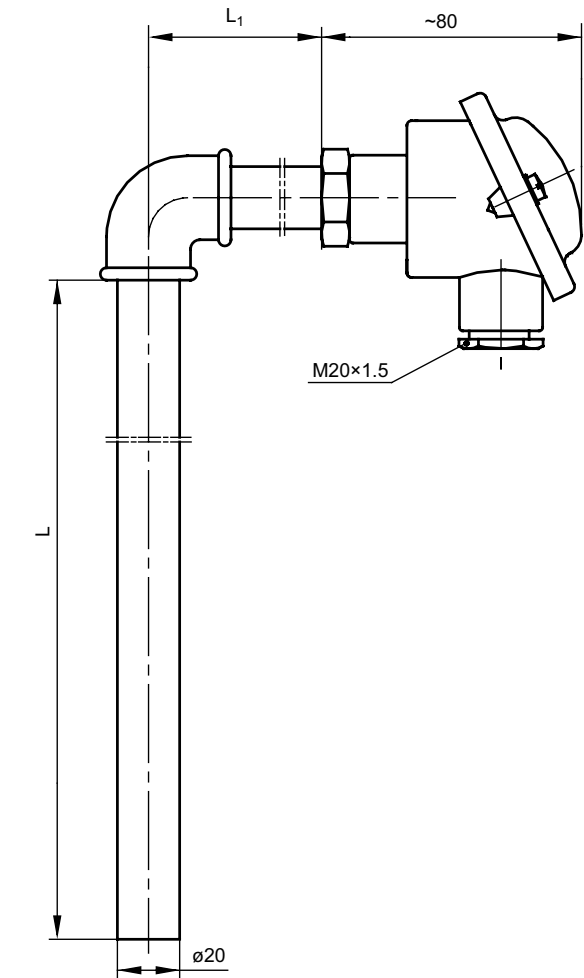
Other parameters acc. to requirements



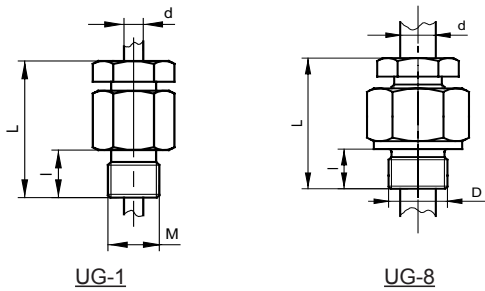
### Options

| Temperature transmitter application                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature transmitter with standard 4÷20mA, 0÷10V output signals and with the HART or PROFIBUS communication protocols can be mounted in the connection head. Transmitter installation is carried out in the high cover of the connection head. |
| Non-standard design                                                                                                                                                                                                                               |
| Immersion length, shape and material of the sheath, head type and measuring insert parameters can be customized per client request.                                                                                                               |

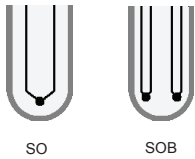
Calibrations performed by Limatherm Sensor Sp. z o.o. are confirmed with the Calibration Certificate of the Accredited Laboratory for Temperature Measurements.



Mounting fittings



Thermocouple hot junction types



Standard length

| Immersion length<br>L/L <sub>1</sub> [mm] | Measuring insert length<br>L <sub>w</sub> [mm] |
|-------------------------------------------|------------------------------------------------|
| 500/400                                   | 940                                            |
| 630/500                                   | 1170                                           |
| 800/600                                   | 1440                                           |
| 1000/600                                  | 1640                                           |

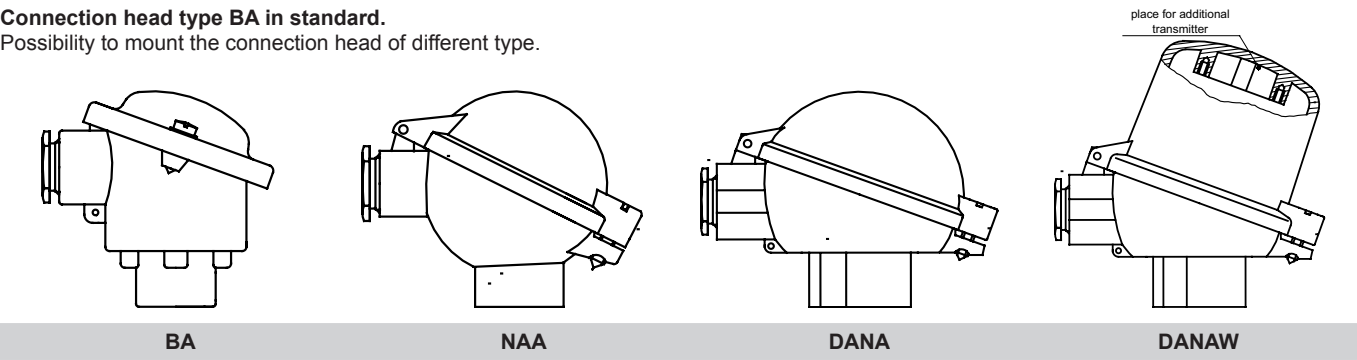
Tolerance for thermocouple classes acc. to PN-EN 60584

| Thermocouple type            | Class 1                                |                   | Class 2                                |                    |
|------------------------------|----------------------------------------|-------------------|----------------------------------------|--------------------|
|                              | Range of application [°C]              | Tolerance [°C]    | Range of application [°C]              | Tolerance [°C]     |
| <b>J</b><br><b>Fe-CuNi</b>   | from -40 to +375<br>from +375 to +750  | ±1,5<br>±0,004  t | from -40 to +333<br>from +333 to +750  | ±2,5<br>±0,0075  t |
| <b>K</b><br><b>NiCr-NiAl</b> | from -40 to +375<br>from +375 to +1000 | ±1,5<br>±0,004  t | from -40 to +333<br>from +333 to +1200 | ±2,5<br>±0,0075  t |

|t| - absolute value of temperature

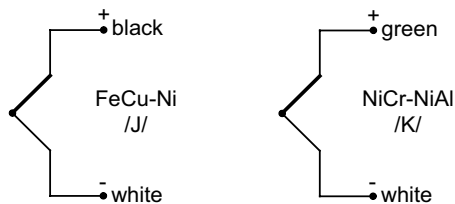
Connection head types

**Connection head type BA in standard.**  
 Possibility to mount the connection head of different type.



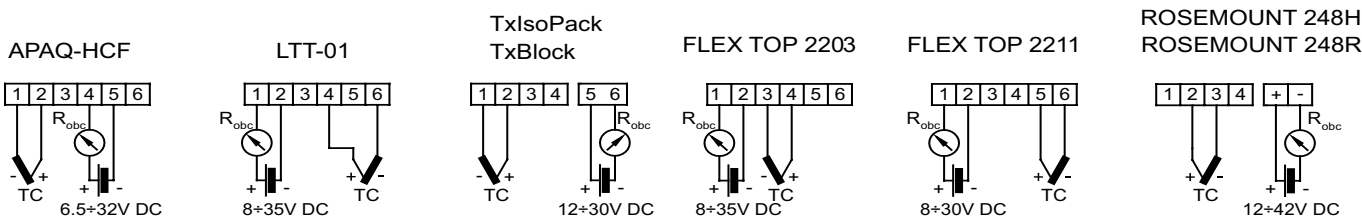
Connection schemes

TC (thermocouple)



In double sensors one of thermocouples is additionally marked out.

Transmitters



Product code

|   |                      |                                       |                                                      |
|---|----------------------|---------------------------------------|------------------------------------------------------|
| 0 | <input type="text"/> | Sensor version                        |                                                      |
|   |                      | AP                                    | with transmitter                                     |
| 1 | <input type="text"/> | Sensing element                       |                                                      |
|   |                      | TJ                                    | thermocouple Fe-CuNi /J/                             |
|   |                      | TK                                    | thermocouple NiCr-NiAl /K/                           |
| 2 | <input type="text"/> | other parameters acc. to requirements |                                                      |
|   |                      | Thermowell length LxL <sub>1</sub>    |                                                      |
|   |                      | 500x400                               | 500x400mm                                            |
|   |                      | 630x500                               | 630x500mm                                            |
|   |                      | 800x600                               | 800x600mm                                            |
| 3 | <input type="text"/> | 1000x600                              | 1000x600mm                                           |
|   |                      | other parameters acc. to requirements |                                                      |
| 4 | <input type="text"/> | Accuracy                              |                                                      |
|   |                      | 1 or 2                                | for thermocouple                                     |
| 5 | <input type="text"/> | Thermowell material                   |                                                      |
|   |                      | 1.4841                                | creep-resistant steel                                |
|   |                      | 15Cr25T                               | heat-resistant steel                                 |
| 6 | <input type="text"/> | Transmitter type (optionally)         |                                                      |
|   |                      | Tx                                    | head mounted transmitter TxBlock                     |
|   |                      | other parameters acc. to requirements |                                                      |
| 7 | <input type="text"/> | Temperature range of transmitter      |                                                      |
|   |                      | (0÷100°C)                             | transmitter configured for temperature range 0÷100°C |
|   |                      | other parameters acc. to requirements |                                                      |

0 1 2 3 4 5 6

T  K-1 -  -  -  -  -

Ordering example: TTJK-1-500x400-2-1.4841 single sensor with thermocouple Fe-CuNi /J/, class 2, sheath material steel 1.4841, sheath dimensions LxL<sub>1</sub>=500x400mm