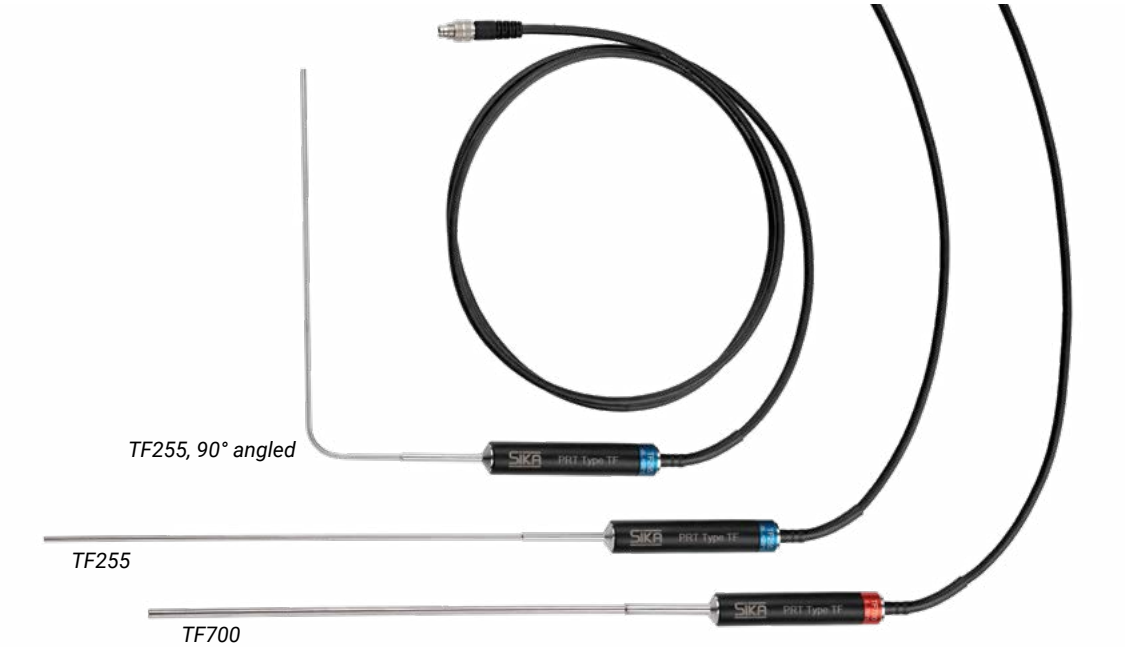
# Reference temperature sensors

for SIKA temperature calibrators or as stand-alone precision sensor




## Highlights

- Artificially aged by tempering to reduce long-term drift
- Best performance among SIKA temperature sensors
- Handmade, with experience from over 120 years of temperature measurement

| Technical data | | | | | | |
|---|---|---|---|---|---|---|
| **Type** | **TF255, straight design** | | **TF255, angled design** | | **TF700** | |
| **Immersion tube dimensions [mm]** | Ø 3x300, straight | | Ø 3x300, 90° angled | | Ø 4.5x300, straight | |
| **Immersion tube dimensions [inch]** | Ø 0.118x11.811, straigth | | Ø 0.118x11.811, 90° angled | | Ø 0.177x11.811, straight | |
| **Technical data defined for temperature range** | -55…255 °C | -67…491 °F | -55…255 °C | -67…491 °F | 5…700 °C | 41…1292 °F |
| **Measuring element** | Pt100, 4-wire | | Pt100, 4-wire | | Pt100, 4-wire | |
| **Measuring resistor** | Flat measuring resistor | | Flat measuring resistor | | Coiled | |
| **Sensitiv length** | 2.3 mm | 0.091" | 2.3 mm | 0.091" | 25 mm | 0.984" |
| **Position of the sensitive length [mm]** | Approx. 1.5 from sensor tip | | Approx. 1.5 from sensor tip | | Approx. 1.5 from sensor tip | |
| **Position of the sensitive length [inch]** | Approx. 0.591 from sensor tip | | Approx. 0.591 from sensor tip | | Approx. 0.591 from sensor tip | |
| **Long-term stability (100h)** | ±0.015 °C | ±0.027 °F | ±0.015 °C | ±0.027 °F | ±0.080 °C | ±0.144 °F |
| **Hysteresis** | ±0.010 °C | ±0.018 °F | ±0.010 °C | ±0.018 °F | ±0.030 °C | ±0.054 °F |
| **t90 [sec]** | 5 | | 5 | | 31 | |
| **Self-heating (1mA)** | 0.010 °C | 0.018 °F | 0.010 °C | 0.018 °F | 0.015 °C | 0.027 °F |
| **Repeatability at 0 °C / 23 °F** | ±0.005 °C | ±0.009 °F | ±0.005 °C | ±0.009 °F | ±0.005 °C | ±0.009 °F |
| **R0** | 100 Ohm | | 100 Ohm | | >100 Ohm (increased R0 for optimal measurements above room temperature) | |
| **Weight** | 140 g | | 140 g | | 155 g | |
| **Material immersion tube** | Stainless steel | | Stainless steel | | Inconel | |
| **Connector plug** | Sensor plug M9 4-pin | | Sensor plug M9 4-pin | | Sensor plug M9 4-pin | |
| **Approvals** | | | | | | |



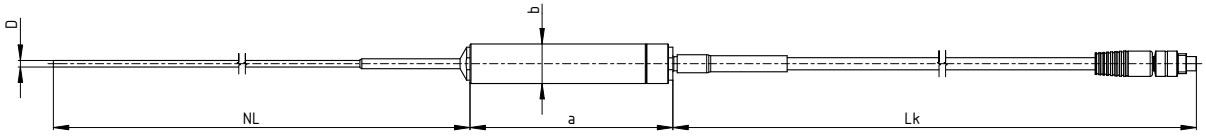
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Telefon: +41 (0)55 617 00 80 - www.grubatec.ch - sales@grubatec.ch

# Compatibility

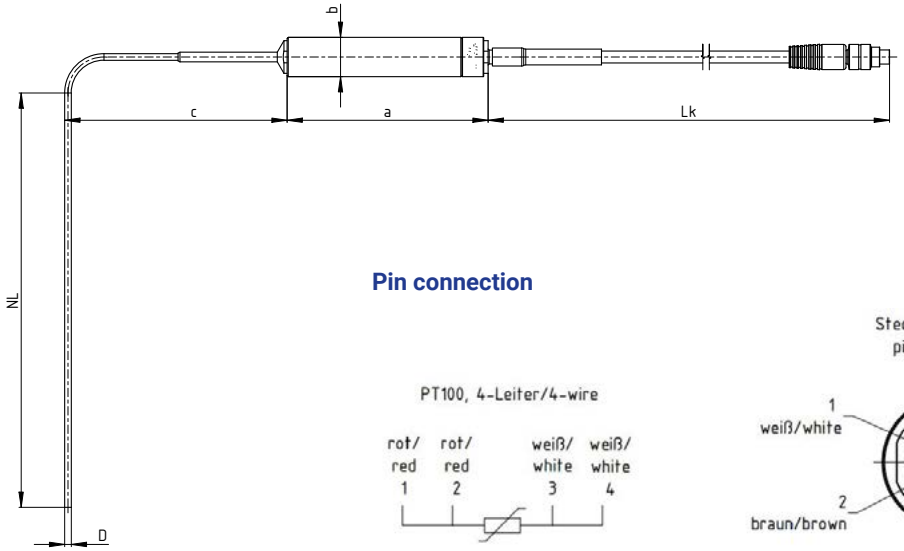
| Compatibility | | | |
|---|---|---|---|
| **Type** | **TF255, straight design** | **TF255, angled design** | **TF700** |
| **Compatible with SIKA temperature calibrators** | TP 37165E.2<br>TP 37200E.2<br>TP 3M165E.2<br>TP 3M255E.2 | TP 37165E.2<br>TP 37200E.2<br>TP 3M165E.2<br>TP 3M255E.2 | TP 37700E.2<br>TP 37450E.2 |

# Technical drawings // Dimensions

## Straight design

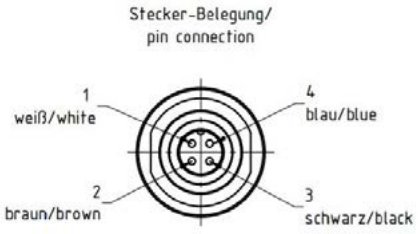



## Angled design




## Pin connection




| Dimensions [mm] | | | | | | |
|---|---|---|---|---|---|---|
| **Type** | **D** | **NL** | **b** | **c** | **a** | **Lk** |
| **TF255, straight design** | 3 | 300 | 18 | - | 92 | 1500 |
| **TF255, angled design** | 3 | 190 | 18 | 102 | 92 | 1500 |
| **TF700** | 4.5 | 300 | 18 | - | 92 | 1500 |

| Dimensions [inch] | | | | | | |
|---|---|---|---|---|---|---|
| **Type** | **D** | **NL** | **b** | **c** | **a** | **Lk** |
| **TF255, straight design** | 0.118 | 11.811 | 0.709 | - | 3.622 | 59.055 |
| **TF255, angled design** | 0.118 | 7.480 | 0.709 | 4.016 | 3.622 | 59.055 |
| **TF700** | 0.177 | 11.811 | 0.709 | - | 3.622 | 59.055 |


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# Article numbers

| Order code | |
|---|---|
| **Type** | |
| External reference sensor TF 255, straight design | W033P413000GX0R2 |
| External reference sensor TF 255, 90° angled | W033P413000GX0RI |
| External reference sensor TF 700, straight design | W454P413000GX0R2 |