

# AX 131-AL



## Type K immersion probe with sheathed thermocouple



- High-temperature sensor for **aluminum melts (580-680°C)** or other **non-ferrous metal melts**.
- Resistant protective casing with long service life in aggressive aluminum
- Wide measuring range thanks to mineral insulation: **-200 to +1000 °C**
- Ergonomic handle with high operating temperature of up to +120 °C
- Precise: **Class 1 thermocouple**
- **Water-resistant** according to IP67

### DESCRIPTION

The AX 131-AL is a robust and economical type K precision thermocouple immersion temperature sensor, designed for demanding field applications.

The probe tube is made of rustproof and temperature-resistant stainless steel (V4A) and is additionally mineral-insulated.

The probe is **suitable for** short-term use in **molten aluminum**, thus offering a cost-effective and breakage-resistant alternative to expensive and sensitive ceramic sensors (see note on use).

The probe tip and tube dimensions represent a balanced solution between the requirements for response speed and robustness.

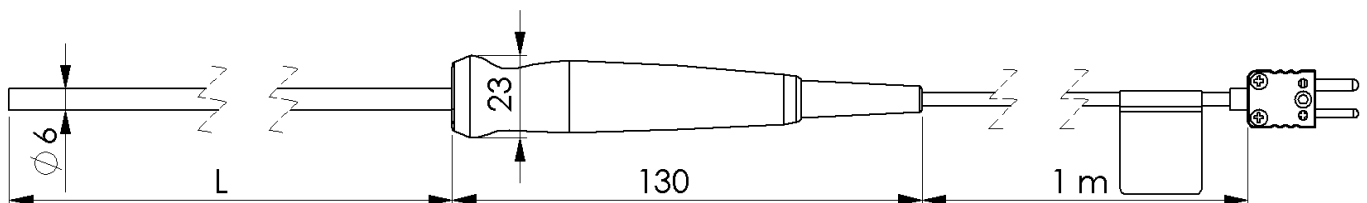
The cable is optionally terminated with a standard miniature flat pin plug or loose ends with ferrules.

The sensing thermocouples are based on class 1 material, the highest precision class for thermocouples.

The probes can optionally be supplied with ISO 9001 or DAkkS-/ACCREDIA accredited calibration ISO/IEC 17025 when combined with a suitable display instrument (e.g. PRO 131.2/ 135.2 or ECO 130/130.2).

**NOTE ON USE:** The reinforced protective casing is attacked by the molten metal and therefore degrades over time. With frequent or prolonged use, the sensor should be considered a wearing part; consequently, worn sensors are not eligible for warranty claims. The service life of the reinforced protective casing can be extended by using standard mold release agents.

Aluminum melt immersion sensor Ø 6 mm (here with 1 m silicone cable and miniature flat connector):



## TECHNICAL SPECIFICATION

|                                  |                                                                                                                                             |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Sensor                           | Type K thermocouple                                                                                                                         |
| Measuring range                  | -200 ... +1000 °C (Note the operating range of the cable/ handle!)                                                                          |
| Thermocouple                     | Type K: Nickel-Chrome / Nickel-Aluminum, IEC 60584-1, potential-free                                                                        |
| Accuracy<br>(maximum deviation)  | Class 1 (derived from DIN EN 60584-1:2014-07):<br>±1.5°C, Range of validity: -40 ... +375 °C<br>0.40%, Range of validity: +375 ... +1000 °C |
| Response time (T <sub>90</sub> ) | Water 0.4 m/s approx. 30 s                                                                                                                  |
| Cable                            | 4 mm diameter silicone thermal cable (up to +200 °C), L = see ordering codes<br>or coiled cable (approx. 1.2 m stretched)                   |
| Connection                       | Miniature flat pin plug (standard) or loose ends with ferrules                                                                              |
| Dimensions                       | Probe tube Ø 6 mm<br>Probe length: see ordering codes<br>Handle: Ø 23 mm (max.), L = 130 mm                                                 |
| Stem material                    | 1.4404 (V4A) tube Ø 6 mm (1.4 mm reinforced wall), additional internal sheathed thermocouple, rigid                                         |
| Handle materials                 | Polyamide (PA6-GF30), grommet Santoprene (both up to +120 °C)                                                                               |
| Protection degree                | IP67 (except connector)                                                                                                                     |
| Application                      | Immersion                                                                                                                                   |

## ORDERING CODES

Type K immersion probe with sheathed thermocouple, Class 1, potential-free

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|   |                     |                                                                   |
|---|---------------------|-------------------------------------------------------------------|
| 1 | Probe length        |                                                                   |
|   | 700                 | 700 mm                                                            |
|   | 1000                | 1000 mm                                                           |
|   | 1200                | 1200 mm                                                           |
| 2 | Cable type & length |                                                                   |
|   | L01-S               | 1 m silicon cable                                                 |
|   | CC12                | Coiled cable approx. 1.2 m stretched (up to 2 m at max extension) |
| 3 | Connection          |                                                                   |
|   | MF                  | Miniature flat pin plug                                           |
|   | LE                  | Loose ends with ferrules                                          |

## STANDARD ARTICLES

|                               |                                                                                                                                                                                                                                           |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AX131-AL-700-CC12-MF</b>   | Type K special immersion probe with sheathed thermocouple for aluminum melting and similar applications, large handle, sensor tube: Ø 6 mm, sensor length 700 mm, coiled cable, miniature flat connector<br><b>Art. No. 489979</b>        |
| <b>AX131-AL-1000-L01-S-MF</b> | Type K special immersion probe with sheathed thermocouple for aluminum melting and similar applications, large handle, sensor tube: Ø 6 mm, sensor length 1000 mm, 1 m silicone cable, miniature flat connector<br><b>Art. No. 489978</b> |
| <b>AX131-AL-1200-CC12-MF</b>  | Type K special immersion probe with sheathed thermocouple for aluminum melting and similar applications, large handle, sensor tube: Ø 6 mm, sensor length 1200 mm, coiled cable, miniature flat connector<br><b>Art. No. 489981</b>       |

## ACCESSORIES

**VKA-L002** Extension cable, type K, 2 m silicone thermo-line with miniature flat pin plug and socket **Art. No. 602910**

## SUITABLE INSTRUMENTS

**PRO 131.2** 2-channel handheld temperature meter for thermocouple probes, graphic display. Device in carton box incl batteries, QuickStart, test protocol, without temperature probe **Art. No. 486119**

**PRO 135.2** 2-channel handheld temperature meter/data logger for thermocouple probes, graphic display. Device in carton box incl batteries, QuickStart, test protocol, USB cable, without temperature probe. Free Software ProXware downloadable from Senseca website **Art. No. 486118**

**ECO 130** Type K thermocouple quick response thermometer (formerly G 1200). Device in carton box incl batteries, Manual, test protocol, without probe **Art. No. 486708**

**ECO 130.2** Type K quick response 2-channel-alarm-thermometer (formerly G 1202). Device in carton box incl batteries, Manual, test protocol, without probe **Art. No. 486732**