

AX 111-S6



Precision analog 4-wire Pt100 surface probe



- Ergonomic handle with high operating temperature up to 120 °C
- Interchangeable with good accuracy
- Pt100 platinum sensor for 4-wire reference instruments (e.g. PRO 115)
- Robust for many years of professional use
- Silver contact surface with premium thermal properties

DESCRIPTION

The AX 111-S6 is a precision analog Pt100 temperature surface probe based on thin film sensor technology.

The probes are designed for use on surfaces, but they can also be immersed in liquids, such as calibration baths.

When using them on metal surfaces, please note that despite the optimized design, a measurement deviation remains, especially at high temperatures. Ensure good heat transfer (e.g. heat-conducting paste)!

The stem is made of corrosion- and temperature-resistant stainless steel. The tip is made of silver.

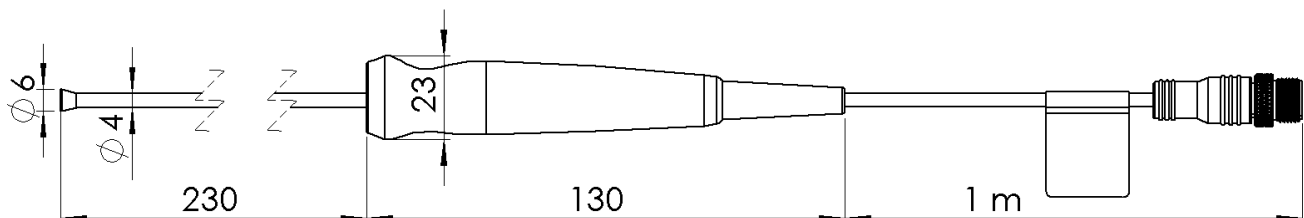
The cable is optionally terminated with an M12 male connector, a Mini-DIN connector or loose ends.

The probes can optionally be supplied with ISO 9001 calibration when combined with a suitable display instrument (e.g. PRO 111 / PRO 115 Pt 100 Thermometer).

Surface head silver Ø 6 mm:



Technical drawing:



TECHNICAL SPECIFICATION

Measuring element	AX 111-S6	Pt100, thin film sensor
Construction		Surface probe Ø 6 mm, rigid 4 mm probe stem
Accuracy		Tolerance classes B, A *)
Measuring range **)		-50 ... +300 °C
Response time (T ₉₀)		Water 0.4 m/s: < 5 s, Metal surface: ~15 s
Output		Pt100 4-wire
Connection options		- M12 4-pole male A-coded - Mini-DIN 4 pole (for GMH 37xx) - Loose ends with wire end ferrules
Dimensions		Stem: Ø 4 mm, L = 230 mm (other lengths on request) Cable: Ø 4 mm, L = 1 m or 2 m (other lengths on request)
Weight		110 g approx. with 1 m cable
Materials		Stem: AISI 316L (1.4404) Handle: Polyamide (PA6-GF30, max. 120°C), Cable: PVC (permanently up to +80 °C / short-term 2 hours per session up to +105 °C)
Protection degree		IP64
Applications		Surface measuring preferably on metal surfaces

*) following **tolerance classes** of platinum resistors are standardized according/aligning to IEC 751 and EN 60751:

Tolerance class	Norm	limiting deviation in °Kelvin	wire wound	thin film
B	IEC 751 / EN 60751	± (0,30 + 0,00500 • temperature)	-196 to +600 °C	-50 to +500 °C
A	IEC 751 / EN 60751	± (0,15 + 0,00200 • temperature)	-100 to +450 °C	-30 to +300 °C
AA (= 1/3 B)	IEC 751 / EN 60751	± (0,10 + 0,00167 • temperature)	-50 to +250 °C	0 to +150 °C
1/10 B	none	± (0,03 + 0,00050 • temperature)	-50 to 100 °C	

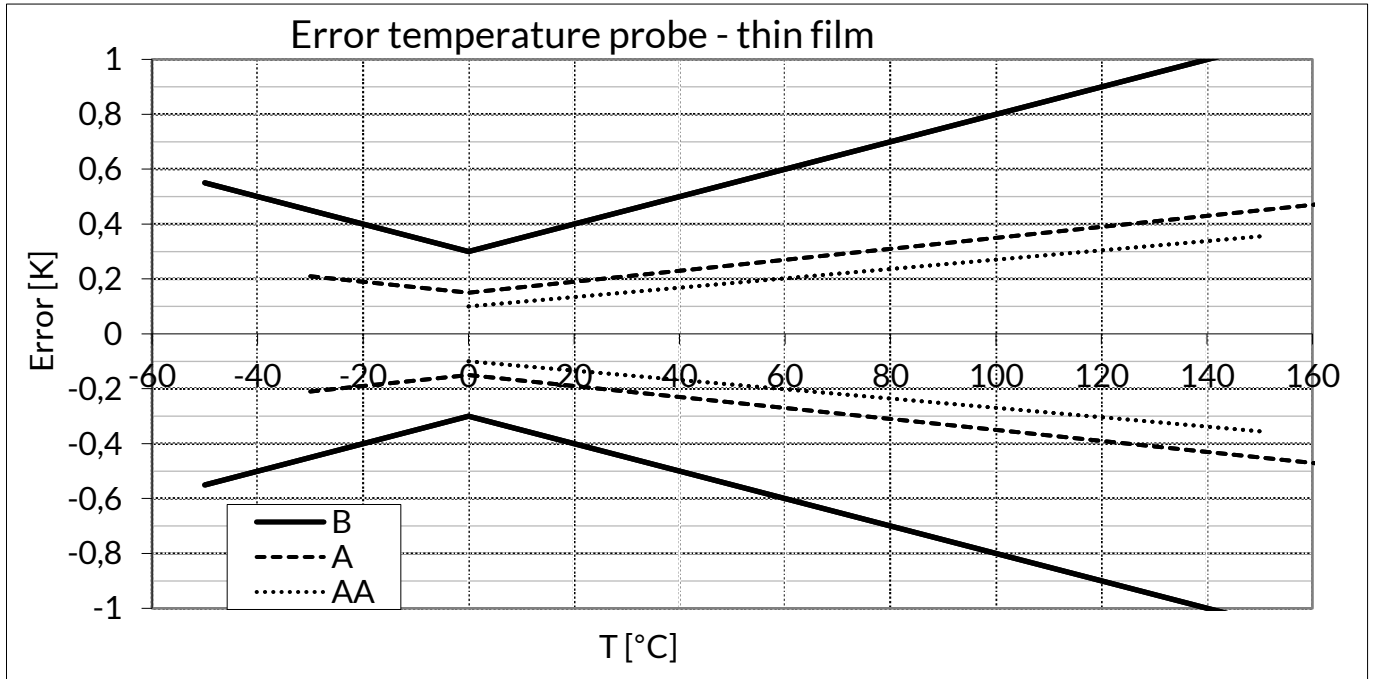
Depending on the class, the limiting deviation is only valid within the named limited range.

Higher deviations are to be expected outside the limited range of validity.

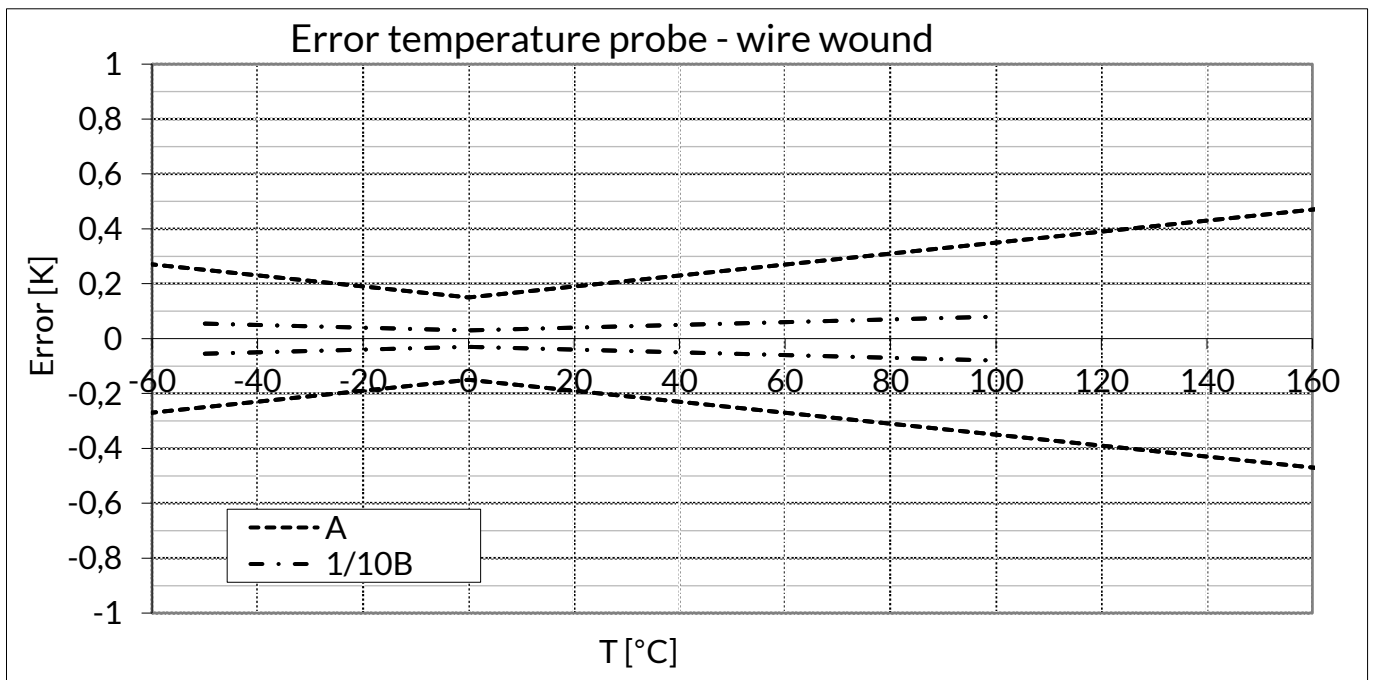
Ageing and vibration can lead to drift, which further reduces accuracy.

The measuring range must not be exceeded under any circumstances, otherwise in the worst case the sensor may be destroyed or at least the accuracy reduced.

Error band of Pt100 thin film resistors



Error band of Pt100 wire wound resistors



ORDERING CODE

AX11 1 - 2 - 3 - 4 - 5 - 6

1	Measuring element & construction	
	1	4 wire, thin film sensor
2	Stem construction	
	S6	Ø 6 mm surface silver tip, 4 wire, up to 300 °C, rigid Ø 4 mm stem, fast
3	Accuracy	
	B	Class B (valid range -50 ... +400 °C)
	A	Class A (valid range -30 ... +300 °C)
4	Stem length	
	230	230 mm (standard)
	XXX	Other lengths on request
5	Cable length and material	
	L01-P	1 m PVC cable, -20 ... +105 °C
	L02-P	2 m PVC cable, -20 ... +105 °C
	LXX-P	Other lengths on request
	L01.2SK	Spiral cable stretchable to 1.2 m (up to 2 m at max. extension)
6	Connection	
	M12	M12 connector, 4-pin (e.g. PRO 11X)
	MD	Mini-DIN plug, 4 wire (GMH 37xx)
	LE	Loose ends with wire end ferrules, 4-wire

STANDARD ARTICLES

AX 111-S6-A-230-L01-P-M12 **fast & economic** Pt100 surface probe Ø6mm, large hand probe, -50 ... +300 °C, thin film sensor class A, rigid tube, Measuring head Ø 6 mm, silver, stem Ø4 x 230 mm, PVC cable 1 m, M12 **Art. No. 489144**

Extract from portfolio, others on request

SUITABLE INSTRUMENTS

PRO 111 High precision thermometer for Pt100 4 wire probes, M12 socket 4-pole, graphic display. Supplied in carton box, with 4 x AA alkaline batteries, QuickStart, test-protocol **Art. No. 486650**

PRO 115 High precision thermometer for Pt100 4 wire probes, M12 socket 4-pole, graphic display. Supplied with 4 x AA alkaline batteries, QuickStart, test-protocol, USB cable. Free Software ProXware downloadable from Senseca website **Art. No. 486651**