

Product category ATI

Mineral-insulated · Pt100 / Pt1000 · 4-wire · NAA head IP67 · -200 ... +600 °C



ATI-P1-A-S-6-100-NAA-ON: Pt100 Class A, Ø 6 x 100 mm, mineral-insulated, NAA head IP67

ATI
Mineral-insulated resistance thermometers with NAA connection head

Italcoppie mineral-insulated (MgO) resistance thermometers of the ATI product line are used for general temperature measurement in gaseous and liquid media over a working range of -200 ... +600 °C, depending on the sensing element and version.

The vibration-resistant mineral-insulated construction allows small sheath diameters, fast response times and bending on site. The sheath is supplied without a fixed process connection — mounting is typically realised with adjustable compression fittings, available as accessories.

All versions in this product line are supplied with the NAA ball-type connection head (aluminium, IP67) with a quick-release clamp lid, and a 4-wire circuit for maximum measuring accuracy — lead resistance is fully compensated. Pt100 and Pt1000 sensing elements in tolerance Class B are standard; Class A and duplex (2 x) sensing elements are available on request. Resistance values and tolerances are pursuant to IEC 60751.

ATEX, Marine and SIL3-certified versions as well as head-mounted transmitters (4–20 mA / 0–10 V / RS485 Modbus RTU) are available — see page 3.

Application Examples:

- HVAC and Energy Production
- Plant and Machine Construction
- Food and Beverage Industry
- Chemical Industry
- Water and Wastewater Treatment
- Laboratories and Test Benches

Key Data at a Glance

Sensing element	Pt100 / Pt1000, IEC 60751
Duplex elements	2 x Pt100 / Pt1000 on request
Circuit	4-wire
Tolerance class	Class B (Class A on request)
Insert	Mineral-insulated (MgO)
Connection head	NAA, aluminium, IP67
Temperature range	-200 ... +600 °C
Sheath material	Stainless steel AISI 316L / 1.4404

Further technical information and available versions:
www.willsensors.com → **Process sensors** → **Temperature sensors**

1 Connection Head

NAA (ball type)	Aluminium, IP67
Lid	Quick-release clamp
Cable entry	M20 x 1,5 gland

2 Mineral-Insulated Sheath

Stainless Steel AISI 316L	Mat. No. 1.4404
Inconel 600 (on request)	Mat. No. 2.4816
Sheath diameter:	3,0 / 4,5 / 6,0 / 8,0 mm
Min. bending radius	5 x sheath diameter

3 Measuring Insert

Sensing element	1 x Pt100 or 1 x Pt1000
Duplex element	2 x Pt100 / 2 x Pt1000 **
Circuit	4-wire
Tolerance class	Class B (Class A **)
Working range	−200 ... +600 °C *
Insulation	Magnesium oxide (MgO)

* depending on sensing element and version ** available on request

4 Mounting / Process Connection

Sheath	without fixed thread
Compression fittings	G 1/4 A / G 1/2 A
(accessories)	stainless steel, adjustable
Other connections	on request

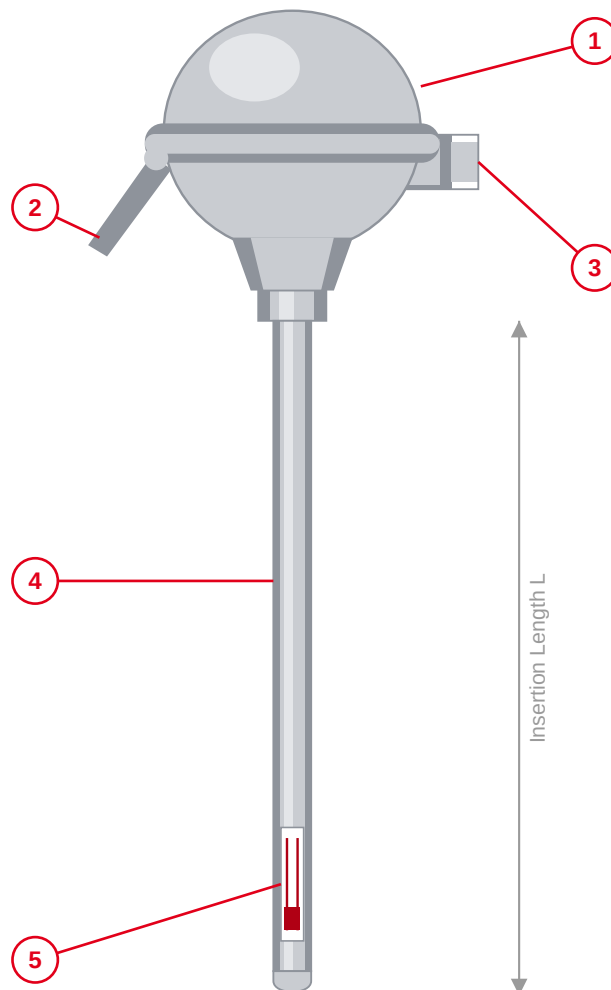
5 Insertion Lengths (L)

Standard lengths	50 / 100 / 150 / 200 mm 250 / 300 mm
Other lengths	on request

Individual solutions — e.g. other materials, transmitters (4–20 mA), thermowells, compression fittings or other accessories — are often viable.

Please contact us for further information!

Example of a common implementation



- 1 NAA connection head, aluminium, IP67
- 2 Quick-release clamp lid
- 3 Cable gland M20 x 1,5
- 4 Mineral-insulated sheath, AISI 316L
- 5 Pt100 / Pt1000 insert, Class B, 4-wire

Ordering Example

Series	ATI
Element / circuit	P1 = Pt100, 4-wire
Tolerance class	B = Class B
Sheath	S-6 = st. steel, Ø 6 mm
Insertion length	100 = L 100 mm
Connection head	NAA, IP67

→ ATI-P1-B-S-6-100-NAA-ON

Versions — Thermowells and Process Connections

In addition to the plain sheath version, the ATI product line is available in the following configurations:



**Fabricated thermowell,
G 1/2**



**Weld-in / barstock
thermowell (tapered)**



**Threaded process
connection**

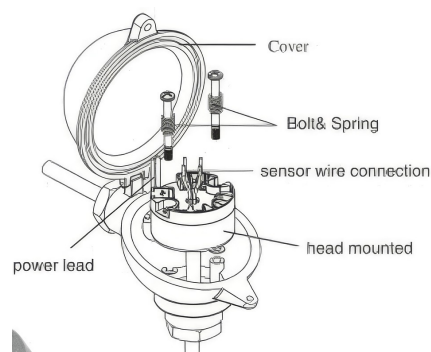


ATEX version

Output Signals — Head-Mounted Transmitters

The NAA connection head accommodates head-mounted transmitters, providing the following output signals as an alternative to the direct Pt100 / Pt1000 output:

Analogue	4–20 mA (2-wire)
Analogue	0–10 V
Digital	RS485 Modbus RTU
Measuring range	freely programmable
Mounting	in connection head



Head-mounted transmitter installed in the connection head

Certified Versions

- ATEX versions for potentially explosive atmospheres
- Marine-approved versions for shipbuilding and offshore applications
- SIL3-certified versions, incorporating PR electronics head-mounted transmitters

Please contact us for configuration and certification details for your application!