

Resistance thermometer MiniTherm with threaded connection Type series GA270.



Application area

- Water / wastewater
- Machinery construction
- General process technology

Features

- Resistance thermometer for invasive temperature measurement in tanks and pipes
- Pt100 directly integrated into a thermowell
- Compact design
- High measurement accuracy
- Fast response
- Measuring resistor Pt100, class A
- Circular connector M12

Options

- Approvals/Certificates
 - Explosion protection
 - Classification per SIL2
 - Material certificate per EN 10204-3.1
 - Calibration certificate per EN 10204-3.1
- Output signal 4...20 mA via transmitter PA2430
- Output signal IO-Link V1.1 via transmitter PA2530
- Thermowell with reduced tip Ø 4 mm

Application

The resistance thermometer MiniTherm is suited for temperature measuring in tanks and pipes. Because of its compact design and high accuracy MiniTherm is suitable for use in a great number of technological processes.

Technical data

Constructional design

Design:	Pt100 directly integrated into a thermowell, various types of process connections are available
El. connection:	Circular connector M12 Further electrical connections upon request.
Working pressure:	max. 40 bar

Measuring insert

Design:	Thermowell Ø 6 mm Option: Thermowell with reduced tip Ø 4 mm Length see order code.
Measuring resistor:	<ul style="list-style-type: none">■ Pt100 per EN 60751, class A 3-wire■ Pt100 per EN 60751, class A 4-wire (3-wire bridged)
Degree of protection per EN 60529:	IP 67

Output signal transmitter

Output signal 4...20 mA :
Detailed informations about transmitter type PA2430 see product page on www.labom.com.

Output signal IO-Link V1.1:
Detailed informations about transmitter type PA2430 see product page on www.labom.com.

Process connection

Design:	See order code
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Material wetted parts

Material:	Stainless steel mat.-no. 1.4404 (316L)
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Accuracy

Pt100:	Per EN 60751, class A
Response time:	Per EN 60751, test procedure with flowing water (without transmitter) Thermowell Ø 6 mm: $T_{90} = 5.5 \text{ s}$ Thermowell with reduced tip Ø 4 mm: $T_{90} = 4.5 \text{ s}$

Temperature ranges





Ambient: ¹	-40...85 °C
Media:	-50...200 °C
Storage: ¹	-40...85 °C

¹ Different temperature ranges for devices with transmitter (see data sheets for the types PA2430 or PA2530).

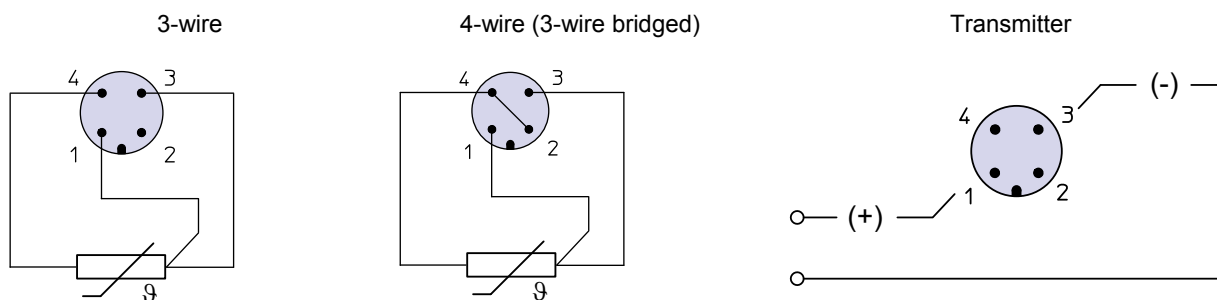
Transmitter

Installation variants:	<ul style="list-style-type: none">■ Transmitter, Type PA 2430, for circular connector M12■ Transmitter, Type PA 2530 IO-Link, for circular connector M12■ Transmitter head mounted, Type series PA210., 4...20 mA, programmable■ Transmitter head mounted, Type series PA220., electrically isolated, classification per SIL 2■ Transmitter head mounted, Type series PA230., electrically isolated, classification per SIL 2, HART
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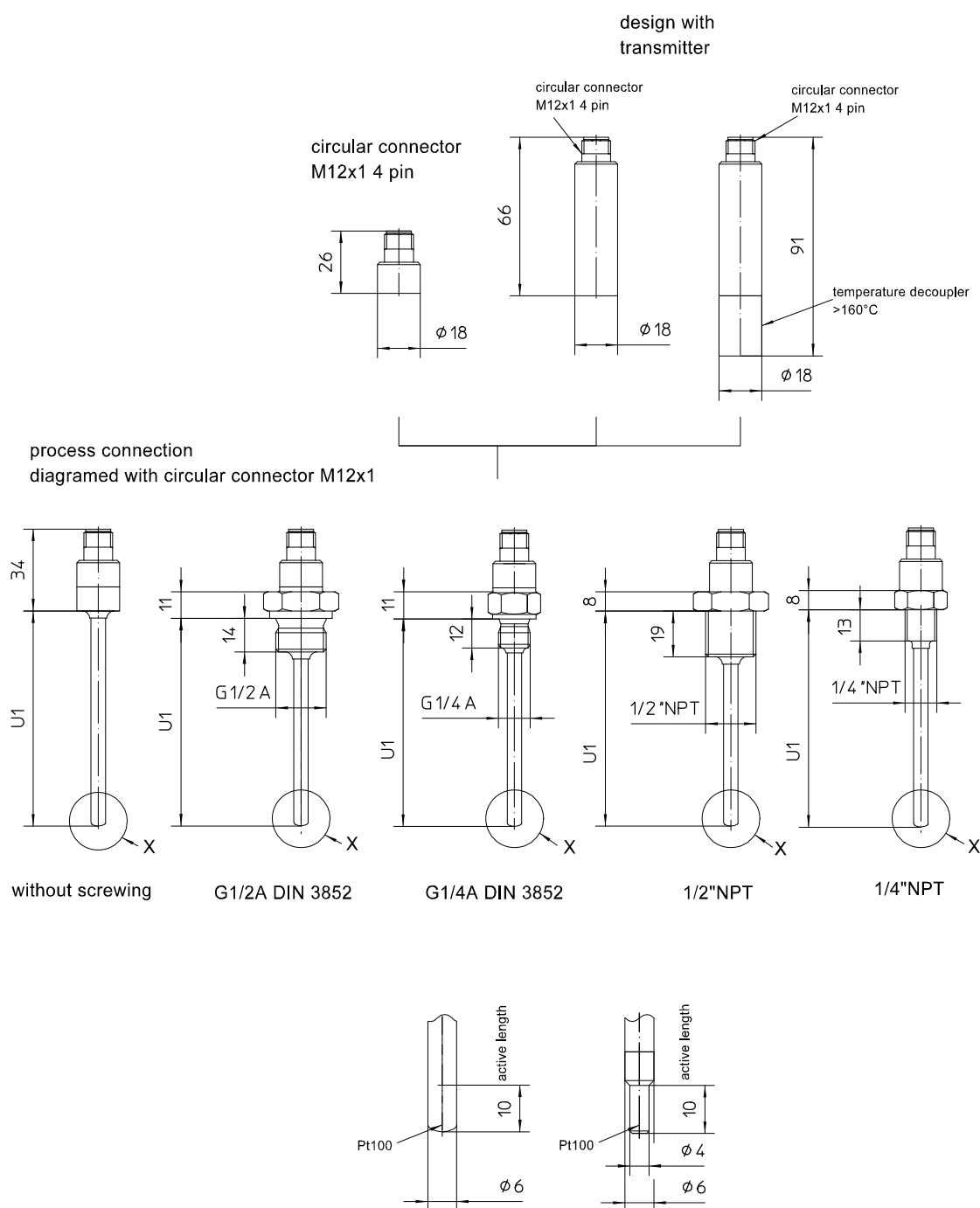
Tests and certificates

SIL 2:	Functional safety: per EN 61508, classification of Pt100 sensor per SIL2, suitable transmitter upon request
Ex approval	TÜV 08 ATEX 554093 X  II 1G Ex ia IIC /T6 /T5/T4  II 2G Ex ia IIC /T6 /T5/T4  II 1D Ex iaD 20 T89°C  II 2D Ex iaD 21 T129°C $U_i \leq 30 \text{ V}$ $P_i \leq 200 \text{ mW}$

Connection diagram



Dimensions



Order details

Resistance thermometer MiniTherm with threaded connection Type series GA270.

Order details GA270.			
GA270 .	Resistor thermometer with threaded connection		
0	design	standard	
1		explosion protection, design see below	
A3000	process connection	without screwing	
A1006		threaded connection	G1/4 A
A1010			G1/2 A
A1020			1/4" NPT
A1022			1/2" NPT
C1 ...	measuring insert	Ø 6 mm	
C4 ...		Ø 6 mm, reduced design to Ø 4 mm	
025	insertion length U1	25 mm	
030		30 mm	
035		35 mm	
050		50 mm	
100		100 mm	
150		150 mm	
200		200 mm	
990		as in writing	
G11	material	wetted parts stainless steel mat.-no 1.4404 (316L)	
N2	measuring resistor	Pt100, 3-wire	
N3		Pt100, 4-wire (3-wire bridged)	
T150	electrical connection	circular connector M12x1 (4-pin), IP 67	

Additional features (to be indicated in case of need, only)		
S71	Ex-marking	Ex II 1G Ex ia IIC T6/T5/T4
S72		Ex II 2G Ex ib IIC T6/T5/T4
S73		Ex II 1D Ex iaD 20 T89°C
S74		Ex II 2D Ex ibD 21 T129°C
W1020	material certificate	per EN 10204-3.1, wetted parts
W1201	calibration certificate	per EN 10204-3.1, 5 measuring points
W2604	functional safety per EN 61508, classification per SIL2	
Z52	transmitter with output signal 4...20 mA ¹	for measuring ranges < 160 °C, transmitter type PA2430
Z53		with temperature decoupler for measuring ranges ≥ 160 °C, transmitter type PA2430
Z54	transmitter with output signal IO-Link V1.1 ^{1,2}	for measuring ranges < 160 °C, transmitter type PA2530
Z55		with temperature decoupler for measuring ranges ≥ 160 °C, transmitter type PA2530

Order code (example): GA2700 - A1010 - C1050 - G11 - N2 - T150 ...

¹ not for devices with Ex-protection

² not for devices with classification per SIL2