

Measuring insert for In-process calibration Type Series GA310.



Application area

- Food industry
- Pharmaceuticals
- Chemical and petrochemical industry
- Machinery construction

Features

- Measuring insert per DIN 43735 with additional test pipe
- Measuring insert Ø 6 mm
- Temperature range -50...400 °C
- Measuring resistor per DIN EN 60751
- Accuracy per DIN EN 60751, class A
- Electrical connection in 4-wire technology

Options

- Ex-protection
- As per UKCA regulations
- Classification per SIL2
- Measuring insert Ø 4 mm
- Prepared for transmitter mounting

Application

The measuring inserts per DIN 43735 are additionally equipped with a test pipe. A calibrated reference sensor (e.g. LABOM type GA3110, data sheet T4-025-46) can be inserted in the test pipe. This makes it possible to calibrate the installed resistance thermometer without disassembling the measuring insert.

Mechanical design

measuring insert with connection socket per DIN 43735 and with additional test pipe

measuring insert: stainless steel
mat.-no. 1.4571 (316 Ti),
length and Ø see order details.

The measuring insert is spring loaded (spring travel: max. 10 mm) to ensure that the measuring insert is pressed down on the bottom of the thermowell. Instead of the terminal socket a transmitter can be installed, or the measuring insert is prepared for transmitter mounting.

Reference sensor see data sheet T4-025-46, Type series GA3110.

Measuring resistor

measuring resistor Pt100 4-wire per DIN EN 60751
nominal value of Pt100 sensor: 100 Ohm at 0 °C
Option: 2x Pt100 in 3-wire
Class A per EN60751

Temperature range

-50...400 °C

Accuracy

measuring resistor:
class A per EN 60751
in the range between -50...300 °C,
above this class B

Insulation resistance

> 100 MOhm bei 20 °C (500 VDC)

Ex-approval

IBExU 13 ATEX 1017 X
Ⓔ II 2G Ex ia IIC T6-T1 Gb
 $U_i \leq 30 \text{ V}$
 $P_i \leq 750 \text{ mW}$
 $L_i \text{ max. } 10 \mu\text{H/m}$
 $C_i \text{ max. } 500 \text{ pF/m}$

Intrinsically safe per EN 60079-11, P5.7
simple electrical apparatus (UK).

More technical information and restrictions
see Ex instructions XA_003.

Functional safety

classification of Pt100 sensor per SIL2,
per EN 61508

Measuring insert length

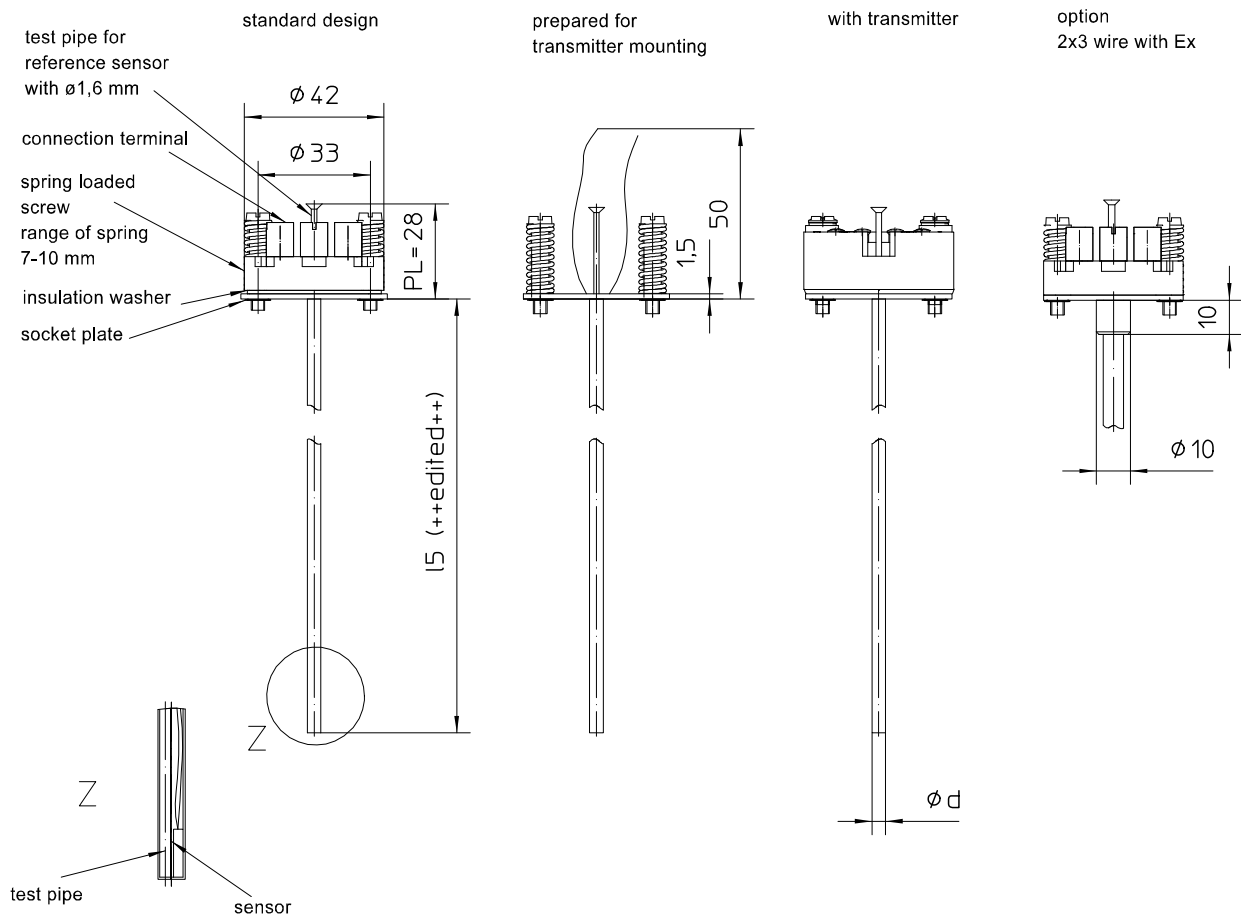
The length of the measuring insert is to be selected so that the measuring insert stands on the thermowell bottom. This ensures good heat transfer. We recommend the use of thermolube.

Standard lengths see order details.
Special lengths are possible.

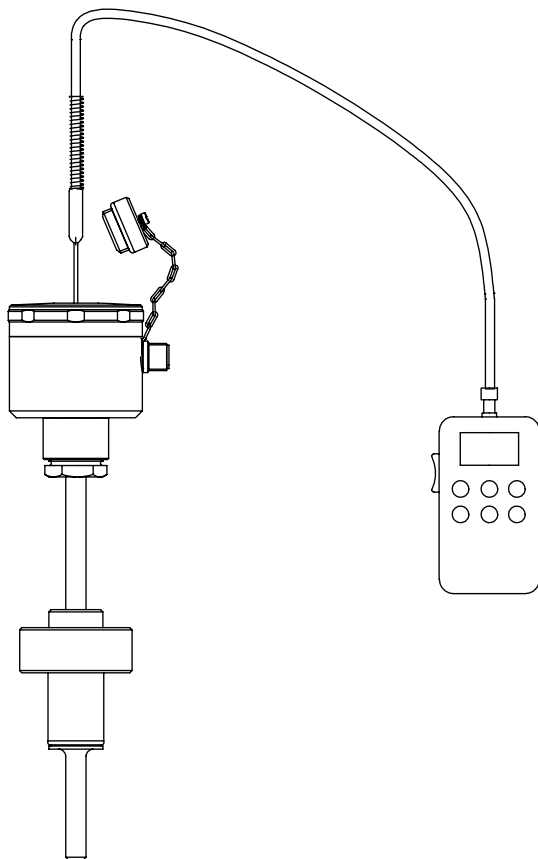
Mounting of transmitter

Pt100 transmitter for head mounting
can be mounted instead of terminal
socket.

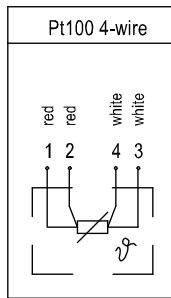
Dimensions



Reference sensor during test condition



Connection diagram



Order details

Measuring inserts for n-process calibration				GA310 .	
ex-design	· without			0	
	· ex-protection, type of protection see below			1	
	standard lengths				
length l5 of measuring insert	100 mm			B09	
	105 mm			B10	
	125 mm			B13	
	140 mm			B16	
	190 mm			B19	
	205 mm			B22	
	250 mm			B25	
	255 mm			B28	
	275 mm			B31	
	290 mm			B34	
	315 mm			B37	
	375 mm			B40	
	405 mm			B43	
	435 mm			B46	
	525 mm			B49	
	555 mm			B52	
meas. insert class A per DIN EN 43735	diameter, design, material	operating range	test pipe		
	· 6 mm, rigid, st. steel	-50...400 °C ²	28 mm	D22-M24	
	· 4 mm, rigid, st. steel ¹	-50...400 °C ²	28 mm	D42-M24	
type of sensor	· 1 x Pt100 in 4-wire technology				N3
	· 2 x Pt100 in 3-wire technology ^{3,4}				N5
additional features (to be indicated in case of need, only):					
type of ex-protection	·  II 2G Ex ia IIC T6-T1 Gb IBExU 13 ATEX 1017 X				S75
	· intrinsically safe per EN 60079-11, P5.7 simple electrical apparatus (UK)				S53
functional safety per EN 61580, classification per SIL2					W2604
as per UKCA regulations					W2660
transmitter (head mounting) mounted in connection head instead of terminal block (without transmitter)					Z1
order code (example):				GA3101	B31 D22-M24 N3

¹ not in Ex-design

² up to 300 °C accuracy class A, above this class B

³ not possible with measuring insert 4 mm (D42 - M24)

⁴ In Ex version not possible with Labom field housing