Resistance thermometer Pt100
with weld-in thermowell
Type Series GA252 .

Features

- Resistance thermometer with weld-in thermowell DIN 43772 model 4 or custom-made design
- Pt100 connection in 3- or 4-wire technology
- Measuring insert 1 x Pt100 or 2 x Pt100
- Measuring insert interchangeable

Options

- Explosion protection
- As per UKCA regulations
- Classification per SIL2
- Transmitter can be integrated
- Measuring insert for In-process calibration

Application area

· Chemical and petrochemical industry
· Machinery construction
· General process technology

Application

The resistance thermometer with weld-in thermowell is suited for operation on tanks and pipes. Weld-in thermowells per DIN 43772 model 4 or custom-made versions are available. Because of its robust design it is suitable for use in a great number of technological processes. The resistance thermometer can be supplied with a built in transmitter. A variety of transmitters for head mounting is available for different applications.
For In-process calibration the integration of a special measuriung insert with additional test pipe is possible (data sheet T4-025-45,Type GA3100, reference sensor: data sheet T4-025-46, Type GA3110).

Technical Data

Mechanical design
Measuring insert interchangeable with connection head and neck-tube

Connection head
selective
· model B, cap with 2 slotted screws, mat. aluminium, IP 54
· model BUZH, high spring cover with slotted screw, mat. aluminium, IP 65
· field housing Ø 60 mm, screw cap, stainless steel mat.-no. 1.4305 (303), IP 67
further connection heads upon request

Neck tube
stainless steel mat.no. 1.4571 (316Ti)
neck tube Ø 9 mm
reinforced design Ø 11 mm
length and connection see order details

Measuring insert
material stainless steel, interchangeable, DIN 43735.
length of measuring insert l_5= thermowell length L + 10 mm + M.
Ø of meas. insert 6 mm
resistor Pt100 according to EN 60751
Optional: Measuring insert with connection socket per DIN 43735 and with additional test pipe for In-process calibration.
Material: stainless steel, mat..-no. 1.4571 (316 T_i) (see data sheet T4-025-45)

Type of sensor/class/circuit
see order details

Ex-approval
Ex-type examination certificate for
Standard measuring insert:
BVS 04 ATEX E 144 X
Ⓔx II 2G EEx ia IIC T4/T6
$U_i \leq 30$ V
$P_i \leq 200$ mW

More technical information see XA_002.

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

More technical information see XA_030.

Measuring insert In-process calibration:
IBExU 13 ATEX 1017 X
Ⓔx II 2G Ex ia IIC T6...T1 Gb
$U_i \leq 30$ V
$P_i \leq 750$ mW
L_i max. 10 µH/m
C_i max. 500 pF/m

More technical information see XA_003.

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

More technical information see XA_003.

Functional safety
per EN 61508, classification per SIL 2; without transmitter, only

Accuracy of the measuring resistor
class A per EN 60751

For In-process measuring insert:
class A in the range -50...300 °C,
above this class B

Thermowell
weld-in thermowell acc. to DIN 43772 model 4 or custom-made design
applications and materials see order code
option: certification of material testing per DIN EN 10204
Upon request a calculation for thermowells can be made (for static or dynamic application) with certificate.

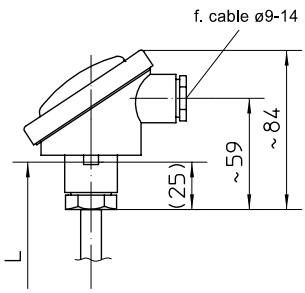
Integration of transmitter
suitable Pt100 transmitters can be integrated into the connection head.
Options:
a) instead of terminal block
b) mounting in the spring cover of the connection head BUZH
see product group T4 for analog or digital transmitters

LED-on-site indication
programmable LED-on-site indication for stainless steel field housing (Ø 60 mm), see data sheet M6-031.

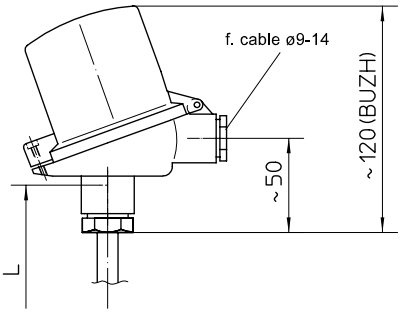
Dimensions

connection heads

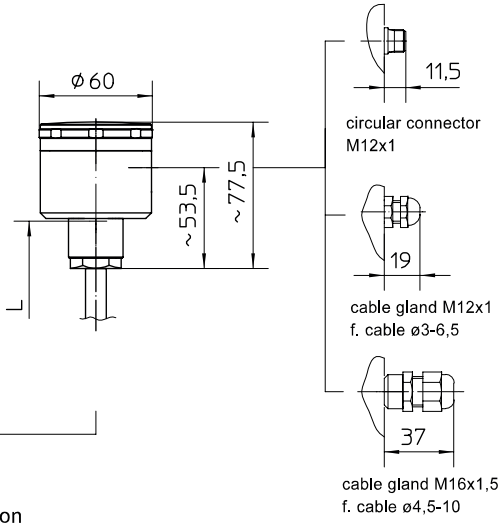
model B, cap with
2 slotted screws
mat. aluminium, IP 54



model BUZH, high spring cover
with slotted screw,
mat. aluminium, IP 65



connection head field housing,
screw cap,
mat. stainless steel , IP 67

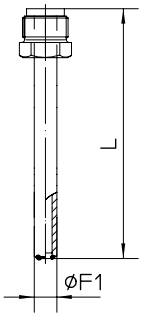


thermomwell models

process connection

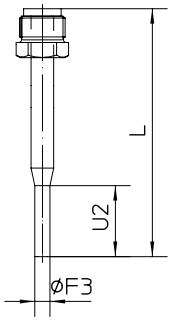
thermowell according to DIN 43772:

insertion/
welding



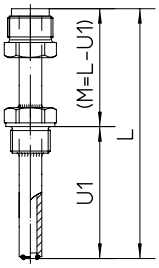
model 2

insertion/
welding



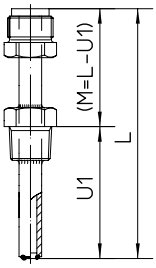
similar model 3
with reduced tip

screw-in



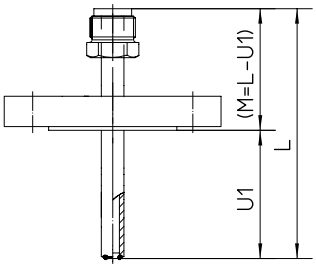
model 2 G/3 G
parallel thread
G1/2B
G3/4B
G1B
M20x1,5

screw-in



model 2 G/3 G
conical thread
1/2"NPT
3/4"NPT

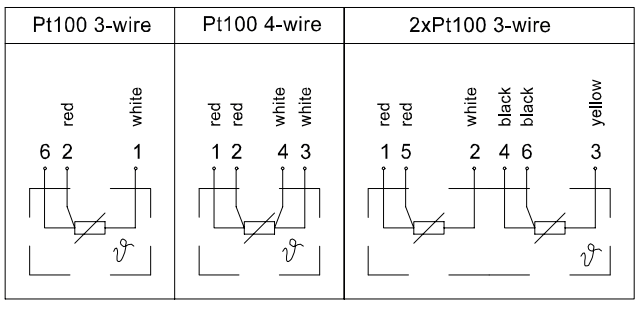
flanged



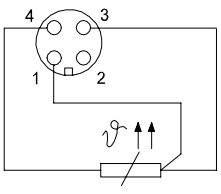
model 2 F/3F
DIN-flange
DN50/PN10/40
model B1 (DIN EN 1092-1)
DN25/PN10/40
model B1 (DIN EN 1092-1)

Connection diagram

connection head



circular connector
M12x1



Order details

Resistance thermometer Pt100 with weld-in thermowell

design	· with weld-in thermowell		GA252 .
ex-protection	· without		0
	· explosion protection, type of ex-protection s. below		1
with neck tube	· to connection head M24x1.5		A23 . . . . .
	· to thermowell M18x1.5		17
	neck tube Ø	9 mm, standard	1
		11 mm, reinforced design	2
		varying	9
	length neck tube	M = 165 mm	2
		varying	9
	mat. neck tube	stainless steel mat.-no. 1.4571 (316Ti)	1
		varying	9

weld-in thermowell DIN 43772, model 4	dimensions thermowell L =	U =	d1 Ø	meas. insert length with neck tube M = 165 mm	
	110 mm	65 mm	7 mm	285 mm	B10 .
	140 mm	65 mm	7 mm	315 mm	B11 .
	170 mm	133 mm	7 mm	345 mm	B12 .
	200 mm	125 mm	7 mm	375 mm	B13 .
	200 mm	65 mm	7 mm	375 mm	B14 .
	260 mm	125 mm	7 mm	435 mm	B15 .
	varying				B99 .

thermowell material	· stainless steel mat.-no. 1.4571 (316Ti)	1
	· steel mat.-no. 1.5415, 16 Mo 3	2
	· steel mat.-no. 1.7335, 13 Cr Mo 44	3
	varying	9

measuring insert, as per EN 43735 (class A)	diameter, design, material	meas. element	operating range	test pipe	
	· 6 mm, st. steel, standard	thin film	-50...+400 °C	-	D2-M22
	· 6 mm, sheathed element, st. steel	ceramic	-200...+600 °C	-	D6-M21
	· 6 mm, rigid, st. steel (In-process)		-50...+400 °C [2]	28 mm [3]	D22-M24

sensor type	· 1 x Pt100 in 3-wire technology, standard	N2
	· 1 x Pt100 in 4-wire technology	N3
	· 2 x Pt100 in 3-wire technology	N5

connection head	· model B	electrical connection cable gland M20x1.5 nickel plated brass cable Ø 9-14			T11
	· model BUZH				T15
	· field housing	cable gland	polyamide black	cable Ø 3-6.5	T47
				cable Ø 4.5-10	T47.40
			st. steel	cable Ø 3-6.5	T47.21
		with plug connector M12x1			T47.51

additional features (to be indicated in case of need, only)

type of ex-protection	· Intrinsically safe per EN 60079-11, P5.7 simple electrical apparatus (UK; Standard measuring insert)	S52
	· Intrinsically safe per EN 60079-11, P5.7 simple electrical apparatus (UK; Measuring insert In-process calibration)	S53
	· Ex II 2G EEx ia IIC T4/T6 [1], BVS 04 ATEX E 144 X (standard measuring insert)	S68
	· Ex II 2G Ex ia IIC T6...T1 Gb, IBExU 13 ATEX 1017 X (In-process calibration)	S75
incl. transmitter (pls specify separately)	· mounting on the measuring insert (instead of terminal block)	Z1
	· mounting in the spring cover of the connection head BUZH	Z2
material certificate per DIN EN 10204-3.1		W1020
As per UKCA regulations [4]		W2660
functional safety per EN 61508, classification per SIL2		W2604
transmitter with resistance thermometer calibrated, incl. calibration certificate with 3 meas. points		W1204

order code (example):	GA2520	A2317121	B111	D2-M22	N2	T47			

[1] only with sheathed element
[2] up to 300 °C accuracy class A, above this class B
[3] for In-process calibration
[4] not possible with inline diaphragm seal or connection to inline unit ASEPTconnect with pipe diameter > 25 mm