

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



Application area

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

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
- Classification per SIL 2
- Transmitter can be integrated
- Measuring insert for In-process calibration

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 measuring 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_s = thermowell length L + 10 mm + M .
Ø of meas. insert 6 mm
resistor Pt 100 according to DIN 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 Ti) (see data sheet T4-025-45)

Type of sensor/class/circuit

see order details

Ex-approval

BVS 04 ATEX E 144 X

⊕ II 2G Ex ia IIC T4/T6 Gb

$U_i \leq 30$ V

$P_i \leq 200$ mW

More technical information see XA_002

For In-process calibration:

IBExU 13 ATEX 1017 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.

Functional safety

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

Accuracy of the measuring resistor

class A according to DIN EN 60751

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 Pt 100 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

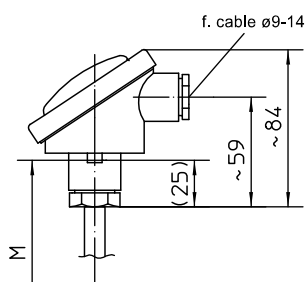
LED-on-site indication

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

Dimensions

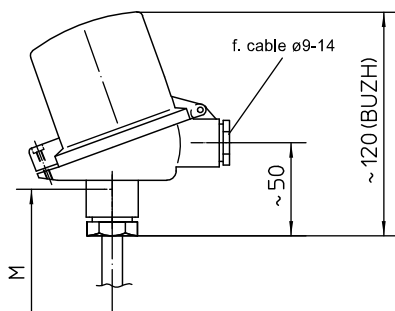
Connection heads

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



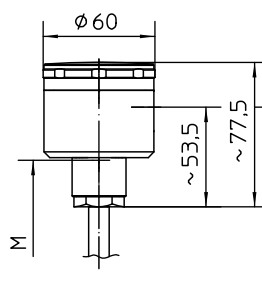
up to sealing surface

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

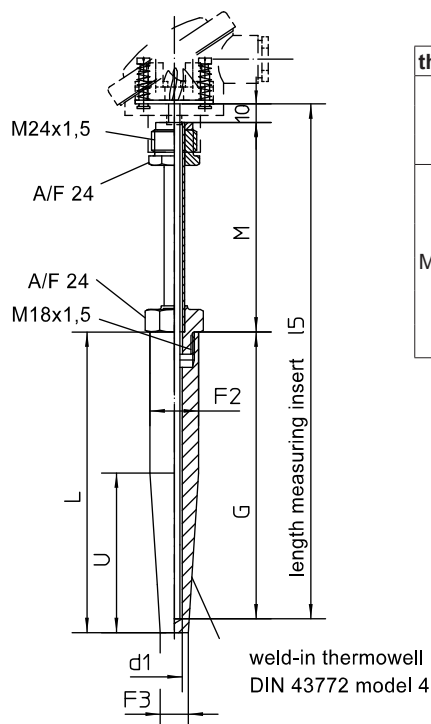
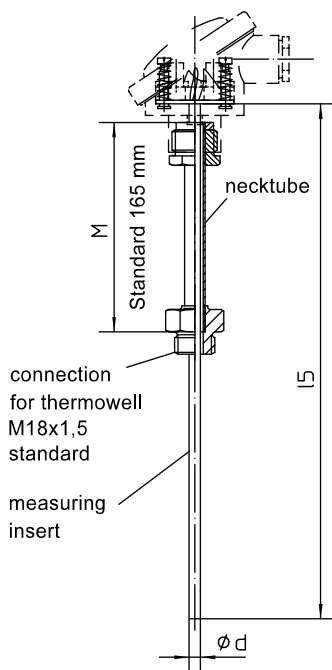
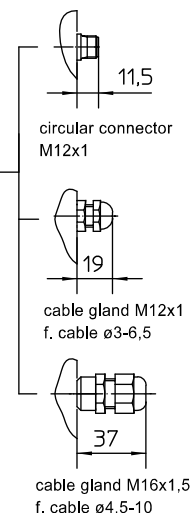


up to sealing surface

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



up to sealing surface



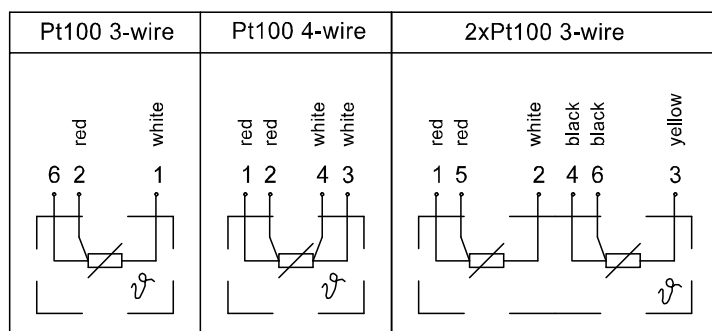
length measuring insert $I5 = L + 10 + M$

thermowell length DIN 43772, model 4

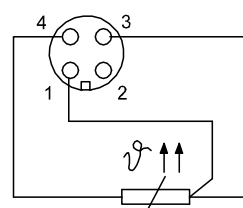
N	L	G	U	F2	F3	d1
	+2	+1	+2			
	0	0	0			
M18 x 1.5	110	105	65	24h7	12.5	7
	140	135	65			
	170	165	133			
	200	195	65			
	200	195	125			
	260	255	125			

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 .			
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, rigid, 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		28 mm ²		D22-M22			
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										T11
	· model BUZH	cable Ø 9-14										T15
	· field housing	cable gland	polyamide black	cable Ø 3-6.5							T47	
			st. steel	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	·  II 2G Ex ia IIC T4/T6 Gb ¹										S68	
	·  II 2G Ex ia IIC T6-T1 Gb, IIBExU 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		
functional safety per EN 61508, classification per SIL 2										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 for In-process calibration



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