

Inline temperature transducer with Pt100 Type series GA2200

**SIL2**

Application area

- Food industry
- Pharmaceuticals
- Biotechnology

Features

- Temperature transducer for mounting in the piping
- Temperature measuring with integrated Pt100 measuring resistor
- Output signal: Pt100, 2(3)-wire technology
- EHEDG certified

Options

- Explosion protection
- As per UKCA regulations
- Classification per SIL2
- Transmitter can be integrated

Application

Inline temperature transducers allow a dead-zone free measuring of the pipe wall temperature. Measuring is performed without cross-sectional alterations and without contact of the medium with the measuring resistor. A variety of screwings are available for different applications.

Technical data

Mechanical design

pipe body and necktube with integrated measuring resistor

Material

stainless steel mat.-no. 1.4435 (316L)
other materials upon request

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

Process connection

screwing as part of the piping, connections and DN's see order details; other values upon request

Pressure stage

see table under dimensions

Measuring resistor

Pt100, class A per DIN EN 60751

Functional safety

per EN 61508, classification per SIL2; without transmitter, only

Ex marking

Intrinsically safe according to EN 60079-11, P5.7 simple electrical apparatus.

More technical information see XA_004.

Process temperature

-20...200 °C

Response time

dependent on medium and the ambient conditions, e.g. with water medium:

pipe: DN 25

Rise of 20...90 % of the final temperature

Q= 0.5 m³/h t= 162 s

Q= 1 m³/h t= 54 s

Q= 1.5 m³/h t= 39 s

Weights

see table

Integrated transmitter

suitable Pt100 transmitters can be integrated into the connection head.

Options:

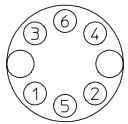
- instead of terminal block
 - mounting in the spring cover of the connection head BUZH
- see product group T4 for analog or digital transmitters

LED-on-site indication

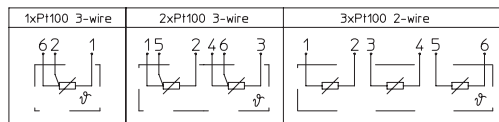
programmable LED-on-site indication for stainless steel field housing (Ø 60 mm), see data sheet M6-031.

Information on other models upon request or see order details

Connection diagram



ceramic socket

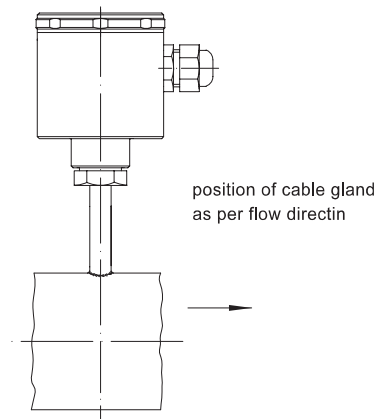
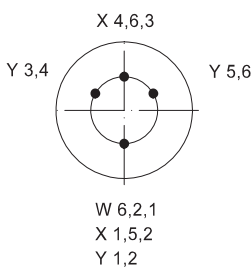


W

X

Y

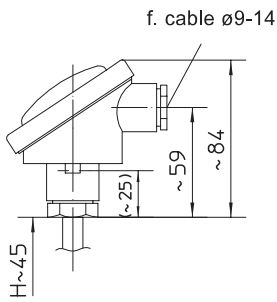
arrangement of Pt100



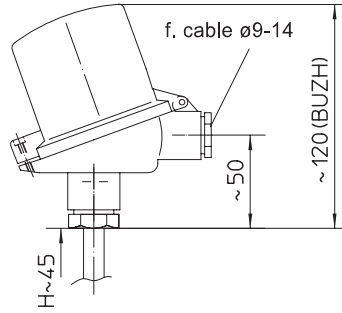
Dimensions

Connection heads

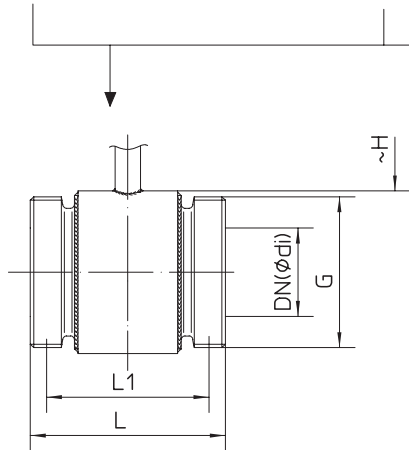
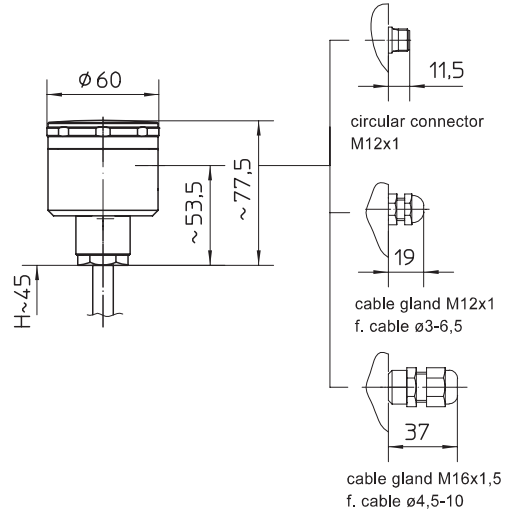
connection head model B,
cap with 2 slotted screws
mat. aluminium, IP 54



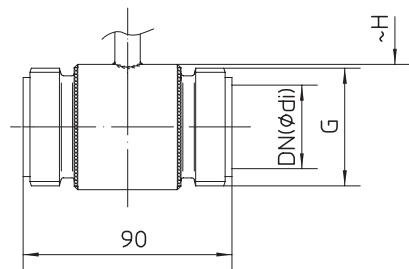
connection head model BUZH,
high spring cover with slotted screw,
mat. aluminium, IP 65



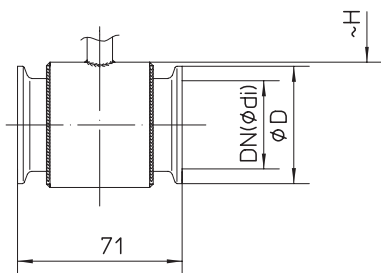
connection head field housing,
screw cap,
mat. stainless steel, IP 67



threaded pipe connection
per DIN 11851 or DIN 11864-1



IDF connection
per ISO 2853



Clamp connection
per DIN 32676, ISO 2852
DIN 11864-3 or Tri-Clamp

dimensions/sanitary connection						
DN	di	PN ¹	G	L	L1	weight appr. kg
10	10	40	Rd. 28 x 1/8	80	72	0.4
15	16	40	Rd. 34 x 1/8	80	72	0.5
20	20	40	Rd. 44 x 1/6	84	72	0.6
25	26	40	Rd. 52 x 1/6	84	70	0.7
32	32	40	Rd. 58 x 1/6	84	70	0.8
40	38	40	Rd. 65 x 1/6	84	70	0.9
50	50	25	Rd. 78 x 1/6	84	70	1.1
65	66	25	Rd. 95 x 1/6	88	72	1.4
80	81	25	Rd. 110 x 1/4	102	86	1.9
100	100	25	Rd. 130 x 1/4	102	82	2.4
125	125	16	Rd. 160 x 1/4	110	86	2.9

¹ up to 140 °C process temperature

dimensions/IDF connection					
DN		PN ²	di	G	weight appr. kg
1"	25	40	22.6	TR37x3.175	0.5
1 1/2"	38	40	35.6	TR50.5x3.175	0.6
2"	51	25	48.6	TR64x3.175	0.8

² up to 140 °C process temperature

dimensions/clamping joint					
DN		PN ³	di	D	weight appr. kg
1 1/2"	38	16	35.6	50.5	0.5
2"	51	16	48.6	64	0.6

³ up to 120 °C process temperature

Order details

Inline temperature transducer with Pt100				GA220.							
ex-protection	· without				0						
	· type of ex-protection s. below				1						
surface roughness	· according to hygienic design			HY							
process connection/ nominal width	sanitary connection per DIN 11851 (both sides) ^{1,2}										
	internal diameter per DIN 11850										
	· DN 10				A1010						
	· DN 15				A1012						
	· DN 20				A1013						
	· DN 25				A1014						
	· DN 32				A1015						
	· DN 40				A1016						
	· DN 50				A1017						
	· DN 65				A1018						
	· DN 80				A1019						
	· DN 100				A1020						
	· DN 125				A1021						
	threaded couplings per IDF ISO 2853 (both sides) ^{1,2}										
	internal diameter for ISO-tubes per DIN 2463										
	· 1"				B4532						
	· 1 1/2"				B4533						
	· 2"				B4535						
	Clamp connection per ISO 2852 (both sides) ^{1,2}										
internal diameter for ISO-tubes per DIN 2463											
· 1 1/2"				C5133							
· 2"				C5135							
material pipe body	· stainless steel mat.-no. 1.4435 (316L)				G3						
	· as in writing				G9						
measuring resistor	· 1 x Pt100, 3-wire technology, standard				E12						
	· 2 x Pt100, 3-wire technology, arrangement opposing ³				E22						
	· 3 x Pt100, 2-wire technology, arrangement: 120° ³				E32						
connection head	· model B	electrical connection cable gland M20x1.5 nickel			T11						
	· model BUZH	plated brass cable Ø 9-14			T15						
	· field housing	cable gland	polyamide	cable Ø 3-6.5	T47.20						
			black	cable Ø 4.5-10	T47.40						
		st. steel	cable Ø 3-6.5	T47.21							
		with circular connector M12x1			T47.51						
additional features (to be indicated in case of need, only)											
ex marking	· Intrinsically safe according to EN 60079-1, P5.7 simple electrical apparatus (EU)				S50						
	· Intrinsically safe according to EN 60079-1, P5.7 simple electrical apparatus (UK)				S52						
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 EN 10204-3.1					W1020						
functional safety per EN 61508, classification per SIL2					W2604						
as per UKCA regulations ⁴					W2660						
process connection electropolished					W4035						
Order code (example):				GA2200	HY	A1013	G3	E12	T47.20		

¹ EHEDG certified only in connection with hygienic design (order code option HY)

² EHEDG certificate valid only if gaskets are used that are listed in the "EHEDG position paper"

³ only for devices without ex-protection

⁴ not possible with inline diaphragm seal or connection to inline unit ASEPTconnect with pipe diameter > 25 mm