

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.
For detailed information see SIL instruction SA_005.

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:

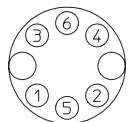
- a) instead of terminal block
 - b) mounting in the spring cover of the connection head BUZH
- see product group T4 for analog or digital transmitters

LED-on-site indication

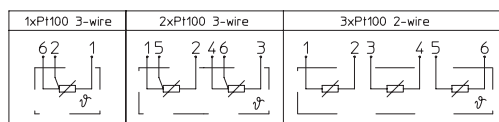
programmable LED-on-site indication for stainless steel field housing (Ø 60 mm), see data sheet M6-031.

Information on other models upon request or see order details

Connection diagram



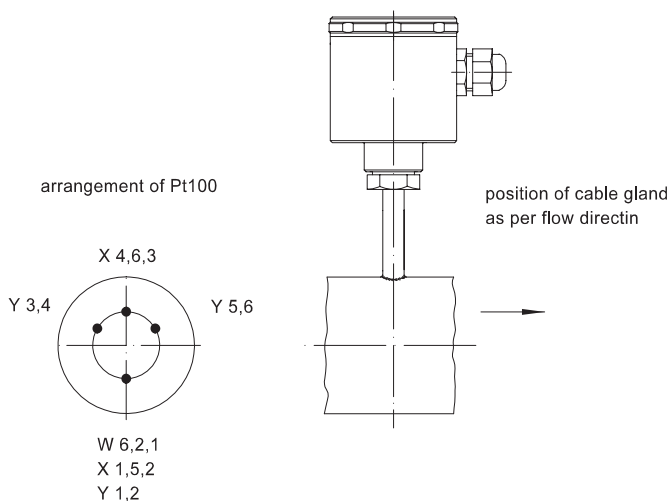
ceramic socket



W

X

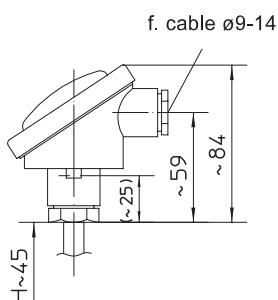
Y



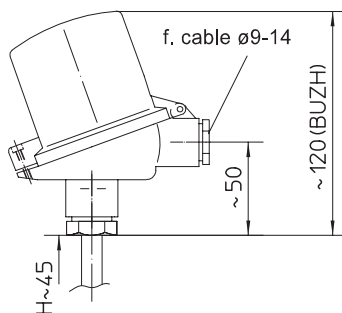
Dimensions

Connection heads

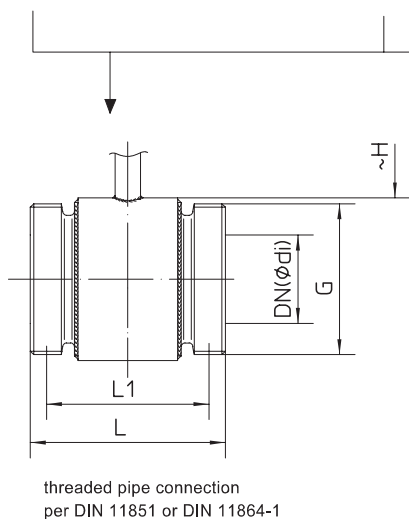
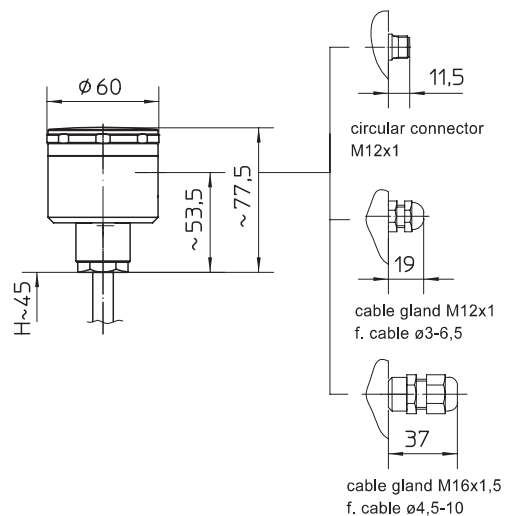
connection head model B,
cap with 2 slotted screws
mat. aluminium, IP 54



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

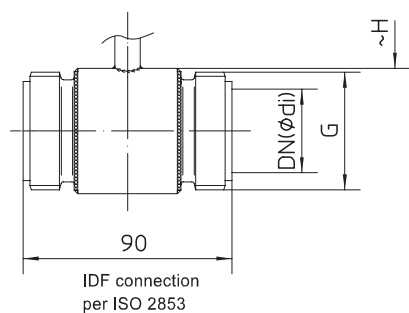


connection head field housing,
screw cap,
mat. stainless steel , IP 67



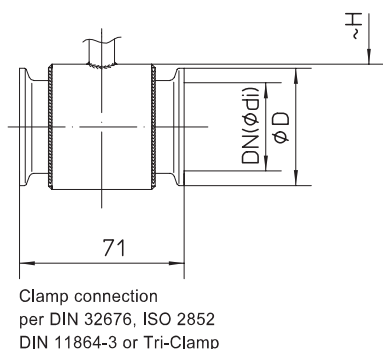
dimensions/sanitary connection						
DN	di	PN ¹	G	L	L1	weight appr. kg
10	10	40	Rd. 28 x 1/8	80	72	0.4
15	16	40	Rd. 34 x 1/8	80	72	0.5
20	20	40	Rd. 44 x 1/6	84	72	0.6
25	26	40	Rd. 52 x 1/6	84	70	0.7
32	32	40	Rd. 58 x 1/6	84	70	0.8
40	38	40	Rd. 65 x 1/6	84	70	0.9
50	50	25	Rd. 78 x 1/6	84	70	1.1
65	66	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

For information on definitions of terms regarding the Pressure Equipment Directive, see Technical Instruction TA_068.

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