

## Inline temperature transducer with Pt100 Type series GA2200

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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:

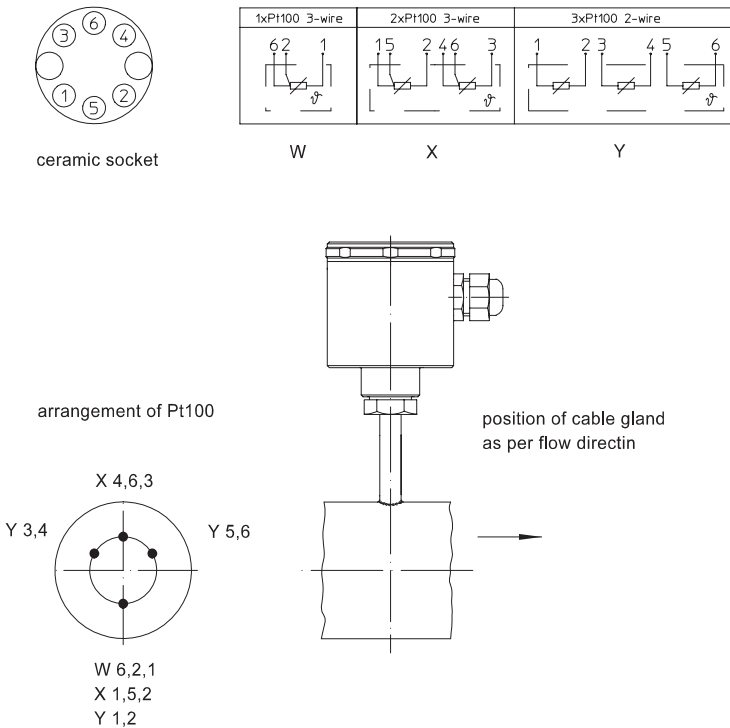
- instead of terminal block
  - mounting in the spring cover of the connection head BUZH
- see product group T4 for analog or digital transmitters

### 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

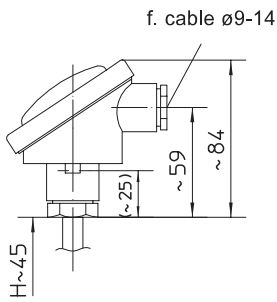
## Connection diagram



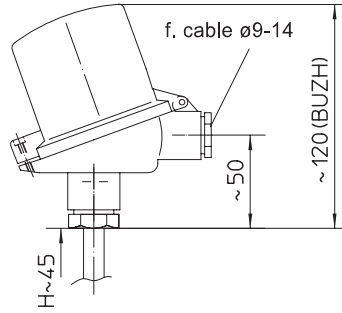
# Dimensions

## Connection heads

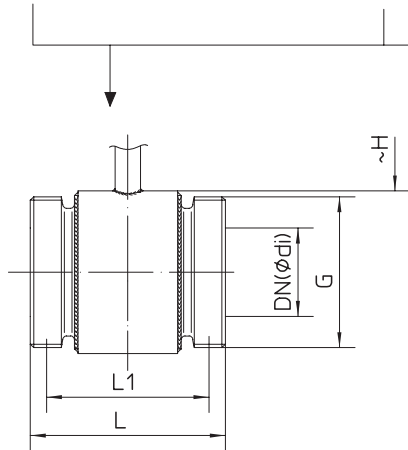
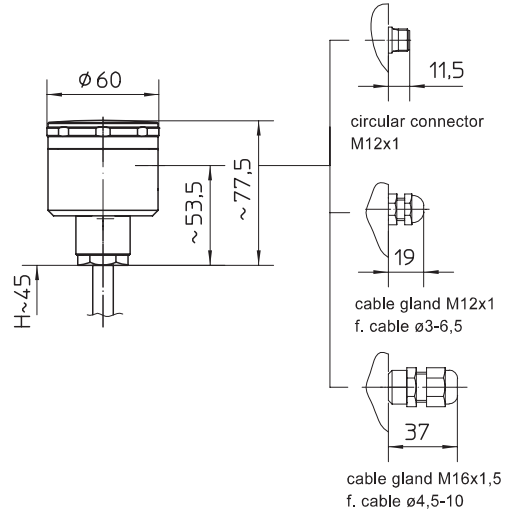
connection head model B,  
cap with 2 slotted screws  
mat. aluminium, IP 54



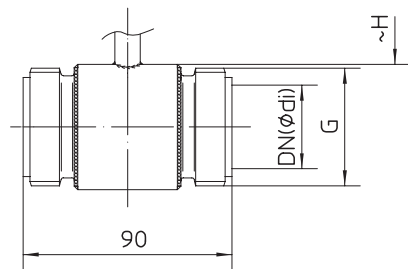
connection head model BUZH,  
high spring cover with slotted screw,  
mat. aluminium, IP 65



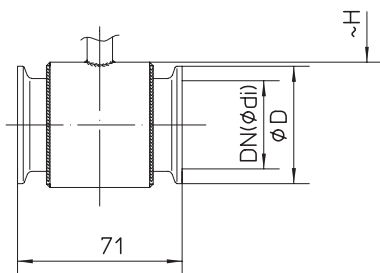
connection head field housing,  
screw cap,  
mat. stainless steel, IP 67



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 <sup>1</sup>	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

<sup>1</sup> up to 140 °C process temperature

dimensions/IDF connection					
DN		PN <sup>2</sup>	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

<sup>2</sup> up to 140 °C process temperature

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

<sup>3</sup> up to 120 °C process temperature

## Order details

<b>Inline temperature transducer with Pt100</b>				<b>GA220.</b>							
ex-protection	· without				<b>0</b>						
	· type of ex-protection s. below				<b>1</b>						
surface roughness	· according to hygienic design			<b>HY</b>							
process connection/ nominal width	<b>sanitary connection per DIN 11851 (both sides) <sup>1,2</sup></b>										
	internal diameter per DIN 11850										
	· DN 10				<b>A1010</b>						
	· DN 15				<b>A1012</b>						
	· DN 20				<b>A1013</b>						
	· DN 25				<b>A1014</b>						
	· DN 32				<b>A1015</b>						
	· DN 40				<b>A1016</b>						
	· DN 50				<b>A1017</b>						
	· DN 65				<b>A1018</b>						
	· DN 80				<b>A1019</b>						
	· DN 100				<b>A1020</b>						
	· DN 125				<b>A1021</b>						
	<b>threaded couplings per IDF ISO 2853 (both sides) <sup>1,2</sup></b>										
	internal diameter for ISO-tubes per DIN 2463										
	· 1"				<b>B4532</b>						
	· 1 1/2"				<b>B4533</b>						
	· 2"				<b>B4535</b>						
	<b>Clamp connection per ISO 2852 (both sides) <sup>1,2</sup></b>										
internal diameter for ISO-tubes per DIN 2463											
· 1 1/2"				<b>C5133</b>							
· 2"				<b>C5135</b>							
material pipe body	· stainless steel mat.-no. 1.4435 (316L)			<b>G3</b>							
	· as in writing			<b>G9</b>							
measuring resistor	· 1 x Pt100, 3-wire technology, standard			<b>E12</b>							
	· 2 x Pt100, 3-wire technology, arrangement opposing <sup>3</sup>			<b>E22</b>							
	· 3 x Pt100, 2-wire technology, arrangement: 120° <sup>3</sup>			<b>E32</b>							
connection head	· model B	electrical connection cable gland M20x1.5 nickel			<b>T11</b>						
	· model BUZH	plated brass cable Ø 9-14			<b>T15</b>						
	· field housing	cable gland	polyamide	cable Ø 3-6.5	<b>T47.20</b>						
			black	cable Ø 4.5-10	<b>T47.40</b>						
		st. steel	cable Ø 3-6.5	<b>T47.21</b>							
		with circular connector M12x1			<b>T47.51</b>						
<b>additional features (to be indicated in case of need, only)</b>											
ex marking	· Intrinsically safe according to EN 60079-1, P5.7 simple electrical apparatus (EU)			<b>S50</b>							
	· Intrinsically safe according to EN 60079-1, P5.7 simple electrical apparatus (UK)			<b>S52</b>							
incl. transmitter (pls. specify separately)	· mounting on the measuring insert (instead of terminal block)			<b>Z1</b>							
	· mounting in the spring cover of the connection head BUZH			<b>Z2</b>							
material certificate per EN 10204-3.1				<b>W1020</b>							
functional safety per EN 61508, classification per SIL2				<b>W2604</b>							
as per UKCA regulations <sup>4</sup>				<b>W2660</b>							
process connection electropolished				<b>W4035</b>							
<b>Order code (example):</b>				<b>GA2200</b>	<b>HY</b>	<b>A1013</b>	<b>G3</b>	<b>E12</b>	<b>T47.20</b>		

<sup>1</sup> EHEDG certified only in connection with hygienic design (order code option HY)

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

<sup>3</sup> only for devices without ex-protection

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