

## RTD Temperature Probe for the Food/Pharmaceutical Industry

- For temperatures between -50 and +250 °C
- Protection type up to IP69 according to DIN EN 60529 (IP69K according to DIN 40050)
- EHEDG certification
- Stainless steel protection tubes
- Available with two-wire transmitter
- CIP-compliant insertion

The RTD temperature probes can be built with terminal heads made of stainless steel or die-cast aluminum.

Various process connections are available for the different requirements of sub-areas in the food/pharmaceutical industry. These include screw connections G 3/8, G 1/2 with CIP-compliant conical seal, taper sockets with union nut (dairy pipe fitting), clamping sockets (clamp), movable ball welding sockets with threaded fitting, welding sockets with CIP-compliant conical seal, VARIVENT® connections, and ball welding sleeves.

Additionally, basic types 902810/40 and 902810/41, which are designed for use with hygienic thermowells according to data sheet 902812, are available.

The protection tubes are made of stainless steel.

The RTD temperature probes for the food/pharmaceutical industry are suitable for use in a temperature range from -50 to +250 °C.

High accuracy is ensured by single or double Pt100 temperature sensors according to DIN EN 60751, class A.

Optional analog or programmable two-wire transmitters can be used for longer transmission distances.



### Approvals / approval marks



## Technical data

Terminal heads	Stainless steel 1.4571, M16 × 1.5; ambient temperature -20 to +100 °C, protection type IP69 according to DIN EN 60529 (IP69K according to DIN 40050), cable screw connection made of plastic Form B DIN 43729, die-cast aluminum, M20 × 1.5; IP65, ambient temperature -40 to +100 °C Form BUZ, die-cast aluminum, M20 × 1.5; IP65, ambient temperature -40 to +100 °C Form BUZH, die-cast aluminum, M20 × 1.5; IP65, ambient temperature -40 to +100 °C Caution: reduced ambient temperature when using transmitters; data sheet 707010, 707030, and 707050
Extension tube (HR)	Stainless steel, length approx. 70 mm, Ø 9 mm
Process connections	Screw connection G 3/8 Screw connection G 1/2 with CIP-compliant conical seal, stainless steel 316 L with EHEDG certification Clamping socket (clamp) DIN 32676, stainless steel 316 L Clamping socket with union nut (dairy pipe fitting) DIN 11851, stainless steel 316 L Ball welding socket, stainless steel 316 L, PTFE clamping ring Welding socket with CIP-compliant conical seal, stainless steel 316 L, PTFE seal VARIVENT <sup>®</sup> connection, stainless steel 316 L Ball welding sleeve, stainless steel 316 Ti Process connection adapter JUMO PEKA, stainless steel 316 L, with EHEDG certification
Protection tubes	Stainless steel 316 L Stainless steel 316 Ti, upon request
Measuring insert	Pt100 temperature sensor DIN EN 60751, class A Pt100 temperature sensor DIN EN 60751, class AA
Response times	t <sub>0.9</sub> = 10 s, in water, flow velocity 0.4 m/s, protection tube diameter 6 mm
Transmitter	Analog transmitter, output 4 to 20 mA, data sheet 707030 Analog transmitter, output 0 to 10 V, data sheet 707030 Programmable transmitter, output 4 to 20 mA/20 to 4 mA, data sheet 707010 Programmable transmitter, output 4 to 20 mA/20 to 4 mA (USB), data sheet 707050

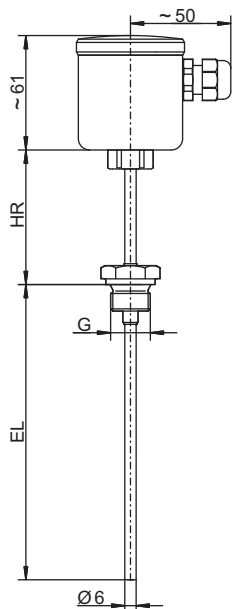
<sup>a</sup> VARIVENT<sup>®</sup> is a registered trademark of GEA Tuchenhausen.

## Approvals / approval marks

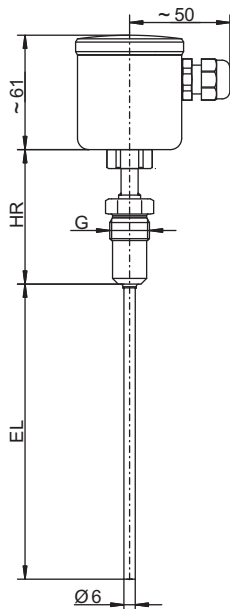
Approval mark	Test facility	Certificate / certification number	Inspection basis	Valid for
EHEDG	TUM MAK	No. 02/2006	Document No. 8	Process connection 997 JUMO PEKA
EHEDG	TUM MAK	No. 03/2006	Document No. 8	Process connection 380 screw connection with CIP-compliant conical seal
SIL QUALIFIED PL QUALIFIED	-	-	-	Extra code 058 Basic type 902810/13, 902810/20, 902810/40, and 902810/41 in conjunction with declaration of manufacturer

## Dimensions

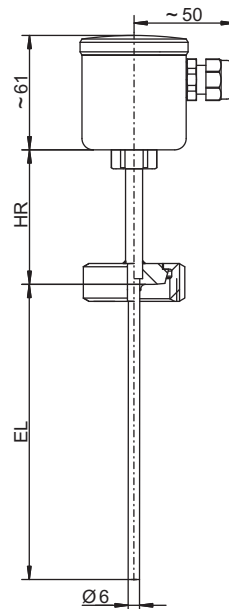
### Basic types



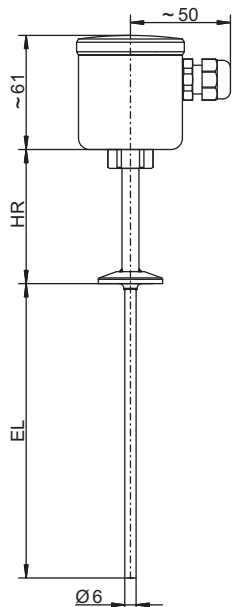
Basic type 902810/20  
with process connection PA 104



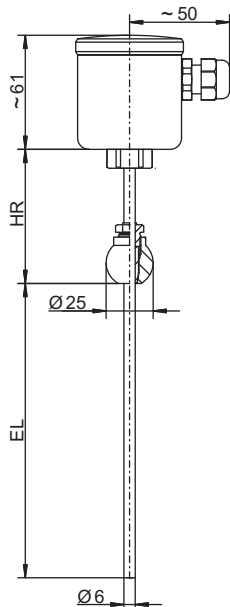
Basic type 902810/20  
with process connection PA 380



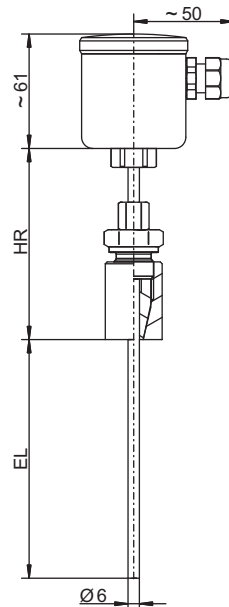
Basic type 902810/20  
with process connection PA 601



Basic type 902810/20  
with process connection PA 611

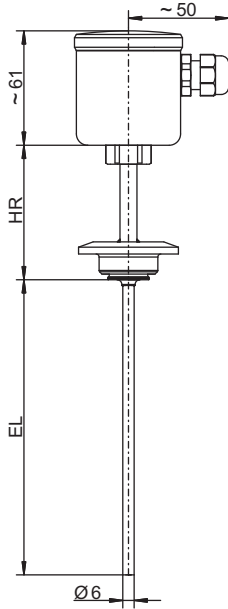


Basic type 902810/20  
with process connection PA 681

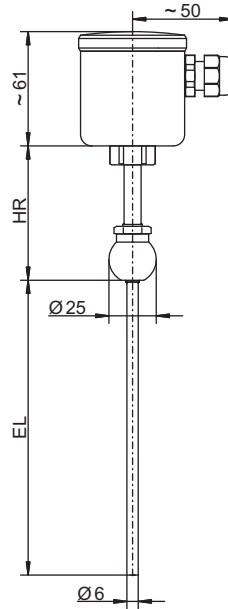


Basic type 902810/20  
with process connection PA 682

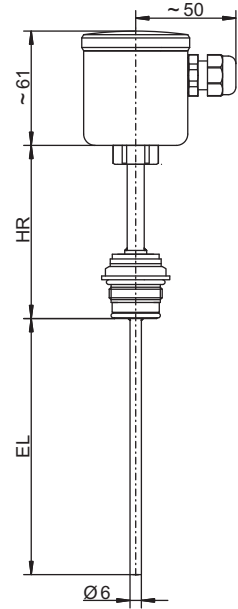
## Basic types



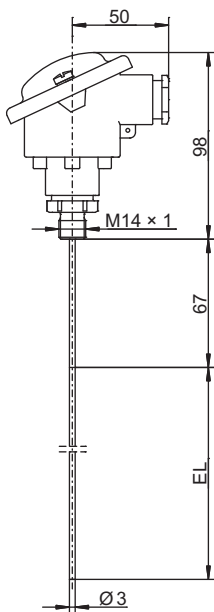
Basic type 902810/20  
with process connection PA 684



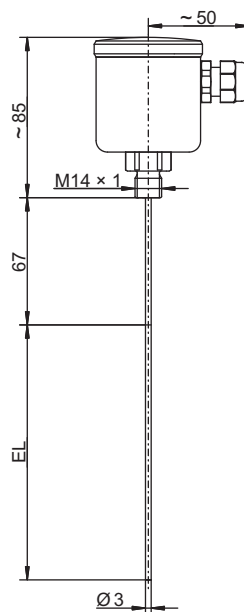
Basic type 902810/20  
with process connection PA 840



Basic type 902810/20  
with process connection PA 997

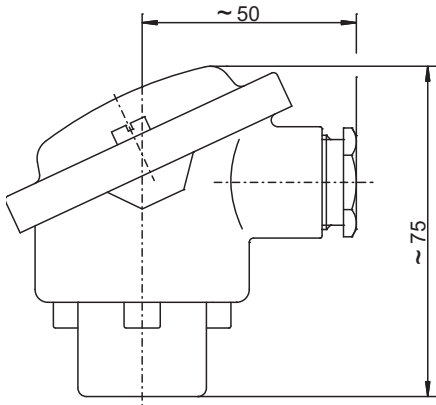


Basic type 902810/40  
with process connection PA 120

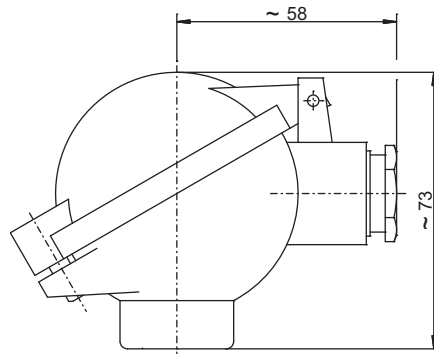


Basic type 902810/41  
with process connection PA 120

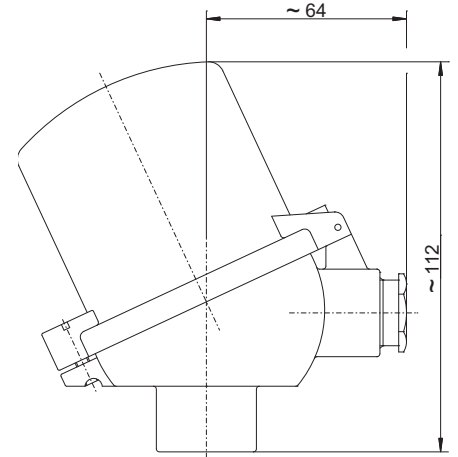
## Terminal heads



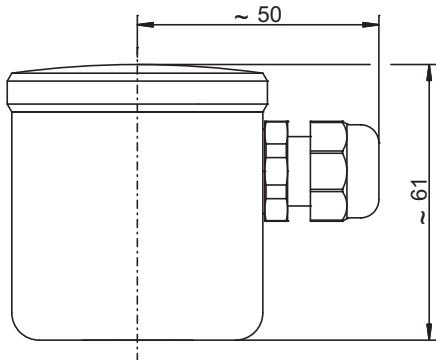
**Terminal head form B**  
Standard for basic type 902810/13 and  
902810/40



**Terminal head form BUZ**  
Extra code 320



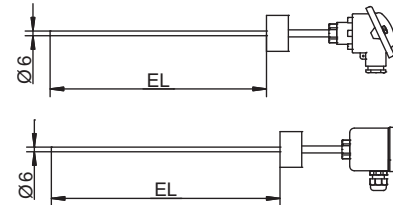
**Terminal head form BUZH**  
Extra code 321



**Stainless steel terminal head**  
Standard for basic type 902810/20 and  
902810/41

## Order details

		<b>(1) Basic type</b>	
		902810/13	RTD temperature probe for the food/pharmaceutical industry with terminal head form B
		902810/20	RTD temperature probe for the food/pharmaceutical industry with stainless steel terminal head
		<b>(2) Measuring insert</b>	
x	x	1001	1× Pt100 in three-wire circuit
x	x	2001	2× Pt100 in three-wire circuit
		<b>(3) Tolerance class according to DIN EN 60751</b>	
x	x	2	Class A (standard)
x	x	3	Class AA
		<b>(4) Protection tube diameter D in mm</b>	
x	x	6	Ø 6 mm
		<b>(5) Insertion length EL in mm (25 to 400 mm)</b>	
x	x	25	25 mm
x	x	50	50 mm
x	x	100	100 mm
x	x	150	150 mm
x	x	...	Please specify in plain text (50 mm increments)
		<b>(6) Process connection</b>	
x	x	103	Screw connection G 3/8
x	x	104	Screw connection G 1/2
x	x	380	Screw connection G 1/2 with CIP-compliant conical seal and EHEDG certification
x	x	601	Taper socket with union nut DN 10 DIN 11851 (dairy pipe fitting)
x	x	604	Taper socket with union nut DN 25 DIN 11851 (dairy pipe fitting)
x	x	605	Taper socket with union nut DN 32 DIN 11851 (dairy pipe fitting)
x	x	611	Clamping socket (clamp) DN 10/20 DIN 32676
x	x	613	Clamping socket (clamp) DN 25/40 (1"/1.5") DIN 32676
x	x	616	Clamping socket (clamp) DN 50 (2") DIN 32676
x	x	617	Clamping socket (clamp) 2.5" similar to DIN 32676
x	x	681	Ball welding socket with threaded fitting
x	x	682	Welding socket with CIP-compliant conical seal
x	x	684	VARIVENT® connection DN 15/10
x	x	685	VARIVENT® connection DN 32/25
x	x	686	VARIVENT® connection DN 50/40
x	x	840	Ball welding sleeve (material 316 Ti)
x	x	997	JUMO PEKA <sup>a</sup> with EHEDG certification
		<b>(7) Protection tube material</b>	
x	x	24	Stainless steel 316 L (material-no. 1.4404/1.4435)
x	x	26	Stainless steel 316 Ti (material-no. 1.4571) (upon request)
		<b>(8) Extra code</b>	
x	x	000	None
x	x	058	SIL and PL-compatible
x	x	305	Without extension tube (only with process connections 104 and 380)
x		320	Terminal head form BUZ
x		321	Terminal head form BUZH
x	x	330	1× analog transmitter, output 4 to 20 mA <sup>b</sup> , data sheet 707030 (only for measuring insert 1× Pt100 in two-wire or three-wire circuit, not in conjunction with extra code 058)
x	x	331	1× programmable transmitter, output 4 to 20 mA/20 to 4 mA <sup>c</sup> , data sheet 707010 (only for measuring insert 1× Pt100, not in conjunction with extra code 058)
x	x	333	1× analog transmitter, output 0 to 10 V <sup>d</sup> , data sheet 707030 (only for measuring insert 1× Pt100 in two-wire or three-wire circuit, not in conjunction with extra code 058)











## Stock versions

Order code	Part no.
902810/20-1001-2-6-25-380-24/452	00466457
902810/20-1001-2-6-100-380-24/452	00381830
902810/20-1001-2-6-25-611-24/452	00407336
902810/20-1001-2-6-25-613-24/452	00405849

## Accessories for transmitter type 707014 (data sheet 707010)

Description	Part no.
Setup program, multilingual	00605080
PC interface with USB/TTL converter	00456352

## Accessories for transmitter type 707050 (data sheet 707050)

Description	Part no.
Setup program, multilingual	00574959
USB cable, A connector to Mini-B connector, length 3 m	00506252