

Pressure Transmitters for Food Industry and for Sterile Process Applications Model SA-11, sterile aseptic

WIKA Data Sheet PE 81.80



Applications

- Food and beverage industry
- Pharmaceutical industry
- Biotechnology industry
- Sterile process technology

Special Features

- Flush diaphragm with a surface roughness of $Ra < 0.4 \mu m$
- Crevice free, free of dead space
- All welded construction
- EHEDG tested
- Aseptic process connections



Pressure Transmitters SA-11 with various process and electrical connections

Description

The SA-11 pressure transmitter has been specially designed to meet the requirements of the food, beverage, pharmaceutical and biotechnology industries. With its resistance to chemical cleaning liquids and high temperatures, this transmitter is particularly suited to the conditions of CIP/SIP cleaning processes. The flush all-metal diaphragm is directly welded to the process connection to ensure a crevice free seal between the process connection and the measuring diaphragm. This eliminates the need for additional sealing gaskets and ensures there are no dead spaces caused by these instruments. A range of aseptic process connections (Clamp, threaded or VARIVENT®) are available.

The SA-11 pressure transmitter is ideally suited for the high standard requirements of sterile engineering processes and is certified in accordance with the 3A Sanitary Standards and the EHEDG. The pressure transmitting fluid is FDA conform.

Structure

A flush diaphragm of stainless steel 1.4435 separates the process medium from the pressure sensor. The process pressure is hydrostatically transmitted from the diaphragm to a piezo-resistive sensor via a filling fluid approved by the FDA. Pressure ranges of 0 ... 250 mbar up to 0 ... 25 bar are available. The pressure transmitter SA-11 is supplied by DC 10 (14) ... 30 V. Electronic output signals 4 ... 20 mA, 0 ... 20 mA and 0 ... 10 V outputs are available. A stainless steel case with an ingress protection of up to IP 68 provides enough protection to enable external cleaning with a water jet or the use in high humidity environments.

Specifications

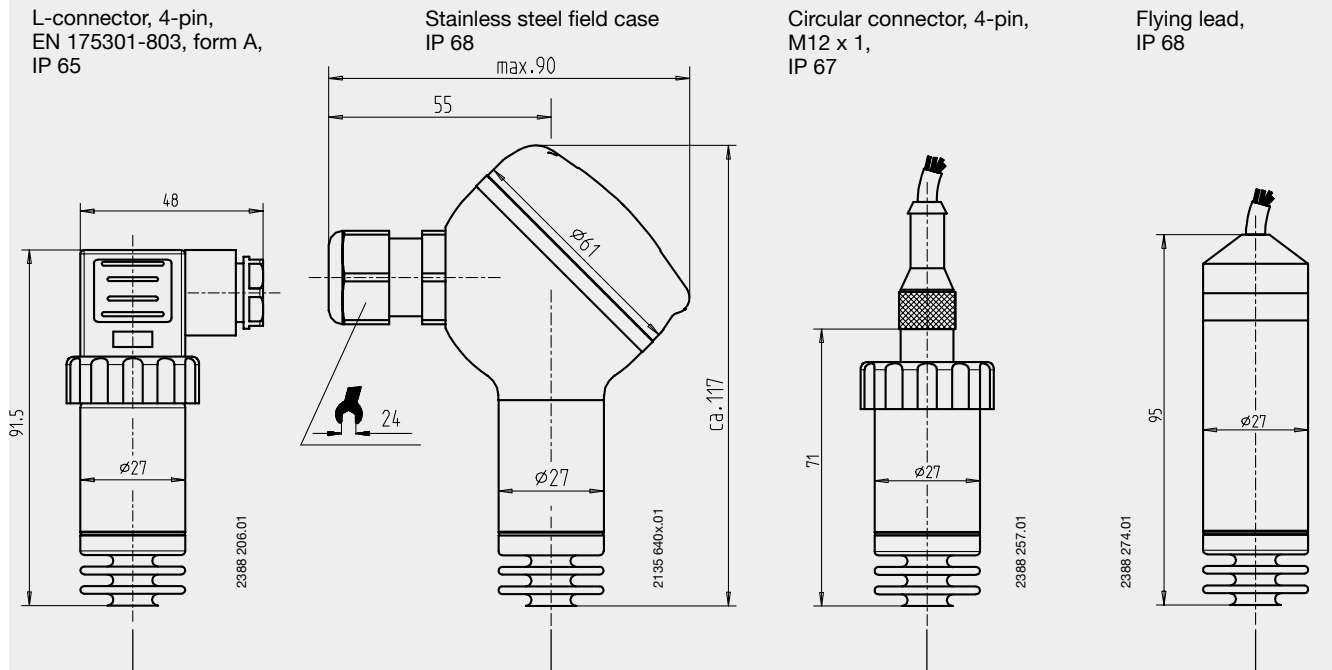
Model SA-11

Pressure ranges	bar	0.1	0.25	0.4	0.6	1	2.5	4	6	10	16	25
Over pressure safety	bar	1	2	2	4	5	10	17	35	35	80	80
Burst pressure	bar	2	2.4	2.4	4.8	6	12	20.5	42	42	96	96
{Vacuum, gauge pressure, compound range, absolute pressure are available}												
Process connection		<ul style="list-style-type: none"> ■ Tri-Clamp 1 1/2", 2" ■ Clamp DIN 32 676 DN 32, 40, 50 ■ Clamp ISO 2852 DN 33,7, 38, 40, 51 ■ Female union nut DIN 11 851 DN 25, 40, 50 ■ Female union nut DIN 11 864-1 DN 40, 50 ■ VARIVENT® form F, N Further connections such as DRD on inquiry										
Material		<ul style="list-style-type: none"> ■ Wetted parts: Stainless steel 1.4435 ■ Case: Stainless steel 1.4571 										
System fill fluid		Synthetic oil, KN 77, FDA conform										
Power supply U_B	U_B in DC V	10 < U_B ≤ 30 (14 ... 30 with signal output 0 ... 10 V)										
Signal output and maximum load R_A	R_A in Ohm	4 ... 20 mA, 2-wire $R_A \leq (U_B - 10 \text{ V}) / 0.02 \text{ A}$ 0 ... 20 mA, 3-wire $R_A \leq (U_B - 3 \text{ V}) / 0.02 \text{ A}$ {0 ... 10 V, 3-wire} $R_A > 10.0000$ {other signal outputs on request}										
Adjustability zero/span	%	± 10 with potentiometer in the device										
Response time (10 ... 90 %)	ms	≤ 10										
Dielectric strength	DC V	500 ¹⁾										
1) NEC Class 02 power supply (low voltage and low current max. 100 VA even under fault conditions)												
Accuracy	% of span	≤ 0.25 {0.125} ²⁾ (BFSL) (adjusted in vertical mounting position with pressure connection bottom)										
	% of span	≤ 0.5 {0.25} ³⁾										
2) Accuracy { } for pressure ranges ≥ 0.25 bar												
3) Including non-linearity, hysteresis, non-repeatability, zero point and full scale error (corresponds to error of measurement per IEC 61298-2).												
Non-linearity	% of span	≤ 0.2 (BFSL) according to IEC 61298-2										
1-year stability	% of span	≤ 0.2 (at reference conditions)										
Permissible temperature ranges		<ul style="list-style-type: none"> ■ Medium³⁾: °C -20 ... +150 ■ Ambient³⁾: °C -20 ... + 80 ■ Storage³⁾: °C -40 ... +100 										
3) Also complies with EN 50178, Tab. 7, Operation (C) 4K4H, Storage (D) 1K4, Transport (E) 2K3												
Compensated temperature range	°C	0 ... + 80										
Temperature coefficients within compensated temperature range:		<ul style="list-style-type: none"> ■ Mean TC of zero: <ul style="list-style-type: none"> % of span /10K ≤ 0.2 with pressure range 0 ... 0.6 bar to 0 ... 25 bar % of span /10K ≤ 0.25 with pressure range 0 ... 0.4 bar % of span /10K ≤ 0.4 with pressure range 0 ... 0.25 bar % of span /10K ≤ 1.0 with pressure range 0 ... 0.1 bar ■ Mean TC of range: % of span /10K ≤ 0.2 										
CE- Conformity		89/336/EWG interference emission and immunity see EN 61 326, interference emission limit class A and B, 97/23/EG Pressure equipment directive (Module H)										
Shock resistance	g	500 according to IEC 60068-2-27 (mechanical shock)										
Vibration resistance	g	15 according to IEC 60068-2-6 (vibration under resonance)										
Electrical connection		<ul style="list-style-type: none"> ■ 4-pin L-connector per EN 175301-803, form A ■ Stainless steel field case with internal spring clip terminal, cross section max. 2.5 mm² ■ Circular connector M12 x 1, 4-pin ■ Flying lead with 10 m vented cable (zero/span not adjustable) 										
Wiring protection		Protected against reverse polarity and short circuiting on the instrument side										
Ingress protection		Per IEC 60 529 / EN 60 529, see page 3										
Weight	kg	Approx. 0.5										

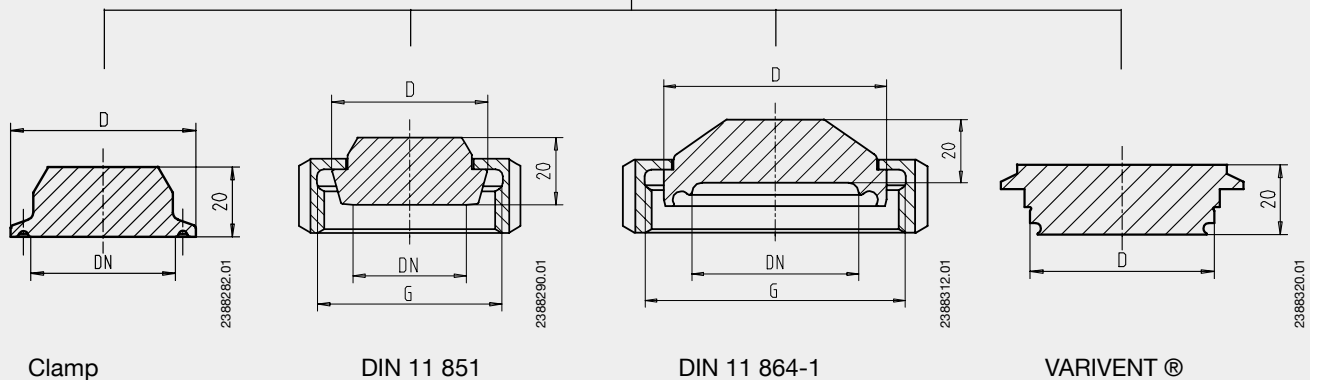
{ } Items in curved brackets are optional extras for additional price.

Dimensions in mm

Electrical connections

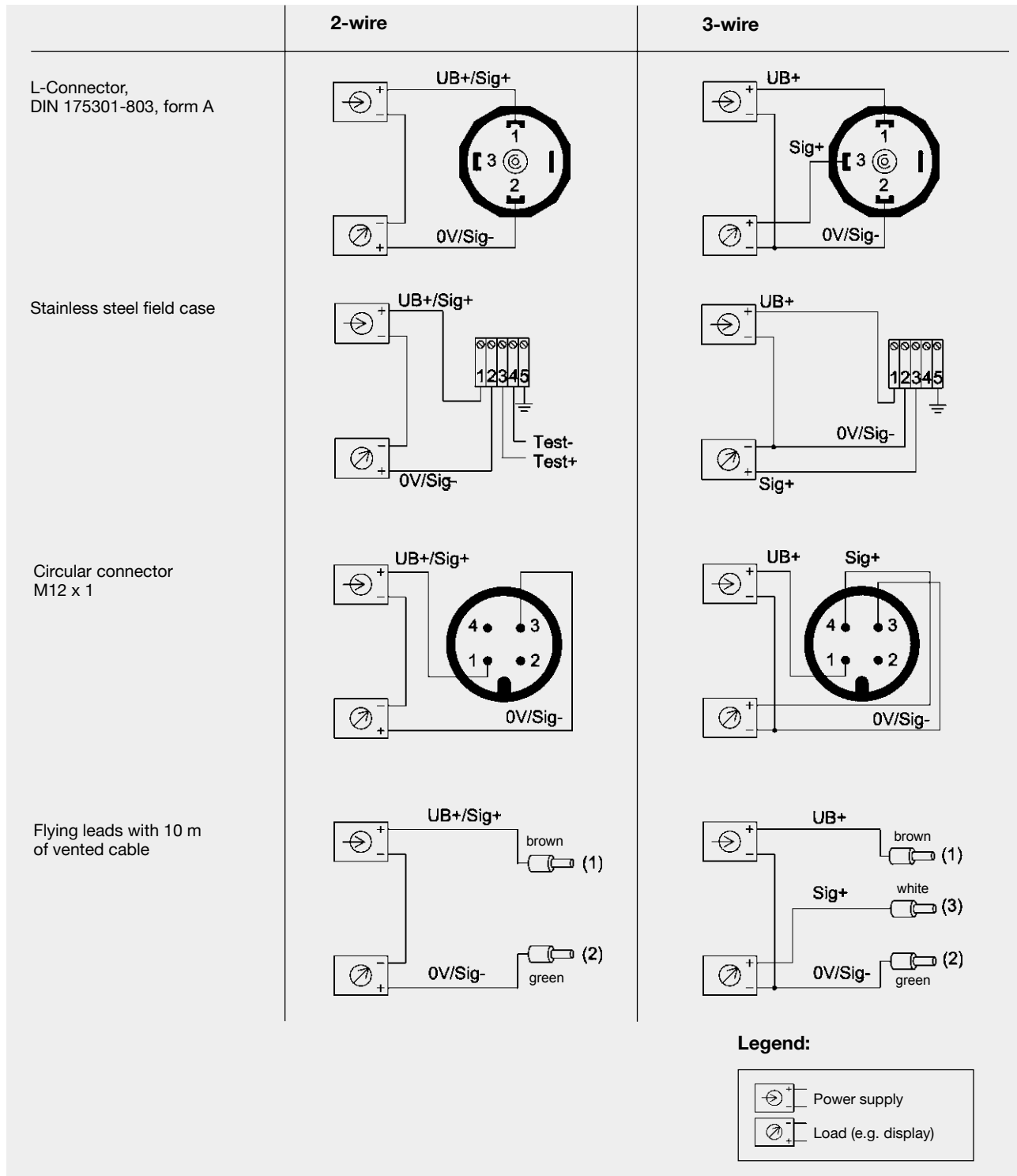


Process connections



Process connection		Nominal size DN in mm / in.	Dimensions in mm	
			D	G
Clamp	Tri-Clamp	1 1/2 "	50	
		2 "	64	
	DIN 32 676	DN 32	50	
		DN 40	50	
		DN 50	64	
	ISO 2852	DN 33.7	50	
		DN 38	50	
DN 40		64		
DN 51		64		
Female union nut DIN 11 851		DN 25	44	Rd 52 x 1/6
with conical coupling, for pipes acc. to DIN 11 850		DN 40	56	Rd 65 x 1/6
		DN 50	68.5	Rd 78 x 1/6
		DN 40	54.9	Rd 65 x 1/6
Female union nut DIN 11 864-1		DN 50	66.9	Rd 78 x 1/6
VARIVENT®	form F	DN 25/32	50	
	form N	DN 40/50	68	

Wiring details



Ordering information

Model / Signal output / Pressure range / Process connection / electrical connection / Optional extras required

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



WIKAI Alexander Wiegand GmbH & Co. KG
 Alexander-Wiegand-Straße 30
 63911 Klingenberg/Germany
 Phone (+49) 93 72/132-0
 Fax (+49) 93 72/132-406
 E-Mail info@wika.de
 www.wika.de