

**series EDN.313
a/w sanitary diaphragm
for hygienic application**



**St. steel housing & wetted part, series EDN
assembled with Sanitary clamp
with Declaration of Conformity, CE**

General features

- Silicon Pressure Transmitters for food, pharmaceuticals and biotechnology
- Pressure range from 0...1 bar to 0...40 bar
- Wiring with DIN43650A L-connector or various connectors
- Ingress protection IP65
- Housing parts of stainless steel

Application area

- Food & beverage industry
- Pharmaceutical industry
- Biotechnology
- Hygienic application

General specification

Pressure ranges

0...1 bar to 0...40 bar
Other pressure ranges are on request

Type of series EDN.SAx

SA1: Diaphragm diameter 3/4"
SA2: Diaphragm diameter 1"
SA3: Diaphragm diameter 1 1/2"
SA4: Diaphragm diameter 2"
SA5: Diaphragm diameter 2.5"
SA6: Diaphragm diameter 3"

Accuracy

± 0.5% FS
included Linearity+Hysteresis+Repeatability
** pressure range, negative $\leq \pm 1.0\%$

R28

± 0.3% FS
± 0.2% FS
± 0.15% FS

Overpressure

1.5 X pressure range

Output type

Current (2-wire) : 4...20mA 2-wire system
Voltage (3-wire) : 0...10V 3-wire system
0...5V 3-wire system
1...5V 3-wire system



EDN.313 for hygienic application

Power supply

Ref. power : DC 24V
Available power : DC 12...30V

Response time

$\leq 5\text{ms}$

Isolation

$> 100\text{M}\Omega$ at 100 VDC

Materials

Wetted parts : St. steel 316L
Sensor sealing : No O-ring
Body : St. steel 304

Electrical connection

DIN43650 A, M12 Plug, Cable type

Pressure connection

Clamp connection per DIN 32676

Temperature range

Operating : -20...100°C
Compensated : -10...70°C

Thermal error

Zero thermal error : $\pm 0.75\%FS$ @ 25°C (typ.)
Span thermal error : $\pm 0.75\%FS$ @ 25°C (typ.)

Protection

IP65



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Technical specifications

Input pressure range

Normal pressure:
0...1 bar to 0...40 bar

Permissible static pressure:
1.3 x pressure range

Output signal / Supply

Current:
2-wire 4...20mA Vs=12...30 VDC

Voltage:
3-wire 0...10V, 0...5V, 1...5V Vs=12...30 VDC

Performance

¹Accuracy: $\leq \pm 0.5\% \text{FSO @ } 25^\circ\text{C}$
¹ accuracy according to IEC 60770 - limit point adjustment including non-linearity, hysteresis as well as repeatability

Permissible load / R_L
Current: 2-wire, $R_L \text{ max} = [(V_s - V_s \text{ min}) / 0.02 \text{ A}] \Omega$
Voltage: 3-wire, $R_L \text{ min} = 10 \text{ k}\Omega$

Influence effects:
Supply: 0.05%FSO/10V
Longterm stability: $\leq \pm 0.5\% \text{FS} / \text{year}$
Response time: <5ms

Thermal effects (Offset and Span) / Permissible temperatures

FS thermal error: $\pm 0.75\% \text{FS @ } 25^\circ\text{C}$, typical
Zero thermal error: $\pm 0.75\% \text{FS @ } 25^\circ\text{C}$, typical
Operating temperature: -20...100 °C
Compensated temperature: -20...60 °C

Electrical protection

Electromagnetic compatibility:
Emission and immunity according to
R2 EN 61326-2-3:20B CCISPR II Group 1, Class A
EN IEC 61000-3-2:2019

Insulation: the transmitter is grounded via
the process connection

Mechanical stability

Vibration: No change at 10 g RMS (20...2000) Hz
Shock: 0.1 g (1m/s) Max.

Materials

Pressure port: stainless steel 316L
Housing / body: stainless steel 304
Sensor diaphragm: stainless steel 316L
Wetted parts: stainless steel 316L

Miscellaneous

Current consumption
Signal output current max. 25mA

Current
4...20mA, 2-wire system
Signal output voltage max. 7mA

Voltage:
0...10V, 3-wire system
0...5V, 3-wire system
1...5V, 3-wire system

Ingress protection:
IP65 / DIN 43650 A plug

EMC Test report for CE conformance

- EN 61326-2-3:2013 / Class A
- EN 61326-2-3: 2013 / IEC 61326-1:2012

Ordering Information

Model code

EDN.313

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Output signal

O1 :	4...20mA, 2-wire system
O2 :	0...10V, 3-wire system

Electrical connection

D :	DIN 43650 A
M :	M12 plug
C :	2m cable
H :	General head

Kind of sanitary diaphragm standard

TR:	Tri-clamp ASME BPE, ISO1127
GA:	Groove nut, APV-RJT
GT:	Groove nut, theraded connection IDF ISO 2853
FM:	Flush mounted, hygienic tubes
TC:	Tri-Clamp, ASME BPE & ISO 1127 incl. cooling

Size of sanitary clamp

S1:	Diaphragm DN12, 3/4"
S2:	Diaphragm DN16, 1"
S3:	Diaphragm DN24, 1 1/2"
S4:	Diaphragm DN32, 2"
S5:	Diaphragm DN40, 2.5"
S6:	Diaphragm DN48, 3"

Kind of oil filled for calibration

F :	Food & Beverage oil
G :	Glycerine

Pressure range code, unit bar

Code	Range	Code	Range
R23	0...1	R31	0...5
R24	0...1.2	R32	0...6
R25	0...1.5	R33	0...10
R26	0...1.6	R34	0...15
R27	0...2	R35	0...16
R28	0...2.5	R36	0...20
R29	0...3	R37	0...25
R30	0...4	R38	0...40

Accuracy

A7	Accuracy ± 0.5
A6	Accuracy ± 0.3
A4	Accuracy ± 0.15

Option / 제작상세에 기재

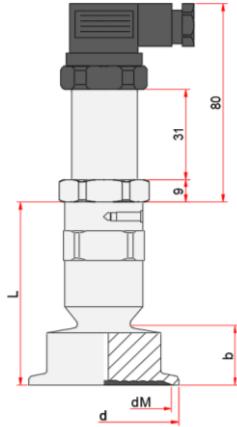
Code	Description
T4	-40...125 °C / operating temperature
CD2:	Cooling device up to 200 °C
CD3:	Cooling device up to 300 °C
TP:	st. steel tag plate, 60 x 20 x 0.5t
KC:	KOLAS Ilac-MRA calibration certificate

How to Order

EDN.313.O1.D.S4.G.BR30

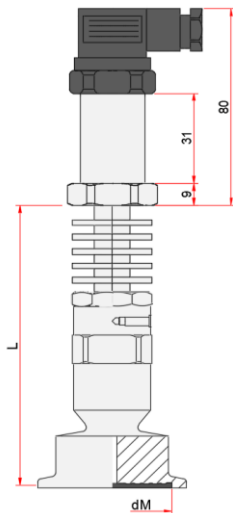
EDN.313, 4...20mA, DIN 43650 A, Sanitary 2", Glycerine filled, 0...4 bar, $\pm 0.5\%$, DMCC

Tri-Clamp, ASME BPE and ISO 1127



Tri-Clamp, ASME BPE and ISO 1127						
NPS	DN	L	Pipe outer Ø x wall thickness		dM	d
			ASME BPE	ISO 1127		
3/4"	20	63	19.05 x 1.2	26.9 x 1.6	16	25.4
1"	25		25.4 x 1.6	33.7 x 2	21	50.5
1 1/2"	38		38.1 x 1.6	42.4 x 2	30	
2"	51		50.8 x 1.6	48.3 x 2	38	64
2 1/2"	63.5		63.5 x 1.6	60.3 x 2	52	77.5
3"	76.1		76.2 x 1.6	76.1 x 2	66	91

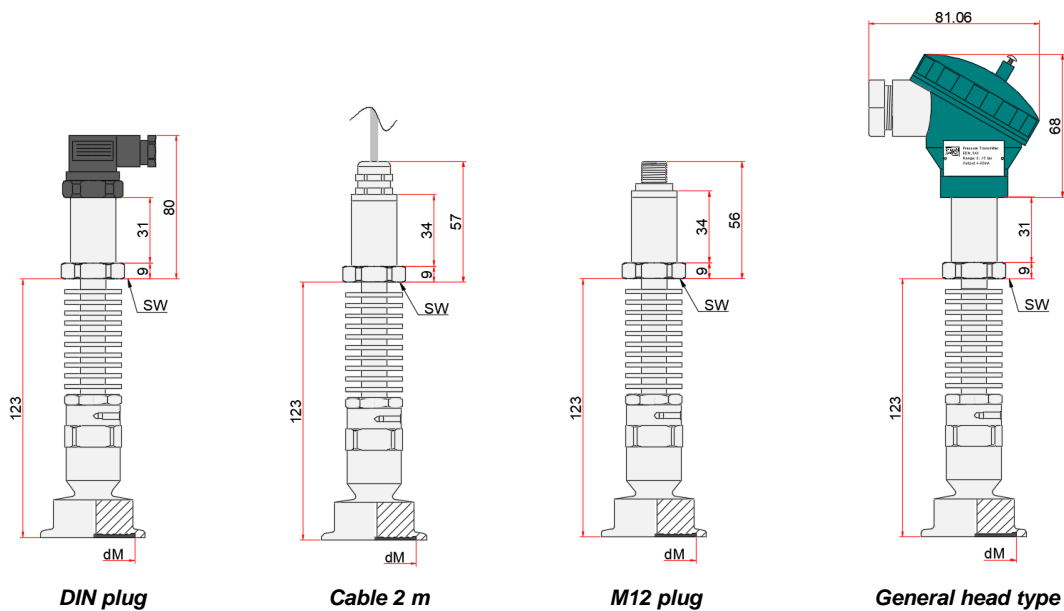
Tri-Clamp, ASME BPE and ISO 1127 including cooling device for 200 °C



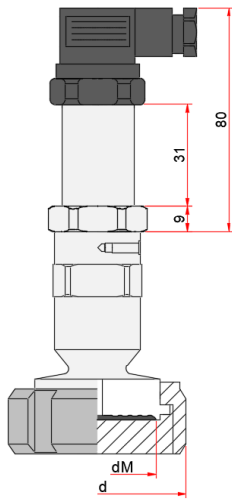
Tri-Clamp, ASME BPE and ISO 1127						
NPS	DN	L	Pipe outer Ø x wall thickness		dM	d
			ASME BPE	ISO 1127		
3/4"	20	98	19.05 x 1.2	26.9 x 1.6	16	25.4
1"	25		25.4 x 1.6	33.7 x 2	21	50.5
1 1/2"	38		38.1 x 1.6	42.4 x 2	30	
2"	51		50.8 x 1.6	48.3 x 2	38	64
2 1/2"	63.5		63.5 x 1.6	60.3 x 2	52	77.5
3"	76.1		76.2 x 1.6	76.1 x 2	66	91

Assembled with cooling device 300 °C

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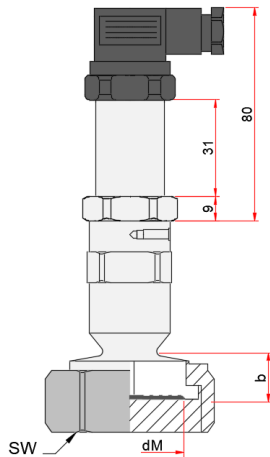


Groove nut, threaded connection IDF ISO 2853



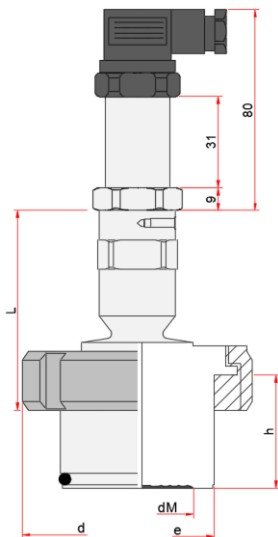
Groove nut, threaded connection IDF ISO 2853						
DN	PN	for tube male \varnothing x wall thickness	dM	d	b	L
1"	40	25.6 x 1.5	19	21	20	63
1 1/2"		38.6 x 1.5	32	34		
2"		51.6 x 1.5	46	48		
2 1/2"	20	64.1 x 1.9	56	58	20	63
3"		76.7 x 1.9	66	68		

Groove nut, APV-RJT



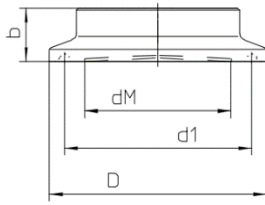
Groove nut, APV-RJT						
NPS	PN	for tube male \varnothing x wall thickness	dM	SW	b	L
1"	40	25.4 x 1.6	19	51	20	63
1 1/2"		38.1 x 1.6	32	65		
2"		50.8 x 1.6	38	79		
2 1/2"	20	63.5 x 1.6	54	92	20	63
3"		76.2 x 1.6	66	105		

Flush mounted, hygienic tubes



Flush mounted, hygienic tubes					
DN	dM	e	d	h	L
40	40	52	78	38.5	63

Sanitary diaphragm

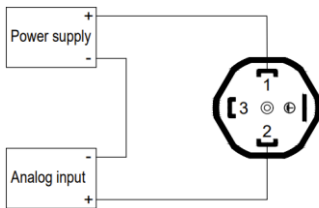


Clamp connection per DIN 32676 / Tri-clamp for pipes per ASME BPE

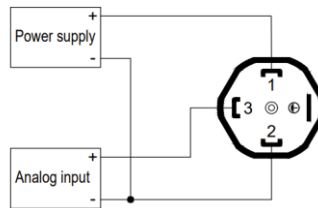
DN inch	PN bar	dM mm	d1 mm	di mm	b mm	D mm	weight kg
3/4"	25	15.5	20.2	15.75	15	25	0.2
1"	25	22.6	43.5	22.1	14	50.5	0.3
1 1/2"	25	34	43.5	34.8	12	50.5	0.3
2"	16	46	56.5	47.5	14	64	0.4
2 1/2"	16	51	70.5	60.2	14	77.5	0.5
3"	16	70	83.5	72.9	14	91	0.8

Pin assignment

DIN 43650A connector according to DIN EN 175301-803A



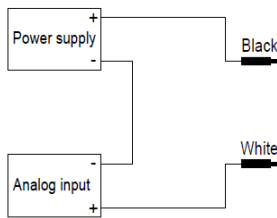
2-wire / current



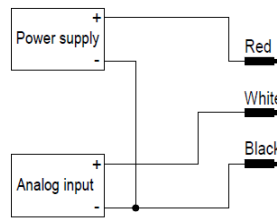
3-wire / voltage

Pin No.	2-Wire	3-Wire
1	+Vcc	+Vcc
2	Output(mA)	GND
3		Output(VDC)

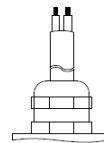
Flying leads with 2m cable



2-wire / current



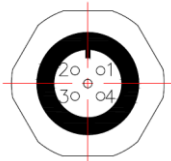
3-wire / voltage



	2-Wire	3-Wire
White	Output(mA)	Output(VDC)
Red		+Vcc
Black	+Vcc	GND

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M12 x 1, 5-pin / male



Pin No.	2-Wire	3-Wire
1	+Vcc	+Vcc
2	Output(mA)	GND
3		Output(VDC)
4		

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