

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

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

Accuracy

± 0.5% F.S, incl. linearity+hysteresis+repeatability
 * Especially, in case of compound pressure ranges, the accuracy is ≤ ± 1.0% in negative range.

Accuracy options

± 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

Series EDN.313 a/w various sanitary

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"



series EDN.313 a/w sanitary

Power supply

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

Response time

≤ 5ms

Isolation

> 100MΩ 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 : ±0.75%FS @ 25°C (typ.)
 Span thermal error : ±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...28 VDC

Voltage:

3-wire 0...10V, 0...5V, 1...5V Vs=12...28 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: $\leq \pm 0.5\% \text{FS / year}$

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

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

A4 Accuracy ±0.5

A6 Accuracy ±0.3

A8 Accuracy ±0.15

Option / 제작상세에 기재

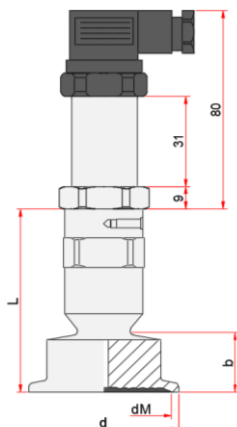
Code	Description
T4	-40...125°C / operating temperature
CD2:	Cooling device up to 200°C
CD3:	Cooling device up to 300°C
TP:	st. steel tag plate, 60 x 20 x 0.5t
KC:	KOLAS Ilac-MRA calibration certificate

How to Order

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

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

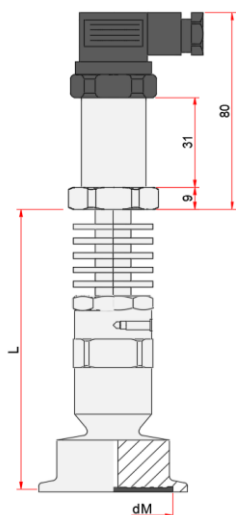
Tri-Clamp, ASME BPE and ISO 1127



Tri-Clanmp, 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

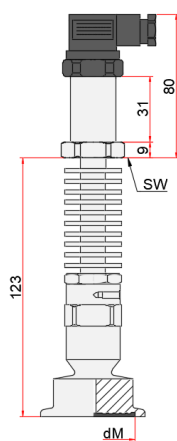
Tri-Clamp, ASME BPE and ISO 1127 including cooling device for 200 °C



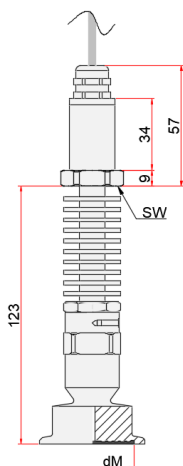
Tri-Clanmp, ASME BPE and ISO 1127

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

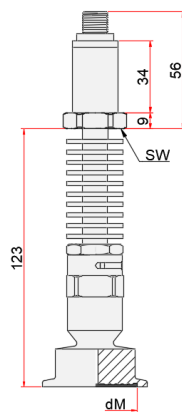
Assembled with cooling device 300 °C



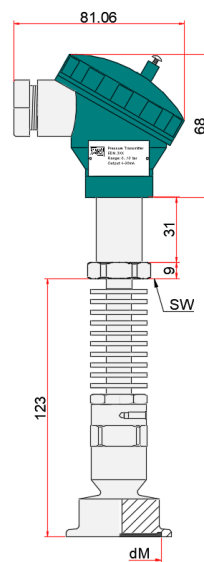
DIN plug



Cable 2 m

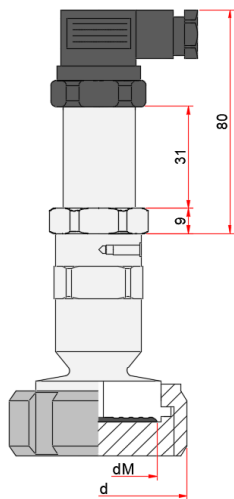


M12 plug



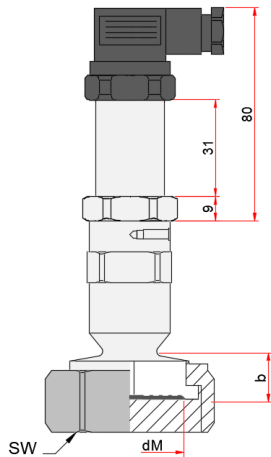
General head type

Groove nut, threaded connection IDF ISO 2853



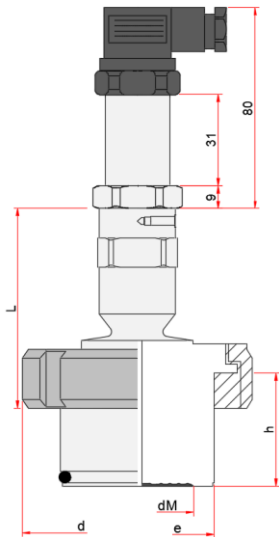
Groove nut, threaded connection IDF ISO 2853						
DN	PN	for tube male Ø x wall thickness	dM	d	b	L
1"	40	25.6 x 1.5	19	21	20	63
1 1/2"		38.6 x 1.5	32	34		
2"		51.6 x 1.5	46	48		
2 1/2"	20	64.1 x 1.9	56	58		
3"		76.7 x 1.9	66	68		

Groove nut, APV-RJT



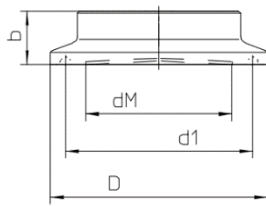
Groove nut, APV-RJT						
NPS	PN	for tube male Ø x wall thickness	dM	SW	b	L
1"	40	25.4 x 1.6	19	51	20	63
1 1/2"		38.1 x 1.6	32	65		
2"		50.8 x 1.6	38	79		
2 1/2"	20	63.5 x 1.6	54	92		
3"		76.2 x 1.6	66	105		

Flush mounted, hygienic tubes



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

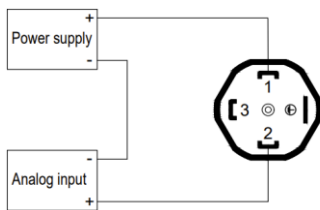
Sanitary diaphragm



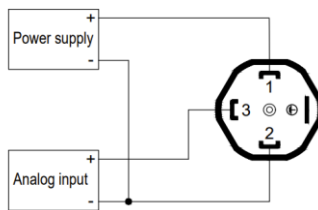
Clamp connection per DIN 32676 / Tri-clamp for pipes per ASME BPE							
DN inch	PN bar	dM mm	d1 mm	di mm	b mm	D mm	weight kg
3/4"	25	15.5	20.2	15.75	15	25	0.2
1"	25	22.6	43.5	22.1	14	50.5	0.3
1 1/2"	25	34	43.5	34.8	12	50.5	0.3
2"	16	46	56.5	47.5	14	64	0.4
2 1/2"	16	51	70.5	60.2	14	77.5	0.5
3"	16	70	83.5	72.9	14	91	0.8

Pin assignment

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



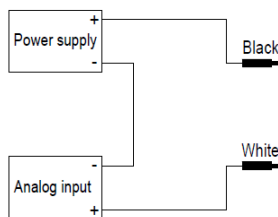
2-wire / current



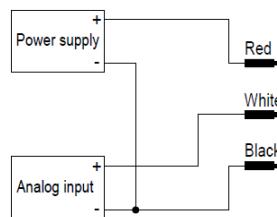
3-wire / voltage

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

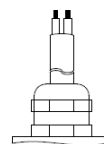
Flying leads with 2m cable



2-wire / current

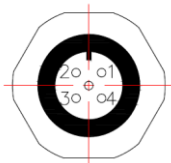


3-wire / voltage



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

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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