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

St. steel housing & wetted part, series EDN
assembled with sanitary diaphragm
with Declaration of Conformity, CE

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 production IP65 / IP67 / IP68
- Housing parts of stainless steel



Application area

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

General specification

series EDN.313 a/w sanitary

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

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

Accuracy options
± 0.25% FS
± 0.1% FS, only for possitive pressure range

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"

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 / mPm plug	IP65
Head type	IP65
M12 plug	IP67
2m flying cable	IP67
Underwater elec. Plug	IP68

Pressure connection
Clamp connection per DIN 32676

Temperature range

Operating	:	-20…100℃
Compensated	:	-10…70℃

Thermal error

Zero thermal error	:	±0.75%FS @ 25℃ (typ.)
Span thermal error	:	±0.75%FS @ 25℃ (typ.)

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Technical specifications

Input pressure range

Norminal 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

[1]Accuracy: ≤ ±0.5%FSO @ 25℃

[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 max=[(Vs-Vs min)/0.02A]Ω

Voltage: 3-wire, R_L min=10kΩ

Influence effects:

Supply:	0.05%FSO/10V
Longterm stability:	≤±0.5%FS / year
Response time:	<5ms

Thermal effects (Offset and Span) / Permissible temperatures

FS thermal error:	±0.75%FS @ 25℃, typical
Zero thermal error:	±0.75%FS @ 25℃, typical
Operating temperature:	-20…100℃
Compensated tempearture:	-20…60℃

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 / IP67 / IP68 (depending on electrical connection)

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** · ☐ · ☐ · ☐ · ☐ · ☐ · ☐ · B ☐ · ☐

Accuracy	
A4	≤ 0.5 % F.S
A7	≤ 0.25 % F.S
A9	≤ 0.1 % F.S

Output signal	
O1	4…20mA, 2-wire system
O2	0…10V, 3-wire system

Electrical connection	
D	DIN 43650 A
P	mpm plug
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
R23	0…1
R26	0…1.6
R28	0…2.5
R30	0…4
R32	0…6
R33	0…10
R35	0…16
R37	0…25
R38	0…40

Options

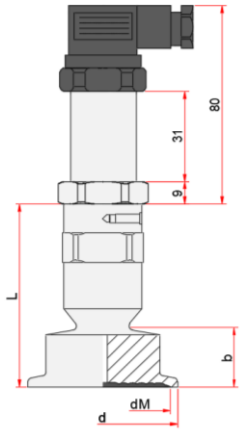
Code	Description
T4	-40…125℃ / operating temperature
CD2:	Cooling device up to 200℃
CD3:	Cooling device up to 300℃
TP:	st. steel tag plate, 60 x 20 x 0.5t
KC:	KOLAS Ilac-MRA calibration certificate

How to Order

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

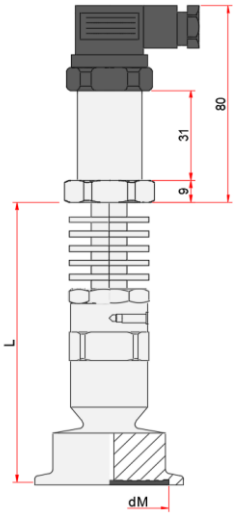
EDN.313, 4…20mA, DIN 43650 A, Sanitary 2", Glycerine filled, 0…4 bar, ±0.5%, DMCC

Tri-Clamp, ASME BPE and ISO 1127



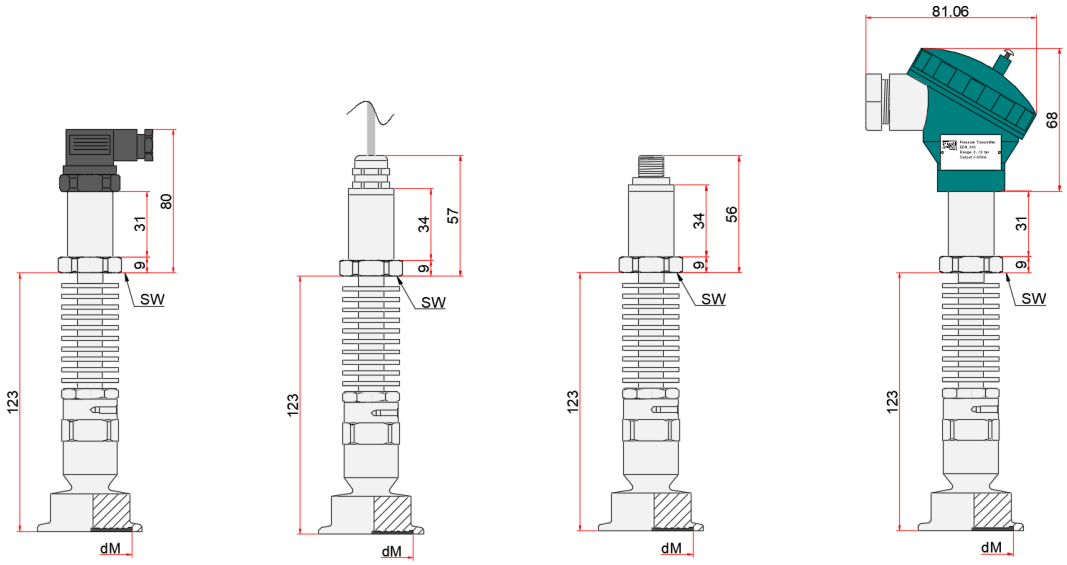
Tri-Clanmp, ASME BPE and ISO 1127						
NPS	DN	L	Pipe outer Ø x wall thickness		dM	d
			ASME BPE	ISO 1127		
3/4"	20	63	19.05 x 1.2	26.9 x 1.6	16	25.4
1"	25		25.4 x 1.6	33.7 x 2	21	50.5
1 1/2"	38		38.1 x 1.6	42.4 x 2	30	
2"	51		50.8 x 1.6	48.3 x 2	38	64
2 1/2"	63.5		63.5 x1.6	60.3 x 2	52	77.5
3"	76.1		76.2 x1.6	76.1 x 2	66	91

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



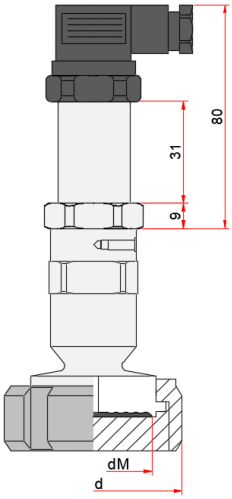
Tri-Clanmp, ASME BPE and ISO 1127						
NPS	DN	L	Pipe outer Ø x wall thickness		dM	d
			ASME BPE	ISO 1127		
3/4"	20	98	19.05 x 1.2	26.9 x 1.6	16	25.4
1"	25		25.4 x 1.6	33.7 x 2	21	50.5
1 1/2"	38		38.1 x 1.6	42.4 x 2	30	
2"	51		50.8 x 1.6	48.3 x 2	38	64
2 1/2"	63.5		63.5 x1.6	60.3 x 2	52	77.5
3"	76.1		76.2 x1.6	76.1 x 2	66	91

Assembled with cooling device 300 ℃



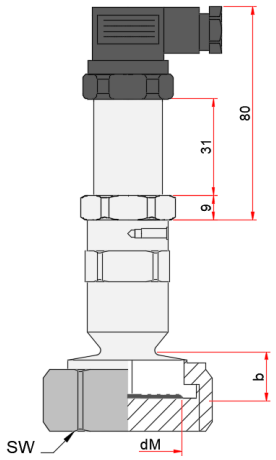
DIN plug ***Cable 2 m*** ***M12 plug*** ***General head type***

Groove nut, threaded connection IDF ISO 2853



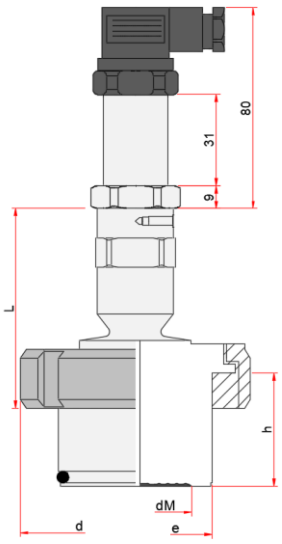
Groove nut, threaded connection IDF ISO 2853						
DN	PN	for tube male Ø x wall thickness	dM	d	b	L
1"	40	25.6 x 1.5	19	21	20	63
1 1/2"		38.6 x 1.5	32	34		
2"		51.6 x 1.5	46	48		
2 1/2"	20	64.1 x 1.9	56	58		
3"		76.7 x 1.9	66	68		

Groove nut, APV-RJT



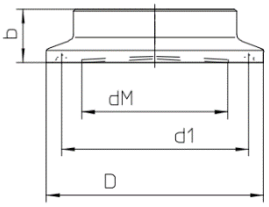
Groove nut, APV-RJT						
NPS	PN	for tube male Ø x wall thickness	dM	SW	b	L
1"	40	25.4 x 1.6	19	51	20	63
1 1/2"		38.1 x 1.6	32	65		
2"		50.8 x 1.6	38	79		
2 1/2"	20	63.5 x 1.6	54	92		
3"		76.2 x 1.6	66	105		

Flush mounted, hygienic tubes



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

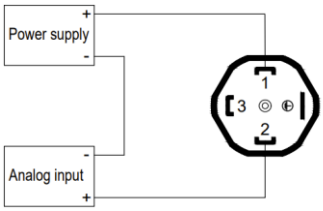
Sanitary diaphragm



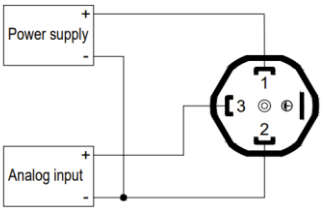
Clamp connection per DIN 32676 / Tri-clamp for pipes per ASME BPE							
DN	PN	dM	d1	di	b	D	weight
inch	bar	mm	mm	mm	mm	mm	kg
3/4"	25	15.5	20.2	15.75	15	25	0.2
1"	25	22.6	43.5	22.1	14	50.5	0.3
1 1/2"	25	34	43.5	34.8	12	50.5	0.3
2"	16	46	56.5	47.5	14	64	0.4
2 1/2"	16	51	70.5	60.2	14	77.5	0.5
3"	16	70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

Pin assignment

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



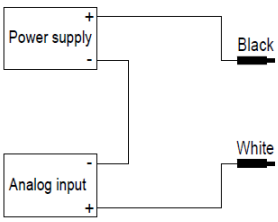
2-wire / current



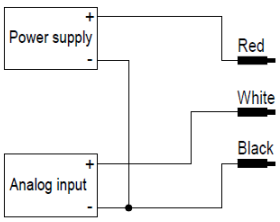
3-wire / voltage

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

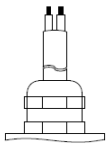
Flying leads with 2m cable



2-wire / current



3-wire / voltage



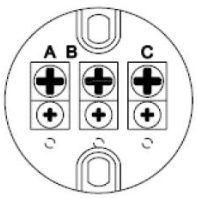
	2-Wire	3-Wire
White	Output(mA)	Output(VDC)
Red		+Vcc
Black	+Vcc	GND

M12 x 1, 5-pin / male



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

Head type



Connection diaphragm

Pin No.	Current output	Voltage output
A	+Vcc	+Vcc
B	Output	Output
C	⏚	GND

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