Digital pressure transmitter
with switches & RS485
hygienic application
series EDN.713

all st.steel housing & bodies
RS485 communication
2 switches, relays signals
Certified by KOSHA, Ex d IIC T6

General features

- Pressure range from -1…0 bar to 0…1000 bar
- Multi-functional LCD, 4 1/2-digit
- Various pressure scale units available
- Zero point, range adjustable
- Switch function, 2 switches
- RS485 digital communication

Application area

- Semiconductor industry
- Pharmacetical and midicine industry
- Hydraulic and pneumatic control systems
- Pressure calibration, pressure checking
- Liquid pressure system and switch

General specification

series EDN.713 for hygienic application

Pressure ranges
From -1…0 bar, 0…1 bar to 0…40 bar
Min. span range ≥ 1 bar

Accuracy
included Linearity+Hysteresis+Repeatability
± 0.5% FS
± 0.35% FS / option
± 0.15% FS / option (pressure range, ≥ 2 bar)
** In case of pressure range, negative, then ≤ 1.0% F.S

Overpressure
1.3 X pressure range

Output signals
4…20 mA, 2-wire system
0…10 V, 3-wire system
0…5 V, 3-wire system
1…5 V, 3-wire system
0.5…4.5 V, 3-wire system

Power supply

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

Temperature range

Operating:	-20…80℃
Ambient:	-20…60℃
Storage:	-10…80℃
Temperature compensating range:	0…60℃

Thermal error

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

Special functions included
Switches, 2 contacts
RS485 digital communication

Isolation	> 100MΩ at 100 VDC
Electrical connection	Flameproof, M12
Display	LCD, 4 1/2 - digit -1999…9999
Background	Light white

Materials

Wetted parts:	St.steel 316L
Body:	St.steel

Adjusttable Pressure units
bar, mbar, MPa, kPa, psi, kg/cm2, mmH2O, inH2O
mmHg, inHg, torr, atm

Operation
Pressure range, zero point adjustment, characteristic curve and damping rate are adjustable on the device

Option
High temperature cooling device could be included.

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Technical specifications

Input pressure range

Norminal pressure:

-1…0 bar up 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	Vs=12…30 VDC

Performance

[1]Accuracy: ≤ ±0.3%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…80℃
Compensated tempearture:	0…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
0.5…4.5V, 3-wire system

EMC Test report for CE conformance

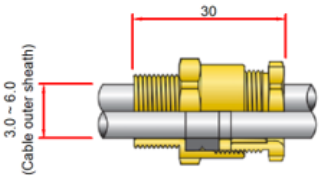
- EN 61326-2-3:2013 / Class A
- EN 61326-2-3: 2013 / IEC 61326-1:2012

Special features

- Protection against reverse polarity connections (±40VDC).
- High Noise Immunity Performance against Electrical Fast Transient (EFT) noise.
- High Precision against variations in ambient temperature. (±1.3% in -20…70℃).
- Wide pressure operating range.30% lower than the minimum and 30% higher than the maximum.
- Protection against instantaneous surge voltage.
- Durable design for severe vibration.

Electrical connecting cable gland

- IP66
- Materials: Brass with nickel plated
- Cable outer : 3.0…6.0 mm



Ordering information

Model code **EDN.713** · ___ · ___ · ___ · ___ · ___ · ___ · B ___ · ___

Output signal	
O1	4…20mA / 2-wire system
O2	0…10V / 3-wire system
O3	0…5V / 3-wire system
O4	1…5V / 3-wire system
O6	0.5…4.5V / 3-wire system
O7	RS485 & 4…20mA
O8	RS485 & 0…10V
O9	RS485 & 0…5V
O10	RS485 & 0.1…2.5V
O11	RS485

Electrical connection	
FP	Flameproof cable gland
M	M12 plug with 12 pins

Options	
O12	2 swtiches, relays

Kind of sanitary diaphragm standar	
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 DN20, 3/4"
S2	Diaphragm DN25, 1"
S3	Diaphragm DN38, 1 1/2"
S4	Diaphragm DN51, 2"
S5	Diaphragm DN63.5, 2.5"
S6	Diaphragm DN76.1, 3"

Kind of oil filled incl. 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

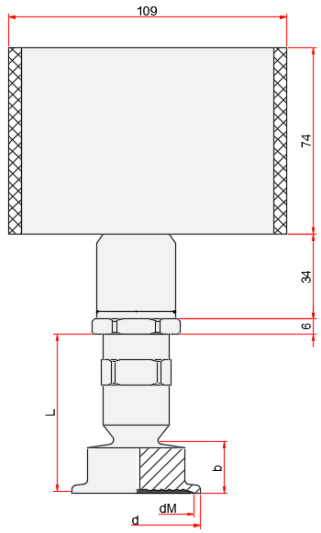
Accuracy	
A4	Accuracy ±0.5
A6	Accuracy ±0.3
A8	Accuracy ±0.15

How to Order

EDN.713.O1.FP.TR.S4.G.BR30.A4

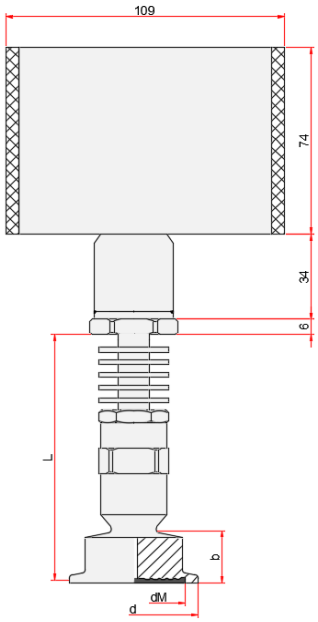
EDN.713, 4…20mA, TRI-clamp, Sanitary 2", Glycerine filled, 0…4 bar, ±0.5%, DMCC

Pressure Transmitters with diaphragm sealsbased on ASME & ISO 1127



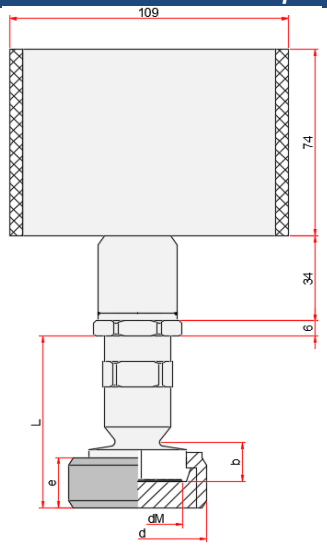
Tri-Clanmp, ASME BPE and ISO 1127						
NPS	DN	L	Pipe outer Ø x wall thickness		dM	d
			ASME BPE	ISO 1127		
3/4"	20	63	19.05 x 1.2	26.9 x 1.6	16	25.4
1"	25		25.4 x 1.6	33.7 x 2	21	50.5
1 1/2"	38		38.1 x 1.6	42.4 x 2	30	
2"	51		50.8 x 1.6	48.3 x 2	38	64
2 1/2"	63.5		63.5 x1.6	60.3 x 2	52	77.5
3"	76.1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

Pressure Transmitters with diaphragm seals a/w cooling device 200 ℃



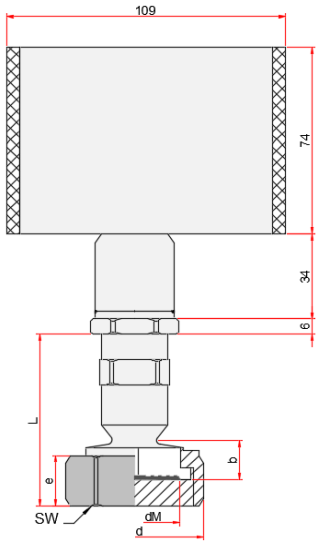
Tri-Clanmp, ASME BPE and ISO 1127						
NPS	DN	L	Pipe outer Ø x wall thickness		dM	d
			ASME BPE	ISO 1127		
3/4"	20	98	19.05 x 1.2	26.9 x 1.6	16	25.4
1"	25		25.4 x 1.6	33.7 x 2	21	50.5
1 1/2"	38		38.1 x 1.6	42.4 x 2	30	
2"	51		50.8 x 1.6	48.3 x 2	38	64
2 1/2"	63.5		63.5 x1.6	60.3 x 2	52	77.5
3"	76.1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

Pressure Transmitters with diaphragm seals based on DIN 11851



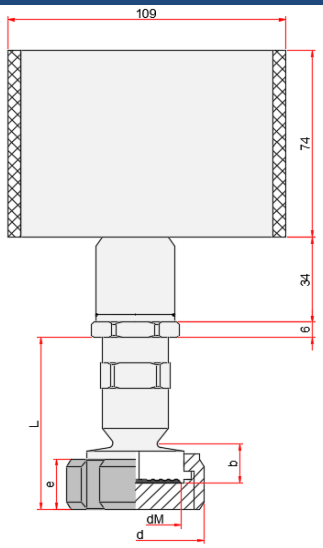
Groove nut, DIN 11851						
DN	PN	for tube male Ø x wall thickness	dM	d	b	L
20	40	23 x 1.5	21	54	20	63
25		29 x 1.5	26	63		
32		35 x 1.5	32	70		
40		41 x 1.5	38	78		
50	25	53 x 1.5	48	92		
65		70 x 2	60	112		
80		85 x2	72	127		

a/w diaphragm seals, Hexagon nut, APV-RJT



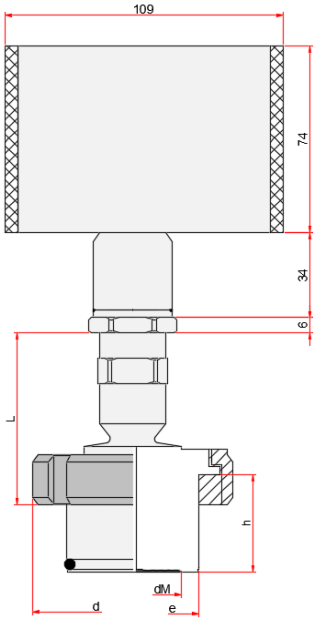
Hexagon nut, pipes per BS4825						
DN	SW	for tube male Ø x wall thickness	dM	d	b	L
1"	51	25.4 x 1.6	19	51	20	63
1 1/2"	65	38.1 x 1.6	32	65		
2"	79	50.8 x 1.6	38	79		
2 1/2"	92	63.5 x 1.6	54	92		
3"	10	76.2 x 1.6	66	105		

a/w diaphragm seals, Groove nut, IDF



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"	25	64.1 x 1.9	56	58		
3"		76.7 x 1.9	66	68		

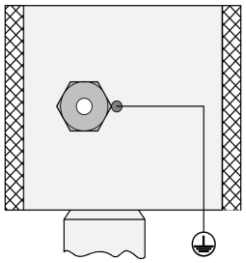
a/w diaphragm seals, flush extension mounted



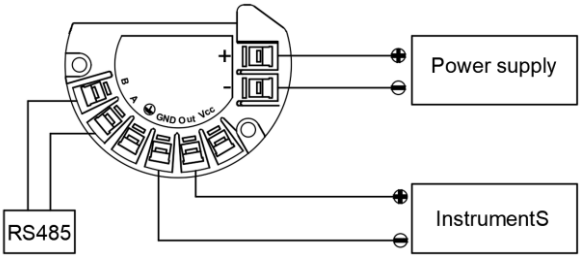
Flush mounted, hygienic tubes				
DN	dM	e	d	h
40	40	52	78	38.5

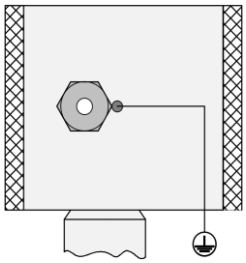
Electrical connection Diagram

Cable gland

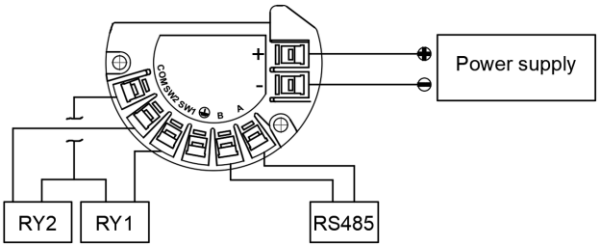


Output signal	
Pin No.	Wire
+	+Vcc
-	-Vcc
Out	+ Signal
GND	- Signal
A	RS485 A
B	RS485 B



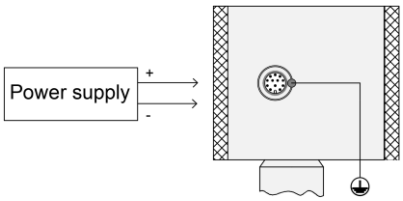


Relay	
Pin No.	2-wire
+	+Vcc
-	-Vcc
A	RS 485A
B	RS 485B
SW1	Relay 1
SW2	Relay 2
COM	Relay COM



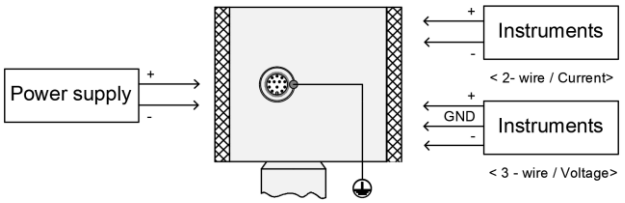
Electrical plug, M12

No Output signal



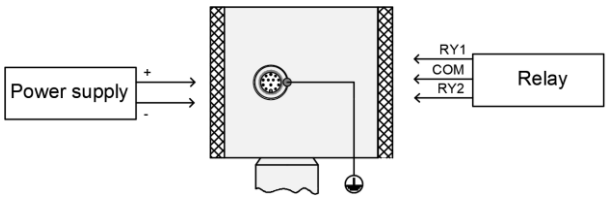
Pin No.	Wire
1	+Vcc
2	-Vcc

Output signal



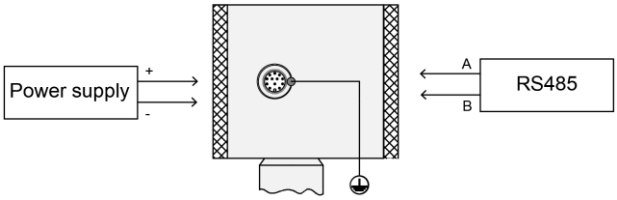
Pin No.	Current	Voltage
1	+Vcc	+Vcc
2	-Vcc	-Vcc
3	+Out	+Out
4	-Out	GND
5		-Out
12	earth	earth

Relay signal



Pin No.	Wire
1	+Vcc
2	-Vcc
6	Relay 1
7	Relay 2
8	COM
12	earth

RS485 Communication



Pin No.	Wire
1	+Vcc
2	-Vcc
9	RS 485A
10	RS 485B
12	earth

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