Pressure Transmitters for Shipbuilding Industry with Marine Approvals series EDN.380

All st. steel housing & 316L, wetted parts designed for use in severe maritime environments

under construction to get marine approvals

General features

- Piezosistive Silicon Pressure Transmitters with marine approvales for shipbuilding industries
- Pressure range from -1…0 bar to 0…1000 bar
- Several Mmrine approvals
- Ingress production IP65
- Housing parts of stainless steel

Application area

- Shipbuilding
- Hydraulic and pneumatic control systems
- Control equipments and air conditioning system
- pressure checking system



General specification

Pressure ranges
-1…0 bar to 0…1000 bar

Accuracy
including non-lenearity, hysteresis, zero point and full scale error according to IEC 61298-2

±0.5% F.S	*Non-linearity / BFSL, less than ± 0.25% FS*
±0.25% F.S	*Non-linearity / BFSL, less than ± 0.15% FS*
±0.1% F.S	*Non-linearity / BFSL, less than ± 0.05% FS*

Overpressure
1.3 X pressure range

Output type
4…20mA, 2-wire system
0…5V, 3-wire system
0…10V, 3-wire system
1…5V, 3-wire system
1…6V, 3-wire system
0.5…4.5V / 5 Vdc Ratiometric

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:	Viton
Body:	st.steel 316L

Pressure transmitters, series EDN.380

Temperature range

Compensated temperature range:	-10…80℃
Operating:	-20…+125 ℃
	-40…125 ℃ [option]
Ambient:	-20…85°C
Storage:	-40…125℃

Thermal error

Zero thermal error:	±0.75%FS @ 25℃, typical
Span thermal error:	±0.75%FS @ 25℃, typical

Electrical connection & protection

DIN43650 A	IP65
M12 Plug	IP67
mPm plug	IP65
2m flying cable type	IP67, IP68

Pressure connection
[recommended torque, 30~35Nm]

G 1/4"	-	DIN 3852-E with sealing by DIN 3869 ring seals torquet 30 - 35 Nm
G 1/4" A	-	EN 837 torquet 30 - 35 Nm
G 1/2" A	-	EN 837 torquet 30 - 35 Nm
1/4"-18NPT	-	2~3 turns afetr finger tightened

G1/4" A Female with Square Flange

Weight
Approx. 140g

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mail: info@daho.co.kr

STX W-Tower 209
Gyeongin-ro 53 Gil 90 Guro-gu
Seoul 08215 Korea

www.daho.co.kr

Technical specifications

Input pressure range

Norminal pressure:
-1…0 bar up to 0…1000 bar

Permissible static pressure:
1.3 x pressure range, max.1100 bar

Output signal / Supply

Current:

2-wire system	4…20mA	Vs=12…30 VDC

Voltage:

3-wire system	0…10V	Vs=12…30 VDC
	0…5V	
	1…5V / 1…6V	
	0.5…4.5V / 5V, ratiometric	

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…80℃
	-40…+125 ℃ / option
Compensated tempearture:	-10…80℃

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 316L
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

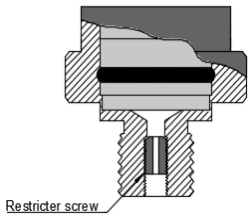
Voltage:
0…10V, 3-wire system
0…5V, 3-wire system
1…5V, 3-wire system
1…6V, 3-wire system
0.5…4.5V / 12…30V, 3-wire system
0.5…4.5V ratiometric Vs=5,0 VDC ±0,5 V

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

Pulsation stabilizer [Restiricter screw]



■ Application

In hydraulic systems filled with liquid where changes in fluid velocity occur (e.g. rapid valve closure or the start-up and shutdown of a pump), cavitation, liquid hammer and pressure peaks may occur. These problems can arise on both the hydraulic and discharge sides, even at relatively low operating pressures.

■ Pressure media condition

In the case of liquids containing particles, the nozzle may become blocked. If the pressure transmitter is installed vertically, the flow rate through the nozzle is restricted only during the start-up period until the dead volume behind the nozzle is filled, thereby minimising the risk of blockage. The viscosity of the fluid has virtually no effect on the response time. Even with viscosities of up to 100 cSt, the response time does not exceed 4 ms.

■ Features & Operating Conditions

Protection:	Protects against cavitation, liquid hammer & pressure peaks
Installation:	Upright position recommended to prevent nozzle clogging
Performance:	Response time < 4ms up to 100 cSt viscosity

Ordering information

Model code **EDN.380** · [ ] · [ ] · [ ] · [ ] · **B** [ ] · options

Accuracy	
A4	± 0.5%
A7	± 0.25%
A9	± 0.1% [in case, positive ≥ 1 bar]

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
O12	1…6V / 3-wire system
O5	0.5…4.5V / 5 Vdc, ratio-metric

Electrical connection	
P	mPm plug
D	DIN 43650 A
M	M12 plug
C	2m flying cable

Process connection	
G2A	G 1/2"A - EN837
G4A	G 1/4" A - EN837
G4	G 1/4" - DIN3852-E
N18	1/4-18NPT
W4	G1/4" a female with square flange

Pressure range code, unit bar

Code	Range
R06	-1…20
R07	-1…15
R09	-1…9
R11	-1…5
R19	-1…0
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
R39	0…40
R41	0…60
R43	0…100
R45	0…160
R47	0…250
R50	0…400
R53	0…600
R55	0…1000
RYY	Others on request

Option code

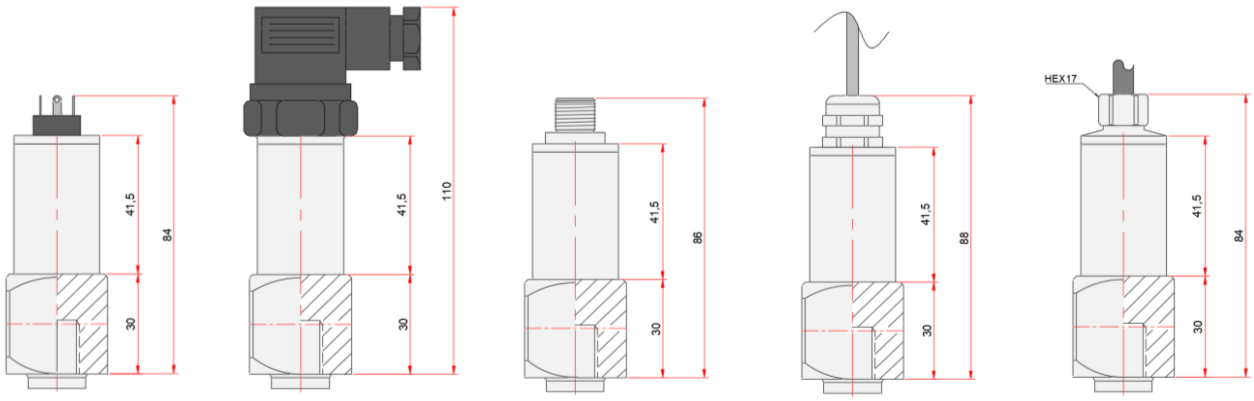
Code	Description
PAA	absolute pressure range [5…6 weeks delivery]
xL	x m cable exstension (예: 5L = 5 m, 3L = 3 m)
T4	-40…+125 ℃
AC25	Restrictor screw in socket hole
TP	St. steel tag plate, 60 x 20 x 0.5t
DMCC	Manufacture calibration certificate
KC	KOLAS Ilac-MRA calibration certificate

How to order

EDN.380, 0.5%, 4…20mA, mPm plug, G 1/4" A, 0…16 bar

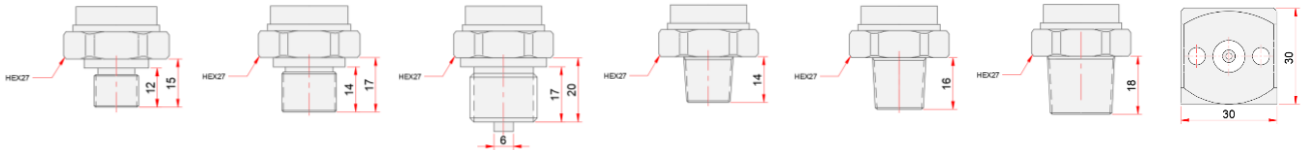
EDN.380.A4.O1.P.G4A.BR35

Outline drawing



mPm plug type | **DIN 43650A type** | **M12 plug type** | **Cable gland type** | **underwater plug**

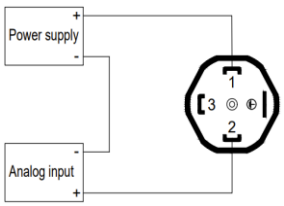
Process connection



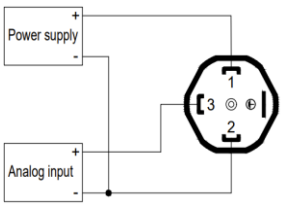
G1/4" A **DIN EN ISO 1179-2** | **G3/8" A** **DIN EN ISO 1179-2** | **G1/2" B** **EN 837-1** | **R1/4"** **ISO 7** | **R3/8"** **ISO 7** | **R1/2"** **ISO 7** | **G1/4" Female** **with flange**

Pin assignment

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



2-wire / current, 4…20mA



3-wire / voltage, 0…10V, 0…5V, 1…5V

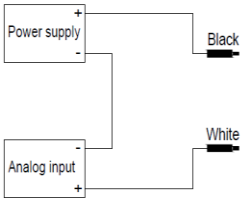
Pin No.	2-Wire	3-Wire
1	+Vcc	+Vcc
2	Output(mA)	GND
3		Output(VDC)

M12 x 1,5 - pin / male

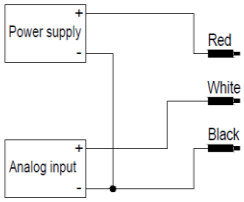


Pin No.	2-Wire	3-Wire
1	+Vcc	+Vcc
2	Output(mA)	GND
3		Output(VDC)
4		

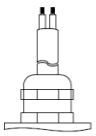
Flying leads with 2m cable



2-wire / current, 4…20mA



3-wire / voltage , 0…10V, 0…5V, 1…5V



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

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