

Pressure transmitters 0.5...4.5V ratio metric series EDR.321



all st. steel housing of wetted parts
with Declaration of Conformity, CE

General features

- Piezosistive Silicon Pressure Transmitters for industrial applications, ratiometric output
- Pressure range from -1...0 bar to 0...1000 bar
- Wiring with DIN43650A L-connector or various connectors
- Ingress protection IP65
- Housing parts of stainless steel

Application area

- Vehicle industry for secondary battery
- Hydraulic and pneumatic control systems
- Pump and compressors
- Control equipments and air conditioning system
- pressure checking system

General specification

Pressure ranges

-1...0 bar to 0...1000 bar

Accuracy

better than 0.5% FS
including non-linearity, hysteresis, zero point and
full scale error according to IEC 61298-2

Non-linearity / BFSL

less than $\pm 0.25\%$ FS

Overpressure

1.3 X pressure range

Output type

0.5...4.5V ratiometric, 3-wire system

Power supply

Ref. power: $5.0 V_{DC} \pm 0.5 V$

Reverse Polarity and Overvoltage Protection

$\pm 40 V_{DC}$

Response time

$\leq 10ms$

Isolation

$> 100M\Omega$ at $100 V_{DC}$

Materials

Wetted parts: St. steel 316L
Sensor sealing: FKM
Body: St. steel 304



Pressure transmitter series EDR.321

Temperature range

Compensated temperature range: $0...80^{\circ}C$

Temperature range of

Operating: $-20...80^{\circ}C$
 $-40...125^{\circ}C$ / option
Ambient: $-40...100^{\circ}C$
Storage: $-40...100^{\circ}C$

Thermal error

Zero thermal error: $\pm 0.15\%FS$ @ $25^{\circ}C$, typical
Span thermal error: $\pm 0.15\%FS$ @ $25^{\circ}C$, typical

Electrical connection

DIN43650 A	IP65
M12 Plug	IP65
Cable type	IP67
mPm Plug	IP65
Underwater plug	IP68

Pressure connection

G 1/4", DIN 3852-E with sealing by DIN 3869 ring seals
G 1/2"
R 1/4"
R 1/2"
Others on request

Protection

IP65, DIN 43650A plug & mPm plug
IP67, Flying cable
IP68, Underwater plug with flying cable

Weight

Approx. 140g



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Technical specifications

Input pressure range

Normal pressure:

-1...0 bar up to 0...1000 bar

Permissible static pressure:

1.3 X pressure range, max.1100 bar

Output signal / Supply

Voltage:

3-wire 0.5...4.5V ratiometric $V_s=5,0 V_{DC} \pm 0,5 V$

Reverse Polarity and Overvoltage Protection

$\pm 40 V_{DC}$

Performance

¹Accuracy: $\leq \pm 0.5\% FSO @ 25^\circ C$

¹ accuracy according to IEC 60770 - limit point adjustment including non-linearity, hysteresis as well as repeatability

Permissible load / R_L

Voltage: 3-wire, $R_L \min=10k\Omega$

Influence effects:

Supply: $\pm 1.0\% FSO/5V$

Longterm stability: $\leq \pm 0.025\% FS / \text{year}$

Response time: $< 10ms$

Thermal effects (Offset and Span)

/ Permissible temperatures

FS thermal error: $\pm 0.75\% FS @ 25^\circ C$, typical

Zero thermal error: $\pm 0.75\% FS @ 25^\circ C$, typical

Operating temperature: $-30...100^\circ C$

Compensated temperature: $-20...70^\circ C$

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

Voltage:

0.5...4.5V ratiometric, 3-wire system

Ingress protection:

IP65 with plug DIN 43650A

IP65 with M12 plug

IP67 with flying cable type

IP65 with mPm plug

IP68 with underwater plug

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 ($\pm 40V_{DC}$)

■ High Noise Immunity Performance against Electrical Fast Transient (EFT) noise. ($\pm 2,000V$ CE Test)

■ High Precision against variations in ambient temperature. ($\pm 1.3\%$ in $-20...70^\circ C$)

■ Wide pressure operating range.

30% lower than the minimum and 30% higher than the maximum.

Ex.) Operable -0.5bar to 13bar for 0...10bar transmitters

■ Protection against instantaneous surge voltage

■ Durable design for severe vibration

■ Sturdy st. steel housing

■ Blocking from the outside due to laser welding

Ordering information

Model code

EDR.321 · · · · B

Output signal

O5	0.5...4.5V ratio metric, 3-wire system
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Electrical connection

P	mPm plug
D	DIN 43650 A
M	M12 plug
C	2m flying cable
U	underwater plug

Process connection

G2	G 1/2" (PF 1/2")
G4	G 1/4" (PF 1/4")
R2	R 1/2" (BSPT 1/2")
R4	R 1/4" (BSPT 1/4")

Pressure range code, unit bar

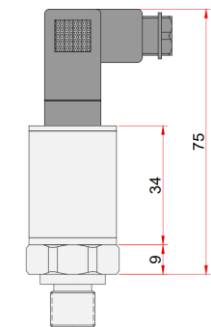
Code	Range
R19	-1...0
R23	0...1
R26	0...1.6
R28	0...2.5
R30	0...4
R32	0...6
R33	0...10
R35	0...16
R37	0...25
R39	0...40
R41	0...60
R43	0...100
R45	0...160
R47	0...250
R50	0...400
R53	0...600
R55	0...1000
RYY	others on request

How to order

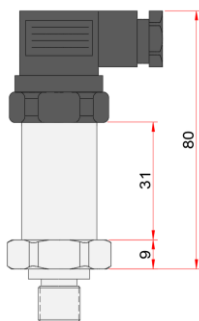
EDR.321.O5.P.G4.BR35

EDR.321, 0.5...4.5V ratiometric, mPm plug, G1/4", 0...16bar

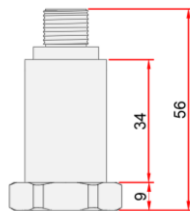
Outline drawing



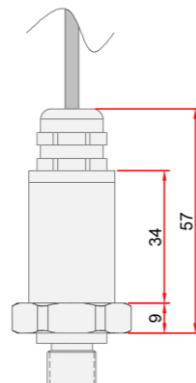
MPM Plug
/ IP65



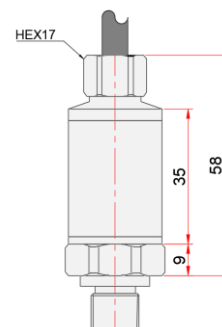
DIN 43650A
/ IP65



M12 Plug
/ IP65

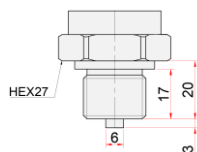


Cable gland
/ IP67

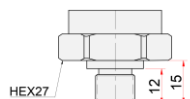


underwater plug
/ IP68

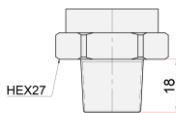
Process connection



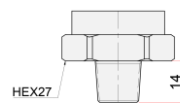
G1/2" B
EN 837-1



G1/4" A
DIN EN ISO 1179-2



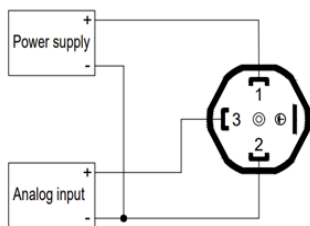
R1/2"
ISO 7



R1/4"
ISO 7

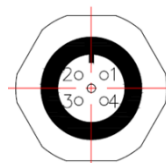
Pin assignment

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



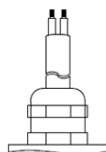
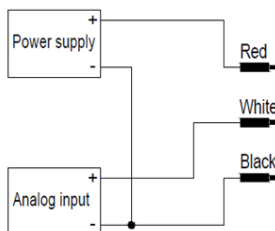
Pin No.	3-Wire
1	+Vcc
2	GND
3	Output(VDC)

M12 x 1, 5-pin / male



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

± 40 VDC



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

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