All st. steel pressure transmitter
LCD windows with a back light
Flameproof explosion version.
accuracy ≤ 0.5%, ≤ 0.25%, ≤ 0.1%
series EDN.710

Housing. body, wetted parts made of st. steel
LCD window with back light
optionally, 2 relay channels, switches & RS485
Declaration of Conformity, CE

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
- 2 relay channel function, 2 switches / option
- RS485 digital communication / option

Application area

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

General specification

Pressure ranges
From -1…0 bar, 0…1 bar to 0…1000 bar
Min. span range is 200 mbar

Accuracy
included Linearity+Hysteresis+Repeatability
Accuracy code:
A4: ≤ ± 0.5% FS
A7: ≤ ± 0.25% FS
A9: ≤ ± 0.1% FS in case of span range ≥ 200 mbar

Overpressure 1.3 x pressure range

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

Output signals
Available power: DC 12…30V

Isolation > 100MΩ at 100 VDC
Background White back light

Display LCD, 4 1/2 digit, -1999…9999
Bar graph

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

Pressure transmitter, series EDN.710

Temperature range
Operating: -20…100 ℃
-40…125 ℃ / option
Ambient: -20…100 ℃
Storage: -40…120 ℃
Temperature compensating range: 0…70℃

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

Special functions included / options
- RS485 digital communication
- 2 channel switches

Electrical connection
Flameproof explosion cable gland
M12 plug

Pressure connection
G 1/4", G 3/8", G 1/2"
R 1/4", R 3/8", R 1/2"
NPT 1/4", NPT1/2"

Adjustable 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

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Technical specifications

Input pressure range

Norminal pressure:

-1…0 bar, 0…2 bar up to 0…1000 bar

Permissible static pressure:

1.3 x pressure range, max.1100 bar

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°C
Compensated tempearture:	0…70°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

Wetted parts:	stainless steel 316L
Housing / body:	stainless steel 304
Sensor diaphragm:	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, 0…5V, 1…5V, 0.5…4.5V, 3-wire system
Signal output voltage max. 25mA

EMC Test report for CE conformance

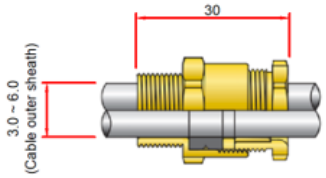
- EN 61326-2-3:2013 / Class A
- EN 61326-2-3: 2013 / IEC 61326-1:2012

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.710 · ____ · ____ · ____ · ____ · ____ · ____ · B ____**

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

Output signal	
O1	4…20 mA / 2-wire system
O2	0…10 V / 3-wire system
O3	0…5V / 3-wire system
O4	1…5V / 3-wire system
O5	0.5…4.5V / 5V, ratio-metric
O6	0.5…4.5V / 12-30V, analog

Digital communication	
O11	RS485

2 relay channel, switches	
O12	2 relay channel, switches

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

Process connection	
G2	G 1/2" (PF 1/2")
G3	G 3/8" (PF 3/8")
G4	G 1/4" (PF 1/4")
R2	R 1/2" (BSPT 1/2")
R3	R 3/8" (BSPT 3/8)
R4	R 1/4" (BSPT 1/4")
N2	NPT 1/2"
N4	NPT 1/4"

Pressure range code, unit bar

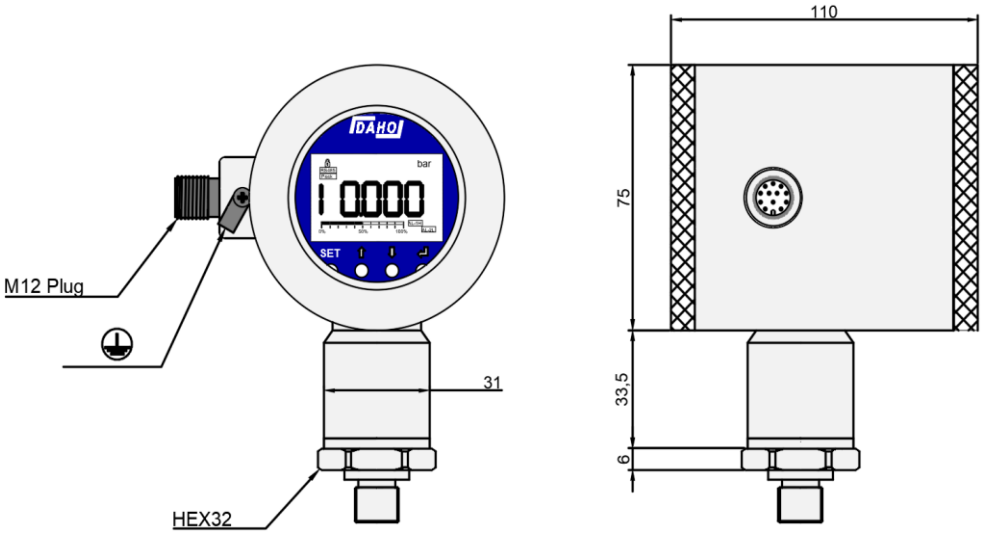
Code	Range
R19	-1…0
R23	0…1
R26	0…1.6
R28	0…2.5
R30	0…4
R32	0…6
R33	0…10
R35	0…16
R37	0…25
R39	0…40
R41	0…60
R43	0…100
R45	0…160
R47	0…250
R50	0…400
R53	0…600
R55	0…1000
RYY	Others on request

How to order

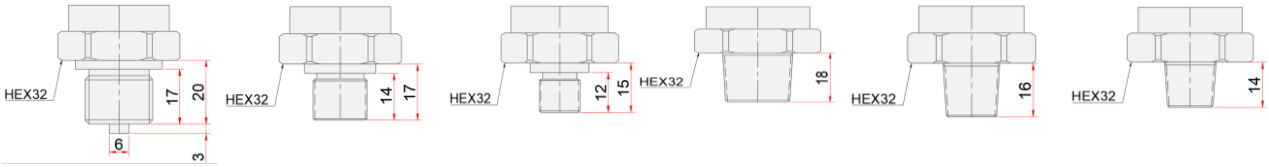
EDN.710.A4.O1.O11.A5.FP.G4.BR3

EDN.710, 0.5%, 4…20mA, RS485, Frameproof cable gland, G 1/4", 0…16 bar

Outline drawing

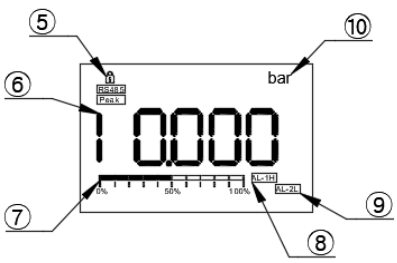


Process connection



G1/2" B	G3/8" A	G1/4" A	R1/2"	R3/8"	R1/4"
EN 837-1	DIN EN ISO 1179-2	DIN EN ISO 1179-2	ISO 7	ISO 7	ISO 7

Display and Control unit



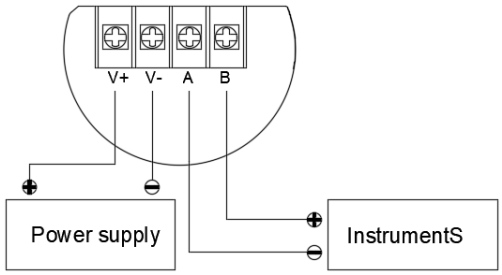
Functions

① Menu, Cancel
② Select function, increase
③ Select function, decrease
④ Confirm selected function or selected value
⑤ Lock mode
⑥ Pressure values, output signal values
⑦ Bar graph
⑧ Relay 1
⑨ Relay 2
⑩ Unit

Electrical connection Diagram

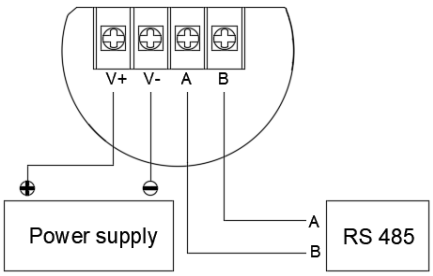
Analog output signal

Pin No.	Wire
V+	+Vcc
V-	-Vcc
B	Signal +
A	Signal -



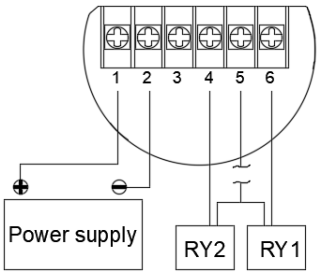
RS485 digital communication

Pin No.	Wire
V+	+Vcc
V-	-Vcc
A	RS 485A
B	RS 485B



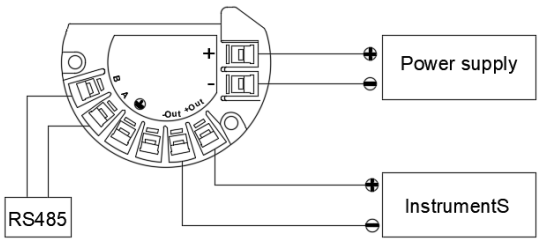
2 relay, switches

Pin No.	Wire
1	+Vcc
2	-Vcc
6	Relay 1
4	Relay 2
5	Relay COM



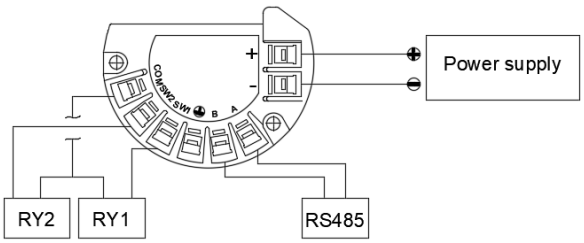
Analog + RS485 digital

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



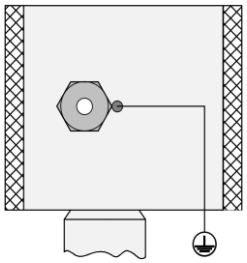
Analog + 2 relay + RS485 digital

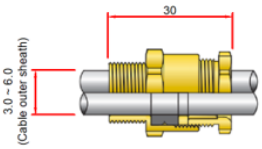
Pin No.	Wire
+	+Vcc
-	-Vcc
A	RS 485A
B	RS 485B
SW1	Relay 1
SW2	Relay 2
COM	Relay COM



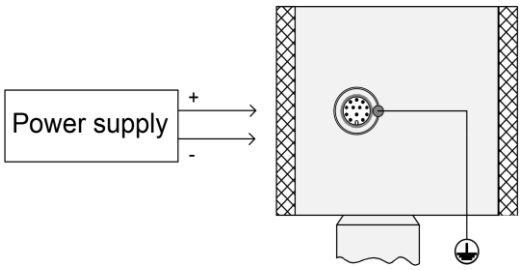
Electrical connection Diagram

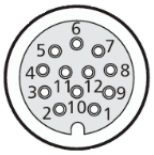
Cable gland





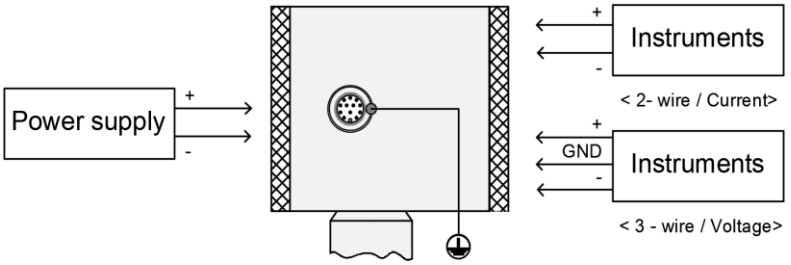
Electrical plug, M12

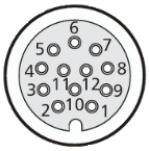




Pin No.	Wire
1	+Vcc
2	-Vcc
12	earth

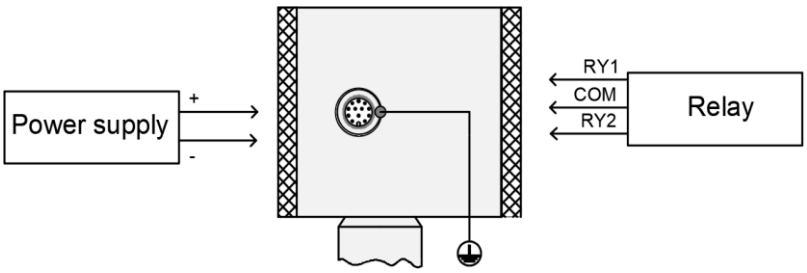
Output signal





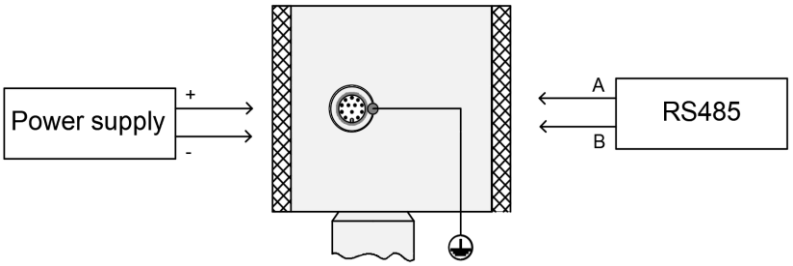
Pin No.	Current	Voltage
1	+Vcc	+Vcc
2	-Vcc	-Vcc
3	+Out	+Out
4	-Out	GND
5		-Out
12	earth	earth

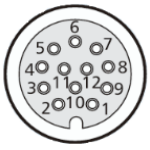
Relay signal



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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