

**Al. housing pressure transmitters
with flush diaphragm**
accuracy $\leq \pm 0.5\%$ EDN.825
accuracy $\leq \pm 0.25\%$ EDN.823
accuracy $\leq \pm 0.1\%$ EDN.821

4 1/2 - digit LCD window with back light

Wetted parts made of st. steel

Housing & bodies are made of Aluminium

Optionally, RS485 & 2 relay channels, switches

Declaration of Conformity, CE



General features

- 4 1/2-digit LCD window with white back light
- Pressure range, -1...0 bar & 0...200 mbar to 0...250 bar
- Housing & body parts are made of st. steel.
- Specially designed for Hazardous area
- Flameproof explosion, KOSHA certified
- Explosion-proof: Ex d IIC T6

Application area

- Pressure measurement for Hazardous area
- Refineries and petrochemical industry
- Oxygen supplying station & gas compressors
- Food & beverage application

General specification

Pressure ranges

-1...0 bar & 0... 200 mbar to 0...250 bar
Other pressure ranges on request

Accuracy

included Linearity+Hysteresis+Repeatability

EDN.825: accuracy $\pm 0.5\%$ FS

EDN.823: accuracy $\pm 0.25\%$ FS

EDN.821: accuracy $\pm 0.1\%$ FS
less 200 mbar of gain, it could be accuracy
max. $\geq 0.1\%$.

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

Temperature range

Operating: -20...100

-40...125°C / option

Ambient: -20...100°C

Storage: -40...120°C

Temperature compensating range: 0...50°C

Thermal error

Zero thermal error: $\pm 0.75\%$ FS @ 25°C (typ.)

Span thermal error: $\pm 0.75\%$ FS @ 25°C (typ.)



Pressure transmitter EDN.820 series

Power supply

Available power: DC 12...30V

Response time

≤ 5 ms

Isolation

$> 100\text{M}\Omega$ at 100 VDC

Materials

Wetted parts: st. steel 316L

Measurement cell: st. steel 316L

O-ring: FKM

Body: st. steel 304

Electrical connecting cable gland

Flameproof explosion certified

Pressure connection

G1/2" Flush diaphragm

A DIN EN ISO 1179-2

Protection

IP 65

Weight

approx. 980g



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Technical data

Input pressure range

Normal pressure:

-1...0 bar & 0...200 mbar to 0...250 bar

Permissible static pressure:

1.3 x pressure range, max.300 bar

Output signal / Supply

Current: 2-wire 4...20mA $V_s=12...30$ VDC

Voltage: 3-wire 0...10V $V_s=12...30$ VDC
0...5V
1...5V
0.5...4.5V

Performance

Accuracy: $\leq \pm 0.35\%$ FSO @ 25°C

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

Permissible load / R_L

Current: 2-wire, $R_L \max = [(V_s - V_s \min) / 0.02A] \Omega$

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

Influence effects:

Supply: 0.05%FSO/10V

Longterm stability: $\leq \pm 0.5\%$ FS / year

Response time: <5ms

Thermal effects (Offset and Span)

/ Permissible temperatures

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

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

Operating temperature: -20...100°C

-40...125°C/option

Compensated temperature: 0...70°C

Electrical protection

Electromagnetic compatibility:

Emission and immunity according to

EN 61326-2-3:2013 CCISPR II Group 1, Class A

EN 61326-2-3:2013 DC 12...30V

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 / 12...30V, 3-wire system

Ingress protection: IP65

EMC Test report for CE conformance

■ EN 61326-2-3:2013 CCISPR II Group 1, Class A

■ EN 61326-2-3: 2013 / IEC 61326-1:2012

Electrical connecting cable gland

■ IP66

■ Materials: Brass with nickel plated

■ Cable outer : 3.0...6.0 mm

Ordering information

Model code

EDN.82X · [] · [] · [] · B [] · []

Accuracy

5	≤ 0.5 % F.S
3	≤ 0.25 % F.S
1	≤ 0.1 % F.S

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

Electrical connection

FP	Flameproof conn. cable gland
M	M12 electrical plug

Process connection

G2	G 1/2", flush diaphragm
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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
RYY	Others on request

Option code

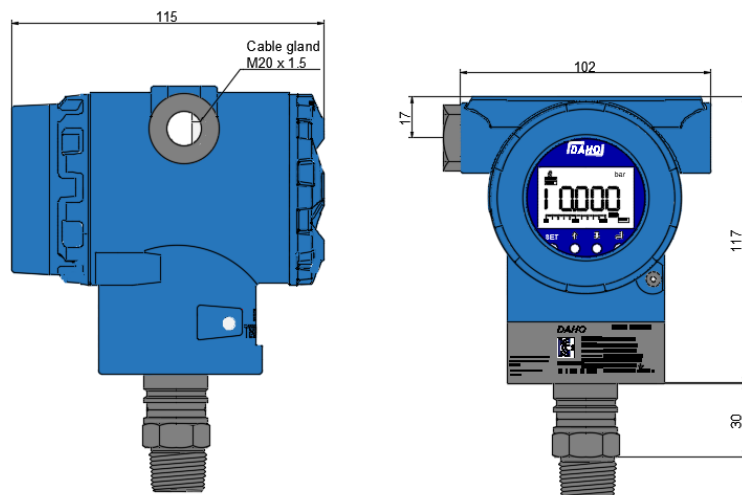
Code	Description
T4	-40...125 °C / operating temperature
RS	Restrictor screw in socket hole
NO	"USE NO OIL" for Oxygen application
PCA	Adapter
TP	St. steel tag plate, 60 x 20 x 0.5t
DMCC	Manufacture calibration certificate
KC	KOLAS Ilac-MRA calibration certificate
CC	Certificate of conformance / origin

How to order

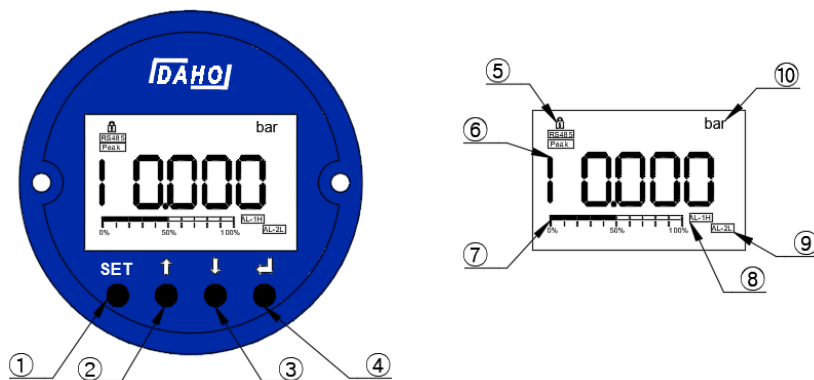
EDN.825.O1.A5.FP.G2.BR33

EDN.825, 0.5%, 4...20mA, A5, Flameproof conn. cable gland, G 1/2", 0...10 bar

Outline drawing



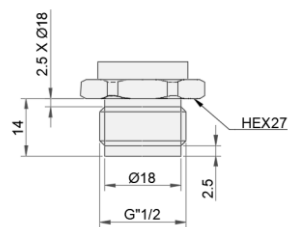
Display and Control unit



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 R 1/4", R 3/8", R 1/2" NPT 1/4", NPT 1/2"

Process connection

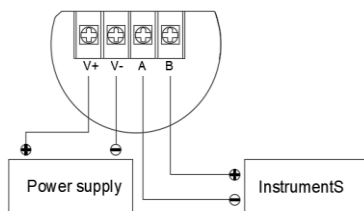


G 1/2" A
DIN EN ISO 1179-2

Electrical connection diagrams

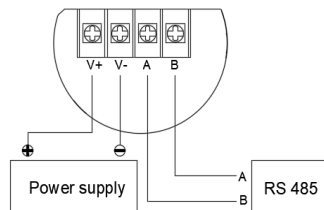
Analog output

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



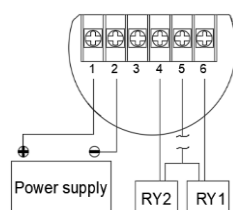
RS 485

RS 485	
Pin No.	2-wire
V+	+Vcc
V-	-Vcc
A	RS 485A
B	RS 485B



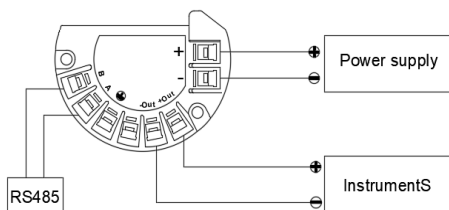
Relay

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



Analog output + RS485

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



Relay + RS485

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

