

Differential pressure transmitters with LCD digital window series EDN.850



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

General features

- Piezosistive Silicon Pressure sensors installed & calibrated
- St. steel pressure sensors for various applications
- Differential pressure range from 0...70 mbar to 0...30 bar
- Multi-functional display
- Zero point, range adjustable
- Options: 2 relay switches, RS485 digital communication

Application area

- Hydraulic and pneumatic control systems
- Industrial process detection and control
- Explosion Hazard Area
- Pressure calibration, pressure checking
- Liquid pressure system and switch

General specification

Pressure ranges

from 0...70 mbar to 0...35 bar

Accuracy

± 0.35% FS

included Linearity+Hysteresis+Repeatability

[Options]

Accuracy: ± 0.25%, ± 0.15%

Overpressure

1.3 X pressure range

Output type

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

Power supply

Available power: DC 12...30V

Isolation

> 100MΩ at 100 VDC

Temperature range of

Compensating range: 0...70 °C

Operating: -20...80 °C

-20...125 °C / option

Ambient: -20...100 °C

Storage: -40...100 °C



Pressure transmitter series EDN.850

Thermal error

Zero thermal error: ±0.75%FS @ 25 °C, typical

Span thermal error: ±0.75%FS @ 25 °C, typical

Materials

Wetted parts: St. steel 316L

Housing: Aluminum alloy

Electrical connection

M20x1.5 screwed cable gland

Pressure connection

NPT1/4" Female

Display

LCD Display, 4 1/2 - digit

Adjustable Pressure units

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

Background

Light white

Possible operation

- Pressure range,
- Zero point adjustment,
- Characteristic curve
- Damping rate are adjustable on the device

Options

- RS485 communication
- 2 relay, switch functions



DAHO Tronic Limited

Tel: 02-865-7001 Fax: 02-865-7109

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

Normal pressure:
0...70 mbar up to 0...35 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, 0...5V, 1...5V Vs=12...30 VDC

Performance

¹Accuracy: $\leq \pm 0.35\% \text{FSO @ } 25^\circ\text{C}$
¹ accuracy according to IEC 60770 - limit point adjustment including non-linearity, hysteresis as well as repeatability

Permissible load / R_L
Current: 2-wire, $R_L \text{ max} = [(V_s - V_s \text{ min}) / 0.02 \text{A}] \Omega$
Voltage: 3-wire, $R_L \text{ min} = 10 \text{k}\Omega$

Influence effects:
Supply: 0.05%FSO/10V
Longterm stability: $\leq \pm 0.5\% \text{FS} / \text{year}$
Response time: <5ms

Thermal effects (Offset and Span) / Permissible temperatures

FS thermal error: $\pm 0.75\% \text{FS @ } 25^\circ\text{C}$, typical
Zero thermal error: $\pm 0.75\% \text{FS @ } 25^\circ\text{C}$, typical
Operating temperature: -20...100°C
Compensated temperature: 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.

Pressure port: stainless steel 316L
Housing / body: Aluminum alloy
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

Static Pressure range

0...10 mbar to 0...40 mbar : Max. Pressure 160 bar
0...1 bar to 0...2.5 bar : Max. Pressure 250 bar
0...4 bar to 0...40 bar : Max. Pressure 400 bar

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 ($\pm 40 \text{VDC}$).
- High Noise Immunity Performance against Electrical Fast Transient (EFT) noise.
- High Precision against variations in ambient temperature. ($\pm 1.3\%$ in -20...70°C).
- 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.

Ordering information

Model code EDN.850 · · · · 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
O5	0.5...4.5V / 5V, ratio-metric
O6	0.5...4.5V / 12~30V, analog

Accuracy

A5	≤ 0.35 % F.S
A7	≤ 0.25 % F.S
A8	≤ 0.15 % F.S

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")

Pressure range, unit mbar & bar

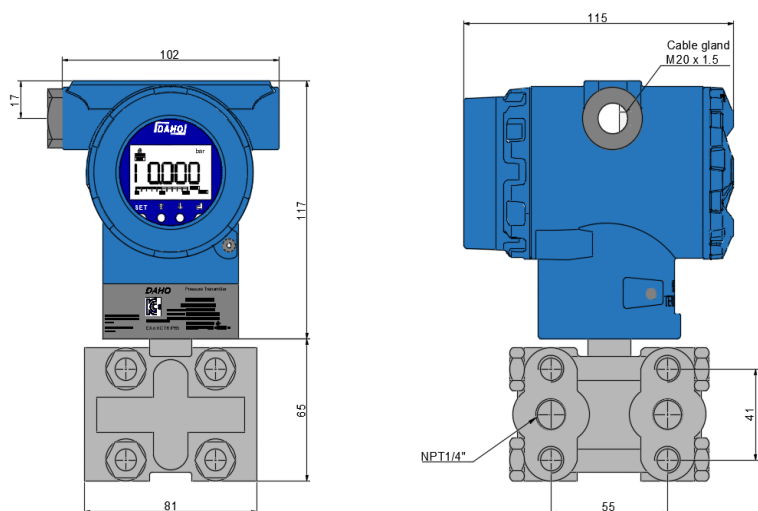
Code	Range
R130	0...70 mbar
R131	0...100 mbar
R133	0...160 mbar
R135	0...250 mbar
R137	0...400 mbar
R21	0...600 mbar
R23	0...1.0 bar
R26	0...1.6 bar
R28	0...2.5 bar
R30	0...4.0 bar
R32	0...6.0 bar
R33	0...10 bar
R35	0...16 bar
R37	0...25 bar
R3	0...30 bar
RYY	Others on request

How to order

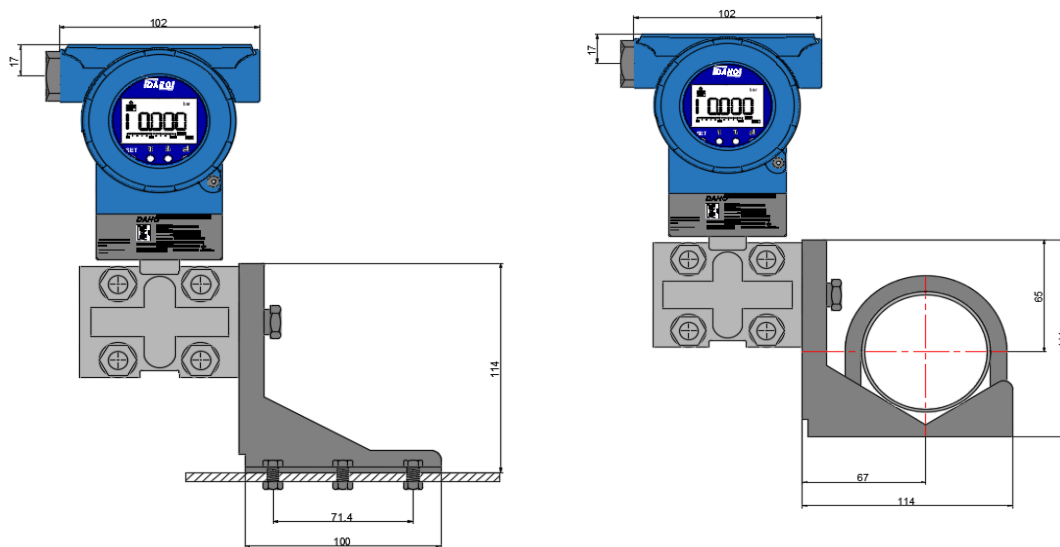
EDN.850.O1.A5.G4.BR137

EDN.850, 0.35%, 4...20mA, G 1/4", 0...400 mbar

Outline drawing



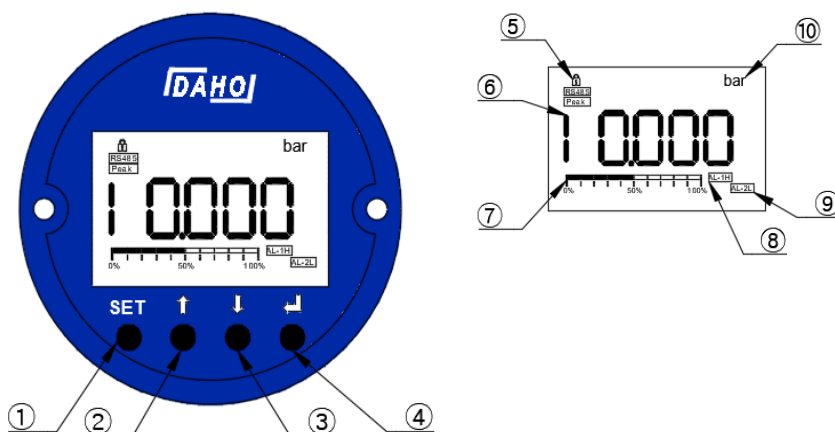
Mounting bracket option



Wall board mounting bracket

2" Pipe installation bending bracket

Electrical connection diagram



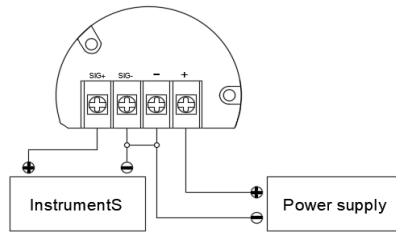
Functions

- 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

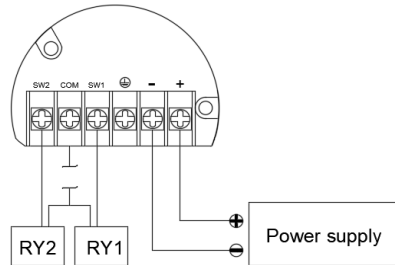
Analog output

Pin No.	Wire
+	+Vcc
-	-Vcc
+SIG	Out put +
-SIG	GND



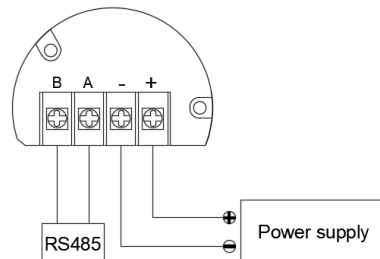
2 relay, switches

Pin No.	Wire
+	+Vcc
-	-Vcc
SW1	Relay 1
SW2	Relay 2
COM	Relay COM



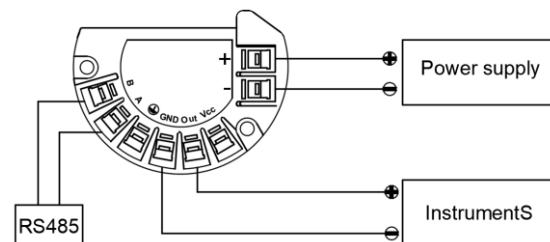
RS485 digital

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



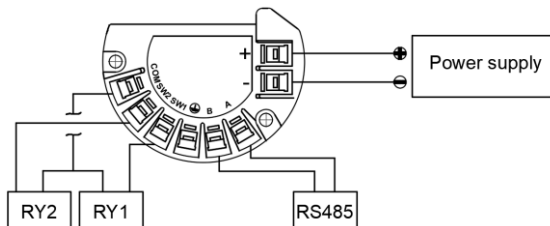
Analog output + RS485

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



Analog + 2 relay + RS485

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



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