

Pressure Switch EDS 1700

Relative pressure

Display

4 switching outputs
Analogue output

Description:

With its integrated pressure measurement cell, four-digit display and four switching outputs, the EDS 1700 offers the user all the advantages of a modern electronic pressure switch.

Four switch points and switch-back points can be adjusted very simply and independently of one another using the key pad.

For optimum integration in monitoring systems (e.g. with PLC), an analogue output (4 .. 20 mA or 0 .. 10 V) is also available.

The main fields of application of the EDS 1700 are in hydraulics and pneumatics. The instrument is ideal for use where frequent switching cycles (several million), stable switch point accuracy or simple and precise adjustability are required.

Technical data:

Input data

Measuring ranges	bar	16	40	100	250	400	600
Overload pressures	bar	32	80	200	500	800	1000
Burst pressure	bar	200	200	500	1000	2000	2000

Mechanical connection Threaded port G1/4 DIN 3852

Tightening torque, recommended 20 Nm

Parts in contact with fluid Mech. connection: Stainless steel

Output data

Switching outputs	4 relay outputs with change-over contacts (2 groups, common supply of each group connected) Switching current: 0.01 .. 2 A per switching output Switching voltage: 0.1 .. 250 V AC, 12 .. 32 V DC Switching capacity: 500 VA, 64 W (for inductive load, use varistors) Switching cycles (ohmic resistance): ≥ 20 million minimum load ≥ 400000 maximum load (typ.)
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Analogue output, permitted load resistance Selectable:
4 .. 20 mA load resist. max. 400 Ω
0 .. 10 V load resist. min. 2 kΩ

Accuracy acc. to DIN 16086, terminal based
EDS 1700-P: ≤ ± 0.5 % FS max.
EDS 1700-N: ≤ ± 1 % FS max.

Temperature compensation, zero point
EDS 1700-P: ≤ ± 0.01 % FS / °C typ. / ≤ ± 0.02 % FS / °C max.
EDS 1700-N: ≤ ± 0.02 % FS / °C typ. / ≤ ± 0.03 % FS / °C max.

Temperature compensation, span
EDS 1700-P: ≤ ± 0.01 % FS / °C typ. / ≤ ± 0.02 % FS / °C max.
EDS 1700-N: ≤ ± 0.02 % FS / °C typ. / ≤ ± 0.03 % FS / °C max.

Repeatability
EDS 1700-P: ≤ ± 0.25 % FS max.
EDS 1700-N: ≤ ± 0.5 % FS max.

Reaction time approx. 20 ms

Long-term drift ≤ 0.3 % FS typ. / year

Environmental conditions

Compensated temperature range -10 .. +70 °C

Operating temperature range -25 .. +60 °C

Storage temperature range -40 .. +80 °C

Fluid temperature range -25 .. +80 °C

CE mark EN 61000-6-1 / 2 / 3 / 4

Vibration resistance acc. to DIN EN 60068-2-6 (0 .. 500 Hz) ≤ 5 g

Shock resistance acc. to DIN EN 60068-2-27 (1 ms) ≤ 10 g

Protection class acc. to DIN EN 60529 IP 65

Other data

Electrical connection Plug-in terminal block, 14 pole

Supply voltage 22 .. 32 V DC

Residual ripple of supply voltage ≤ 10 %

Current consumption approx. 200 mA

Display 4-digit, LED, 7 segment, red, height of digits 13 mm

Weight ~ 800 g

Note: Reverse polarity protection of the supply voltage, overvoltage, override and short circuit protection are provided.
FS (Full Scale) = relative to complete measuring range

Setting options:

The core of the unit is a microprocessor which provides many useful extra functions in addition to normal pressure switch operation. It is possible, for example, to activate switching delay times to prevent fast pressure peaks from triggering an unwanted reversal process. All settings are made using the key pad.

Setting ranges of the switch points:

- Switch point, relay 1 to 4:
1.5 % .. 100 % FS
- Switch-back point, relay 1 to 4:
1 % .. 99 % FS
or alternatively switch-back hysteresis 1 to 4:
1 % .. 99 % FS

Note:
FS (Full Scale) = relative to complete measuring range

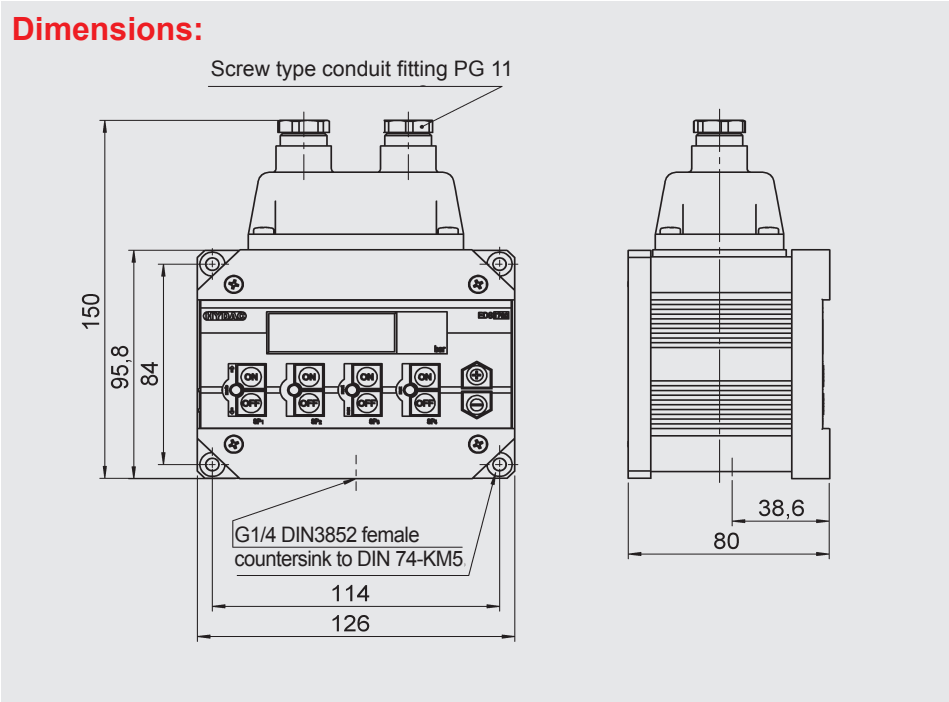
Additional setting options:

- Switching direction of relays 1 to 4 (N/C or N/O function)
- Switch-on delay, relays 1 to 4 in the range 0.00 .. 90 seconds
- Switch-off delay relays 1 to 4 in the range 0.00 .. 90 seconds
- Switch-back mode (alternatively switch-back point or switch-back hysteresis)
- Display of the actual pressure, a switch point or the peak value
- Display filter (slow / medium / fast)
- Display range individually selectable (bar, psi, user-selectable)
- Display of the measurement unit (bar, psi)
- Analogue output (4 .. 20 mA or 0 .. 10 V)
- Programming lock

Terminal assignment:

Pin	
1	+U _B
2	0 V
3	Analogue output Signal +
4	Analogue output Signal - (0 V)
5	Relay 1 N/C
6	Relay 1 N/O
7	Centre relay 1 and 2
8	Relay 2 N/C
9	Relay 2 N/O
10	Relay 3 N/C
11	Relay 3 N/O
12	Centre relay 3 and 4
13	Relay 4 N/C
14	Relay 4 N/O

Dimensions:



Model code:

EDS 1 7 9 X - X - XXX - 000

Mechanical connection
9 = threaded port G1/4 DIN 3852

Display
1 = 4-digit bar
2 = 4-digit psi

Accuracy
P = 0.5 %
N = 1 %

Measuring ranges in bar
016; 040; 100; 250; 400; 600

Modification number
000 = standard

Accessories available (not supplied with instrument)
Vibration mounts Part no.: 257492

More detailed information on accessories can be found in the Accessories brochure.