



Description:

With its integrated pressure measurement cell, 4-digit display and 4 switching outputs, the EDS 1700 offers the user all the advantages of a modern electronic pressure switch. 4 switching points and switch-back points can be adjusted very simply and independently of one another using the keypad.

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

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

Special features:

- Integrated pressure sensor with strain gauge on stainless steel membrane
- Accuracy 0.5 % or 1 % FS
- 4-digit digital display
- Simple operation via key programming
- 4 limit relays, switching points and switch back points can be adjusted independently
- Analogue output signal selectable
- Many useful additional functions
- Optional mounting position (pressure connection on the top/ bottom, keypad and display can be turned through 180°)
- Can be set to display values in any unit of measurement e.g.: kN, kg, psi, ...

Electronic Pressure Switch EDS 1700

Technical data:

Input data

Measuring ranges	16; 40; 100; 250; 400; 600 bar
Overload pressures	32; 80; 200; 500; 800; 1000 bar
Burst pressures	200; 200; 500; 1000; 2000; 2000 bar
Mechanical connection	Threaded port G1/4 DIN 3852
Torque value	20 Nm
Parts in contact with medium	Mech. connection: Stainless steel

Output data

Accuracy to DIN 16086, Max. setting (display, analogue output)	EDS 1700-P: $\leq \pm 0.5\%$ FS max. EDS 1700-N: $\leq \pm 1\%$ FS max.
Repeatability	EDS 1700-P: $\leq \pm 0.25\%$ FS max. EDS 1700-N: $\leq \pm 0.5\%$ FS max.
Temperature drift EDS 1700-P	$\leq \pm 0.02\%$ FS / °C max. zero point & range
Temperature drift EDS 1700-N	$\leq \pm 0.03\%$ FS / °C max. zero point & range

Analogue output

Signal (selectable)	4 .. 20 mA	ohmic resistance $\leq 400\Omega$
	0 .. 10 V	ohmic resistance $\geq 2\text{ k}\Omega$

Switch outputs

Type	4 relays with change-over contacts (2 groups, common supply of each group connected)
Switching voltage	0.1 .. 250 V AC / DC
Switching current	0.009 .. 2 A per switch output
Switching capacity	max. 50 W / 400 VA (for inductive load, use varistors)
Switching cycles	20 million at minimum load 1 million at maximum load
Reaction time	approx. 20 ms

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

Vibration resistance to DIN EN 60068-2-6 (0 .. 500 Hz)	$\leq 5\text{ g}$
Shock resistance to DIN EN 60068-2-29 (1 ms)	$\leq 10\text{ g}$
Protection class to IEC 60529	IP 65

Other data

Supply voltage	22 .. 32 V DC
Current consumption	approx. 200 mA
Residual ripple of supply voltage	$\leq 10\%$
Display	4-digit, LED, 7 segment, red, height of digits 13 mm
Electrical connection	14-pole, terminal block
Housing material	aluminium, anodised
Weight	$\sim 800\text{ g}$

Note: Reverse polarity protection of the supply voltage, excess voltage, 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 switching cycle. All settings are made using the keypad.

Setting ranges of the switching points:

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

Note: **FS (Full Scale)** = relative to the full measurement range

Additional setting options:

- Switching direction of the relays 1 to 4 (N/C or N/O)
- 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 (either switch-back point or switch-back hysteresis)
- Display of the actual pressure, a switching point or of the peak value
- Display filter (slow / medium / fast)
- Display range scale individually adaptable (bar, psi, user-selectable)
- Measurement unit (bar, psi) is displayed
- Analogue output (4 .. 20 mA or 0 .. 10 V)
- Programming disable

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

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 %

Pressure ranges in bar

016; 040; 100; 250; 400; 600

Modification number

000 = Standard

Note:

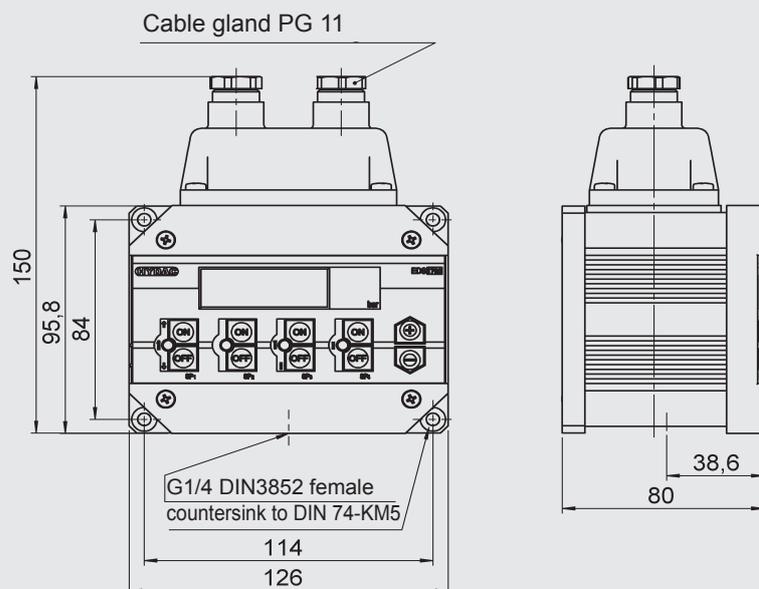
Special models on request.

On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

Accessories:

Appropriate accessories, such as mechanical adapters etc. can be found in the Accessories brochure.

Dimensions:



Note:

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

HYDAC ELECTRONIC GMBH

Hauptstraße 27, D-66128 Saarbrücken
Telephone +49 (0)6897 509-01
Fax +49 (0)6897 509-1726
E-mail: electronic@hydac.com
Internet: www.hydac.com