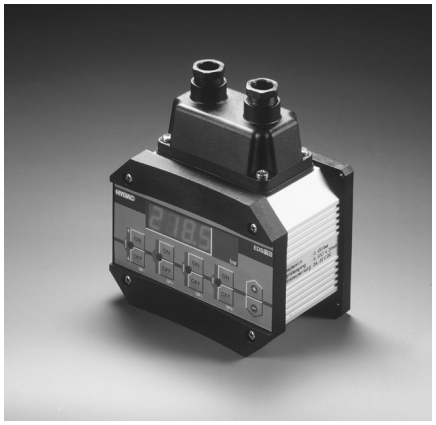


Pressure Switch
EDS 1700

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.)			
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 EDS 1700-N				 ≤ ± 0.01 % FS / °C typ. / ≤ ± 0.02 % FS / °C max. ≤ ± 0.02 % FS / °C typ. / ≤ ± 0.03 % FS / °C max.			
Temperature compensation, span EDS 1700-P EDS 1700-N				 ≤ ± 0.01 % FS / °C typ. / ≤ ± 0.02 % FS / °C max. ≤ ± 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 (**F**ull **S**cale) = 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 (**F**ull **S**cale) = relative to complete measuring range

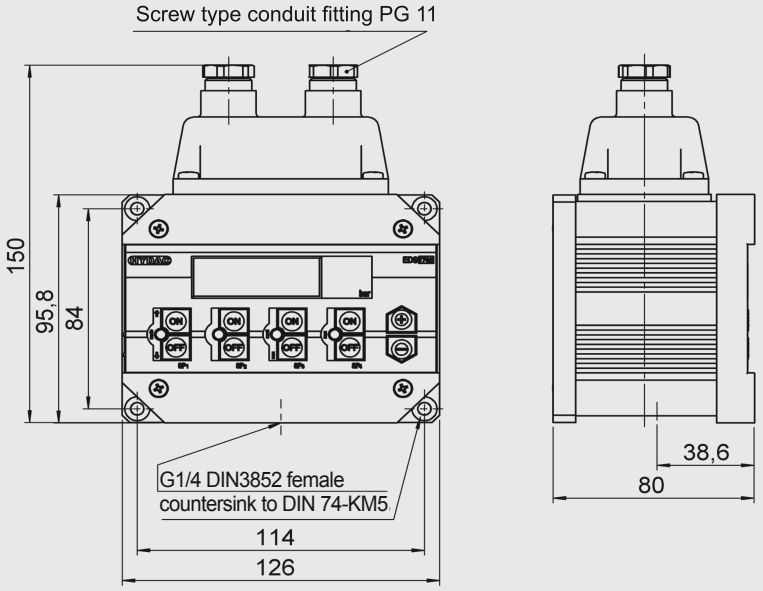
Additional setting options:

- 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.

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.

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