

## HYDAC INTERNATIONAL

2



### Pressure Switch EDS 300 shipping applications



2 switching outputs  
Analogue output

#### Description:

The EDS 300 is a compact, electronic pressure switch with digital display. The pressure measurement is based on a strain gauge sensor cell in stainless steel. All parts in contact with fluid are in stainless steel, and are welded together. Since no seals are required in the sensor interior, leakage is eliminated. Two relay switching outputs with N/O function and an additional analogue output signal (4 ... 20 mA) enable the pressure switch to be incorporated into modern control systems. The switch points and the corresponding hystereses can easily be adjusted via the key pad.

For optimum adaptation to a particular application, the instrument has many additional setting parameters, e.g. switching direction of the relays or switching delay times.

Fields of application are pressure or limit monitoring on marine transmissions, diesel engines, pumps and general hydraulic and pneumatic systems.

#### Approvals:

- American Bureau of Shipping
- Lloyds Register of Ships
- Det Norske Veritas Germanischer Lloyd
- Bureau Veritas



Other approvals on request

#### Technical data:

##### Input data

Measuring ranges	bar	6	16	40	100	250	400	600	-1 ... 5
Overload pressures	bar	15	32	80	200	500	800	1000	15
Burst pressure	bar	100	200	200	500	1000	2000	2000	100
Mechanical connection	G1/4 A ISO 1179-2								
Tightening torque, recommended	20 Nm								
Parts in contact with fluid	Mech. connection: Stainless steel Seal: FKM								

##### Output data

Switching outputs	2 relay contacts Switching current: 0.01 mA ... 1 A Switching voltage: 10 mV ... 60 V (AC/DC) Switching capacity (ohmic resistance): 30 W / 30 VA Switching cycles (ohmic resistance): 20 million at minimum load 0.5 million at maximum load
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Analogue output, permitted load resistance	4 ... 20 mA	Load resist. max. 400 Ω
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Accuracy acc. to DIN 16086, terminal based	≤ ± 0.5 % FS typ. ≤ ± 1 % FS max.
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Temperature compensation, zero point	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.
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Temperature compensation, span	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.
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Repeatability	≤ ± 0.5 % FS max.
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Reaction time	approx. 10 ms
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Long-term drift	≤ ± 0.3 % FS / year
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##### Environmental conditions

Compensated temperature range	-10 ... +70 °C
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Operating temperature range	-25 ... +80 °C
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Storage temperature range	-40 ... +80 °C
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Fluid temperature range	-25 ... +80 °C
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CE mark	EN 61000-6-1 / 2 / 3 / 4
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Vibration resistance acc. to DIN EN 60068-2-6 at 10 ... 500 Hz	5 ... 25 Hz: 3.2 mm 25 ... 500 Hz: 4 g
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Shock resistance acc. to DIN EN 60068-2-27 (11 ms)	≤ 50 g
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Protection class acc. to DIN EN 60529 <sup>1)</sup>	IP 65
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##### Other data

Supply voltage	20 ... 32 V DC
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Residual ripple of supply voltage	≤ 5 %
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Current consumption	approx. 100 mA
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Display	4-digit, LED, 7 segment, red, height of digits 6.4 mm
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Weight	~ 300 g
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Note: Reverse polarity protection of the supply voltage, overvoltage, overcurrent and short circuit protection are provided.

FS (Full Scale) = relative to complete measuring range

<sup>1)</sup> With mounted mating connector in corresponding protection class

EN 18.058.6/02.18

## Setting options:

All settings available on the EDS 300 are grouped in 2 easy-to-navigate menus. In order to prevent unauthorised adjustment of the device, a programming lock can be set.

## Setting ranges for the switching outputs:

Switch point function

Measuring range in bar	Switch point in bar	Hysteresis in bar	Increment* in bar
-1 .. 5	-0.85 .. 5	0.05 .. 5.9	0.05
0 .. 6	0.15 .. 6	0.05 .. 5.9	0.05
0 .. 16	0.3 .. 16	0.1 .. 15.8	0.1
0 .. 40	0.6 .. 40	0.2 .. 39.6	0.2
0 .. 100	1.5 .. 100	0.5 .. 99.0	0.5
0 .. 250	3.0 .. 250	1.0 .. 248.0	1.0
0 .. 400	6.0 .. 400	2.0 .. 396.0	2.0
0 .. 600	15.0 .. 600	5.0 .. 590.0	5.0

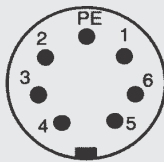
\* All ranges given in the table can be adjusted by the increments shown.

## Additional functions:

- Scale of the measuring range adjustable (bar or psi)
- Switching direction of the relays adjustable (N/C or N/O function)
- Switch-on and switch-off delay adjustable from 0.0 ... 75.0 seconds
- Choice of display (actual pressure, peak value, switch point 1, switch point 2, display off)
- Subsequent correction of zero point in the range  $\pm 3\%$  FS possible

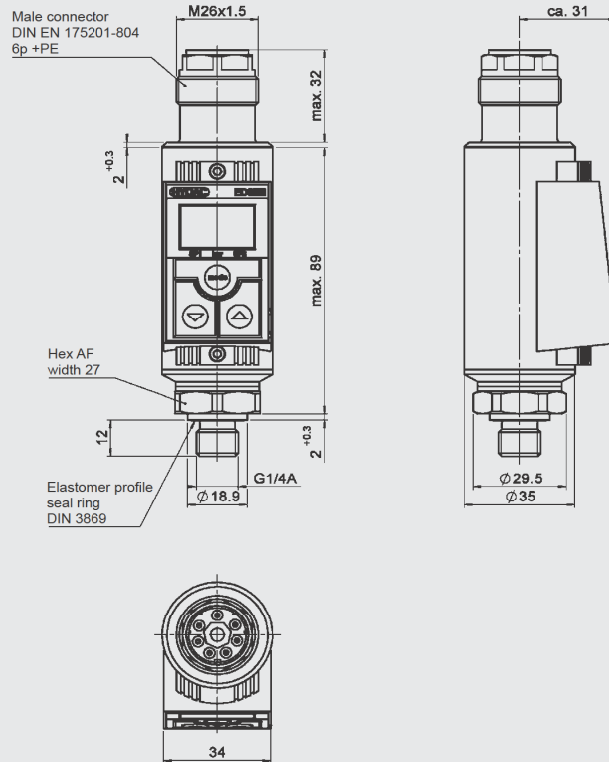
## Pin connections:

DIN EN 175201-804



Pin	EDS 347-4
1	+U <sub>B</sub>
2	Centre relay 1 and 2
3	Relay contact 1 (SP1)
4	0 V
5	Analogue
6	Relay contact 2 (SP2)
L	Housing

## Dimensions:



## Model code:

EDS 3 4 7 - 4 - XXX - SXX

### Mechanical connection

4 = G1/4 A ISO 1179-2

### Electrical connection

7 = male DIN EN 175201-804, 6 pole + PE (ZBE 10 mating connector not supplied)

### Output

4 = 2 switching outputs and 1 analogue output

### Measuring ranges in bar

006; 016; 040; 100; 250; 400; 600

### Modification number

S00 = version in bar (except -1 .. 5 bar)

S13 = vacuum version -1 .. 5 bar (in connection with measuring range "006")

### Accessories available: (not supplied with instrument)

ZBE 10 mating connector DIN EN 175201-804, 6 pole + PE, right-angle Part no.: 654527  
ZBM 300 clamp for wall-mounting - screw-type fitting - Part no.: 906385  
ZBM 310 clamp for wall-mounting - weld-type fitting - Part no.: 6011511

More detailed information on accessories as well as on further accessories such as mating connectors 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.