



## Electronic Pressure Switch EDS 300

### Description:

The EDS 300 is a compact, electronic pressure switch with integral digital display. Four different output models are available: with one switching point, with two switching points and both models can also have an additional analogue output signal 4 .. 20 mA.

The switching points and the corresponding hystereses can be adjusted using the buttons. For optimum adaptation to a particular application, the unit has many additional adjustment parameters, e.g. switching delay times, N/O / N/C function of the outputs.

The main applications of the EDS 300 are to indicate pressures and limits in hydraulics and pneumatics and anywhere where high switching frequency or constant switching accuracy would overburden a mechanical pressure switch. The unit is ideal for building accumulator charging circuits or pump and compressor controls.

### Special features:

- Integrated pressure sensor with thin-film strain gauge on stainless steel membrane
- Compact, robust construction
- Accuracy  $\leq \pm 1\%$  FS
- 3-digit display
- Easy to operate thanks to key programming
- Switching points and switch-back hystereses can be adjusted independently
- Window function
- Many useful additional functions

### Technical specifications:

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	G1/4 A DIN 3852
Torque value	20 Nm
Parts in contact with medium	Mech. connection: Stainless steel Seal: FPM
Output data	
Accuracy to DIN 16086, Max. setting (display, analogue output)	$\leq \pm 0.5\%$ FS typ. $\leq \pm 1\%$ FS max.
Repeatability	$\leq \pm 0.5\%$ FS max.
Temperature drift	$\leq \pm 0.03\%$ FS / °C max. zero point $\leq \pm 0.03\%$ FS / °C max. range
Analogue output (optional)	
Signal	4 .. 20 mA      ohmic resistance $\leq 400\ \Omega$
Switching outputs	
Type	PNP transistor output
Switching current	max. 1.2 A per switching output
Switching cycles	> 100 million
Reaction time	approx. 10 ms
Ambient conditions	
Compensated temperature range	-10 .. +70 °C
Operating temperature range	-25 .. +80 °C
Storage temperature range	-40 .. +80 °C
Fluid temperature range	-25 .. +80 °C
CE mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz	$\leq 10\text{ g}$
Shock resistance to DIN EN 60068-2-29 (11ms)	$\leq 50\text{ g}$
Protection class to DIN 40050	IP 65
Other data	
Supply voltage	20 .. 32 V DC
Current consumption	approx. 100 mA (inactive switch output)
Display	3-digit, LED, 7 segment, red, height of digits 9.2 mm
Weight	approx. 300 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:

All the settings available on the EDS 300 are combined in two easy-to-follow menus. To prevent unauthorised adjustment of the unit, a program disable can be activated.

### Setting ranges for the switch outputs:

#### Switch point function

Meas. range in bar	Switch point in bar	Hysteresis in bar	Increment* in bar
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	1.0
0 .. 400	6.0 .. 400	2.0 .. 396	2.0
0 .. 600	15.0 .. 600	5.0 .. 590	5.0

#### Window function

Meas. range in bar	Lower switch value in bar	Upper switch value in bar	Increment* in bar
0 .. 16	0.2 .. 15.9	0.3 .. 16	0.1
0 .. 40	0.4 .. 39.8	0.6 .. 40	0.2
0 .. 100	1.0 .. 99.5	1.5 .. 100	0.5
0 .. 250	2.0 .. 249.0	3.0 .. 250	1.0
0 .. 400	4.0 .. 398.0	6.0 .. 400	2.0
0 .. 600	10.0 .. 595.0	15.0 .. 600	5.0

\* All ranges given in the table are adjustable by the increments shown.

### Additional functions:

- Switching mode of the switching outputs adjustable (switch point function or window function)
- Switching direction of the switching outputs adjustable (N/C or N/O function)
- Switch-on and switch-back delay adjustable from 0.0 .. 75.0 seconds
- Choice of display (actual pressure, peak value, switch point 1, switch point 2, display off)
- Display filter for smoothing the display value during pressure pulsations
- Analogue output signal selectable 4 .. 20 mA
- Subsequent correction of zero point in the range  $\pm 3\%$  FS possible

### Model code:

EDS 3 4 X - X - XXX - 000

#### Mechanical connection

4 = G1/4 A DIN 3852 (male)

#### Electrical connection

4 = 4 pole Binder series 714 M18

only possible on output models "2" and "3" (connector not supplied)

5 = 3 pole + PE, DIN 43650

only possible on output model "1" (connector supplied)

6 = M12x1, 4 pole

only possible on output models "1", "2" and "3" (connector not supplied)

8 = M12x1, 5 pole

only possible on output model "5" (connector not supplied)

#### Output

1 = 1 switching output

only in conjunction with electrical connection type "5" or "6"

2 = 2 switching outputs

only in conjunction with electrical connection type "4" or "6"

3 = 1 switching output and 1 analogue output

only in conjunction with electrical connection type "4" or "6"

5 = 2 switching outputs and 1 analogue output

only in conjunction with electrical connection type "8"

#### Pressure ranges in bar

016; 040; 100; 250; 400; 600

#### Modification number

000 = Standard

#### Notes:

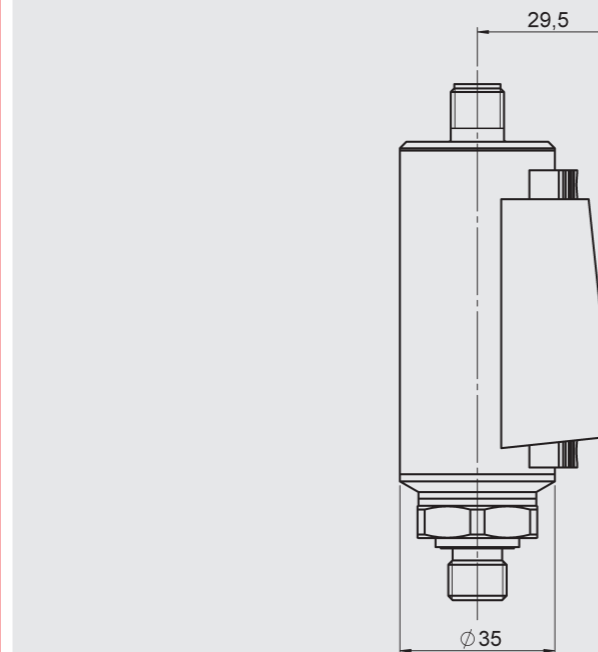
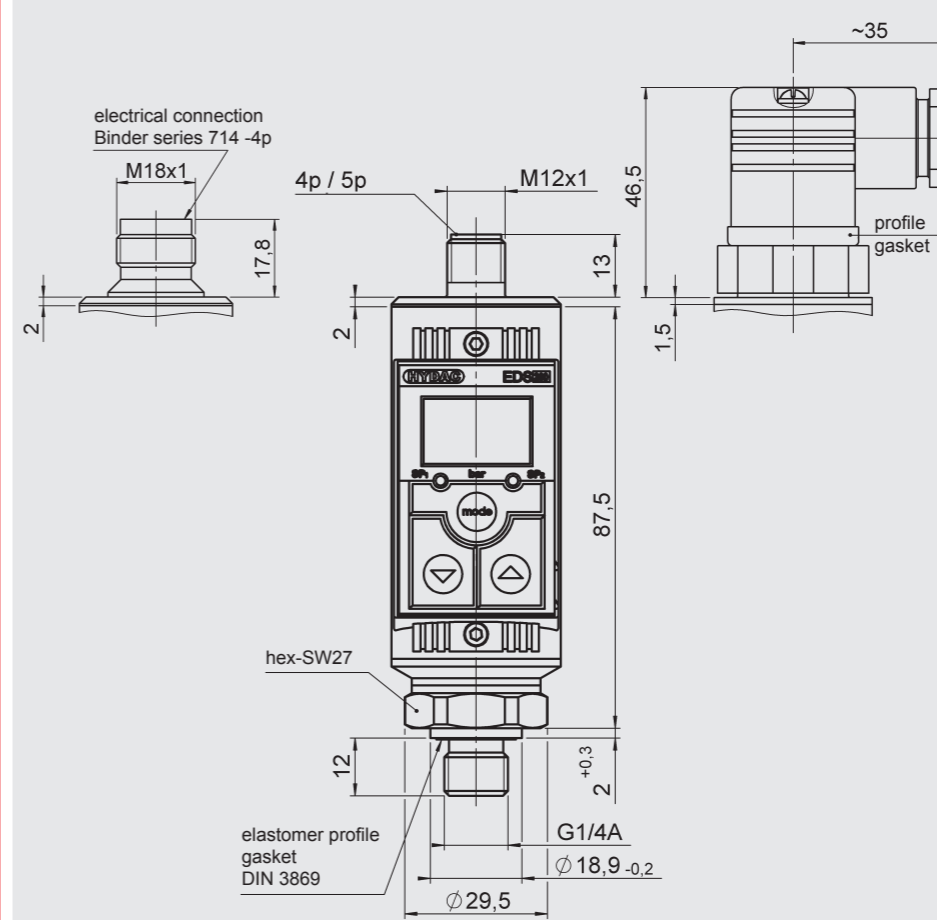
Special models on request.

For units with a different modification number, please read the label or the technical amendment details supplied with the unit.

#### Accessories:

Appropriate accessories, such as electrical connectors, mechanical connection adaptors, splash guards, clamps for wall-mounting etc can be found in the Accessories section.

### Dimensions:



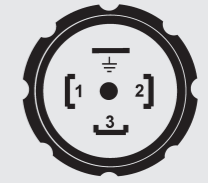
### Pin connections:

#### Binder series 714 M18



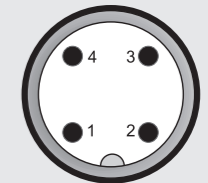
Pin	EDS 344-2	EDS 344-3
1	+U <sub>B</sub>	+U <sub>B</sub>
2	0 V	0 V
3	SP 1	SP 1
4	SP 2	Analogue

#### DIN 43650



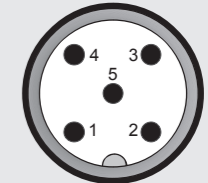
Pin	EDS 345-1
1	+U <sub>B</sub>
2	0 V
3	SP 1
⊥	PE

#### M12x1, 4 pole



Pin	EDS 346-1	EDS 346-2	EDS 346-3
1	+U <sub>B</sub>	+U <sub>B</sub>	+U <sub>B</sub>
2	n.c.	SP 2	Analogue
3	0 V	0 V	0 V
4	SP 1	SP 1	SP 1

#### M12x1, 5 pole



Pin	EDS 348-5
1	+U <sub>B</sub>
2	Analogue
3	0 V
4	SP 1
5	SP 2

### Note:

The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

All technical details are subject to change without notice.

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