



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 or two switching points and both models can also have an additional analog output signal 4 .. 20 mA.

The switching points and the associated hysteresis can be adjusted using the keypad. For optimum adaptation to a particular application, the instrument 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 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 $\leq \pm 0.5\%$ FS B.F.S.L.
- 3-digit digital display
- Easy to operate thanks to key programming
- Switching points and switch-back hysteresis can be adjusted independently
- Window function
- Many useful additional functions

Technical data:

Input data	
Measuring ranges	-14..75, 150, 1000, 3000, 6000, 9000 psi
Overload pressures	290, 290, 2900, 7250, 11600, 14500 psi
Burst pressures	1450, 1450, 7250, 14500, 29000, 29000 psi
Mechanical connection	7/16-20 UNF 2B (SAE 4 female)
Torque value	11lb-ft (15 Nm)
Parts in contact with medium	Mech. conn.: Stainless steel Seal: FPM
Output data	
Accuracy to DIN 16086, Max. setting (display, analog output)	$\leq \pm 0.5\%$ FS typ. $\leq \pm 1\%$ FS max.
Repeatability	$\leq \pm 0.5\%$ FS max.
Temperature drift	$\leq \pm 0.017\%$ / °F max. zero point $\leq \pm 0.017\%$ / °F max. range
Analog output (optional)	
Signal	4 .. 20 mA load resistance $\leq 400 \Omega$
Switch outputs	
Type	PNP transistor output
Switching current	max. 1.2 A per switch output
Switching cycles	> 100 million
Reaction time	approx. 10 ms
Environmental conditions	
Compensation temperature range	14..+158°F
Operating temperature range	-13..+176°F
Storage temperature range	-40..+176°F
Fluid temperature range	-13..+176°F
CE mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz	≤ 10 g
Shock resistance to DIN EN 60068-2-29 (11 ms)	≤ 50 g
Protection class to IEC 60529	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	~ 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 settings available on the EDS 300 are grouped in 2 easy-to-navigate menus. In order to prevent unauthorized adjustment of the device, a programming lock can be set.

Setting ranges for the switch outputs:

Switching point function

Meas. range in psi	Switch point in psi	Hysteresis in psi	Increment* in psi
-14.5..75	-12.5..75.0	-0.5..74.0	0.5
0..150	3..150	1..148	1
0..1000	15..1000	5..990	5
0..3000	45..3000	15..2970	20
0..6000	90..6000	30..5940	30
0..9000	150..9000	50..8900	50

Window function

Meas. range in psi	Lower switch value in psi	Upper switch value in psi	Increment* in psi
-14.5..75	-13..74.5	-12.5..75.0	0.5
0..150	2..149	3..150	1
0..1000	10..995	15..1000	5
0..3000	40..2980	45..3000	20
0..6000	60..5970	90..6000	30
0..9000	100..8950	150..9000	50

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

Additional functions:

- Switching mode of the switching outputs adjustable (switching point function or window function)
- Switching direction of the switching outputs 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)
- Display filter for smoothing the display value during pressure pulsations
- Analog output signal selectable 4 .. 20 mA
- Subsequent correction of zero point in the range $\pm 3\%$ FS possible

Model code:

EDS 3 5 X - X - XXX - 400

Mechanical connection

5 = 7/16-20 UNF 2B (SAE 4 female)

Electrical connection

5 = Male 3 pole + PE, EN175301-803 (DIN 43650) only possible on output model "1" (connector supplied)

6 = Male M12x1, 4 pole only possible on output models "1", "2" and "3" (connector not supplied)

8 = Male 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 "6"

3 = 1 switching output and 1 analog output only in conjunction with electrical connection type "6"

5 = 2 switching outputs and 1 analog output only in conjunction with electrical connection type "8"

Pressure ranges in psi

0089 (-14..75), 0150, 1000, 3000, 6000, 9000 psi

Modification number

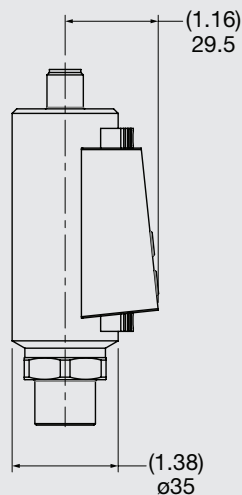
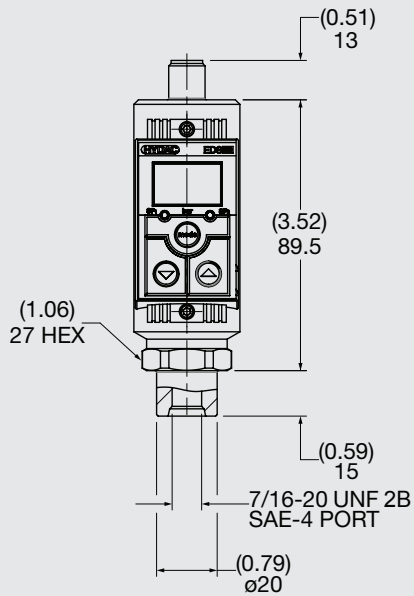
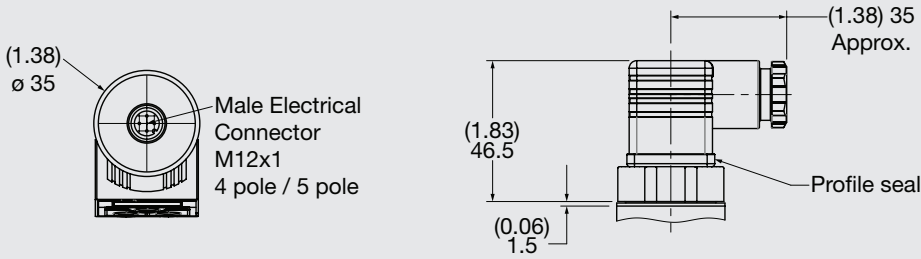
400 = standard in psi

401 = vacuum in psi

Accessories:

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

Dimensions:



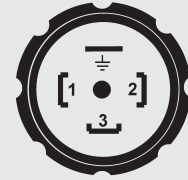
Note:

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. For European mechanical connection and bar ranges see European Catalog.

HYDAC ELECTRONICS
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Pin connections:

EN175301-803 (DIN 43650)



Pin EDS 355-1

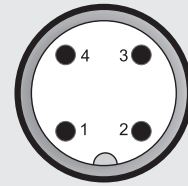
1 +U_B

2 0 V

3 SP 1

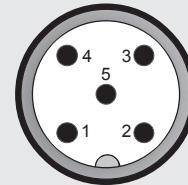
⊥ Housing

M12x1, 4 pole



Pin	EDS 356-1	EDS 356-2	EDS 356-3
1	+U _B	+U _B	+U _B
2	n.c.	SP 2	Analog
3	0 V	0 V	0 V
4	SP 1	SP 1	SP 1

M12x1, 5 pole



Pin EDS 358-5

1 +U_B

2 Analog

3 0 V

4 SP 1

5 SP 2

