



Electronic Pressure Switch EDS 3400

Description:

The EDS 3400 is a compact, electronic pressure switch with an integral digital display for measuring relative pressure in the high pressure range.

The instrument has a stainless steel measurement cell with thin-film strain gauge. The instrument can have one or two switching outputs and there is the option of an additional analogue output signal (4 .. 20 mA or 0 .. 10 V selectable). A special design feature of the EDS 3400 is that the display can be moved in two planes. The unit can be installed in almost any mounting position and the display can be turned to the optimum position without the usual additional expense of a mechanical adapter. The 4-digit display can indicate the pressure in **bar**, **psi** or **MPa**. The user can select the particular measurement unit. When changing to a different measurement unit, the EDS 3400 automatically converts all the switching settings to the new unit of measurement. In addition, the EDS 3400 is also available in a DESINA®-compliant version. The main applications of the EDS 3400 are primarily in hydraulics and pneumatics, as well as in refrigeration and air conditioning technology.

Special features:

- 1 or 2 PNP transistor switching outputs, up to 1.2 A load per output
- Accuracy $\pm 1\%$ FS
- Optional analogue output selectable (4 .. 20 mA / 0 .. 10 V)
- 4-digit display
- Optimum alignment, can be rotated in two planes (axes)
- Measured value can be displayed in bar, psi or MPa
- Easy operation due to key programming
- Switching points and switch-back hystereses can be adjusted independently
- Many useful additional functions
- Option of Desina®-compliant pin configuration with diagnostic function

Technical specifications:

Input data	
Measuring ranges	40; 100; 250; 400; 600 bar
Overload pressures	80; 200; 500; 800; 1000; bar
Burst pressures	200; 500; 1000; 2000; 2000 bar
Mechanical connection	G1/4 A DIN 3852 Threaded port DIN 3852-G1/4
Torque value	20 Nm
Parts in contact with medium	Mech. connection: Stainless steel Seal: FPM (G1/4 A DIN 3852)
Output data	
Accuracy to DIN 16086	$\pm 0.5\%$ FS typ.
Max. setting (display, analogue output)	$\pm 1\%$ FS max.
Repeatability	$\pm 0.25\%$ FS max.
Temperature drift	$\pm 0.025\%$ FS / °C max. zero point $\pm 0.025\%$ FS / °C max. range
Analogue output (optional)	
Signal	selectable: 4 .. 20 mA ohmic resistance max. 500Ω 0 .. 10 V ohmic resistance min. 1 kΩ
Switch outputs	
Type	PNP transistor output
Switching current	max. 1.2 A
Switching cycles	> 100 million
Reaction time	< 10 ms
Long-term drift	$\pm 0.3\%$ FS typ. / year
DESINA® diagnostic signal (Pin 2)	
Function	OK: HIGH level / not OK: LOW level
Level	HIGH: approx. +U _B / LOW: < +0.3 V
Environmental conditions	
Compensated temperature range	-10 .. +70 °C
Operating temperature range	-25 .. +80 °C (-25 .. +60 °C acc. to UL spec.)
Storage temperature range	-40 .. +80 °C
Fluid temperature range	-25 .. +80 °C
CE mark	EN 61000-6-1 / 2 / 3 / 4
UL mark*	Certificate No.: E 318391
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 DIN 40050	IP 67
Other data	
Supply voltage	9 .. 35 V DC without analogue output 18 .. 35 V DC with analogue output - limited energy - according to 9.3 UL 61010; Class 2; UL 1310/1585; LPS UL 60950
for use acc. to UL spec.	
Current consumption	max. 2.455 A total max. 35 mA with inactive switch outputs max. 55 mA with inactive switch outputs and analogue output
Display	4-digit, LED, 7 segment, red, height of digits 7 mm
Weight	approx. 120 g

Note: Excess voltage, override protection and short circuit protection are provided.
FS (Full Scale) = relative to complete measuring range
* Environmental conditions according to 1.4.2 UL 61010-1; C22.2 No 61010-1

Setting options:

All the settings available on the EDS 3400 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 .. 40	0.6 .. 40	0.2 .. 39.6	0.1
0 .. 100	1.6 .. 100	0.6 .. 99.0	0.2
0 .. 250	4.0 .. 250	1.5 .. 247.5	0.5
0 .. 400	6.0 .. 400	2.0 .. 396	1
0 .. 600	9.0 .. 600	3.0 .. 594	1

Window function

Meas. range in bar	Lower switch value in bar	Upper switch value in bar	Increment* in bar
0 .. 40	0.6 .. 39.2	0.9 .. 39.6	0.1
0 .. 100	1.6 .. 98.2	2.4 .. 99	0.2
0 .. 250	4.0 .. 245.5	6.0 .. 247.5	0.5
0 .. 400	6.0 .. 392	9.0 .. 396	1
0 .. 600	9.0 .. 589	14 .. 594	1

* 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 0.00 .. 99.99 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 or 0 .. 10 V (optional)
- Pressure can be displayed in measurement units bar, psi, MPa. The scaling can also be adapted to indicate force, weight, etc.

EDS 3400 for self diagnostics:



The DESINA®-compliant pressure switch has been specially developed for customers in the machine tool and machine building sectors and complies with the DESINA® specification.

A diagnostic signal enables errors to be detected and an "ERROR" message also appears in the display. The electrical connection is a round 5-pole M12x1, male, to IP 67 in accordance with DESINA® requirements.

Model code:

EDS 3 4 X X - X - XXXX - 000

Mechanical connection

- 4 = G1/4 A DIN 3852 (male)
- 9 = threaded port DIN 3852-G1/4

Electrical connection

- 6 = M12x1, 4 pole, male only possible on output models "1", "2" and "3"
- 8 = M12x1, 5 pole, male only possible on output model "5"

Output

- 1 = 1 switching output only in conjunction with electrical connection type "6"
- 2 = 2 switching outputs only in conjunction with electrical connection type "6"
- 3 = 1 switching output and 1 analogue output only in conjunction with electrical connection type "6"
- 5 = 2 switching outputs and 1 analogue output only in conjunction with electrical connection type "8"

Pressure ranges in bar

0040; 0100; 0250; 0400; 0600

Modification number

000 = Standard

Model code:

DESINA®-compliant or can be connected to DESINA®:



EDS 3 4 X 8 - X - XXXX - D00

Mechanical connection

- 4 = G1/4 A DIN 3852 (male)
- 9 = threaded port DIN 3852-G1/4

Electrical connection

- 8 = M12x1, 5 pole, male

Output

- 1 = 1 switching output
- 3 = 1 switching output and 1 analogue output

Pressure ranges in bar

0040; 0100; 0250; 0400; 0600

Modification number

D00 = pin configuration conforms to DESINA® standard for self-diagnostics

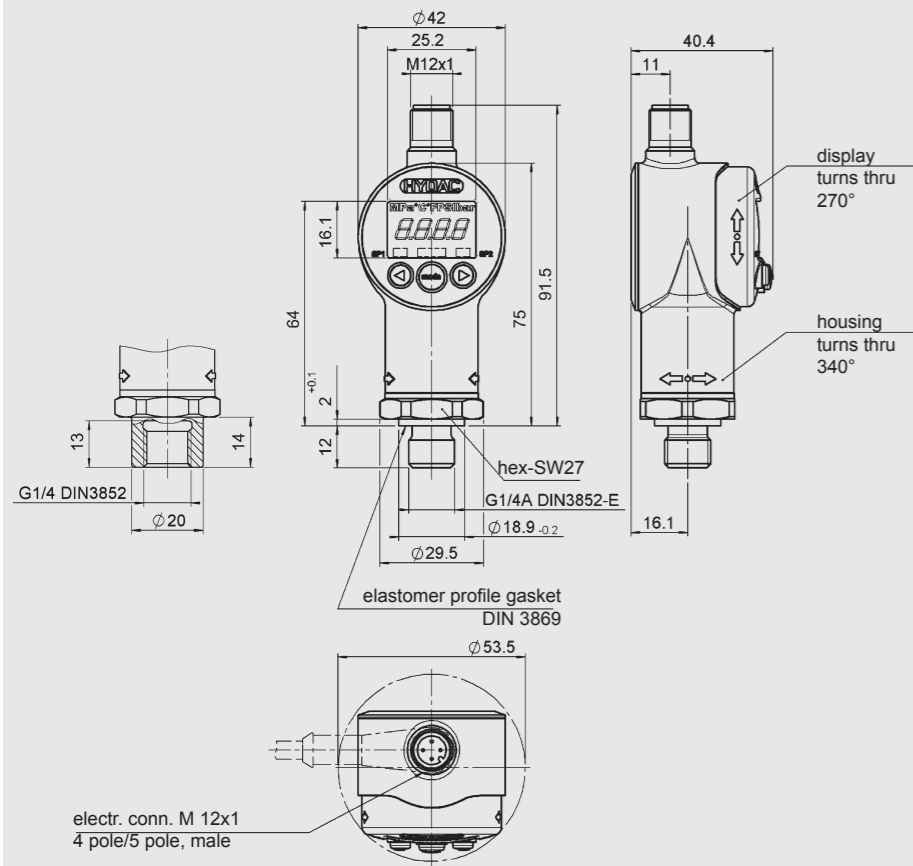
Note:

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

Accessories:

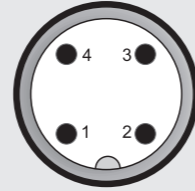
Appropriate accessories, such as electrical connectors, mechanical adaptors, splash guards, clamps for wall-mounting etc can be found in the Accessories section.

Dimensions:



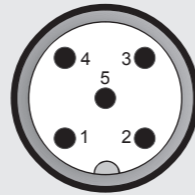
Pin connections:

M12x1, 4 pole



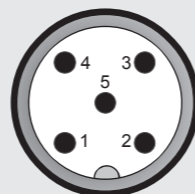
Pin	EDS 34X6-1	EDS 34X6-2	EDS 34X6-3
1	+U _B	+U _B	+U _B
2	n.c.	SP 2	Analogue
3	0 V	0 V	0 V
4	SP 1	SP 1	SP 1

M12x1, 5 pole



Pin	EDS 34X8-5
1	+U _B
2	Analogue
3	0 V
4	SP 1
5	SP 2

M12x1, 5 pole



	Conforms to DESINA®	Can be connected to DESINA®
Pin	EDS 34X8-1	EDS 34X8-3
1	+U _B	+U _B
2	Diagnostics	Diagnostics
3	0 V	0 V
4	SP 1	SP 1
5	n.c.	Analogue

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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