



Electronic Pressure Switch EDS 3400 with Menu Navigation to VDMA

Description:

The EDS 3400 is a compact electronic pressure switch with integrated digital display for relative pressure measurement in the high-pressure range.

The device has a stainless steel measurement cell with thin-film strain gauge.

The device can have one or two switching outputs, and there is the option of an additional switchable analogue output signal (4 .. 20 mA or 0 .. 10 V).

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 individual measurement unit. When changing to a different measurement unit, the EDS 3400 automatically converts all the switching settings to the new unit of measurement.

The main applications of the EDS 3400 are primarily in hydraulics and pneumatics, as well as in refrigeration and air conditioning technology.

Special features:

- Menu navigation according to VDMA
- 1 or 2 PNP transistor switching outputs, up to 1.2 A load per output
- Accuracy $\leq \pm 1\%$ FS
- Optional analogue output selectable (4 .. 20 mA / 0 .. 10 V)
- 4-digit digital display
- Rotation in two planes (axes) for optimum alignment
- Measured value can be displayed in bar, psi or MPa
- User-friendly due to key programming
- Switching points and switch-back hystereses can be adjusted independently
- Many useful additional functions

Technical data:

Input data

| | |
|-----------------------|--|
| Measuring ranges | 40; 100; 250; 400; 600 bar |
| Overload pressures | 80; 200; 500; 800; 1000 bar |
| Burst pressure | 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 Sensor cell: 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 | $\leq \pm 0.25\%$ FS max. |
| Temperature drift | $\leq \pm 0.025\%$ FS / °C max. zero point $\leq \pm 0.025\%$ FS / °C max. range |

Analogue output (optional)

| | |
|--------|--|
| Signal | selectable: 4 .. 20 mA load resistance max. 500 Ω 0 .. 10 V load resistance min. 1 k Ω |
|--------|--|

Switch outputs

| | |
|-------------------|---------------------------------|
| Type | PNP transistor output |
| Switching current | max. 1.2 A |
| Switching cycles | > 100 million |
| Reaction time | < 10 ms |
| Long-term drift | $\leq \pm 0.3\%$ FS typ. / year |

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

us mark¹⁾ Certificate No. E318391

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 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 switching outputs max. 55 mA with inactive switching outputs and analogue output |
|---------------------|---|

Display 4-digit, LED, 7 segment, red,
height of digits 7 mm

Weight ~ 120 g

Note: Excess voltage, override protection and short circuit protection are provided.
FS (Full Scale) = relative to complete measuring range

¹⁾ Environmental conditions according to 1.4.2 UL 61010-1; C22.2 No 61010-1

Setting options:

All terms and symbols used for setting the EDS 3400 as well as the menu structure comply with the specifications in the VDMA Standard (VDMA 24574-1) for pressure switches.

The EDS 3400 can easily be adjusted via three buttons.

Setting ranges for the switch outputs:

| Measuring range | Lower limit of RP / FL in bar | Upper limit of SP / FH in bar |
|-----------------|-------------------------------|-------------------------------|
| 0 .. 40 | 0.4 | 40.0 |
| 0 .. 100 | 1.0 | 100.0 |
| 0 .. 250 | 2.5 | 250.0 |
| 0 .. 400 | 4 | 400 |
| 0 .. 600 | 6 | 600 |

| Measuring range in bar | Min. difference betw. RP and SP & FL and FH in bar | Increment* in bar |
|------------------------|--|-------------------|
| 0 .. 40 | 0.4 | 0.1 |
| 0 .. 100 | 1.0 | 0.2 |
| 0 .. 250 | 2.5 | 0.5 |
| 0 .. 400 | 4 | 1 |
| 0 .. 600 | 6 | 1 |

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

SP = switch point

RP = switch-back point

FL = pressure window lower value

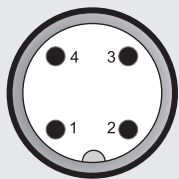
FH = pressure window upper value

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 0.00 .. 99.99 seconds
- Analogue output signal selectable 4 .. 20 mA or 0 .. 10 V
- Pressure can be displayed in measurement units bar, psi, MPa. The scaling can also be adapted to indicate force, weight, etc.

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 |

Model code:

EDS 3 4 X 6 - X - XXXX - V00

Mechanical connection

4 = G1/4 A DIN 3852 (male)

9 = Threaded port DIN 3852-G1/4

Electrical connection

6 = Male M12x1, 4 pole

Output

1 = 1 switching output

2 = 2 switching outputs

3 = 1 switching output and 1 analogue output

Pressure ranges in bar

040; 100; 250; 400; 600

Modification number

V00 = Menu navigation in accordance with VDMA (Standard Sheet 24574)

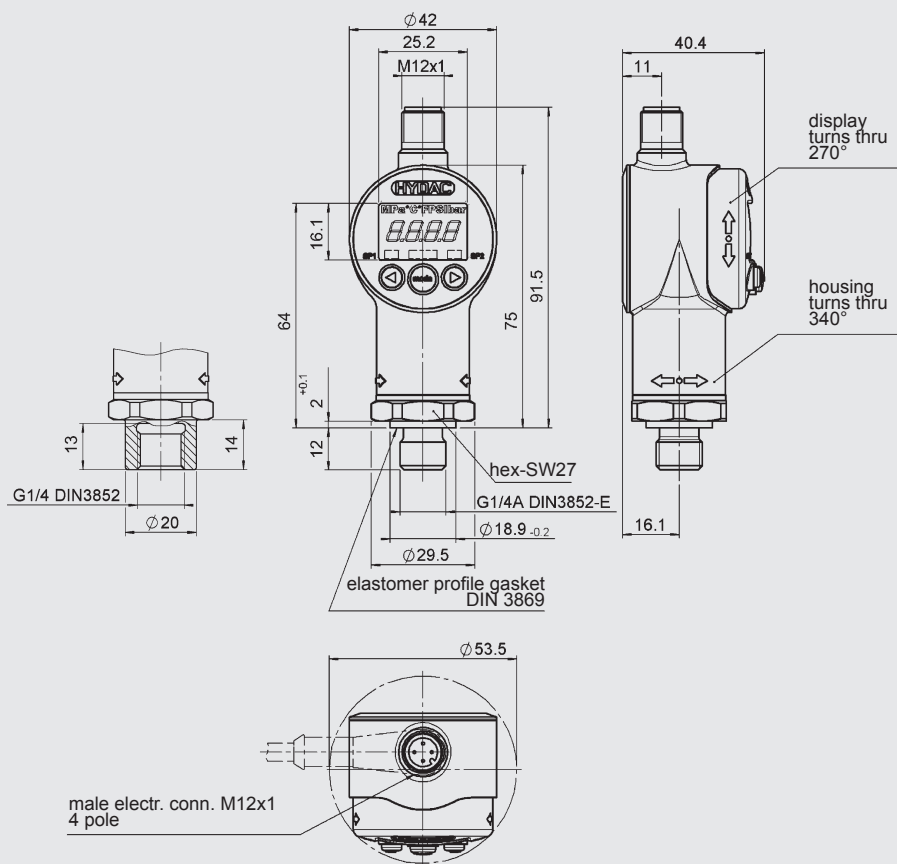
Notes:

On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

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 and operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

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