



## Pressure Switch EDS 3400

Relative pressure

Display

Flush membrane  
Up to 2 switching outputs  
Analogue output



### Description:

The electronic pressure switch EDS 3400 with a flush membrane was designed specifically for applications in which a standard pressure port could become blocked, clogged or frozen by the particular medium used.

Further applications include processes where the medium changes frequently and any residues could cause mixing or contamination of the media.

Like the standard model, the EDS 3400 with flush membrane has a measurement cell with a thin-film strain gauge on a stainless steel membrane for relative pressure measurement in the high pressure range.

The pressure port is achieved with a fully sealed stainless steel front membrane filled internally with a pressure transfer fluid. The process pressure is transmitted hydrostatically to the measurement cell via the pressure transfer fluid.

Depending on the type, the instrument can have up to two switching outputs and one switchable analogue output (4 .. 20 mA or 0 .. 10 V).

### Technical data:

#### Input data

Measuring ranges	bar	40	100	250	400	600
Overload pressures	bar	80	200	500	800	1000
Burst pressure	bar	200	500	1000	2000	2000

Mechanical connection See model code

Tightening torque, recommended 20 Nm (G 1/4); 45 Nm (G 1/2)

Parts in contact with fluid Mech. connection: Stainless steel

Seal: FKM

O-ring: FKM

Pressure transfer fluid Silicone-free oil

#### Output data

Switching outputs	1 or 2 PNP transistor outputs Switching current: max. 1.2 A per output Switching cycles: > 100 million
Analogue output, permitted load resistance	Selectable: 4 .. 20 mA load resist. max. 500 Ω 0 .. 10 V load resist. min. 1 kΩ

Accuracy acc. to DIN 16086, terminal based  $\leq \pm 0.5\%$  FS typ.  
 $\leq \pm 1\%$  FS max.

Temperature compensation, zero point  $\leq \pm 0.015\%$  FS / °C typ.  
 $\leq \pm 0.025\%$  FS / °C max.

Temperature compensation, span  $\leq \pm 0.015\%$  FS / °C typ.  
 $\leq \pm 0.025\%$  FS / °C max.

Repeatability  $\leq \pm 0.25\%$  FS max.

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 for UL spec.)

Storage temperature range -40 .. +80 °C

Fluid temperature range -25 .. +80 °C / -25 .. +150 °C with cooling section

CE mark EN 61000-6-1 / 2 / 3 / 4

UL US mark<sup>1)</sup> Certificate no.: E318391

Vibration resistance acc. to  $\leq 10$  g

DIN EN 60068-2-6 at 10 .. 500 Hz

Shock resistance acc. to  $\leq 50$  g

DIN EN 60068-2-27 (11 ms)

Protection class acc. to DIN EN 60529<sup>2)</sup> IP 67

#### Other data

Supply voltage 9 .. 35 V DC without analogue output  
18 .. 35 V DC with analogue output  
when applied acc. to UL specifications – limited energy – acc. to 9.3 UL 61010; Class 2;  
UL 1310/1585; LPS UL 60950

Residual ripple of supply voltage  $\leq 5\%$

Current consumption max. 2.455 A total  
max. 35 mA with inactive switching output  
max. 55 mA with inactive switching output  
and analogue output

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

Weight ~ 150 g

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

<sup>1)</sup> Environmental conditions acc. to 1.4.2 UL 61010-1; C22.2 No. 61010-1

<sup>2)</sup> With mounted mating connector in corresponding protection class

## Setting options:

All settings available on the EDS 3400 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
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

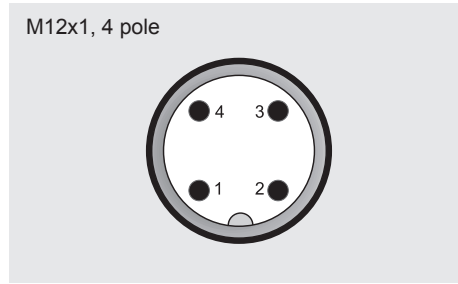
Measuring range in bar	Lower switch value in bar	Upper switch value in bar	Increment* in bar
0 .. 40	0.6 .. 39.2	0.9 .. 39.6	0.1
0 .. 100	1.6 .. 98.2	2.4 .. 99	0.2
0 .. 250	4.0 .. 245.5	6.0 .. 247.5	0.5
0 .. 400	6.0 .. 392	9.0 .. 396	1
0 .. 600	9.0 .. 589	14 .. 594	1

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

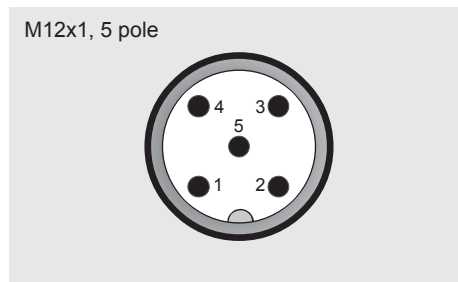
## Additional functions:

- 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-off 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
- Pressure can be displayed in measurement units bar, psi, MPa. The scaling can also be adapted to indicate force, weight, etc.

## Pin connections:

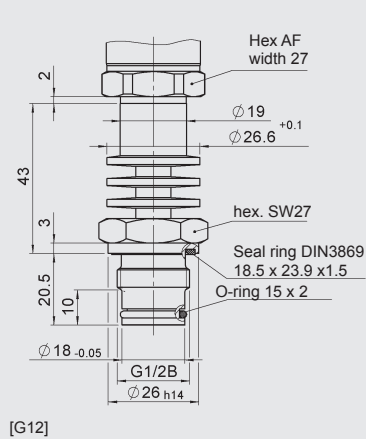
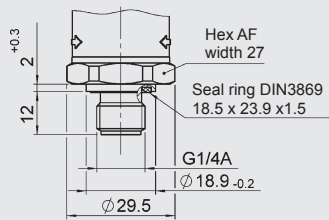
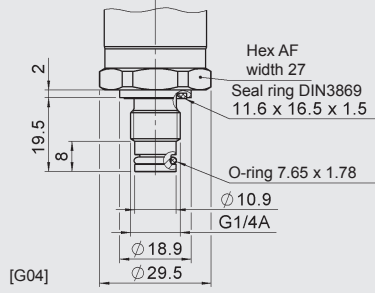
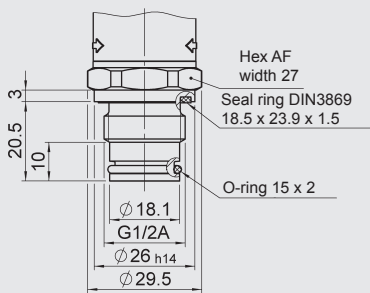
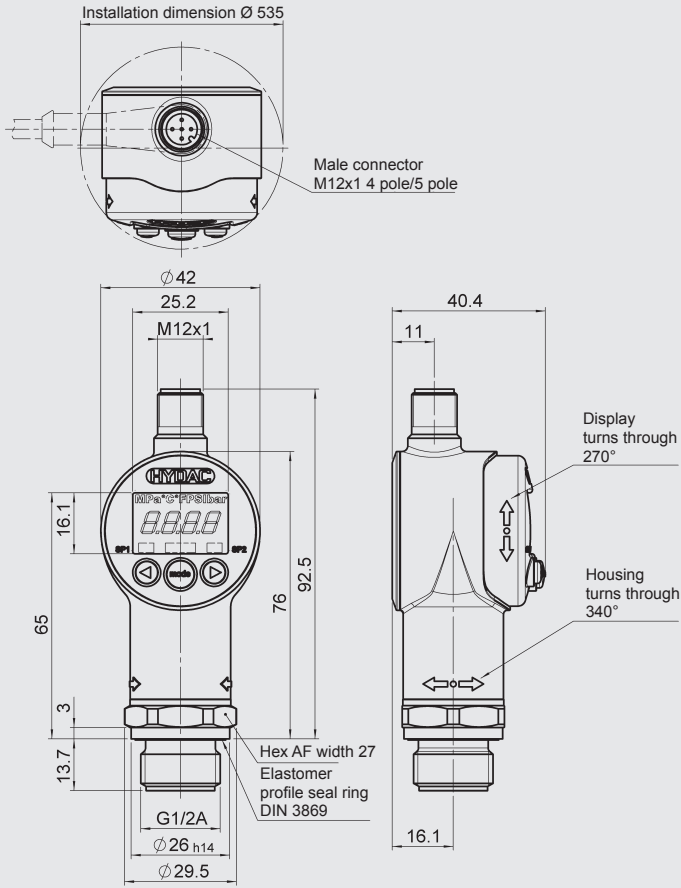


Pin	EDS 34Z6-1	EDS 34Z6-2	EDS 34Z6-3
1	+U <sub>B</sub>	+U <sub>B</sub>	+U <sub>B</sub>
2	n.c.	SP2	Analogue
3	0 V	0 V	0 V
4	SP1	SP1	SP1



Pin	EDS 34Z8-5
1	+U <sub>B</sub>
2	Analogue
3	0 V
4	SP1
5	SP2

# Dimensions:



## Model code:

EDS 3 4 Z X - X - XXXX - XXX - 000

### Mechanical process connection

Z = flush membrane

### Electrical connection

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

8 = male M12x1, 5 pole  
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 code type "8"

### Measuring ranges in bar

0040; 0100; 0250; 0400; 0600

### Mechanical connection

- G01 = G1/2 A ISO 1179-2  
G02 = G1/2 with additional front O-ring seal  
G04 = G1/4 with additional front O-ring seal  
G05 = G1/4 A ISO 1179-2  
G12 = G1/2 with additional front O-ring seal and cooling section

### Modification number

000 = standard

### Accessories:

Appropriate 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.