HYDAC INTERNATIONAL

Electronic Pressure Switch EDS 3300 with Menu Navigation to VDMA

Description:

The EDS 3300 is a compact electronic pressure switch with integrated digital display for relative pressure measurement in the low-pressure range.
It has a ceramic measuring cell with thick-film strain gauge. The instrument 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 3300 is that the display can be rotated 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 3300 automatically converts all the switching settings to the new unit of measurement.

The main applications of the EDS 3300 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 ≤ ± 1 % FS
- Optional analogue output selectable (4 .. 20 mA / 0 .. 10 V)
- 4-digit digital display
- Optimum alignment - can be rotated in two planes (axes)
- 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	-1..1; 1; 2.5; 6; 10; 16 bar
Overload pressures	3; 3; 8, 18, 30, 48 bar
Burst pressures	5; 5; 12; 30; 50; 80 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: Ceramic Seal: FPM / EPDM (as per model code)
Output data	
Accuracy to DIN 16086, Max. setting (display, analogue output)	≤ ± 0.5 % FS typ. ≤ ± 1 % FS max.
Repeatability	≤ ± 0.25 % FS max.
Temperature drift	≤ ± 0.025 % FS / °C max. zero point ≤ ± 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 kΩ
Switch outputs	
Type	PNP transistor output
Switching current	max. 1.2 A
Switching cycles	> 100 million
Reaction time	< 10 ms
Long-term drift	≤ ± 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
cULus mark[1)]	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 for use acc. to UL spec.	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
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 (**F**ull **S**cale) = 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 3300 as well as the menu structure comply with the specifications in the VDMA Standard (VDMA 24574-1) for pressure switches.
The EDS 3300 can easily be adjusted via three buttons.

Setting ranges for the switch outputs:

Measuring range in bar	Lower limit of RP / FL in bar	Upper limit of SP / FH in bar
-1.. 1	-0.98	1.00
0 .. 1	0.010	1.000
0 .. 2.5	0.025	2.500
0 .. 6	0.06	6.00
0 .. 10	0.10	10.00
0 .. 16	0.20	16.00

Measuring range in bar	Min. difference betw. RP and SP & FL and FH	Incre-ment* in bar
- 1 .. 1	0.02	0.01
0 .. 1	0.010	0.002
0 .. 2.5	0.025	0.005
0 .. 6	0.06	0.01
0 .. 10	0.10	0.02
0 .. 16	0.20	0.05

* 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 33X6-1	EDS 33X6-2	EDS 33X6-3
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 3 X 6 – X – XXXX – V00 – X 1

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
0001 (-1 .. 1 bar); 01.0; 02.5; 06.0; 0010; 0016

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

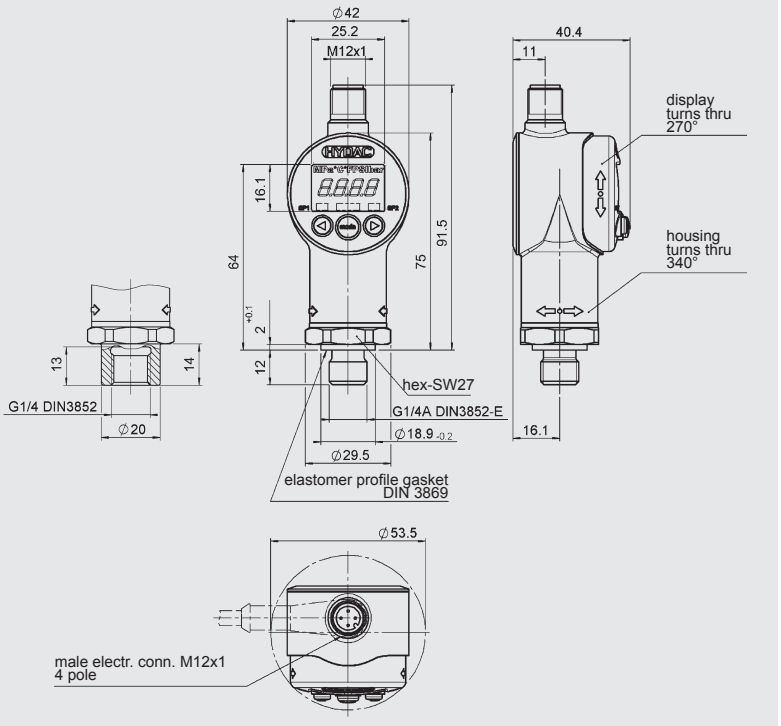
Seal material (in contact with fluid)
F = FPM seal (e.g. for hydraulic oils)
E = EPDM seal (e.g. for water, refrigerants)

Connection material (in contact with fluid)
1 = Stainless steel

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.