



Electronic Pressure Switch EDS 3400 with IO-Link Interface



Description:

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

The device is equipped with a switching output and additional output that can be configured as switching or analog (4 .. 20 mA or 0 .. 10 V).

Compared with the standard version, the IO-Link interface enables bidirectional communication between the device and the control.

Parameterization and cyclical transmission of process and service data is therefore possible.

The pressure switch series EDS 3400 with communication interface IO-Link according to specification V1.1 has been specially designed for connecting sensors in automation systems.

Typical fields of application are machine tools, handling and assembly automation, intralogistics or the packaging industry.

Special features:

- 1 PNP transistor switching output
- 1 universal output, configurable as PNP transistor switching output or analog output
- Accuracy $\leq \pm 0.5\%$ FS B.F.S.L.
- 4-digit digital display
- Optimum alignment: can be rotated in two axes

Technical data:

Input data	
Measuring ranges	1000, 3000, 6000, 9000 psi
Overload range	2900, 7250, 11600, 14500 psi
Burst pressures	7250, 14500, 29000, 29000 psi
Mechanical connection	9/16-18 UNF 2A (SAE 6 male)
Torque value	15 lb-ft (20 Nm)
Parts in contact with medium	Mech. connection: Stainless steel Sensor cell: Stainless steel Seal: FPM
Output data	
Output signals	Output 1: PNP Transistor switching output Output 2: can be configured as PNP transistor switching output or analog output
Accuracy to DIN 16086	$\leq \pm 0.5\%$ FS typ.
Max. setting (display, analog output)	$\leq \pm 1\%$ FS max.
Repeatability	$\leq \pm 0.25\%$ FS max.
Temperature drift	$\leq \pm 0.014\%$ /°F max zero point $\leq \pm 0.014\%$ /°F max. range
Analog output	
Signal	selectable: 4 .. 20 mA load resistance max. 500 Ω 0 .. 10 V load resistance min. 1 k Ω
Switch outputs	
Type	PNP transistor switching output
Switching current	max. 250 mA per output
Switching cycles	> 100 million
Reaction time	< 10 ms
Long term drift	$\leq \pm 0.3\%$ FS typ. / year
Parameterization	
	Via IO-Link interface, with HYDAC programming device HPG 3000 or push buttons on the EDS 3400
Environmental conditions	
Compensated temperature range	14..158°F
Operating temperature range	-13..+176°F (-13..+140°F acc. to UL spec.)
Storage temperature range	-40..176°F
Fluid temperature range	-13..176°F
CE-mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance according to DIN EN 60068-2-6 (0 .. 500 Hz)	≤ 10 g
Shock resistance according 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 analog output 18 .. 35 V DC with analog output
Current consumption	≤ 0.535 A with active switching outputs ≤ 35 mA with inactive switching outputs ≤ 55 mA with inactive switching output and analog 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

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 for pressure switches.

Setting ranges for the switch outputs:

Measuring range in psi	Lower limit of RP / FL in psi	Upper limit of SP / FH in psi
0 .. 1000	10	1000
0 .. 3000	30	3000
0 .. 6000	60	6000
0 .. 9000	80	9000

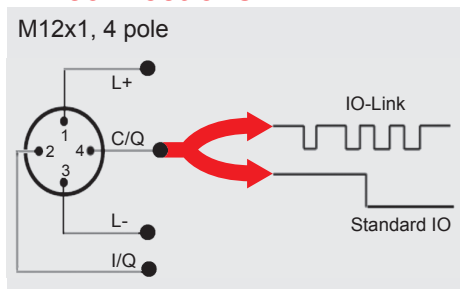
Measuring range in psi	Min. difference betw. RP and SP & FL and FH in psi	Increment*
0 .. 1000	10	2
0 .. 3000	30	5
0 .. 6000	60	10
0 .. 9000	80	20

* 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
- Analog output signal selectable: 4 .. 20 mA or 0 .. 10 V
- Pressure can be displayed in bar, psi, MPa.

Pin connections:



Pin	Signal	Description
1	L+	Supply voltage
2	I/Q	Switching output (SP2) / analog output
3	L-	Gnd
4	C/Q	IO-Link communication / switching output (SP1)

IO-Link-specific data:

Baud rate	38.4 kBaud *
Cycle time	2.5 ms
Process data width	16 Bit
Frame type	2.2
Specification	V1.1

* Connection with unshielded standard sensor line possible up to a max. line length of 20 m.

Download the IO Device Description (IODD) from:
<http://www.hydac.com/de-en/service/downloads-software-on-request/>

Model code:

EDS 3 4 X 6 - F31 - XXXX - 400

Mechanical connection

7 = 9/16-18 UNF 2A (SAE 6 male)

Electrical connection

6 = Male M12x1, 4 pole
 (connector not supplied)

Output

F31 = IO Link Interface

Pressure ranges in psi

1000, 3000, 6000, 9000

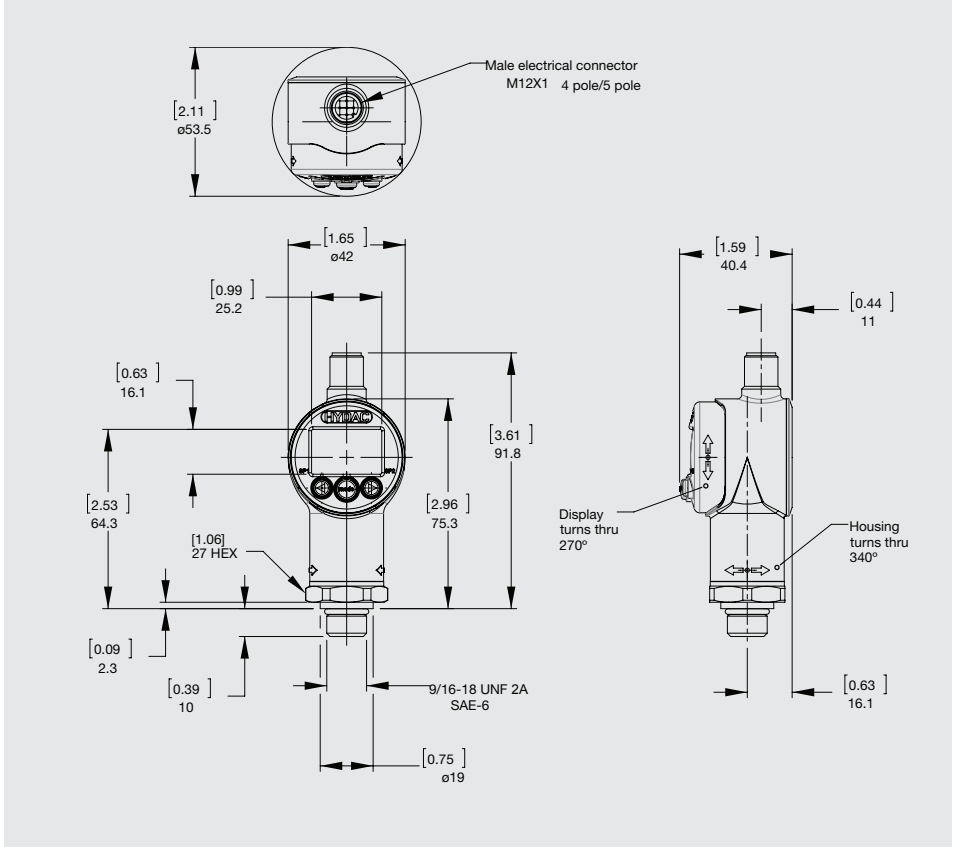
Modification number

400 = Standard 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 psi ranges see European Catalog.

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