

Pressure Switch
EDS 3400

Relative pressure | **Display**

IO-Link

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 instrument has a switching output and an additional output that can be configured as switching or analogue output (4 .. 20 mA or 0 .. 10 V).

IO-Link is the communication between the sensor/actuator (IO-Link device) and an IO-Link master based on a point-to-point interface.

The advantages:
Process data, parameters and diagnostic information of the pressure switch can be transmitted via a standard cable (SDCI mode). The integrated LED display provides information on the operating mode and the switching statuses.

Simple exchange, the IO-Link master saves the parameters of the connected pressure switch and transmits them to the newly connected pressure transmitter when replaced. Thus, time-consuming new parameterisations will no longer be required.

If IO-Link is not used, the sensor still functions as a pressure switch with two switching outputs (SIO mode).

To create customer-specific small series or to duplicate sensor settings across the system, the sensor can also be easily adjusted outside the system to suit the particular application, with the HYDAC Programming Device HPG P1-000, the HYDAC Programming Adapter ZBE P1-000 or by means of the Portable Data Recorder HMG 4000.

Typical fields of application for EDS 3400 IO-Link are machine tools, handling and assembly automation, intralogistics or the packaging industry.

Technical data:

Input data							
Measuring ranges [1]	bar	40	100	250	400	600	1000
Overload pressures	bar	80	200	500	800	1000	1600
Burst pressure	bar	200	500	1000	2000	2000	3000
Mechanical connection		See model code					
Tightening torque, recommended		20 Nm					
Parts in contact with fluid		Mech. connection: Stainless steel Seal: FKM					
Output data							
Switching outputs		PNP transistor outputs Switching current: max. 250 mA per switching output					
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		≤ ± 0.5 % FS typ. ≤ ± 1 % FS max.					
Temperature compensation, zero point		≤ ± 0.015 % FS / °C typ. ≤ ± 0.025 % FS / °C max.					
Temperature compensation, span		≤ ± 0.015 % FS / °C typ. ≤ ± 0.025 % FS / °C max.					
Repeatability		≤ ± 0.25 % FS max.					
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 for 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 [2]		Certificate-No.: E318391					
Vibration resistance acc. to DIN EN 60068-2-6 (0 .. 500 Hz)		≤ 10 g					
Shock resistance acc. to DIN EN 60068-2-27 (11 ms)		≤ 50 g					
Protection class acc. to DIN EN 60529 [3]		IP 67					
IO-Link specific data							
IO-Link revision		V1.1 / support V1.0					
Transmission rate, baud rate [4]		38.4 kBaud * (COM2)					
Minimum cycle time		2.5 ms					
Process data width		16 bit					
SIO mode supported		Yes					
M-sequence capability		PREOPERATE: TYPE_0 OPERATE: TYPE_2_2 ISDU: Supported					
IO Device Description (IODD) download at: https://ioddfinder.io-link.com/#/							
Other data							
Supply voltage when applied acc. to UL specifications		9 .. 35 V DC, if PIN 2 = SP2 18 .. 35 V DC, if PIN 2 = analogue output - limited energy – acc. to 9.3 UL 61010; Class 2; UL 1310 / 1585; LPS UL 60950					
Residual ripple of supply voltage		≤ 5 %					
Current consumption		≤ 0.535 A with active switching outputs ≤ 35 mA with inactive switching outputs ≤ 55 mA with inactive switching output and analogue output					
Display		4-digit, LED, 7-segment, red, height of digits 7 mm					
Weight		~ 120 g					

Note: Overvoltage, override protection and short circuit protection are provided.
FS (**F**ull **S**cale) = relative to complete measuring range

[1] 1000 bar only with mechanical connection G 1/4 A ISO 1179-2
[2] Environmental conditions acc. to 1.4.2 UL 61010-1; C22.2 No. 61010-1
[3] With mounted mating connector in corresponding protection class
[4] Connection with unshielded standard sensor line possible up to a maximum line length of 20 m.

Setting options:

with the specifications in the VDMA Standard for

Setting ranges for the switching outputs:

Measuring range in bar	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
0 .. 600	6	600.0
0 .. 1000	10	1000.0

Measuring range in bar	Min. difference betw. RP and SP & FL and FH	Incre-ment* 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
0 .. 1000	10	2

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

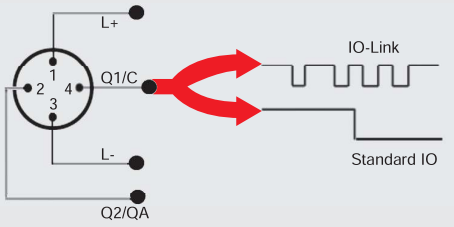
SP = switch point
RP = switch-back point
FL = pressure window lower value
FH = pressure window upper value

Additional functions:

- Switching mode of the switching outputs adjustable (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
- Analogue output signal selectable 4 .. 20 mA or 0 .. 10 V
- Pressure can be displayed in bar, psi, MPa.

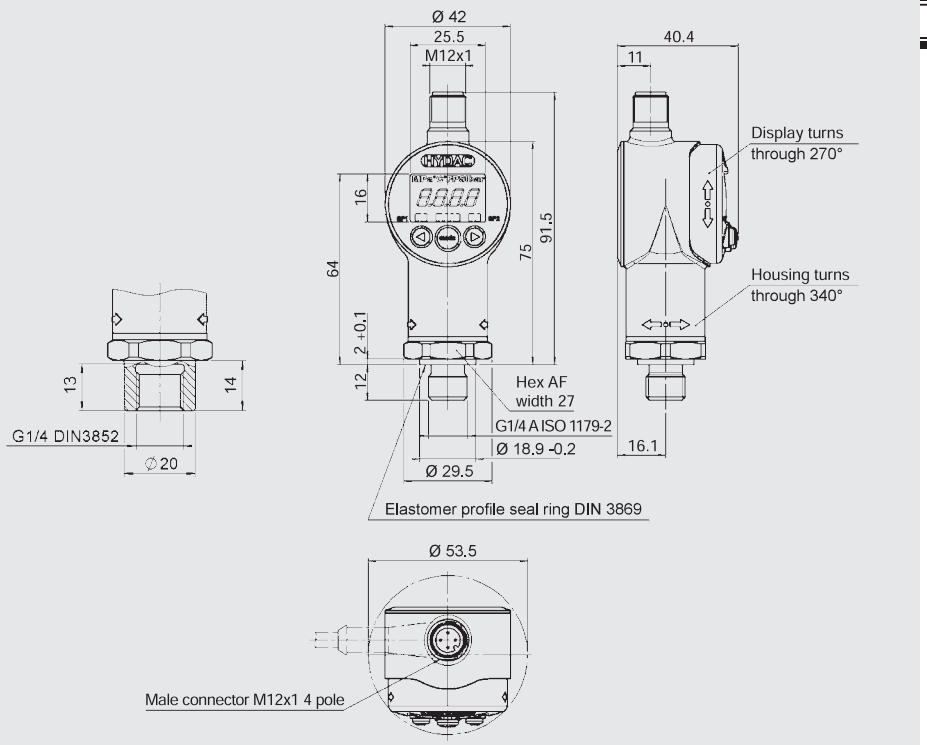
Pin connections:

M12x1, 4 pole



Pin	Signal	Description
1	L+	$+U_B$
2	Q2/QA	Switching output (SP2) / analogue output
3	L-	0 V
4	Q1/C	IO-Link communication / switching output (SP1)

Dimensions:



Model code:

EDS 3 4 X 6 – F31 – XXXX – 000

Mechanical connection
4 = G1/4 A ISO 1179-2
9 = threaded port DIN 3852-G1/4

Electrical connection
6 = male M12x1, 4 pole
(mating connector not supplied)

Output
F31 = IO-Link interface

Measuring ranges in bar
0040; 0100; 0250; 0400; 0600
1000 (only with mechanical connection code "4")

Modification number
000 = standard

Accessories:
Appropriate accessories, such as mating connectors, mechanical adapters, splash guards, clamps for wall-mounting and programming units, 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.

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