# Electronic Pressure Switch
## EDS 820
## with IO-Link Interface

IO-Link



## Description:

EDS 820 with IO-Link communication interface is a compact electronic pressure switch for relative pressure measurement in the high-pressure range.
The device has two PNP transistor switch outputs, one of which can serve as the IO communication output.

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 820 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:

- IO-Link interface or PNP transistor switch output
- 1 additional PNP transistor switching output
- Accuracy ≤ ± 0.5 FS B.F.S.L
- Highly robust sensor cell
- Status LED display for active switch outputs

## Technical data:

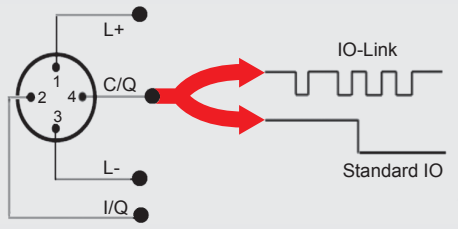
| | |
|---|---|
| **Input data** | |
| Measuring ranges | 500, 1000, 3000, 6000, 9000 psi |
| Overload range | 1160, 2900, 7250, 11600, 14500 psi |
| Burst pressures | 2900, 7250, 14500, 29000, 29000 psi |
| Mechanical connection | 9/16-18 UNF 2A (SAE 6 male) with 0.5 mm orifice |
| Torque value | 15lb-ft (20Nm) |
| Parts in contact with medium | Mech. connection: Stainless steel<br>Seal: FPM |
| **Output data** | |
| Output signals | Pin 4: IO Link interface or user-configurable switching output<br>Pin 2: user-configurable switching output |
| Accuracy to DIN 16086,<br>Max. setting | ≤ ± 0.5 % FS typ.<br>≤ ± 1.0 % FS max. |
| Repeatability | ≤ ± 0.1 % FS max. |
| Temperature drift | ≤ ± 0.017% FS°F max. zero point<br>≤ ± 0.017% FS°F max. range |
| **Switch outputs** | |
| Type | PNP transistor output |
| Switching current | max. 250 mA per output |
| Switching cycles | > 100 million |
| Reaction time | < 10 ms |
| Long term drift | ≤ ± 0.3 % FS typ. / year |
| **Parameterization** | **Via IO-Link interface, with HYDAC programming device HPG 3000** |
| **Environmental conditions** | |
| Compensated temperature range | -13..+185° F |
| Operating temperature range [1] | -40..+185° F / -13..+185° F |
| Storage temperature range | -40..+212° F |
| Fluid temperature range [1] | -40..+257° F / -13..+257° F |
| CE - mark | EN 61000-6-1 / 2 / 3 / 4 |
| Vibration resistance acc. to<br>DIN EN 60068-2-6 at 0 .. 500 Hz | ≤ 25 g |
| Shock resistance according to<br>DIN EN 60068-2-29 (11 ms) | ≤ 50 g |
| Protection class to IEC 60529 | IP 67 (M12x1 male connection, for use with an IP 67 connector) |
| **Other data** | |
| Supply voltage | 10 .. 32 V DC |
| Residual ripple of supply voltage | ≤ 5 % |
| Current consumption | ≤ 25 mA with inactive switching outputs<br>≤ 0.275 A with 1 active switching output<br>≤ 0.525 A with 2 active switching outputs |
| Weight | ~ 65 g |

Note: Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided.
**FS** (**F**ull **S**cale) = relative to the full measuring range

[1] -13 °F for EPM seal, -40 °F on request

## Pin connections:

M12x1, 4 pole

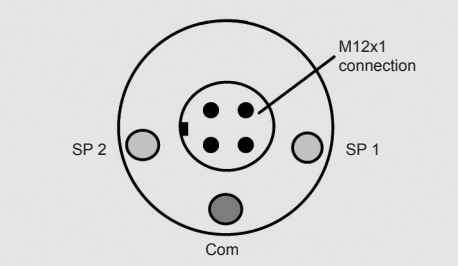



| Pin | Signal | Description |
|---|---|---|
| 1 | L+ | Supply voltage |
| 2 | I/Q | Switching output (SP2) / analog output |
| 3 | L- | Gnd |
| 4 | C/Q | IO-Link communication / switching output (SP1) |

## Status LEDs:

The pressure switch has 3 status LEDs on the electrical connection:

2 LEDs (yellow) for the switching statuses of SP1 and SP2 and 1 LED (green) for the operating status




| | | |
|---|---|---|
| LED 1 (SP 1) | Yellow | Switching output 1 active (high) |
| LED 2 (SP 2) | Yellow | Switching output 2 active (high) |
| LED 3 (Com) | Green, permanent | Supply voltage OK switch in SIO mode |
| | Green, flashing | Supply voltage OK switch in IO-Link mode |

## 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 8 2 7 – XXXXX – F31 – 000 (PSI)**

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

**Pressure ranges in psi**
00500, 01000, 03000, 06000, 09000

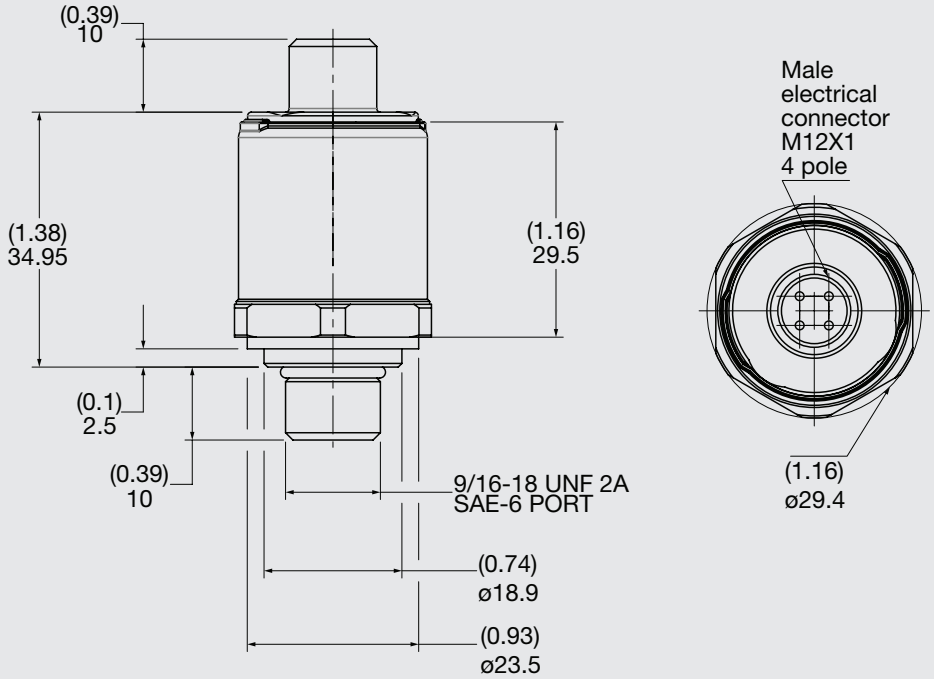
**Output**
F31 = IO Link Interface

**Modification number**
000 = Standard

**Version**
PSI = Pounds per square inch

**Accessories:**
Appropriate accessories, such as electrical connectors, 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 bar ranges see European Catalog.

**HYDAC ELECTRONICS**
90 Southland Dr. Bethlehem, PA 18107
Telephone +1 (610) 266 0100
E-mail: electronics@hydacusa.com
Website: www.hydac-na.com