



Electronic Pressure Switch EDS 4300 Programmable

Description:

The programmable electronic pressure switch in the series EDS 4300 was specially developed to combine the advantages of a compact, robust and cost-effective instrument with the benefits of a programmable pressure switch.

The EDS 4300 can be easily programmed using the HPG 3000 programming unit. Once the programming unit is disconnected from the EDS 4300, the pressure switch retains all the settings. This prevents unauthorized or incorrect adjustment of the settings.

The following parameters can be changed:

- Switching point
- Hysteresis
- Switching direction (N/O / N/C)
- Switching delay times

The EDS 4300 is suitable for low pressure applications (up to 500 psi) and has a pressure measurement cell with thick-film strain gauge on a ceramic membrane.

In contrast to pressure switches which are factory-set according to customer requirements and not field-adjustable, the programmable EDS 4300 is highly versatile and replaces a wide range of models. This is advantageous in respect of stock management.

Special features:

- Option of 1 or 2 switching outputs
- Option of PNP or NPN switching outputs
- High switching output capacity
- Accuracy $\leq \pm 0.5\%$ FS B.F.S.L.
- Flexible user-programming
- Compact and robust design
- Also available in ATEX version for potentially explosive locations

Technical data:

| Input data | |
|---|--|
| Measuring ranges | 15, 50, 100, 250, 500 psi |
| Overload pressures | 45, 150, 290, 725, 1500 psi |
| Burst pressures | 70, 250, 400, 1000, 2500 psi |
| Mechanical connection | 1/4-18 NPT (male) |
| Torque value | 15lb-ft (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, | $\leq \pm 0.5\%$ FS typ. |
| Max. setting | $\leq \pm 1\%$ FS max. |
| Repeatability | $\leq \pm 0.1\%$ FS max. |
| Temperature drift | $\leq \pm 0.017\%$ /°F max. zero point $\leq \pm 0.017\%$ /°F max. range |
| Switch output | 1 or 2 transistor switch outputs PNP or NPN N/C or N/O |
| Output load | PNP: max. 1.2 A with 1 switching output max. 1 A each with 2 switching outputs NPN: max. 0.5 A on version with 1 switching output max. 0.3 A each on version with 2 switching outputs |
| Switching points / Hysteresis | user-programmable with HYDAC Programming Unit HPG 3000 |
| Rising switch point and falling switch point delay | 8 ms to 2000 ms; Freely programmable with HYDAC Programming Unit HPG 3000 |
| Long-term drift | $\leq \pm 0.3\%$ FS typ. / year |
| Environmental conditions | |
| Compensated temperature range | -13..+185°F |
| Operating temperature range | -13..+185°F |
| Storage temperature range | -40..+212°F |
| Fluid temperature range ¹⁾ | -40..+212°F/-13..+212°F |
| CE mark | EN 61000-6-1 / 2 / 3 / 4 |
| UL mark ²⁾ | Certificate No. E318391 |
| Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz | ≤ 20 g |
| Shock resistance to DIN EN 60068-2-29 (1 ms) | ≤ 100 g |
| Protection class to IEC 60529 | IP 67 (M12x1, when an IP 67 connector is used) |
| Other data | |
| Supply voltage for use acc. to UL spec. | 8 .. 32 V DC - limited energy - according to 9.3 UL 61010; Class 2; UL 1310/1585; LPS UL 60950 |
| Current consumption | ≤ 25 mA with inactive switching outputs ≤ 1.225 A with 1 switching output ≤ 2.025 A with 2 switching outputs |
| Residual ripple of supply voltage | $\leq 5\%$ |
| Life expectancy | > 10 million cycles, 0 .. 100 % FS |
| Weight | ~ 145 g |

Note: Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided.

FS (Full Scale) = relative to the complete measurement range

¹⁾ -13 °F with FPM or EPDM seal, -40 °F on request

²⁾ Environmental conditions according to 1.4.2 UL 61010-1; C22.2 No 61010-1

Setting options:

In conjunction with the HYDAC Programming Unit HPG 3000, all the settings are combined in an easy-to-follow menu.

Setting ranges for the switch outputs:

| Measuring range in psi | Increment in psi |
|------------------------|------------------|
| 0 .. 15 | 0.05 |
| 0 .. 50 | 0.05 |
| 0 .. 100 | 0.2 |
| 0 .. 250 | 0.5 |
| 0 .. 500 | 1 |

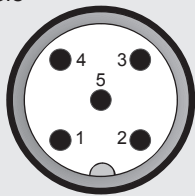
The switch point (upper switch value) on all instruments is between 5 % and 100 % of the measuring range and the switch-back point (lower switch value) is between 1 % and 96 % of the measuring range.

| | Minimum value in ms | Maximum value in ms |
|-------------------------------|---------------------|---------------------|
| Switch-on delay Ton1/Ton2 | 8 | 2040 |
| Switch-off delay ToF1/ToF2 | 8 | 2040 |

The increment for all instruments is 8 ms.

Pin connections:

M12x1, 5 pole



| Pin | Process connection | HPG connection |
|-----|--------------------|----------------|
| 1 | +UB | +UB |
| 2 | Out 2 | n.c. |
| 3 | 0 V | 0 V |
| 4 | Out 1 | n.c. |
| 5 | n.c. | Comport |

Model code:

EDS 4 3 8 8 - XXXX - X - P X - 000 - X 1 (PSI)

Mechanical connection

8 = 1/4-18 NPT (male)

Electrical connection

8 = Male M12x1, 5 pole

Pressure ranges in psi

0015, 0050, 0100,
0250, 0500

Number of switching outputs

1 = 1 switching output
2 = 2 switching outputs

Output technology

P = Programmable switching output

Output technology 2

P = PNP switching output
N = NPN switching output

Modification number

000 = Standard

Seal material (in contact with fluid)

F = FPM seal (e.g.: for hydraulic oils)
E = EPDM seal (e.g.: for water or refrigerants)

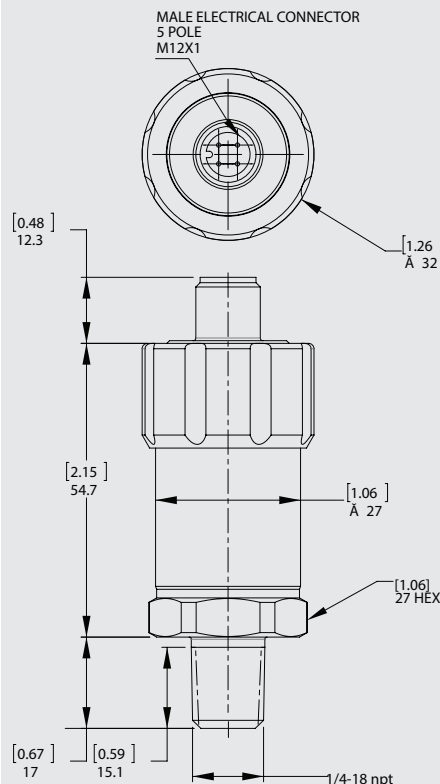
Material of connection (in contact with fluid)

1 = Stainless steel

Accessories:

Appropriate accessories, such as electrical connectors, can be found in the Accessories brochure.

Dimensions:

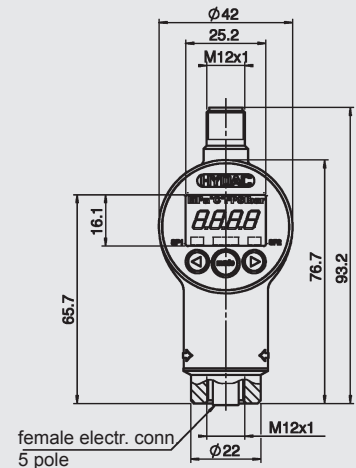


Programming Unit:

(must be ordered separately)

HPG 3000 - 000

Portable Programming Unit
Part #909422



HPG 3000 Power Supply with connector:

Part #02091103

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.

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