Electronic Pressure Switch
EDS 4400
Programmable

Description:

The programmable electronic pressure switch in the series EDS 4400 has been specially developed to combine the advantages of a compact, robust and cost-effective device with the benefits of a programmable pressure switch.

The EDS 4400 can be easily programmed using the HPG 3000 programming unit. Once the programming unit is disconnected from the EDS 4400, 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 4400 is suitable for high-pressure applications (starting at 1000 psi) and has a pressure measurement cell with thin-film strain gauge on a stainless steel membrane. In contrast to pressure switches which are factory-set according to customer requirements and are not field-adjustable, the programmable EDS 4400 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 ≤ ± 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	1000, 3000, 6000, 9000 psi
Overload pressures	2900, 7250, 11600, 14500 psi
Burst pressures	7250, 14500, 29000, 29000 psi
Mechanical connection	9/16-18 UNF 2A (SAE 6 male)
Torque value	15lb-ft (20 Nm)
Parts in contact with medium	Mech. conn.: Stainless steel Seal: FPM
Output data	
Accuracy to DIN 16086, Max. setting	≤ ± 0.5 % FS typ. ≤ ± 1 % FS max.
Repeatability	≤ ± 0.1 % FS max.
Temperature drift	≤ ± 0.017% /°F max. zero point ≤ ± 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 with 1 switching output max. 0.3 A each 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; User-programmable with HYDAC Programming Unit HPG 3000
Long-term drift	≤ ± 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
cULus 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	≤ 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 (**F**ull **S**cale) = relative to the complete measurement range
[1)] -13 °F with FPM 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 .. 1000	2
0 .. 3000	5
0 .. 6000	10
0 .. 9000	20

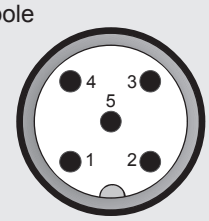
The switch point (upper switch value) on all instruments is between 5 % and 100 % of the measuring range and the switch-back point (lower switch value) is between 1 % and 96 % of the measuring range.

	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	$+U_B$	$+U_B$
2	Out 2	n.c.
3	0 V	0 V
4	Out 1	n.c.
5	n.c.	Comport

Model code:

EDS 4 4 7 8 – XXXX – X – P X – 000 (PSI)

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

Electrical connection
8 = Male M12x1, 5 pole

Pressure ranges in psi
1000, 3000, 6000, 9000

Number of switching outputs
1 = 1 switching output
2 = 2 switching outputs

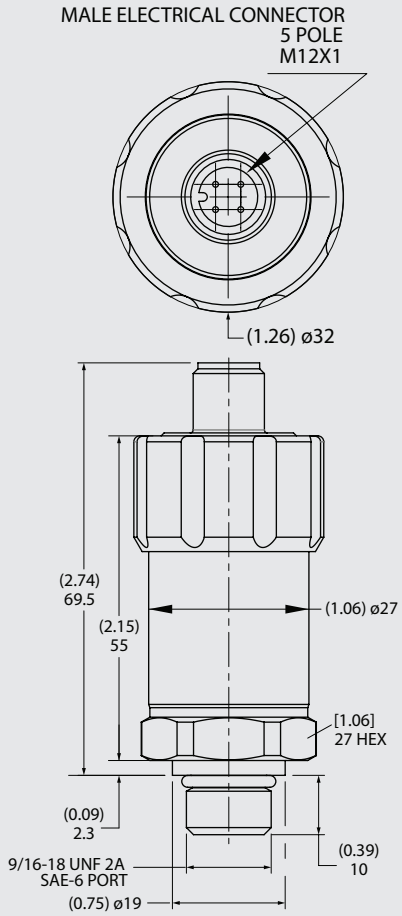
Output technology
P = Programmable switching output

Output technology 2
P = PNP switching output
N = NPN switching output

Modification number
000 = Standard

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

Dimensions:

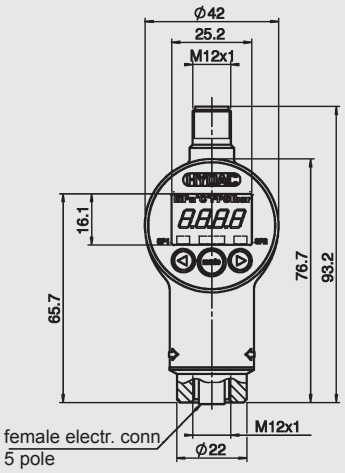


Programming Unit:

(must be ordered separately)

HPG 3000 – 000
Portable Programming Unit
Part. No. 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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