



Electronic Pressure Switch in ATEX Version

EDS 4100



(Minimum order quantity 50 pieces)

Description:

The pressure switch EDS 4100 in ATEX version, has been specially developed for use in potentially explosive atmospheres, and is based on the EDS 4000 series.

The switching and switch-back point, the function of the switching outputs as N/C or N/O and the switching delay are permanently pre-set according to customer specification.

As with the industry version, the EDS 4100 in ATEX version has a ceramic measurement cell with thick-film strain gauge for measuring absolute pressure in the low pressure range.

With approval for the following

Protection types and zones:

- I M1 Ex ia I
- II 1G Ex ia IIC T4, T5, T6
- II 1/2G Ex ia IIC T4, T5, T6
- II 2G Ex ia IIC T4, T5, T6
- II 1 D Ex iaD 20 T100°C

almost all requirements are covered regarding ignition group, error class and temperature class.

Versions for other protection types and zones are available on request.

Special features:

- Switching output permanently pre-set
- Accuracy $\leq \pm 1\%$ FS
- Certificates:
DEKRA EXAM BVS 07 ATEX E 041 X
- Various types of electrical connection
- Very small temperature error
- Excellent EMC characteristics
- Excellent long-term characteristics

Technical specifications:

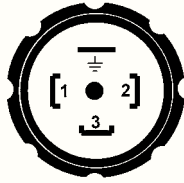
Input data		
Measuring ranges	1; 2.5 bar	
Overload pressures	3; 8 bar	
Burst pressure	5; 12 bar	
Mechanical connection	G1/4 A DIN 3852	
Torque value	20 Nm	
Parts in contact with medium	Sensor: Ceramic Mech. connection: 1.4571 (1.4462) Seal: FPM / EPDM	
Output data		
Switch output	1 x PNP N/C or N/O	
Output load	During operation: $I_{max} \leq 34$ mA	
Switching points	perm. pre-set to customer specification	
Switch-back points	perm. pre-set to customer specification	
Accuracy to DIN 16086, Max. setting	$\leq \pm 0.5\%$ FS typ. $\leq \pm 1\%$ FS max.	
Repeatability	$\leq \pm 0.1\%$ FS at 25 °C	
Temperature drift	$\leq \pm 0.03\%$ FS / °C max. zero point $\leq \pm 0.03\%$ FS / °C max. range	
Response and reset delay	8 ms to 2000 ms (standard 32 ms; permanently pre-set according to customer specification)	
Long-term drift	$\leq \pm 0.3\%$ FS typ. / year	
Ambient conditions		
Storage temperature range	-40 .. +100 °C	
Fluid temperature range	-20 .. +60 °C / +70 °C / +85 °C	
CE mark	EN 61000-6-1 / 2 / 3 / 4 EN 60079-0 / 11 / 26 IEC 61241-11	
Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz	≤ 20 g	
Protection class to DIN 40050	IP 65 (DIN 43650 and Binder 714 M18) IP 67 (M12x1, when an IP 67 connector is used)	
Relevant data for Ex applications		
	I M1 II 1G, 1/2G, 2G	II 1 D
Supply voltage	14 .. 28 V DC	
Compensated temperature range	T6: -20 .. +60 °C T5, T4: -20 .. +70 °C T100: -25 .. +85 °C	
Operating temperature range	T6: -20 .. +60 °C T5, T4: -20 .. +70 °C T100: -20 .. +85 °C	
Max. ambient temperature T_a	T6: +60 °C T5, T4: +70 °C	T100: +85 °C
Max. input current	100 mA	93 mA
Max. input power	0.7 W	0.65 W
Max. internal capacitance	33 nF	33 nF
Max. internal inductance	0 mH	0 mH
Housing isolation voltage	125 V AC (500 V AC on request)	
Approved safety barriers	Pepperl & Fuchs: Z 787 Telematic Ex STOCK: MTL 7087	
Other data		
Residual ripple of supply voltage	$\leq 5\%$	
Life expectancy	> 10 million cycles	
Weight	0 .. 100 % FS approx. 150 g	

Note: Reverse polarity protection of the supply voltage, excess voltage, override, short circuit protection are provided.
FS (Full Scale) = relative to the complete measuring range

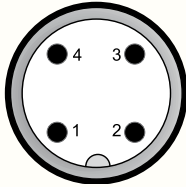
Pin connections:

Pin connections are configured according to customer specification.

DIN 43650



M12x1



Safety information:

- For technical reasons relating to explosive areas the switching output is defined as an input, in order to treat the field wiring as one electric circuit. This eases the design of the field cabling.
- The specified and approved dual Zener barriers, in which the signal path is decoupled using a reverse polarity diode, must be used for the connection. The signal path may only be passively loaded.
- Ensure that measurement fluids are compatible with the materials used in the pressure switch.

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.

HYDAC ELECTRONIC GMBH
Hauptstraße 27, D-66128 Saarbrücken
Telephone +49 (0)6897 509-01
Fax +49 (0)6897 509-1726
E-Mail: electronic@hydac.com
Internet: www.hydac.com

Areas of application:

Code Type code	1	2	3	8
Protection type	I M1 Ex ia I	II 1G Ex ia IIC T4, T5, T6	II 2G Ex ia IIC II 1/2G Ex ia IIC T4, T5, T6	II 1D Ex iaD 20 T100 °C
Certificate	DEKRA EXAM BVS 07 ATEX E 041 X	DEKRA EXAM BVS 07 ATEX E 041 X	DEKRA EXAM BVS 07 ATEX E 041 X	DEKRA EXAM BVS 07 ATEX E 041 X
Zones/ Categories	Group I Category M1 Mining Protection type: intrinsically safe ia with barrier	Group II Category 1G Gases Protection type: intrinsically safe ia with barrier Use in Zone 0 T4, T5: T _a = 70 °C T6: T _a = 60 °C	Group II Category 2G, 1/2G Gases Protection type: intrinsically safe ia with barrier Use in Zone 1, 2 Retrofit in Zone 0 T4, T5: T _a = 70 °C T6: T _a = 60 °C	Group II Category iD Dusts Protection type: intrinsically safe ia with barrier Use in Zone 20, 21, 22 Retrofit in Zone 20 T100: T _a = 85 °C
Electrical connection	5, 6	6	5, 6	6

Units for other protection types and zones are available on request. Please contact our technical sales department.

Ordering Details:

The electronic pressure switch EDS 4100 in ATEX version has been specially developed for OEM customers and is available for minimum order quantities of 50 pieces per type. For exact specification, please contact the Sales Department of HYDAC ELECTRONIC.

Accessories:

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

Dimensions:

