



Pressure Switch

EDS 4100 Ex series applications

Intrinsically Safe
ATEX approval
 Customised designs thanks to diverse
 electrical and mechanical connections
 1 switching output



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 switch point and switch-back point, the function of the switching outputs as N/C or N/O and the switching delay are factory-set acc. to customer requirement (not field-adjustable).

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

The main fields of application are in the oil and gas industry, in mining and in locations with high dust contamination.

Protection types and applications:

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 1D	Ex iaD 20 T100 °C

Technical data:

Input data			
Measuring ranges	bar	1	2.5
Overload pressures	bar	3	8
Burst pressure	bar	5	12
Mechanical connection	G1/4 A ISO 1179-2		
Tightening torque, recommended	20 Nm		
Parts in contact with fluid	Sensor: Ceramic Mech. connection: 1.4301 Seal: FKM / EPDM		
Output data			
Switching output	1 transistor output: PNP Switching current: during operation: $I_{\max} \leq 34 \text{ mA}$ Switching cycles: > 100 million Switch point/switch-back point: acc. to customer specification Switch-on and switch-off delay: 32 ms standard (8 .. 2000 ms acc. to customer spec.)		
Accuracy acc. to DIN 16086, terminal based	$\leq \pm 0.5 \text{ \% FS typ.}$ $\leq \pm 1 \text{ \% FS max.}$		
Temperature compensation	$\leq \pm 0.02 \text{ \% FS / } ^\circ\text{C typ.}$		
Zero point	$\leq \pm 0.03 \text{ \% FS / } ^\circ\text{C max.}$		
Temperature compensation	$\leq \pm 0.02 \text{ \% FS / } ^\circ\text{C typ.}$		
Span	$\leq \pm 0.03 \text{ \% FS / } ^\circ\text{C max.}$		
Repeatability	$\leq \pm 0.1 \text{ \% FS}$		
Long-term drift	$\leq \pm 0.3 \text{ \% FS typ. / year}$		
Environmental conditions			
Compensated temperature range	-25 .. +85 °C		
Operation, ambient, fluid temperature range	T6: $T_a = -20 \dots +60 \text{ } ^\circ\text{C}$ T5, T4, T100: $T_a = -20 \dots +70 \text{ } ^\circ\text{C}$		
Storage temperature range	-40 .. +100 °C		
CE mark	EN 61000-6-1 / 2 / 3 / 4 EN 60079-0 / 11 / 26 EN 61241-0 / 11 EN 50303		
Vibration resistance acc. to DIN EN 60068-2-6 at 10 .. 500 Hz	$\leq 20 \text{ g}$		
Shock resistance acc. to DIN EN 60068-2-27 (1 ms)	$\leq 100 \text{ g}$		
Protection class acc. to DIN EN 60529 ¹⁾	IP 67		
Relevant data for Ex applications			
	I M1 II 1G, 1/2G, 2G	II 1 D	
Supply voltage	14 .. 28 V DC		
Max. input current	100 mA	93 mA	
Max. input power	0.7 W	0.65 W	
Max. internal capacity	33 nF	33 nF	
Max. internal inductance	0 mH	0 mH	
Insulation voltage to housing ²⁾	50 V AC, with integrated overvoltage protection acc. to EN 61000-6-2		
Approved intrinsic safety barriers	Pepperl & Fuchs: Z 787 Telematic Ex STOCK: MTL 7087		
Other data			
Residual ripple of supply voltage	$\leq 5 \text{ \%}$		
Weight	~ 150 g		

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

FS (Full Scale) = relative to complete measuring range

¹⁾ With mounted mating connector in corresponding protection class

²⁾ 500 V AC on request

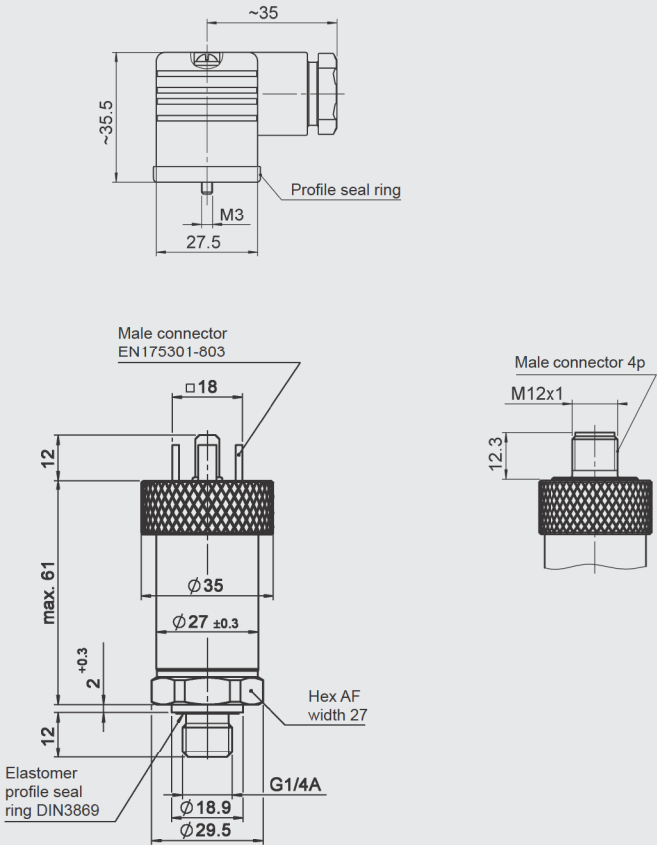
Fields of application:

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			
Application fields	Group I Category M1 Mining Protection type: intrinsically safe ia with barrier	Group II Category 1G Gases Protection type: intrinsically safe ia with barrier For use in Zone 0, 1, 2	Group II Category 2G, 1/2G Gases Protection type: intrinsically safe ia with barrier For use in Zone 1, 2 For mounting to Zone 0	Group II Category 1D Dusts Protection type: intrinsically safe ia with barrier For use in Zone 20, 21, 22 For mounting to Zone 20

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.

Dimensions:



Order details:

The electronic pressure switch EDS 4400 in ATEX version has been specially developed for OEM customers and is available for minimum order quantities of 50 pieces per type. For precise specifications, please contact the Sales Department of HYDAC ELECTRONIC.