

## HYDAC INTERNATIONAL

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### Pressure Switch EDS 4300 Ex series applications

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



#### Description:

The pressure switch EDS 4300 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 4300 in ATEX version has a ceramic measurement cell with thick-layer strain gauge for measuring relative 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 | 4  | 6  | 10 | 16     | 25  | 40  |
| Overload pressures  | bar  | 3 | 8   | 12 | 20 | 32 | 50     | 80  | 120 |
| Burst pressure  | bar  | 5 | 12  | 18 | 30 | 48 | 75     | 120 | 180 |
| Mechanical connection   | G1/4 A ISO 1179-2  |   |     |    |    |    |        |     |     |
| Tightening torque, recommended                                | 20 Nm  |   |     |    |    |    |        |     |     |
| Parts in contact with fluid                                   | Sensor: Ceramic<br>Mech. connection: 1.4301<br>Seal: FKM / EPDM  |   |     |    |    |    |        |     |     |
| Output data   |  |   |     |    |    |    |        |     |     |
| Switching output  | 1 transistor output: PNP<br>Switching current: during operation: $I_{\max} \leq 34$ mA<br>Switching cycles: > 100 million<br>Switch point/switch-back point:<br>acc. to customer specification<br>Switch-on and switch-off delay:<br>32 ms standard<br>(8 .. 2000 ms acc. to customer spec.) |   |     |    |    |    |        |     |     |
| Accuracy acc. to DIN 16086, terminal based                    | $\leq \pm 0.5$ % FS typ.<br>$\leq \pm 1$ % FS max.   |   |     |    |    |    |        |     |     |
| Temperature compensation Zero point                           | $\leq \pm 0.02$ % FS / °C typ.<br>$\leq \pm 0.03$ % FS / °C max.   |   |     |    |    |    |        |     |     |
| Temperature compensation Span                                 | $\leq \pm 0.02$ % FS / °C typ.<br>$\leq \pm 0.03$ % FS / °C max.   |   |     |    |    |    |        |     |     |
| Repeatability   | $\leq \pm 0.1$ % FS  |   |     |    |    |    |        |     |     |
| Long-term drift   | $\leq \pm 0.3$ % FS typ. / year  |   |     |    |    |    |        |     |     |
| Environmental conditions                                      |  |   |     |    |    |    |        |     |     |
| Compensated temperature range                                 | -25 .. +85 °C  |   |     |    |    |    |        |     |     |
| Operation, ambient, fluid temperature range                   | T6: Ta = -20 .. +60 °C<br>T5, T4, T100: Ta = -20 .. +70 °C   |   |     |    |    |    |        |     |     |
| Storage temperature range                                     | -40 .. +100 °C   |   |     |    |    |    |        |     |     |
| CE mark   | EN 61000-6-1 / 2 / 3 / 4<br>EN 60079-0 / 11 / 26<br>EN 61241-0 / 11<br>EN 50303  |   |     |    |    |    |        |     |     |
| Vibration resistance acc. to DIN EN 60068-2-6 at 10 .. 500 Hz | $\leq 20$ g  |   |     |    |    |    |        |     |     |
| Shock resistance acc. to DIN EN 60068-2-27 (1 ms)             | $\leq 100$ g   |   |     |    |    |    |        |     |     |
| Protection class acc. to DIN EN 60529 <sup>1)</sup>           | IP 67  |   |     |    |    |    |        |     |     |
| Relevant data for Ex applications                             |  |   |     |    |    |    |        |     |     |
|   | I M1<br>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 <sup>2)</sup>                   | 50 V AC, with integrated overvoltage protection acc. to EN 61000-6-2   |   |     |    |    |    |        |     |     |
| Approved intrinsic safety barriers                            | Pepperl & Fuchs: Z 787<br>Telematic Ex STOCK: MTL 7087   |   |     |    |    |    |        |     |     |
| Other data  |  |   |     |    |    |    |        |     |     |
| Residual ripple of supply voltage                             | $\leq 5$ %   |   |     |    |    |    |        |     |     |
| Weight  | ~ 150 g  |   |     |    |    |    |        |     |     |

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

FS (Full Scale) = relative to complete measuring range

<sup>1)</sup> With mounted mating connector in corresponding protection class

<sup>2)</sup> 500 V AC on request

EN 18.354.3/02.18

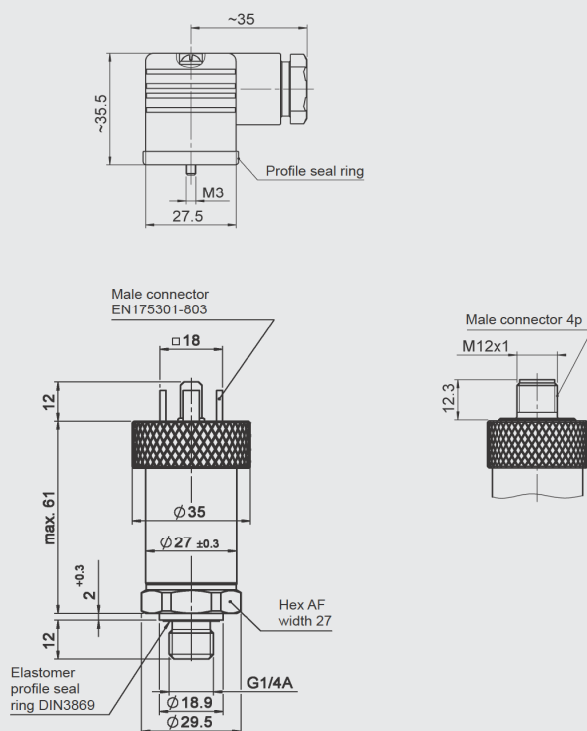
## Fields of application:

| 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<br>Protection type: intrinsically safe ia with barrier | Group II Category 1G Gases<br>Protection type: intrinsically safe ia with barrier<br>For use in Zone 0, 1, 2 | Group II Category 2G, 1/2G Gases<br>Protection type: intrinsically safe ia with barrier<br>For use in Zone 1, 2<br>For mounting to Zone 0 | Group II Category 1D Dusts<br>Protection type: intrinsically safe ia with barrier<br>For use in Zone 20, 21, 22<br>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 4300 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.