

# Solid State

## Explosion Proof Electronic Pressure Switch

**UDS7-BX**

### Features

- ▶ ATEX Ex d Certified Construction
- ▶ Dual seal protection
- ▶ Adjustable setpoint delay - up to 9.9 seconds
- ▶ 2 setpoints
- ▶ High accuracy with fully adjustable deadband
- ▶ Digital readout
- ▶ Fully configurable via keypad
- ▶ Suitable for rapid cycling (100 times per second)
- ▶ NEMA 4, 7, 9 & IP66

### Applications

- ▶ Oil & gas pipelines
- ▶ Refineries
- ▶ Petrochemical plants
- ▶ Pulp and paper mills
- ▶ Coal and oil fired power plants
- ▶ Cement plants
- ▶ Gas transfers for fuel systems



### General Specifications\*

<b>Accuracy:</b>	±1% f. s. at 77°F (25°C) TYP
<b>Repeatability:</b>	± 0.1% f. s. at 77°F (25°C)
<b>Sensor Element:</b>	Piezoresistive measuring cell
<b>Wetted Parts:</b>	316 and 17-4 PH stainless steel
<b>Enclosure:</b>	Die cast aluminum
<b>Proof Pressure:</b>	2X rated pressure or 13,000 PSIG (896 bar), whichever is less
<b>Process connection:</b>	1/4" NPTF
<b>Electrical Connection:</b>	Internal screw terminal strip via conduit connection 3/4" NPTF
<b>Power Supply (V<sub>s</sub>):</b>	15 to 32 VDC, 10% max. ripple
<b>Power Consumption:</b>	Approx. 50 mA at 24 VDC (without load)
<b>A/D-Converter:</b>	
Resolution:	10 bit (1,024 steps per measure span)
Scanning Rate:	200/s (for peak value memory)
<b>Switching Output(s):</b>	
Adjustment Range:	0 to 125% f. s.
Deadband:	0 to 125% f. s.
Switching Frequency:	Max. 100 Hz
Delay:	0.0 to 9.9 s - adjustable
Contact Rating:	Max. 400 mA, short circuit-proof
Status Display(s):	LED(s) green

\* See product configurator for additional options.

<b>Digital Display:</b>	3-digit <sup>1</sup> , 7-segment LED display; height 10 mm, (0.39 inches), red
Display Range:	-1 to 999
Display Rate:	20/s
Delay:	0.0 to 9.9 s adjustable
<b>Error Display:</b>	Orange LED (alarm)
<b>Operating Elements:</b>	3 easy response push buttons
<b>Temperature Range:</b>	
Media:	-13°F to 185°F (-25°C to +85°C)
Electronics:	14°F to 158°F (-10°C to +70°C)
Storage:	-22°F to 176°F (-30°C to +80°C)
<b>Temperature Influence:</b>	±0.2% f. s. /10K
<b>Protection Class:</b>	NEMA 4, 7, 9 & IP66
<b>Compensation Range:</b>	14°F to 158°F (-10°C to +70°C)
<b>Approvals:</b>	CE0081 ISSeP 09 ATEX 0 34X II 2 G D Ex d IIC T6 Gb Ex tb IIIC T80°C Db IP66 -40°C ≤ Tamb ≤ +60°C
<b>Additional Features:</b>	Microprocessor-controlled, self monitoring with error code display, all parameters are configured by keypad.
<b>Shipping Weight:</b>	Approx. 9.3 lbs.

1. Pressure ranges greater than 1000 PSIG will be displayed in PSH units.  
PSIG = PSH x 10. Example: 750 PSH = 7500 PSIG

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**UDS7-BX**

### Technical Drawings

3/4" NPTF ELECTRICAL CONDUIT CONNECTION FOR FIELD INSTALLATION  
CHASSIS GROUND STUD  
11/32" [8.7]  
5 1/8" [130.1]  
6 1/2" [165.1]  
5 1/8" [130.1]  
7/16" [11.1]  
COVER LOCKING SET SCREW  
4 1/2" [113.8]  
6 3/8" [162.4]  
9 15/16" [252.8]  
1/4" NPTF Process Connection  
WARNING! ALWAYS USE HEX FLATS AS BEARING POINT WHEN CONNECTING OR DISCONNECTING.

**Wiring Connections**

1 +Ub  
2 Open  
3 0V  
4 SP1  
5 SP2  
6 Internal GND

**Connection Chart**

Terminal Connection 6-Position	Description
Pin 1	Voltage (Ub): 15-32 VDC
Pin 2	Open
Pin 3	Common (-)
Pin 4	SP1: 0.4 A Max
Pin 5	SP2: 0.4 A Max
Pin 6	Internal Ground

Dimensions in inches [mm]

### Product Configurator

Example	UDS7-BX	-08	-3
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#### Base Model

UDS7-BX	Explosion Proof Electronic Pressure Switch
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#### Pressure Range

-08	0-500 PSIG (0-34.5 BAR)
-19	0-600 PSIG (0-41.4 BAR)
-10	0-1000 PSIG (0-69 BAR)
-11 <sup>1</sup>	0-1500 PSIG (0-104 BAR)
-12 <sup>1</sup>	0-2000 PSIG (0-138 BAR)
-13 <sup>1</sup>	0-3000 PSIG (0-207 BAR)
-14 <sup>1</sup>	0-4000 PSIG (0-276 BAR)
-15 <sup>1</sup>	0-5000 PSIG (0-345 BAR)
-16 <sup>1</sup>	0-6000 PSIG (0-414 BAR)
-17 <sup>1</sup>	0-7500 PSIG (0-517 BAR)
-18 <sup>1</sup>	0-10000 PSIG (0-689 BAR)

#### Output<sup>2</sup>

-3	Dual switch output
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#### Note:

1. Pressure ranges greater than 1000 PSIG will be displayed in PSH units. PSIG = PSH x 10. Example: 750 PSH = 7500 PSIG
2. For Analog output, consult factory. (4-20 mA or 0-10 VDC)