

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*

Accuracy:	±1% f. s. at 77°F (25°C) TYP
Repeatability:	± 0.1% f. s. at 77°F (25°C)
Sensor Element:	Piezoresistive measuring cell
Wetted Parts:	316 and 17-4 PH stainless steel
Enclosure:	Die cast aluminum
Proof Pressure:	2X rated pressure or 13,000 PSIG (896 bar), whichever is less
Process connection:	1/4" NPTF
Electrical Connection:	Internal screw terminal strip via conduit connection 3/4" NPTF
Power Supply (V_s):	15 to 32 VDC, 10% max. ripple
Power Consumption:	Approx. 50 mA at 24 VDC (without load)
A/D-Converter:	
Resolution:	10 bit (1,024 steps per measure span)
Scanning Rate:	200/s (for peak value memory)
Switching Output(s):	
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

Digital Display:	3-digit ¹ , 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
Error Display:	Orange LED (alarm)
Operating Elements:	3 easy response push buttons
Temperature Range:	
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)
Temperature Influence:	±0.2% f. s. /10K
Protection Class:	NEMA 4, 7, 9 & IP66
Compensation Range:	14°F to 158°F (-10°C to +70°C)
Approvals:	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
Additional Features:	Microprocessor-controlled, self monitoring with error code display, all parameters are configured by keypad.
Shipping Weight:	Approx. 9.3 lbs.

* See product configurator for additional options.

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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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**

Base Model

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* Highlighted options represent those most frequently used.
Select these common options for improved availability. (5/21)

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 ¹	0-1500 PSIG (0-104 BAR)
-12 ¹	0-2000 PSIG (0-138 BAR)
-13 ¹	0-3000 PSIG (0-207 BAR)
-14 ¹	0-4000 PSIG (0-276 BAR)
-15 ¹	0-5000 PSIG (0-345 BAR)
-16¹	0-6000 PSIG (0-414 BAR)
-17 ¹	0-7500 PSIG (0-517 BAR)
-18 ¹	0-10000 PSIG (0-689 BAR)

Output²

-3 Dual switch output

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)