

# UDS7 Series

## Solid State Pressure Switch

### UDS7



- ❖ Dual Electronic Switch with Built-In Transducer Output
- ❖ Built-In Digital Pressure Readout
- ❖ Fully Configurable via Keypad
- ❖ High Accuracy with Fully Adjustable Deadband
- ❖ Suitable for Rapid Cycling (100 times per second)

**B**arksdale's UDS7 Series Solid State Pressure Switches offer the convenience of three discrete components (dual pressure switch, pressure transducer, and digital pressure gauge) combined into one compact package. Setpoints can be easily adjusted using a built-in, user-friendly menu without the need for test pressure. Analog transducer outputs are scalable from 25% to 125% of the full adjustable range. A 12-bit microprocessor provides built-in self diagnostics and allows for switch time delays and pressure cycling up to 100 times per second. These units are built to last and come standard with IP65 protection. For applications requiring precision pressure control and extremely long life, the **UDS7 Series** is the ideal solution.

**Barksdale** Exceeding Your Expectations Through Our People, Products and Performance  
CONTROL PRODUCTS

# UDS7 Series

Pressure control with internal stainless steel diaphragm, digital display, 2 solid state outputs and 1 analog output, accuracy class 0.5% f. s.

## Features

Alphanumeric 4-digit Dot-Matrix display, microprocessor-controlled, self monitoring with error display, scalable analog output, all parameters are configured by keypad.

## Additional Features

## Measuring Ranges

0 - 15 psi to 0 - 150 psi, absolute pressure

0 - 150 psi to 0 - 9000 psi, gauge

## Applications

Hydraulics and pneumatics. process- and chemical industry, test bed and instrumentation industry, automobile industry, injection molding machines

## Technical Data

Sensor Element : Piezoresistive measuring cell

### Materials

Wetted Parts : Stainless steel 304

Seals : FKM (fluorelastomer)

Operating Elements : Easy response push buttons

Protection Class : IP65

Process Connection : 1/4 -18 NPT

: 7/16 - 20 SAE, G1/4 male

Dimensions (Housing) : 1.2 x 4.7 inch (32 X 120 mm)  
(without electrical plug).

Weight : approx. .8 lb. (350 g)

### a - Measuring Ranges (psi)

a	150	750	1500	3000	6000	9000
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b	220	1100	2175	4400	9000	11,600
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### b - Proof Pressure (psi)

Linearity Error : ±0.5% f. s. at 77°F (25°C)

### A/D-Converter

Resolution : 12 bit (4096 steps per measure span)

Scanning Rate : 100/s (for peak value memory)

Electrical Connection : Plug M 12 x 1, 5-pin,

Temperature Influence : ±0.2% f.s. /10K

Compensation Range : 14°F to 158°F (-10°C to +70°C)

Repeatability : ±0.1% f. s.



Electrical Connector  
Not Included.

## Temperature Range

Media : -13°F to 212°F (-25°C to +100°C)

Electronics : 14°F to 158°F (-10°C to +70°C)

Storage : -22°F to 176°F (-30°C to +80°C)

Power Supply : 15 to 28 VDC

Digital Display : 4-digit Dot matrix display,  
height 5 mm, green

Display Range : -999 to 999

Display Rate : 5 / s

Delay : 0.0 - 9.9 adjustable

Brightness : 20 - 100% adjustable

Error Display : LED red and alphanumeric display

Power Consumption : approx. 40 mA at  $U_b = 24$  VDC  
(without load)

## Analog Output

Current Output : 4 - 20 mA

Load : max.  $RI = (U_b - 12 \text{ V}) / 20 \text{ mA}$   
 $RI = 600 \text{ Ohm}$  at  $U_b 24 \text{ V DC}$

Load Influence : 0.3% / 100 Ohm

Voltage Output : 0 to 10 V DC (Optional)

Rating : max. 10 mA, short circuit-proof

Adjustment Range : 0% to 125% f. s.

## Solid State Output(s)

Adjustment Range : 0% to 125% f. s.

Hysteresis : 0% to 125% f. s.

Switching Frequency : max. 100 Hz

Contact Rating : max. 400 mA, short circuit-proof

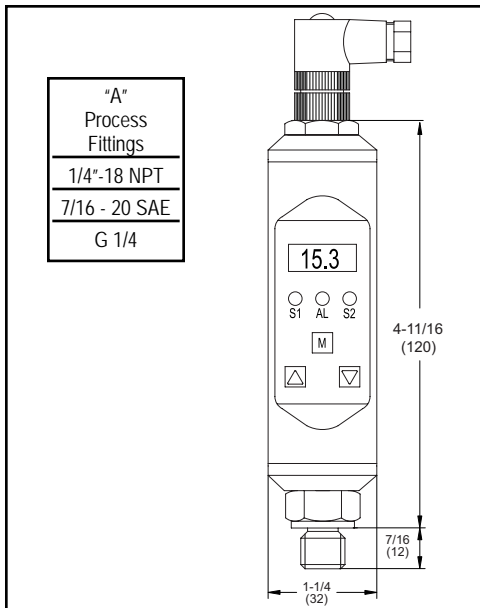
Delay : 0.0 to 9.9 s adjustable

Status Display(s) : LED(s) green

Approval : UL, CE

# UDS7 Series

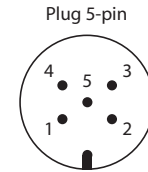
## Dimensions



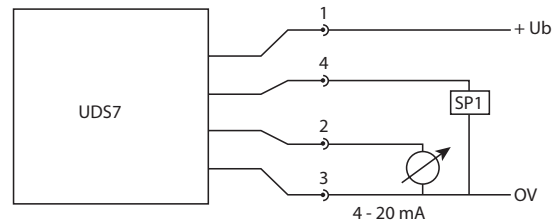
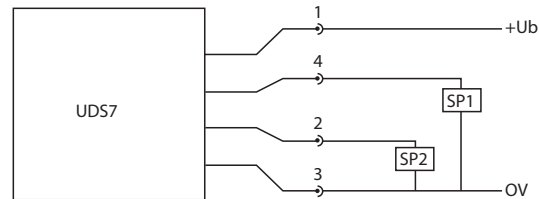
## Connection Chart

Plug M 12 X 1, 5-pin	Version with 2 switching outputs and 1 analog output
Pin 1	+ Ub 18 - 28 VDC
Pin 2	analog 4 - 20 mA/ 0 - 10 V DC
Pin 3	0 V
Pin 4	SP1 (0.4 A max.)
Pin 5	SP2 (0.4 A max.)

## Plug



## Connection Scheme



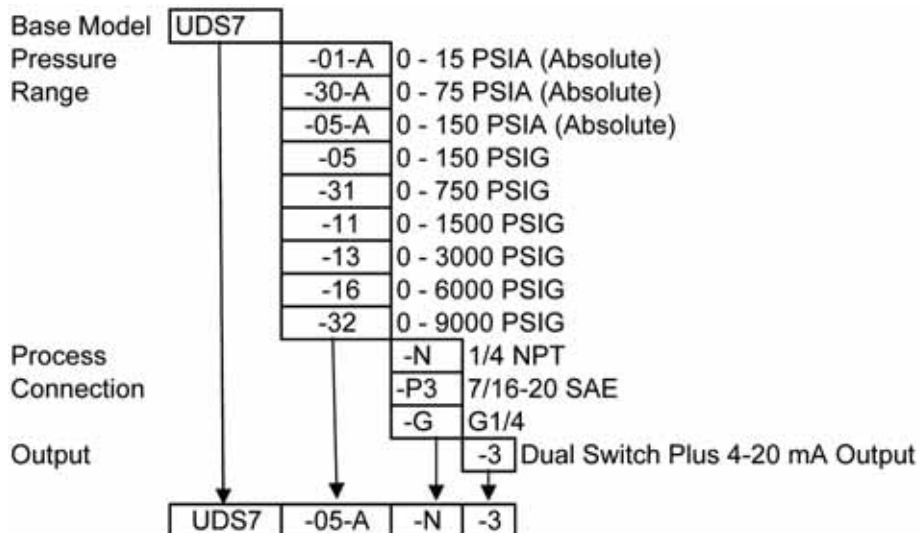
Pressure Range	Part Number	Description
0-15 psi (0-1 bar) absolute	UDS7-01-A-N-3	DUAL Switch plus 4-20 mA analog output with 1/4" NPT Fitting
0-75 psi (0-5 bar) absolute	UDS7-30-A-N-3	DUAL Switch plus 4-20 mA analog output with 1/4" NPT Fitting
0-150 psi (0-10 bar) absolute	UDS7-05-A-N-3	DUAL Switch plus 4-20 mA analog output with 1/4" NPT Fitting
0-150 psi (0-10 bar) gauge	UDS7-05-N-3	DUAL Switch plus 4-20 mA analog output with 1/4" NPT Fitting
0-750 psi (0-50 bar) gauge	UDS7-31-N-3	DUAL Switch plus 4-20 mA analog output with 1/4" NPT Fitting
0-1500 psi (0-100 bar) gauge	UDS7-11-N-3	DUAL Switch plus 4-20 mA analog output with 1/4" NPT Fitting
0-3000 psi (0-200 bar) gauge	UDS7-13-N-3	DUAL Switch plus 4-20 mA analog output with 1/4" NPT Fitting
0-6000 psi (0-400 bar) gauge	UDS7-16-N-3	DUAL Switch plus 4-20 mA analog output with 1/4" NPT Fitting
0-9000 psi (0-600 bar) gauge	UDS7-32-N-3	DUAL Switch plus 4-20 mA analog output with 1/4" NPT Fitting

0-15 psi (0-1 bar) absolute	UDS7-01-A-P3-3	DUAL Switch plus 4-20 mA analog output with 7/16-20 SAE Fitting
0-75 psi (0-5 bar) absolute	UDS7-30-A-P3-3	DUAL Switch plus 4-20 mA analog output with 7/16-20 SAE Fitting
0-150 psi (0-10 bar) absolute	UDS7-05-A-P3-3	DUAL Switch plus 4-20 mA analog output with 7/16-20 SAE Fitting
0-150 psi (0-10 bar) gauge	UDS7-05-P3-3	DUAL Switch plus 4-20 mA analog output with 7/16-20 SAE Fitting
0-750 psi (0-50 bar) gauge	UDS7-31-P3-3	DUAL Switch plus 4-20 mA analog output with 7/16-20 SAE Fitting
0-1500 psi (0-100 bar) gauge	UDS7-11-P3-3	DUAL Switch plus 4-20 mA analog output with 7/16-20 SAE Fitting
0-3000 psi (0-200 bar) gauge	UDS7-13-P3-3	DUAL Switch plus 4-20 mA analog output with 7/16-20 SAE Fitting
0-6000 psi (0-400 bar) gauge	UDS7-16-P3-3	DUAL Switch plus 4-20 mA analog output with 7/16-20 SAE Fitting
0-9000 psi (0-600 bar) gauge	UDS7-32-P3-3	DUAL Switch plus 4-20 mA analog output with 7/16-20 SAE Fitting

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EXAMPLE: UDS7-05-A-N-3

#### Accessories

Description			Order Number
Mating Electrical connector (not included)	5-Pin	M-12	239263

## Barksdale

CONTROL PRODUCTS

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