

# SW2000

## Solid State Pressure Switch SW2000



- ✦ High Accuracy with Fully Adjustable Deadband
- ✦ Optional 4-20 mA Analog Output
- ✦ Built-In Digital Pressure Readout
- ✦ Fully Configurable via Keypad
- ✦ Suitable for Rapid Cycling (100 times per second)

**B**arksdale's SW2000 Solid State Pressure Switches offer the accuracy of a solid state pressure switch in an economical package. The SW2000 is available in two different configurations: as a dual pressure switch or as a single switch with integrated 4-20 mA analog output. Setpoints and deadband are easily adjusted by using the keypad and user-friendly menu. Analog transducer outputs are scalable from 25% to 100% of the full adjustable range. A 10-bit microprocessor provides built-in self diagnostics and allows for switch time delays and pressure cycling up to 100 times per second. Built to last, these switches come standard with IP65 protection. For applications requiring precision pressure monitoring and control at an affordable price, a **SW2000 Solid State Pressure Switch** is the ideal solution.

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

# SW2000

Pressure control with internal stainless steel diaphragm, digital display, 2 solid state contacts or 1 solid state contact plus 1 analog output, accuracy class 0.5% f. s.

### Features

7-segment LED display, microprocessor, self monitoring with error display, all parameters are configured by keypad.

### Additional Features

Tamper proof, keypad lock, rugged construction, vibration- and shock-proof, long term stability, controlled, DESINA® conformity (see also www.desina.de).

### Measuring Ranges

0 - 15 psi to 0 - 9000 psi

### Applications

OEM-applications in hydraulics and pneumatics (e. g. presses), lubrication monitoring, machine/ machine tool industry, automobile industry, injection molding machines

### Technical Data

Sensor Element	: Piezoresistive measuring cell					
Materials:						
Wetted Parts	: 304 Stainless steel					
Seals	: FKM (fluorelastomer)					
Operating Elements	: 3 easy response push buttons					
Protection/Class	: IP65					
Pressure Connection	: 1/4-18 NPT, 7/16-20 SAE, G1/4 M					
Dimensions	: 1-7/16" X 5-1/8" (36 mm x 130 mm) (without electrical plug)					
Weight	: approx. 0.4 lb (200 g)					
Measuring Ranges (psi)	: 150	: 750	: 1500	: 3000	: 6000	: 9000
Proof Pressure (psi):	: 220	: 1100	: 2175	: 4400	: 9000	: 11,600
Linearity Error (Measuring Cell)	: ±0.5% f. s. at 77°F(25°C)					
A/D-Converter						
Resolution	: 10 bit (1,024 steps per measure. span)					
Scanning Rate	: 100/s (for peak value memory)					
Electrical Connection	: Plug M 12 x 1, 4-pin, DESINA® conformity					
Temperature Influence	: ±0.2% f.s. /10K					
Compensation Range	: 14°F to 158°F (-10°C to +70°C)					
Repeatability	: ±0.1% f. s.					
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					



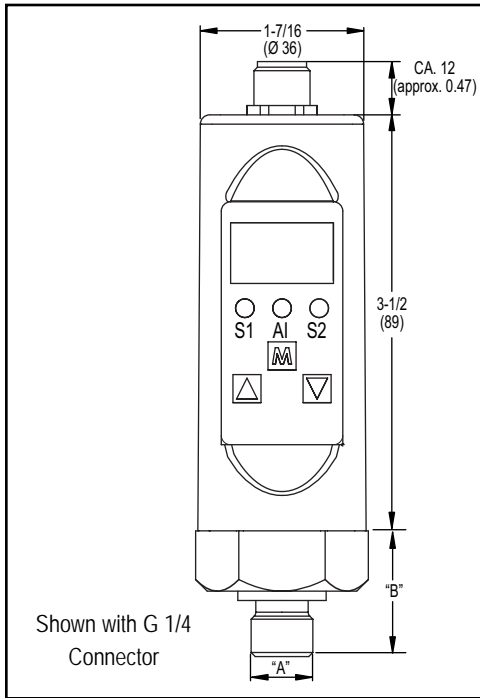
Electrical Connector  
Not Included.

Shown with 1/4 - 18 NPT  
Connection

Digital Display	: 3-digit 7-segment LED display, height 10 mm, (0.39 inches), red
Display Range	: -1 to 999
Display Rate	: 20 / s
Error Display	: LED red and alphanumeric display, (diagnosis function acc. DESINA®)
Power Consumption	: approx. 50 mA (without load)
Analog Output	
Current Output	: 4-20 mA
Load	: max. $RI = (U_b - 12 V) / 20 mA$ $RI = 600 \text{ Ohm at } 24 V \text{ DC}$
Load Influence	: 0.3% / 100 Ohm
Scanning Rate	: 5 ms
Voltage Output	: 0 to 10 V DC (Optional)
Rating	: max. 10 mA, short circuit-proof
Adjustment Range	: 25% to 100% f. s.
Switching Output(s)	
Switching Function (adjustable)	: Normally open/ normally closed, standard-/windows-mode
Adjustment Range	: 0% to 125% f. s.
Hysteresis	: 0% to 125% f. s.
Diagnosis Function	
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) red

# SW2000

## Dimensions

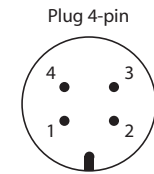


## Connection Chart

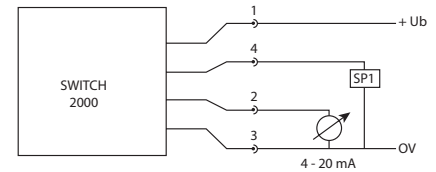
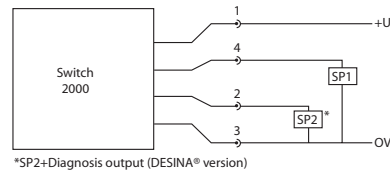
Plug	Version with switching output (Desina® - version)	Version with 1 switching output and 1 analog output
M 12 X 1, 4 pin	(15 to 28 VDC)	(15 to 28 VDC)
Pin 1	SP2 (0.4 A max.)	analog (4-20 mA)
Pin 2	0 V	0 V
Pin 3	SP1 (0.4 A max.)	SP1 (0.4 A max.)
Pin 4		

NOTE: PNP Switching Configuration

## Plug



## Connection Scheme



## Dimensions (in inches)

Process Connections	"A"	"B"
1/4-18 NPT		2
G 1/4		1-1/8
7/16-20-SAE		2

## Pressure Ranges

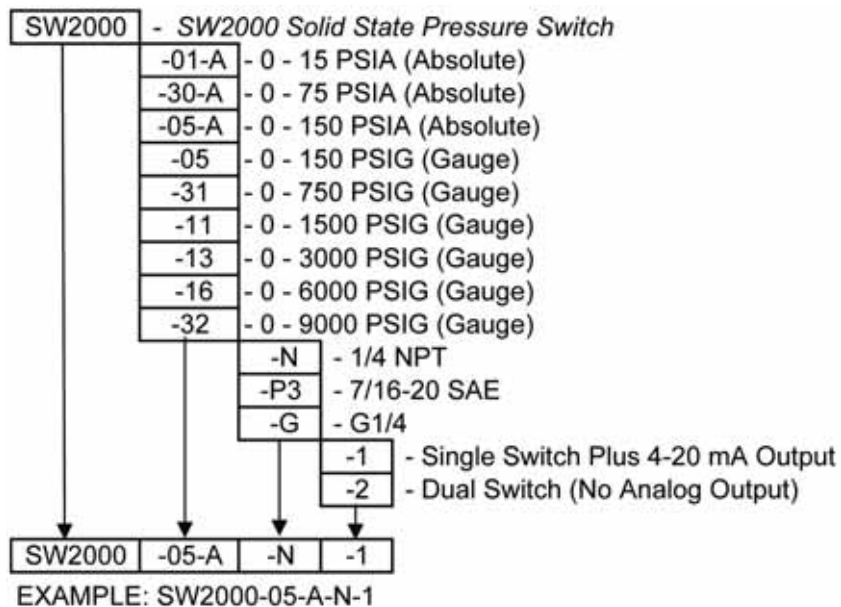
### Dual Switch (No Analog)

SW2000	Part Number
Pressure Range	1/4" NPT Fitting
0-15 psi (0-1 bar) absolute	SW2000-01-A-N-2
0-75 psi (0-5 bar) absolute	SW2000-30-A-N-2
0-150 psi (0-10 bar) absolute	SW2000-05-A-N-2
0-150 psi (0-10 bar) gauge	SW2000-05-N-2
0-750 psi (0-50 bar) gauge	SW2000-31-N-2
0-1500 psi (0-100 bar) gauge	SW2000-11-N-2
0-3000 psi (0-200 bar) gauge	SW2000-13-N-2
0-6000 psi (0-400 bar) gauge	SW2000-16-N-2
0-9000 psi (0-600 bar) gauge	SW2000-32-N-2
	7/16-20 SAE Fitting
0-15 psi (0-1 bar) absolute	SW2000-01-A-P3-2
0-75 psi (0-5 bar) absolute	SW2000-30-A-P3-2
0-150 psi (0-10 bar) absolute	SW2000-05-A-P3-2
0-150 psi (0-10 bar) gauge	SW2000-05-P3-2
0-750 psi (0-50 bar) gauge	SW2000-31-P3-2
0-1500 psi (0-100 bar) gauge	SW2000-11-P3-2
0-3000 psi (0-200 bar) gauge	SW2000-13-P3-2
0-6000 psi (0-400 bar) gauge	SW2000-16-P3-2
0-9000 psi (0-600 bar) gauge	SW2000-32-P3-2

### Units with single switch plus 4-20 mA analog output:

SW2000	Part Number
Pressure Range	1/4" NPT Fitting
0-15 psi (0-1 bar) absolute	SW2000-01-A-N-1
0-75 psi (0-5 bar) absolute	SW2000-30-A-N-1
0-150 psi (0-10 bar) absolute	SW2000-05-A-N-1
0-150 psi (0-10 bar) gauge	SW2000-05-N-1
0-750 psi (0-50 bar) gauge	SW2000-31-N-1
0-1500 psi (0-100 bar) gauge	SW2000-11-N-1
0-3000 psi (0-200 bar) gauge	SW2000-13-N-1
0-6000 psi (0-400 bar) gauge	SW2000-16-N-1
0-9000 psi (0-600 bar) gauge	SW2000-32-N-1
	7/16-20 SAE Fitting
0-15 psi (0-1 bar) absolute	SW2000-01-A-P3-1
0-75 psi (0-5 bar) absolute	SW2000-30-A-P3-1
0-150 psi (0-10 bar) absolute	SW2000-05-A-P3-1
0-150 psi (0-10 bar) gauge	SW2000-05-P3-1
0-750 psi (0-50 bar) gauge	SW2000-31-P3-1
0-1500 psi (0-100 bar) gauge	SW2000-11-P3-1
0-3000 psi (0-200 bar) gauge	SW2000-13-P3-1
0-6000 psi (0-400 bar) gauge	SW2000-16-P3-1
0-9000 psi (0-600 bar) gauge	SW2000-32-P3-1

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## Barksdale

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