

The SW2000 offers the accuracy of a solid state pressure switch in two different configurations: as a dual pressure switch or as a single switch with 4-20mA output.

The SW2000 is for applications requiring precision pressure monitoring and control at an affordable price.

### Features

- Pressure control with internal stainless steel diaphragm
- High accuracy with fully adjustable deadband
- 2 solid state contacts or 1 solid state contact plus 1 4-20 mA analog output
- Built-in digital pressure readout
- Fully configurable via keypad
- Suitable for rapid cycling (100 times per sec.)
- UL/CSA approved

### Applications

- OEM-applications in hydraulics and pneumatics
- Lubrication monitoring
- Machine tool industry
- Injection molding machines
- Compressor



### General Specifications\*

<b>Accuracy:</b>	0.5% f. s.					
<b>Linearity Error:</b>	±0.5% f. s. at 77°F(25°C)					
<b>Repeatability:</b>	±0.1% f. s.					
<b>Sensor Element:</b>	Piezoresistive measuring cell					
<b>Material:</b>	304 stainless steel					
Wetted Parts:	304 stainless steel					
Seals:	FKM (fluorelastomer)					
<b>Measuring Ranges (psi):</b>	150	750	1500	3000	6000	9000
<b>Proof Pressure (psi):</b>	220	1100	2175	4400	9000	11,600
<b>Process Connection:</b>	1/4-18 NPT, 7/16-20 SAE, G1/4 M					
<b>Electrical Connection:</b>	Plug M 12 x 1, 4-pin					
<b>Power Supply:</b>	15 to 32 VDC					
<b>Power Consumption:</b>	approx. 50 mA (without load)					
<b>A/D-Converter:</b>	10 bit (1,024 steps per measure. span)					
Resolution:	10 bit (1,024 steps per measure. span)					
Scanning Rate:	100/s (for peak value memory)					
<b>Time Constant:</b>	approx. 40s					
<b>Analog Output:</b>	4-20 mA					
Current Output:	4-20 mA					
Load:	max. RI = (Ub-12 V) / 20 mA RI = 600 ohm at 24 VDC					
Load Influence:	0.3% / 100 ohm					
Scanning Rate:	5 ms					
Voltage Output:	0 to 10 VDC (optional)					
Rating:	max. 10 mA, short circuit-proof					
Adjustment Range	25% to 100% f. s.					
<b>Switching Output(s):</b>	Normally open / normally closed, standard-/windows-mode (adjustable):					

<b>Switching Output(s) Cont.:</b>	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) red
<b>Digital Display:</b>	3-digit 7-segment LED display, height 10 mm, (0.39 inches), red Display Range: -1 to 999 Display Rate: 20/s
<b>Error Display:</b>	LED red and alphanumeric display.
<b>Operating Elements:</b>	3 easy response push buttons
<b>Temperature Range:</b>	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)
<b>Temperature Influence:</b>	±0.2% f.s. /10K
<b>Compensation Range:</b>	14°F to 158°F (-10°C to +70°C)
<b>Protection Class:</b>	IP65
<b>Dimensions (Housing):</b>	1-7/16" X 5-1/8" (36 mm x 130 mm) (without electrical plug)
<b>Additional Features:</b>	7-segment LED display, microprocessor, self monitoring with error display, all parameters are configured by keypad. Tamper proof, keypad lock, rugged construction, vibration- and shockproof, long term stability, controlled
<b>Weight:</b>	approx. 0.4 lb (200 g)

\* See product configurator for additional options.

### Technical Drawings

Plug M 12 X 1 4 pin	Model with 1 switching output	Model with 2 switching outputs	Model with 1 switching output and 1 analog output
Pin 1 brown	+Ub (15 - 32 V DC) (15 - 28 V DC)*	+Ub (15 - 32 V DC) (15 - 28 V DC)*	+Ub (15 - 32 V DC) (15 - 28 V DC)*
Pin 2 white	-	SP2 (0.5 A max.) (0.4 A)*	Analog
Pin 3 blue	O V	O V	O V
Pin 4 black	SP1 (0.5 A max.) (0.4 A)*	SP1 (0.5 A max.) (0.4 A)*	SP1 (0.5 A max.) (0.4 A)*

\*cULus version

### Connection Chart

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

### Dimensions (in inches)

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

### Product Configurator

Example SW2000 -11 -N -1

#### Base Model

SW2000 Solid State Pressure switch

#### Pressure Ranges

-01-A	0 - 15 PSIA (absolute)
-30-A	0 - 75 PSIA (absolute)
-05-A	0 - 150 PSIA (absolute)
-05	0 - 150 PSIG (gauge)
-31	0 - 750 PSIG (gauge)
-11	0 - 1500 PSIG (gauge)
-13	0 - 3000 PSIG (gauge)
-16	0 - 6000 PSIG (gauge)
-32	0 - 9000 PSIG (gauge)

#### Connection

-N	1/4" NPT
-P3	7/16-20 SAE
-G	G 1/4

#### Options

-1	Single switch plus 4-20 mA output
-2	Dual switch capability (No analog output)

### Accessory

Order #	Description
239236	- 4 Pin, M12 Electrical mating connector

The UDS3 Solid State Pressure Switch offers the unique ability to switch four discrete circuits in a single, compact unit.

The UDS3 is well suited for applications requiring precision pressure control, multiple switchpoints, and extremely long life.

### Features

- Pressure control with internal stainless steel diaphragm
- 4 switching outputs and 1 4-20mA analog output
- High accuracy with fully adjustable deadband
- Easy-to-read LCD display with scalable bar graph
- Capable of switching both AC and DC loads
- Fully configurable via keypad
- UL/CSA approved

### Applications

- OEM-applications in hydraulics and pneumatics
- Test bench
- Industrial machinery



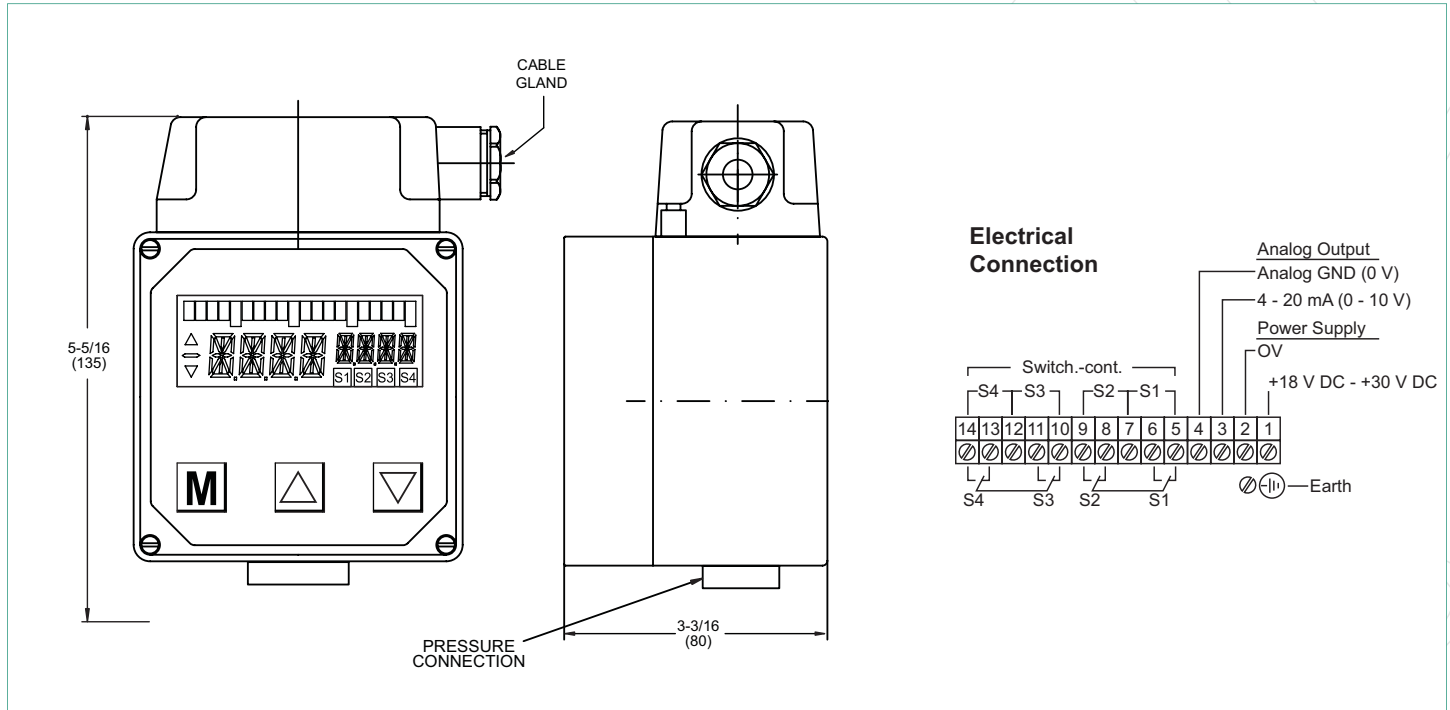
### General Specifications\*

<b>Accuracy:</b>	0.5% f. s.						
<b>Linearity Error:</b>	±0.5% f. s. at 77°F (25°C)						
<b>Repeatability:</b>	±0.1% f. s.						
<b>Sensor Element:</b>	Piezoresistive silicon measuring cell						
<b>Wetted Parts:</b>	304 stainless steel Housing: Seals: Keypad: Cast aluminum FKM Polyester film						
<b>Measuring Ranges:</b>	0 - 9,000 psi, gauge						
<b>Pressure Ranges (psi):</b>	150	750	1500	3000	6000	9000	
<b>Proof Pressure (psi):</b>	220	1100	2175	4400	9000	11,600	
<b>Process Connection:</b>	1/4" NPT F Option : G1/4 F, bottom entry						
<b>Electrical Connection:</b>	Plug-in, terminal strip with 14 slots for 1.5 mm <sup>2</sup> , 14 AWG slots						
<b>Power Supply:</b>	18 - 32 VDC, reversed polarity protected						
<b>A/D-Converter:</b>	12 bit (4096 steps per span) Resolution: Scanning Rate: 1000 / s						
<b>Time Constant:</b>	Approx. 40s						
<b>Analog Output:</b>	4-20 mA Current Output: Load: max. loop resistance (RI)= (UB-12 V) / 20 mA UB= supply voltage RI= 600 Ohm at UB= 24 VDC Load Influence: Scanning Rate: Voltage Output: Rating: Adjustment Range 0.3% / 100 Ohm 1 ms 0 - 10 VDC max. 10 mA, short circuit-proof 25% to 100% f. s.						
<b>Switching Output(s):</b>	Normally open / normally closed, analog output, standard-/windows-mode Switching Function: Contact Rating: max. 120 VDC / 250 V AC max. 12 W / 1250 VA						

<b>Switching Output(s) Cont.:</b>	Cycles: Switching Rate: Delay: Operation Time: Status Display:	1 million @ 24 VDC/2A max. 20 / s 0.0 to 9.9 s adjustable 1 mS S1 to S4 on LCD display
<b>Digital Display:</b>	Height: Bargraph: Trend Arrows: Display Range: Display Rate: Display Unit:	8-digit 14-segment LCD display 0.5 in. (green) 20-segments Last value change -9999 to 9999 4 / s bar / psi / psi x 10 / hPa / mbar / °C / °F
<b>Operating Elements:</b>		Keypad with easy response push buttons
<b>Temperature Range:</b>	Media: Electronics: Storage:	-13° to 212°F (-25°C to +100°C) 14° to 158°F (-10°C to +70°C) -22° to 176°F (-30°C to +80°C)
<b>Temperature Influence:</b>		±0.2% f. s. /10K
<b>Compensation Range:</b>		14° to 158°F (-10°C to +70°C)
<b>Power Consumption:</b>		appr. 350 mA at Ub = 24 V DC (without load)
<b>Protection Class:</b>		IP65
<b>Dimensions (Housing):</b>		3.9 (W) X 5.3 (H) X 3.1 (D) inches [100 (W) X 135 (H) X 80 (D) mm]
<b>Cable Gland:</b>		1 x PG 13.5 side entry = standard
<b>Additional Features:</b>		8-digit 14-segment LCD display with bargraph and trend indication, microcontroller, self monitoring, all parameters are configured by keypad, selective keypad lock, high accuracy, quick scanning rate (1 ms).
<b>Weight:</b>		Approx. 2 lb

\* See product configurator for additional options.

### Technical Drawings



### Product Configurator

Example UDS3 -05 -N -4

#### Base Model

UDS3

#### Pressure Ranges

-05	0 - 150 PSIG (gauge)
-31	0-750 PSIG (gauge)
-11	0-1500 PSIG (gauge)
-13	0-3000 PSIG (gauge)
-16	0-6000 PSIG (gauge)
-32	0-9000 PSIG (gauge)

#### Options

-4	Four switches only (no analog output)
-5	Four switches plus 4-20 mA output
-6	Four switches plus 0-10 VDC output

#### Process Connection

-N	1/4 NPT
-G	G1/4

### Accessory

Order #	Description
239263	- 5 Pin, M12 Electrical mating connector