

Electronic Pressure Switch

SW2000

Features

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

Applications

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



General Specifications*

| | | | | | | |
|----------------------------------|--------------------------------------------------------------------|------|------|------|------|--------|
| Linearity Error: | ±0.5% f. s. at 77°F(25°C) | | | | | |
| Repeatability: | ±0.1% f. s. | | | | | |
| Sensor Element: | Piezoresistive silicone measuring sensor | | | | | |
| Material: | 304 stainless steel | | | | | |
| Wetted Parts: | 304 stainless steel | | | | | |
| Seals: | Viton® (FKM fluorelastomer) | | | | | |
| Measuring Ranges (psi): | 150 | 750 | 1500 | 3000 | 6000 | 9000 |
| Proof Pressure (psi): | 220 | 1100 | 2175 | 4400 | 9000 | 11,600 |
| Process Connection: | 1/4-18 NPT, 7/16-20 37° JIC, G1/4 M | | | | | |
| Electrical Connection: | Plug M 12 x 1, 4-pin | | | | | |
| Power Supply: | 15 to 28 VDC reverse polarity protected | | | | | |
| Power Consumption: | approx. 50 mA (without load) | | | | | |
| A/D-Converter: | 10 bit (1,024 steps per measure. span) | | | | | |
| Resolution: | 10 bit (1,024 steps per measure. span) | | | | | |
| Scanning Rate: | 200/s (for peak value memory) | | | | | |
| Analog Output: | 4-20 mA | | | | | |
| Current Output: | 4-20 mA | | | | | |
| Load: | max. RI = (U _b -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-protection | | | | | |
| Adjustment Range | 25% to 100% f. s. | | | | | |
| Switching Output(s): | Normally open / normally closed, standard-/window-mode | | | | | |
| Switching Function (adjustable): | Normally open / normally closed, standard-/window-mode | | | | | |

* See product configurator for additional options.

| | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Switching Output(s) Cont.: | Adjustment Range: 0% to 125% f. s. Hysteresis: 0% to 125% f. s. Switching Frequency: max. 100 Hz Contact Rating: max. switching current 500 mA, short circuit-protection Delay: 0.0 to 9.9 s adjustable Status Display(s): Green LED(s) |
| 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: | Orange LED display (AL). |
| Operating Elements: | 3 easy response push buttons |
| 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) |
| Temperature Influence: | ±0.2% f.s. /10K |
| Compensation Range: | 14°F to 158°F (-10°C to +70°C) |
| Protection Class: | Type 4 (for indoor use) |
| Dimensions (Housing): | 1-7/16" X 5-1/8" (36 mm x 130 mm) (without electrical plug) |
| Additional Features: | 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 |
| Weight: | approx. 0.4 lb (200 g) |
| Approvals: | c/ULus: file No. E42816 |

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Technical Drawings

1-7/16 (Ø 36)

Switch 2000

*SP2+Diagnosis output

SWITCH 2000

4 - 20 mA

Plug 4-pin

| 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 - 28 V DC) | +Ub (15 - 28 V DC) | +Ub (15 - 28 V DC) |
| Pin 2 white | - | SP2 (0.5 A max.) (0.4 A)* | Analog |
| Pin 3 blue | 0 V | 0 V | 0 V |
| Pin 4 black | SP1 (0.4 A max.) | SP1 (0.4 A max.) | SP1 (0.4 A max.) |

Shown with G 1/4 Connection

UL US

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 | 0 V | 0 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" |
| 7/16-20-37° JIC | 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 37° JIC |
| -G | G 1/4 |

Options

| | |
|----|-------------------------------------------|
| -1 | Single switch plus 4-20 mA output |
| -2 | Dual switch capability (No analog output) |
| -6 | Single switch plus 0-10 volt output |

Accessory

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