

# LOW DIFFERENTIAL PRESSURE SWITCHES

## SPDT RELAY OUTPUT

### PSW-141 Series

0.1 to 10.0 inH<sub>2</sub>O Ranges

Starts at  
**\$143**



- ✓ Virtually Impervious to Changes in Position
- ✓ Fast Response Time Resulting from Low Internal Volume
- ✓ No Moving Parts—Solid State Circuitry for Long Life
- ✓ Compact Size
- ✓ Low Power Consumption

PSW141 Series low differential pressure switches operate on the capacitive principle and can sense very low positive or negative pressures. In a capacitive cell, a very lightweight, responsive diaphragm deflects slightly when pressure is applied. This deflection results in a change in capacitance, which is then detected and processed by solid state circuitry. Reliability and long life are inherent advantages of this design.

#### SPECIFICATIONS

Setpoint is adjusted by a 20-turn potentiometer for fine resolution

**Repeatability:** ±1% of setpoint

**Deadband:** Factory set to 7% of range to prevent relay chatter

**Media Compatibility:** Suitable for air or inert gases

**Overpressure:** 8x range maximum

**Port Connections:** 4.8 mm (3/16") Dia. tube; suitable for 3.2 mm (1/8") ID Tygon® tubing or 6.3 mm (1/4" OD) polyethylene tubing

#### Electrical:

Input V	Range	Power
12 Vdc*	9.5 to 16 Vdc	0.25 W
24 Vdc*	19 to 32 Vdc	0.25 W
24 Vac	19 to 32 Vac	1.50 W
120 Vac	100 to 140 Vac	1.70 W

\* Reverse polarity protected



PSW-141-DR, \$176, shown smaller than actual size.



PSW-141-ER, \$143, shown smaller than actual size.

**Electrical Connections:** 3/16" terminal strip with #6 screw

**Output:** SPDT (form "C") relay  
1 A, 24 Vdc or 0.5 A; 120 Vac resistive  
0.3 A, 24 Vdc or 0.2 A; 120 Vac inductive  
300,000 cycles minimum

**Isolation:** Input to output 500 Vrms min

**Dimensions:** 36 H x 76 W x 131 mm L  
(1.4 x 3.0 x 5.15")

**Weight:** 230 g (0.5 lb)

**Case Material:** Flame-retardant, glass-reinforced Noryl®

**Operating Temperature:**  
0 to 45°C (32 to 113°F)

**Temperature Effect on Setpoint:**  
±0.05%/°C

**Humidity Range:** 20 to 90% RH, non-condensing

**Shock:** 10 g (11 ms)

**Vibration:** 5 g to 50 Hz

**■ MOST POPULAR MODELS HIGHLIGHTED!**

#### To Order (Specify Model Number)

RANGE inH <sub>2</sub> O	MODEL NO.	PRICE	DESCRIPTION
<b>12 Vdc Power Models<sup>(1)</sup></b>			
0 to 0.1	PSW-141-AR	\$176	Energize on rising pressure <sup>(2)</sup>
0 to 0.2	PSW-141-BR	176	Energize on rising pressure <sup>(2)</sup>
0 to 0.3	PSW-141-CR	176	Energize on rising pressure <sup>(2)</sup>
0 to 0.5	PSW-141-DR	176	Energize on rising pressure <sup>(2)</sup>
0 to 1.0	PSW-141-ER	143	Energize on rising pressure <sup>(2)</sup>
0 to 2.0	PSW-141-FR	143	Energize on rising pressure <sup>(2)</sup>
0 to 3.0	PSW-141-GR	143	Energize on rising pressure <sup>(2)</sup>
0 to 5.0	PSW-141-HR	143	Energize on rising pressure <sup>(2)</sup>
0 to 10.0	PSW-141-IR	143	Energize on rising pressure <sup>(2)</sup>

Comes complete with operator's manual.

**Notes:** (1) For 24 Vdc power, specify model **PSW142**, no additional charge; for 120 Vac power specify model **PSW144**, no additional charge. (2) For switch energizing on falling pressure, change the suffix "-R" to "-F", no additional charge.

**Ordering Examples:** PSW142-ER, 24 Vdc powered switch with a range of 0 to 1.0 inH<sub>2</sub>O, energizes on rising pressure, \$143.

PSW-141-EF, 12 Vdc powered switch with a range of 0 to 1.0 inH<sub>2</sub>O, energizes on falling pressure, \$143.

#### ACCESSORY

MODEL NO.	PRICE	DESCRIPTION
CM-4422	\$40	Reference Book: Hydraulics and Pneumatics





#### UNITED STATES

[www.omega.com](http://www.omega.com)  
1-800-TC-OMEGA  
Stamford, CT.

#### CANADA

[www.omega.ca](http://www.omega.ca)  
Laval(Quebec)  
1-800-TC-OMEGA

#### GERMANY

[www.omega.de](http://www.omega.de)  
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0800-8266342

#### UNITED KINGDOM

[www.omega.co.uk](http://www.omega.co.uk)  
Manchester, England  
0800-488-488

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