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Switch Specifications
 Bulletin 0917-B1
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Switch Specifications

	Reed Switch Assembly*	Solid State Switch Assembly*	Reed Switch Assembly*	Solid State Switch Assembly*
Switching Logic	Normally open, SPST (Form A)	NPN or PNP	Operating Temperature	14° to 140°F (-10° to 60°C)
Supply Voltage Range	85 to 125 VAC or 5-30 VDC ¹	10-30 VDC	Storage Temperature	-4° to 140°F (-20° to 60°C)
On-State Voltage Drop	1.7 V Maximum	See Circuits Below	Enclosure Protection	Nema 6, IEC IP67
Current Output Range	—	Up to 100 mA at 12 VDC Up to 200 mA at 24 VDC	Lead Wire	2 conductor, 24 Gauge
Burden Current	—	7 mA at 12 VDC 16 mA at 24 VDC	Lead Wire Length	39 Inches, 1 Meter
Power Rating	10 Watts (Resistive) 5 Watts (Capacitive)		Color of Cable	Black
Switching Current Range	30 mA to 200 mA (Resistive) 30 mA to 100 mA (Capacitive)		Switching Response	300 Hz Maximum
Leakage Current	0	10µA	Shock Resistance	30g
LED Function	Red, Target Present	Red, Target Present	Vibration Resistance	10-55 Hz, 1.5 mm Double Amplitude
Minimum Current to Light LED	18 mA	1 mA		

¹ Polarity is restricted to DC operation: (+) to Brown (White*) (-) to Blue (Black*)
 If these connections are reversed the contacts will close, but the LED will not light.

* Note: For MT4 mounts, Tandem and Duplex cylinders, see Bulletin 0830-M2 for applicable switch part number.

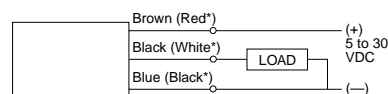
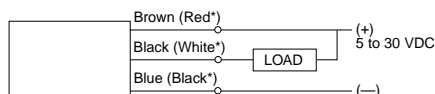
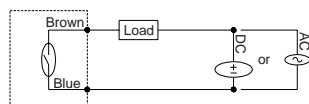
Circuits

Reed Switch L075250000
 L074870000
 Part No. L074860000

NOTE: Polarity must be observed for DC operation only.

NPN Sinking Output L075280000
 L074880000
 Part No. L074900000
 Color of Cable Black
 "On" State Voltage Drop 0.7V Maximum

PNP Sourcing Output L075310000
 L074910000
 Part No. L074920000
 Color of Cable Gray
 "On" State Voltage Drop 0.2V Maximum

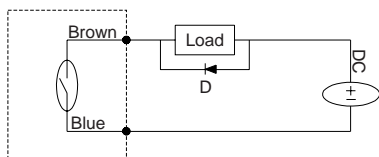


*Wire colors in parentheses pertain to switches manufactured before 10/15/93.

Circuit for Switching Contact Protection (Inductive Loads)

(Required for proper operation 24V DC)

Put Diode parallel to loads following polarity as shown below.



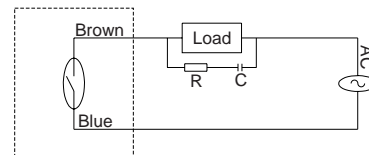
D: Diode: select a Diode with the breakdown voltage and current rating according to the load.

Typical Example—100 Volt, 1 Amp Diode
 CR: Relay coil (under 0.5W coil rating)

(Recommended for longer life 125 VAC)

Put a resistor and capacitor in parallel with the load. Select the resistor and capacitor according to the load.

Typical Example:
 CR: Relay coil (under 2W coil rating)
 R: Resistor 1 KΩ - 5 KΩ, 1/4 W
 C: Capacitor 0.1 µF, 600 V

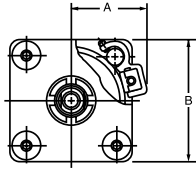


⚠ Caution

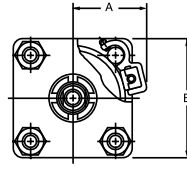
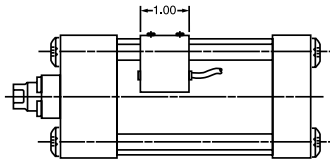
- Use an ampmeter to test reed switch current. Testing devices such as incandescent light bulbs may subject the reed switch to high in-rush loads.
- NOTE:** When checking an unpowered reed switch for continuity with a digital ohmmeter the resistance reading will change from infinity to a very large resistance (2 M ohm) when the switch is activated. This is due to the presence of a diode in the reed switch.
- Anti-magnetic shielding is recommended for reed switches exposed to high external RF or magnetic fields.
- The magnetic field strength of the piston magnet is designed to operate with our switches. Other manufacturers' switches or sensors may not operate correctly in conjunction with these magnets.

- Current capabilities are relative to operational temperatures.
- Use relay coils for reed switch contact protection.
- The operation of some 120 VAC PLC's (especially some older Allen-Bradley PLC's) can overload the reed switch. The switch may fail to release after the piston magnet has passed. This problem may be corrected by the placement of a 700 to 1K OHM resistor between the switch and the PLC input terminal. Consult the manufacturer of the PLC for appropriate circuit.
- Switches with long wire leads (greater than 15 feet) can cause capacitance build-up and sticking will result. Attach a resistor in series with the reed switch (the resistor should be installed as close as possible to the switch). The resistor should be selected such that R (ohms) > E/0.3.
- NOTE:** On 5"-8" bores switch will not lay flush with cylinder body.

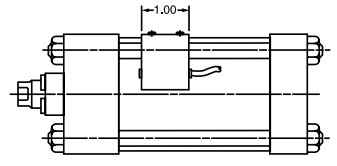
Switch Mounting Data



1 1/4" - 4" Bores



5" - 8" Bores



Bore Size	Reed Switch Assembly	Solid State Switch Assembly		A	B	Piston Travel at Midstroke (Inches) (Switch On) (±.01)	Minimum Activation Distance from End of Stroke (Inches)	
		NPN Sinking	PNP Sourcing				Head	Cap
1 1/4	L075250000	L075280000	L075310000	1.30	1.93	.40	.06	.06
1 1/2	L074860000	L074880000	L074910000	1.46	2.12	.37	.06	.06
2	L074860000	L074880000	L074910000	1.68	2.57	.40	.12	.12
2 1/2	L074860000	L074880000	L074910000	1.90	2.99	.41	.07	.07
3 1/4	L074870000	L074900000	L074920000	2.24	3.73	.43	.13	.13
4	L074870000	L074900000	L074920000	2.55	4.37	.44	.11	.11
5	L074860000	L074880000	L074910000	2.88	5.25	.44	.06	.06
6	L074860000	L074880000	L074910000	3.25	6.12	.50	.06	.06
8	L074870000	L074900000	L074920000	4.06	8.00	.50	.06	.06

Warning

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