Switch Specifications

Switching Logic
- Normally open, SPST (Form A)

Supply Voltage Range
- 85 to 125 VAC or 5-30 VDC

On-State Voltage Drop
- 1.7 V Maximum

Current Output Range
- Up to 100 mA at 12 VDC
- Up to 200 mA at 24 VDC

Burden Current
- 7 mA at 12 VDC
- 16 mA at 24 VDC

Power Rating
- 10 Watts (Resistive)
- 5 Watts (Capacitive)

Switching Current Range
- 30 mA to 200 mA (Resistive)
- 30 mA to 100 mA (Capacitive)

Leakage Current
- ≤ 10 µA

LED Function
- Red, Target Present

Minimum Current to Light LED
- 18 mA
- 1 mA

Reed Switch Assembly*
- NPN or PNP

Solid State Switch Assembly
- See Circuits Below

Operating Temperature
- 14° to 140°F (-10° to 60°C)

Storage Temperature
- -4° to 140°F (-20° to 60°C)

Enclosure Protection
- Nema 6, IEC IP67

Lead Wire
- 2 conductor, 24 Gauge
- 39 inches, 1 Meter

Color of Cable
- Black
- See Below

Switching Response
- 300 Hz Maximum

Vibration Resistance
- 10-55 Hz, 1.5 mm Double Amplitude

 burden Current
- 7 mA at 12 VDC
- 16 mA at 24 VDC

Power Rating
- 10 Watts (Resistive)
- 5 Watts (Capacitive)

Switching Current Range
- 30 mA to 200 mA (Resistive)
- 30 mA to 100 mA (Capacitive)

Leakage Current
- ≤ 10 µA

LED Function
- Red, Target Present

Minimum Current to Light LED
- 18 mA
- 1 mA

Reed Switch Assembly*
- NPN or PNP

Solid State Switch Assembly
- See Circuits Below

Operating Temperature
- 14° to 140°F (-10° to 60°C)

Storage Temperature
- -4° to 140°F (-20° to 70°C)

Enclosure Protection
- Nema 6, IEC IP67

Lead Wire
- 3 conductor, 24 Gauge
- 39 inches, 1 Meter

Color of Cable
- Black

Switching Response
- 1000 Hz Maximum

FHD Resistance
- 30g not applicable

Burden Current
- 16 mA at 24 VDC

Power Rating
- 5 Watts (Capacitive)

Switching Current Range
- 30 mA to 100 mA (Capacitive)

Leakage Current
- ≤ 10 µA

LED Function
- Red, Target Present

Minimum Current to Light LED
- 1 mA

Reed Switch Assembly*
- NPN or PNP

Solid State Switch Assembly
- See Circuits Below

Operating Temperature
- 14° to 140°F (-10° to 60°C)

Storage Temperature
- -4° to 158°F (-20° to 70°C)

Enclosure Protection
- Nema 6, IEC IP67

Lead Wire
- 3 conductor, 24 Gauge
- 39 inches, 1 Meter

Color of Cable
- Black

Switching Response
- 1000 Hz Maximum

FHD Resistance
- not applicable

Burden Current
- 16 mA at 24 VDC

Power Rating
- 5 Watts (Capacitive)

Switching Current Range
- 30 mA to 100 mA (Capacitive)

Leakage Current
- ≤ 10 µA

LED Function
- Red, Target Present

Minimum Current to Light LED
- 1 mA

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)

R: Resistor 1 KΩ - 5 KΩ, 1/4 W

C: Capacitor 0.1 µF, 600 V

- 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.

Caution
- Use an ammeter 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.

- 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 KG - 5 KG, 1/4 W

C: Capacitor 0.1 µF, 600 V

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

**Bulletin 0917-B1**

**Page 2 of 2**

### Switch Mounting Data

<table>
<thead>
<tr>
<th>Bore Size</th>
<th>Reed Switch Assembly</th>
<th>Solid State Switch Assembly</th>
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