

## Switching Considerations

### Application Information

Should your application require further information, please consult your nearest Coto Technology sales office.

### Contact Protection

Unless stated otherwise, the published life-expectancy data is based on resistive loads. For inductive, capacitive or lamp loads, inrush current or reverse voltage can affect the life of a reed switch. For a maximum life-time, contact protection is advised.

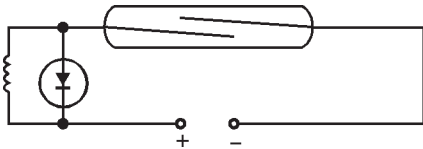


Fig. 12: DC voltage contact protection

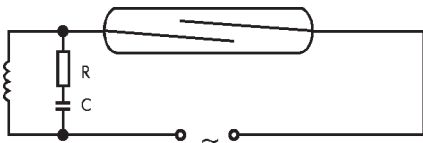


Fig. 13: AC voltage contact protection

### Inductive Loads

To reduce the high reverse voltage produced when a reed switch opens, the following contact protection can be applied:

DC voltage: a diode parallel to the load or the reed switch (see Fig. 12).

AC voltage: An RC-network parallel to the load or the reed switch (see Fig. 13).

$$C = \frac{I^2}{10}$$

and

$$R = \frac{U}{10 \left( 1 + \frac{50}{U} \right)}$$

where: C in  $\mu\text{F}$ ; I in A; R in  $\Omega$ ; U in V.

### Capacitive Loads

To reduce the high inrush current when a reed switch closes, a resistor must be connected in series with the capacitance or the reed switch.

When wiring a load and reed switch over a long distance, electrostatic capacitance, arising from the cable, can influence the reed switch. To protect against this capacitance a series surge protector (L) or a resistor should be connected in series.

### Lamp Loads

To reduce the high inrush current when a cold incandescent lamp has to be switched by a reed switch (closing only), a resistor must be connected in series with the lamp or parallel to the reed switch.