

# Creating an Arc-Suppression Circuit to Protect Relay Contact Points

Spark Suppression circuits are designed to reduce arcing and noise generation produced in switches and relays.

When a switch or relay is opened, an arc can develop across the contacts, which over time can erode the contacts. To prevent this phenomena, an RC network is placed across the contacts.

**Arc Suppression Circuits**  
 C = capacitance in  $\mu\text{F}$   
 I = load current in amperes prior to contact opening  
 R = resistance in ohms in series with capacitor  
 $E_o$  = source voltage

$$C = \frac{I^2}{10} \quad R = \frac{E_o}{10I(1 + \frac{50}{E_o})}$$

Arc Suppression Circuit Calculation Explained