

E-MAX has received inquiries regarding the availability of an AC-operated version of the Type RAW relay. While the presence of the blocking diodes in the RAW circuitry (see Figure 1) will protect the LED from damage if AC voltage is applied (the blocking diode will function as a half-wave rectifier), the operation speed of the relay would cause it to operate and release once every half cycle at any frequency below about 170 Hz, depending of the tolerances of each relay.

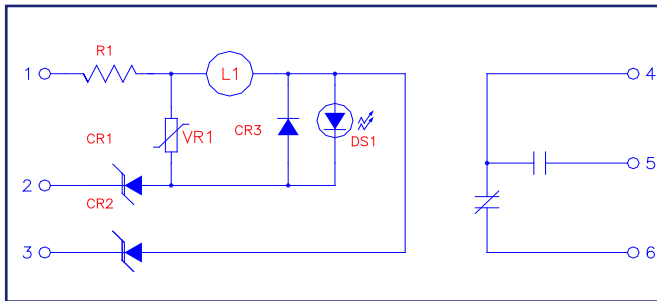


Figure 1 - RAW-1

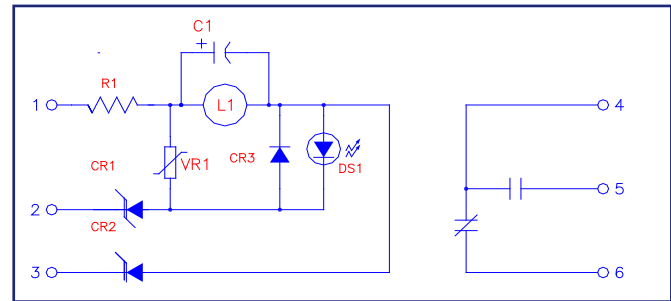


Figure 2 - RAW-1D

This problem is eliminated in the E-MAX Type RAW-1D relay. The RAW-1D is identical to the Type RAW-1, except that a 30 uF capacitor has been added in parallel with the relay coil (Figure 2). The original purpose of this capacitor was to provide a delay in the dropout of the relay. The 30 uF value provides a release delay of about 200 ms in the DC-operated relays. The presence of this capacitor, in conjunction with the blocking diodes, forms a circuit similar to a half-wave linear power supply, with the relay coil as the load. The result is that a DC voltage is applied to the relay coil, and the relay operates in the same manner, whether energized by AC or DC voltage.

E-MAX has tested the RAW-1D P/N 632A304 on AC power, and the relay type functions properly in all respects. For AC operations over 200 V specify P/N 632A417.

Operate time will vary depending upon the instantaneous voltage of the AC power at the instant the relay is energized; operation will be delayed if the instantaneous voltage is below the minimum operate voltage.

Release time will vary with the voltage applied; delay will be reduced if applied voltage is reduced.