

RC Snubbers

Why might I need RC snubbers across my relay outputs?

Inductive loads generate voltage spikes when switched, the collapsing magnetic field creates high energy voltage spikes that can get coupled into the low voltage areas on circuitry causing erratic behavior or even crashing the CPU. Adding an RC snubber absorbs the energy created when switching the device off. The snubber also has a secondary benefit of prolonging relay life for inductive loads as it arrests the arc that is generated when switching off.

Examples of inductive loads that need an RC snubber would be:

Motors

Solenoids

Relays (where the coil is driven as a load from the first relay)

Why don't all relays outputs simply have snubbers fitted?

RC snubbers are not ideal for every application as they will leak a small amount of AC current and as an example this wouldn't be desired for audio signals. Small AC current flows into the load may mean there is power transmission even when the relay is in the power off state. Snubbers should only really be used where the load is inductive.

Wiring best practices

When considering the cabling it is always good practice to keep the high voltage cabling away from the low voltage and signal cables and also to wire load cables away from the board. Load wiring that passes over the module has the potential to disrupt the low voltage areas and really isn't good practice.

Our snubber circuit

