

## AN171005: Configuring a Reflex Quad/Dual DC switch module for AC switching

### Overview

It is possible to configure a pair of standard ASY5732 series quad and dual DC switch module outputs as one or more AC switch output. This application note explains how this can be done and how to determine the resulting voltage and current rating of the AC switch.

### Implementation

#### *Hardware*

This modification can be achieved by simply connecting together the negative (black) terminals of a pair of switch outputs and connecting the 2 positive (red) terminals across the AC signal to be switched, see figure 1. Thus a quad DC switch module can be adapted to provide a pair of AC switches or one AC switch and two DC switches.

It is not advisable to try to configure switches from different switch modules. This method must not be used with non-standard switch modules e.g. the bi-polar (H-bridge) switch ASY5753 series.

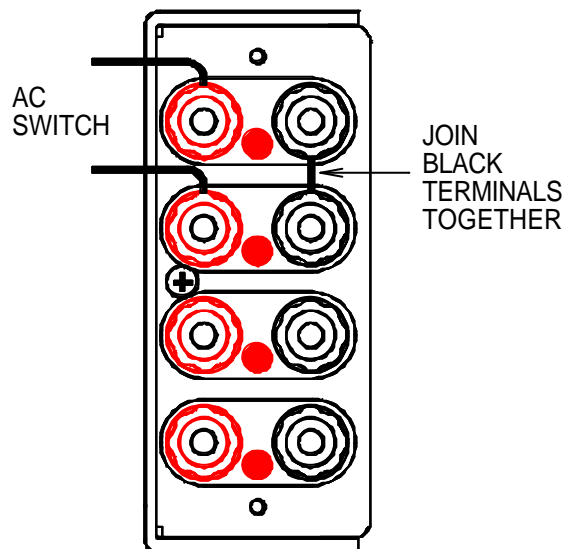


Figure 1. Quad switch module with one pair of DC switches configured as an AC switch

#### *Software*

It is also necessary to ensure that the software control signals to the corresponding pair of switches are enabled and disabled simultaneously. Failure to do this may cause an open switch to appear as a forward conducting diode.

### **Calculation of voltage and current rating**

In the AC configuration the peak voltage and RMS current rating of the AC switch remains the same as the DC switch rating. For example if two 100V/5A DC switch outputs are connected as described the resulting switch is also 100 Volt peak (70.7V RMS) and 5 Amp RMS rated.