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(54) **ALTERNATING CURRENT CONTROL SYSTEM**

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(57)

ABSTRACT

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An alternating current control system includes a zero crossing detector, an alternating current solid state relay, a constant current driver, and a microcontroller connected to the zero crossing detector and the constant current driver. The zero crossing detector and the alternating current solid state relay are connected to an alternating current power source, a first control pin of the microcontroller receives a zero crossing detection signal outputted by the zero crossing detector, a second control pin of the microcontroller receives a switch state signal, and a third control pin of the microcontroller is connected to the constant current driver and outputs a control signal. Based on the switch state signal and the zero crossing detection signal, the microcontroller adjusts a level of the control signal and controls an electrical connection between the alternating current solid state relay and the alternating current power source.

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