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Comparative Study of Pulse Trigger Circuit and DC Trigger Circuit for Xenon Flash Lamp Driver

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This paper presents an investigation of trigger circuit for xenon flash lamps driver from the view point of breakdown voltage, high-voltage isolation and reliability. A comparative study of pulse trigger and dc trigger circuits is provided, focusing particularly on the circuit structure of each driver for high voltage isolation. Two kinds of trigger circuits for xenon flash lamp driver are developed with 2.5-kW simmer circuit for maintaining xenon lamp ionization in order to experimentally compare the characteristics of each circuit. The structure of each trigger circuit uses the series trigger method to obtain the advantages of the isolation structure. The experiments are performed with a xenon flash lamp, and the results of the comparison tests are discussed. In addition the results prove that the developed each trigger circuit can be effectively used for xenon flash lamp drivers.

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