



## Low Voltage Drop, Cross-Field, Gas Switch And Method Of Operation

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### The Invention

A gas switch includes an anode and a cathode spaced apart from the anode, wherein the cathode includes a conduction surface. The gas switch also includes a plurality of magnets arranged to generate a magnetic field that defines an annular path over a portion of the conduction surface at a radial distance from a switch axis, and a control grid positioned between the anode and the cathode. In operation, the control grid is arranged to establish a conducting plasma between the anode and the cathode, wherein, in the presence of the conducting plasma, a voltage drop between the anode and the cathode is less than 150 volts, and wherein the conducting plasma forms a cathode spot that circles the annular path.

#### Tech Fields

- [Clean Technology : Energy storage, delivery & resource efficiencies](#)
- [Engineering : Power electronics & control systems](#)

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