

# SOLID STATE RELAY



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Rheinmetall's Solid State Relay is tailored to systems with a power requirement of up to 500kW. This semiconductor-based safety switch features a scalable design that covers a wide range of applications and ensures optimal performance and reliability. With a series of parallel unidirectional 1,200V SiC MOSFETs, it provides efficient energy management. It is free of wear and deterioration.

The switch has integrated autonomous overcurrent protection with a configurable trigger threshold for maximum safety. Commanded switching and diagnostics can be controlled and monitored via the battery management system (BMS). In addition, the design features an integrated RC snubber circuit and freewheeling diode.

Combining cutting-edge technology with robust safety features, this main switch is the ideal choice for the next generation of electric vehicles.

### BENEFITS

- Fastest possible disconnect with lowest fault currents
- Autonomous and triggered switching
- High-side and low-side topology
- Bidirectional current carrying, unidirectional current blocking
- Reproducible current cut-off characteristics
- Improved redundancy if combined with mechanical switch
- Wear-free switching
- Reduced requirements for other components (wear reduction, mech. shock immunity)
- Integrated current measurement and diagnosis
- Resettability

### TECHNICAL DATA

Operating voltage	450 / 920 V DC
Cont. current capability	500 A DC
Peak current (< 1s)	750 A DC
On-resistance	< 1 mΩ
Interrupt time	< 10 μs
Cooling interface	Cooling via gappad

### RHEINMETALL POWER SYSTEMS DIVISION

Within Rheinmetall the Power Systems Division is a system provider for high-quality and innovative (mobility) solutions, control technologies and digital applications for the automotive and energy industries, among others.

With its Business Units and Business Areas, the Division stands for outstanding expertise in the following areas: air management, thermal management, e-mobility and digitalization, hydrogen technology, metallic plain bearings, composite materials and lightweight construction. The Power Systems Division also represents Rheinmetall's global after-market activities through the Trade Business Unit.

### CONTACT

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