

DDC is the world leader in the design and manufacture of programmable solid-state power controllers (SSPC) for military vehicles, with more than 800,000 nodes installed since 1988. In addition to distributing and controlling power with reduced SWaP, protecting loads and wire harnesses with higher

The high-power solid-state power controller (SSPC) will be a critical component for the future electrified aircraft propulsion system. This article presents the development of a 1 kV 500 A ...

Relative to electromechanical breakers and relays, SSPCs increase electrical energy efficiency by providing lower power dissipation, along with higher power weight and volume densities. By ...

Solid-state power controllers (SSPCs) have been received increasing attention as they can configure the electrical system and protect the system by fast tripping mechanism at the same time. Although the high-voltage direct current (HVDC) electrical system can bring sustainable savings on the cables' weight and losses, the protection can be considerably challenging. ...

80A Sensitron's Multi-Channel Solid State Power Controllers (SSPC) are programmable, microcontroller based, Solid State Power Controller products designed to be used in 28V DC Power Management applications.

As a consequence new technologies like Solid State Power Controllers (SSPC) have been introduced. SSPC combine the functions of connecting loads to the main electrical bus and protecting the electrical installations from overloads and short-circuits. In order to analyse these new protection devices in the onboard Power Distribution System (PDS ...

The SPDP03D375 Solid State Power Controller (SSPC) Module is designed to operate without any heat sink requirements. It is a microcontroller-based Solid State Relay rated up to 3A, designed to be used in high reliability 375V DC applications. This module has an integrated current sensing with no de-rating over the full

Power management with PDC's Solid-State Power Controller (SSPC) solutions offer dramatic SWaP-C saving advantages over the electromechanical switches, relays, and circuit breakers they replace. PDC's power conversion and supply ...

This paper explores different possible topologies of a high-power high-voltage bidirectional DC solid state power controller (SSPC) for aerospace applications. The most suitable topology is then selected for design and implementation of the SSPC. A detailed analytical thermal model of the most preferred SSPC is presented in this paper. Using the thermal model, the junction ...

The RP-2032151XD0 Solid State Power Controller (SSPC) is based on PDC's latest generation of multi-channel SSPC boards and can distribute and control 120A to 32 independent subsystems in a 3 pound compact module. Benefits. Smart Power ...

Solid state power controllers sspc

Power management with PDC's Solid-State Power Controller (SSPC) solutions offer dramatic SWaP-C saving advantages over the electromechanical switches, relays, and circuit breakers they replace. PDC's power conversion and supply solutions, offering greater than 92% efficiency, provide high quality conditioned power in a space saving, reliable ...

These Solid State Power Controller (SSPC) Modules are designed to operate without any heatsink requirements. They are microcontroller-based Solid State Relays rated up to 25A designed to be used in high reliability 28V DC applications. These modules have integrated current sensing with no derating over the full

Solid state power controllers (SSPC) are semiconductor devices that control power (voltage and/or current) supplied to a load. They perform supervisory and diagnostic functions in order to identify overload conditions and prevent short circuits.

Arc fault detection is desperately required in Solid State Power Controllers (SSPC) in addition to their fundamental functions because arcs will provoke growing harm and threat to aircraft safety. Experimental study has been done to obtain the faulted current data. In order to improve the detection speed and accuracy, two fast arc fault ...

The P600 Solid State Power Controller (SSPC) is a fully rated 80 Ampere device available for use in today's and tomorrow's Power Systems. This LEACH SSPC features reliable trouble free switching together with real short circuit protection. Load current is sensed and shutdown initiated within microseconds.

Sensitron's Multi-Channel Solid State Power Controllers (SSPC) are programmable, microcontroller based, Solid State Power Controller products designed to be used in 28V DC Power Management applications. Each independent channel can be programmed to support

These high power Solid State Power Controller (SSPC) Modules are designed to operate with minimal losses and heat-sinking / airflow. They have an isolated case easing the installation process. High current bus bar terminals are used to provide good, low-drop interface for the high current input / output. They are ...

The SSPC is a kind of smart solid-state electrical switch based on semiconductor power devices (such as MOSFETs, SCR, and IGBT) with functions such as inverse-time overcurrent protection, state detection, overheating protection, and bus communication. The earliest research on SSPCs can be traced to the 1970s but was affected by factors such as the ...

Power Distribution & Control ; Single Channel Solid State Power Controllers Multi-Channel SSPC Cards and Power Distribution Units Linear Voltage Regulators Solid State Relays and Contactor Controllers Bidirectional Current Limiter TVS Modules ; High Power Protection (MIL-STD- 1275) LSP MIL-STD- 704 and 1399 Modules

Solid state power controllers sspc

There are several basic types of solid state power controllers (SSPC). AC controllers are designed to switch alternating current (AC) voltages. DC controllers are designed to switch direct current (DC) voltages. AC/DC controllers are designed to switch both AC and DC voltages.

The SPDF04 Solid State Power Controller is comprised of the high side power switches, the Digital Signal Processor (DSP), voltage and current sensors, a temperature sensor and an isolated CAN interface. Seven connectors are devoted to Channel Power outputs, Line Power Input and Return, Chassis Ground, baud rate select, and CAN ID select lines.

DDC's Solid-State Power Controller (SSPC) cards, power distribution units, and modules provide state of the art switching and circuit protection for secondary and primary power distribution. SSPCs provide functional and performance advantages compared to relays and circuit breakers, including much higher reliability,

Solid State Power Controllers (SSPCs) have significantly altered the landscape of power management and distribution in aerospace applications. Moving away from traditional electromechanical relays and circuit breakers, SSPCs offer a level of previously unattainable precision and reliability.

Nowadays solid-state power controllers (SSPC) are widely used in aircraft secondary power supply, because of a higher count of switching cycles, small weight, flexible trip behavior, and a ...

The high-power solid-state power controller (SSPC) will be a critical component for the future electrified aircraft propulsion system. This article presents the development of a 1 kV 500 A bidirectional dc SSPC using SiC power modules and transient voltage suppression (TVS) diodes. The design procedure and implementation of the SSPC are presented in detail and the ...

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