

270 vdc solid state power controller

What is a 270 VDC SSPC?

Now, our cutting-edge power control units are in development for use in Megawatt Tactical Aircraft and Next Generation Air Dominance (NGAD) fighters. Leach's 270 Vdc SSPCs employ Silicon Carbide (SiC) MOSFETs, which can withstand higher voltage levels, ideal for power control applications requiring 270 Vdc.

What is Leach 270 VDC SSPC?

Leach's 270 Vdc SSPC is designed for adaptability and scalability, offering a high degree of customization to meet specific application requirements. For example, the Secondary Power Distribution Unit (SPDU) can accommodate a varying number of power channels and support different current ratings, all programmable by the user.

What is a solid state power controller (SSPC)?

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.

What is a Diamondback programmable multi-channel solid state power controller?

The Diamondback Programmable Multi-Channel Solid State Power Controllers are multi-channel, microcontroller based, COTS embedded boards designed for 28VDC applications. Each channel of the Diamondback has software-programmable current ratings and can operate grouped with other channels to support loads up to 125A.

What is the future of SSPC control?

In addition, as the development of semiconductors, big data and artificial intelligence, future research on SSPC will tend to be miniaturized, high voltage, high power, power supply and distribution integration, and precise. The application of artificial intelligence algorithms to SSPC control will also become a focus in the future.

What is a DC SSPC?

A DC SSPC is usually composed of functional units such as a digital interface unit (DIU) and so on. The typical functional block diagram of a DC SSPC is shown in Fig. 1.

270V high-voltage direct-current (HVDC) power supply system is the preferred power supply scheme for multi-electric aircraft (MEA). In order to improve the intelligence and reliability of the power supply system, the HVDC solid-state power controller (SSPC) is gradually replacing the traditional mechanical protection device. A 270V/20A bidirectional HVDC SSPC is designed in ...

The Diamondback Programmable Multi-Channel Solid State Power Controllers are multi-channel, microcontroller based, COTS embedded boards designed for 28VDC applications. Each channel of ...

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SPDP03D270 3A 270 Vdc 260 mV SPDP10D270 10A 270 Vdc 270 mV SPDP03D375 3A 375Vdc 260 mV
SPDP10D375 10A 375Vdc 270 mV SPDP50D375 50A 375Vdc 440 mV ...

In this paper, the SSPC software control flow is improved with the working characteristics of the AES load by adding a current-limit protection control, that is, when a load ...

The origins of Solid State Power Controllers (SSPCs) can be traced back to the post-WW2 development of semiconductor and solid-state electronics technologies, heralded by the invention of the transistor in 1947. Transistors offered a smaller, more reliable, and energy-efficient alternative to the vacuum tubes and electromechanical switches used ...

6 days ago; Off-the-shelf, MIL-STD-704F compliant multi-channel 270VDC/150A Solid-State Power Controller (SSPC) enables smart power management - programmability, load shedding, a 25x greater MTBF, system health diagnostic & prognostic data and an up to 7x power density improvement - in a compact and rugged form factor, while providing significant time to market ...

SPDP03D270 0.9A to 3A 270 Vdc SPDP10D270 3.0A to 10A 270 Vdc SPDP03D375 0.9A to 3A 375Vdc
SPDP10D375 3.0A to 10A 375Vdc Isolated Log Features: o 5:1 programming range for 28V ... Sensitron's Multi-Channel Solid State Power Controllers (SSPC) are programmable, microcontroller based, Solid State Power Controller ...

March 6, 2018. BOHEMIA, N.Y. - Data Device Corp. (DDC) in Bohemia, N.Y., is introducing the RP-28001000N0 MIL-STD-704F compliant 12-channel, 270-volt DC, 150-amp solid-state power...

The high-power solid-state power controller (SSPC) will be a critical component for the future electrified aircraft propulsion system. ... (HVDC) grid with a voltage level of ±270 VDC or 540 VDC ...

270 volt dc power distribution systems, and two of the three electromechanical controllers demonstrated moderate abilities. The third electromechanical ... The three solid state power controllers demonstrated good to excellent performance in inhibiting arc propagation in 270 volt dc power distribution systems, ar... cwo of the three ...

As one of the world's leading suppliers of solid state frequency converters for the past 30 years, JBT Aerotech, Jetway Systems®, now offers a Jetpower® 270 VDC ground power unit for the F-22 Rap-tor and the JSF F-35. The Jetpower® 270 VDC unit takes from over ... o Auto/Manual Switch-Voltage Control o Start/Stop o Line Drop ...

BOHEMIA, N.Y. - Data Device Corp. (DDC) in Bohemia, N.Y., is introducing the RP-28001000N0 MIL-STD-704F compliant 12-channel, 270-volt DC, 150-amp solid-state power controller for vetronics in ...

PDC's 12 channel solid state power controller (SSPC) board controls, protects, and continuously monitors up



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to 150A to 12 independent electrical system loads. Benefits. High Reliability 25x ...

GE Aerospace's best in class Silicon Carbide solid state power switches, combined with its high-power electrical systems design skills, allows it to create a range of inverter, converter and power electronics solutions for vehicles across the land, sea and air domains. Its solutions offer compact, temperature tolerant, reliable switching where high voltage and high energy is to be managed ...

DOI: 10.1109/WIPDA.2016.7799912 Corpus ID: 16135337; Bidirectional, SiC module-based solid-state circuit breakers for 270 Vdc MEA/AEA systems @article{Hayes2016BidirectionalSM, title={Bidirectional, SiC module-based solid-state circuit breakers for 270 Vdc MEA/AEA systems}, author={Jonathan K. Hayes and Kenny George and Peter Killeen and Brice McPherson and ...

Control Power Input 28 VDC Line or 5 VDC External Isolation Opto-isolated control circuitry Power Out to Control Isolation 500 Volts Load Monitoring/Reporting Accuracy 5% voltage, current, temperature measurements. Thermal Interface Temperature Range for Boards -40°C to 105°C Temperature and Altitude MIL-STD-810F Methods 501, 502, and 520:

Product Types: Subminiature Relays (Low level to 75 Amps) For decades, LEACH's subminiature relays have set the industry standard for technology and reliability. With their proven high performance in the most demanding applications, they are ideal for critical subsea, shipboard, ground-based, space, and aerospace applications.

A critical technology required to implement an electrical load management system is the Solid State Power Controller (SSPC). ... advanced power systems proposed for MEA are considering the use of 270 VDC power as opposed to conventional 400 Hz power. 270 DC power is more difficult to switch than conventional 400 Hz because of arcing associated ...

28 VDC, Dual control channel: EPM-111: 60A: Solid state power controller: 2-CHANNEL SSPC, DC RATING: P600 Solid State Power Controller ... 80A@28VDC, 1PNO (SSO) P800 Solid State Power Controller: 150A: Solid state power controller: 150A@28VDC, 1PNO (SSO) LEACH International Corporation. The future of power distribution, built on a history of ...

Control Panel Voltage Adjust Elapsed Time Meter Input High Voltage Transient Protection NEC 513, 18-Inch Hangar Hazard Area Clearance Requirement (Available) ... Unitron's dual output, solid-state, AC/DC Ground Power Unit supplies... Learn More. Combo 400HZ/270VDC. Unitron's dual output, solid-state, AC/DC Ground Power Unit supplies ...

The SPDP03D375 Solid State Power Controller (SSPC) Module is designed to operate without any heat sink requirements. It is a microcontroller-based Solid State ... 4.5V to 5.5 VDC BIAS (Vcc) Current 75 mA typ 100 mA max S1 and S2 Status Signals Voh=4.6V min, at Ioh=-4mA Vol=0.4V max, at Iol=4mA CONTROL, Battle Short Signal Input I V IL

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The performance of FCX Systems 270 VDC Power is flight line and production line proven - we are 270 VDC from the ground up. ... UL-508 Industrial Control Equipment ... Solid-State Frequency Converter for a Floating Dry Dock. In 2008, a large floating dry dock - containing motor loads for cranes, capstans, ballast pumps and fire pumps - was ...

The power loss $P_{n\text{pn}270}$ produced by the npn-BJT of the linear regulator is: $21 \text{ n l } 6 ; 4 \text{ L : t y r F t v ; } \&\#174; \text{ s v L u } \&\#225; \text{ v}$ To cool the npn-BJT a big cooling device with a thermal resistance of 6 ...

This allows full maintenance including flight control response tests to be performed inside the hangar. ... FCX supplied the first modern 270 VDC power supply used on the first F/A-22 Raptor in 2000 and continues to support 270 VDC aircraft today both in the field and on the JSF assembly lines in the US, Italy and Japan. ... Solid-State ...

Circuit protection devices and power distribution units for future More Electric / All Electric Aircraft (MEA/AEA) power systems require an increased level of control and intelligence along with fast-acting protection mechanisms. The trend towards utilizing solid-state power electronics for system-level protection of MEA/AEA systems has increased due to the many advantages ...

However, the aircraft weight can be decreased if a high-voltage direct current (HVDC) grid with a voltage level of $\&\#177;270 \text{ VDC}$ or 540 VDC is implemented to supply the electrical loads. These higher voltages reduce cable weight, but are a new challenge for solid-state power controllers (SSPC), which are used as protection devices for cables and loads.

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 ...

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