

A.16 SR511 - Regulator 24 V/5 V

- Transforming 24 V d.c. to 5 V and 2.1 V d.c.
- Heavy-duty operation, 5 V, 35 A
- Redundancy.

Description

The regulator SR511 is a switch-mode power converter transforming 24 V d.c. to the stabilized voltages 5 V and 2.1 V d.c. All of these voltages have a common negative terminal.

The SR511 is designed as a plug-in device and is positioned in a controller subrack to interface with the backplane bus. Use the regulator in equipment where the regulator output terminals are connected in parallel to other regulators of the same family. Thus, n regulators can share the load giving an arbitrary capacity of power, and where adding an extra regulator to the stack, the (n+1) -redundant power supply system is derived. In an Advant Controller 450, use two SR511s to achieve redundancy.

You can exchange one regulator at a time in a redundant regulator live system without generating malfunction.

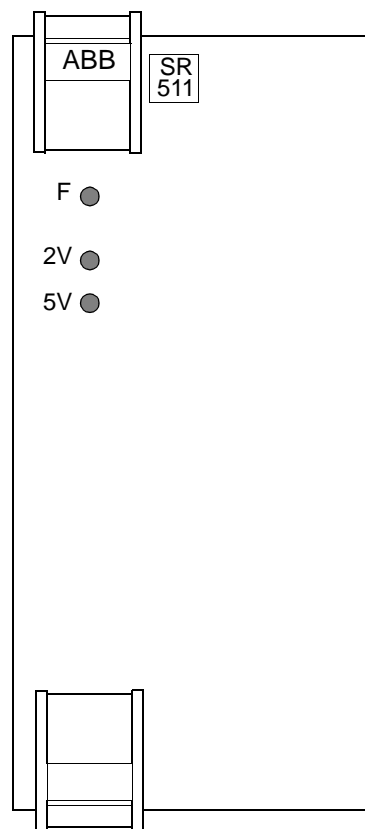
Two 24 V power supply networks with a common negative terminal can connect to the SR511 via the subrack power bus.

The 5 V output is rated 35 A load, exclusive of the current delivered by the 2.1 V output.

Use the 2.1 V output to power the parallel bus termination.

An SR511 includes a supervisory logic circuitry signalling the normal status by closing a semiconductor switch, thereby connecting the signal output terminal to ground via a 100 ohms resistor.

A faulty or missing unit leaves the signal terminal open.



Front view

Technical Data

Indicators

LED F (Fail, red) lights for undervoltage or overvoltage

LED 5 V (green) lights for normal voltage or overvoltage, but not for undervoltage

LED 2 V (green) lights for normal voltage or overvoltage, but not for undervoltage

Input 24 V d.c.

Dual 24 V d.c. inputs

Rated input power 310 W at full load; 5 V, 2.1 V
Maximum input power 350 W at current limit 46 A
Efficiency 70% typ.

Rated input voltage 24 V d.c.
Voltage variation ± 8 V

External fuse 30 AF max for each 24 V terminal

Output 5 V d.c.

Rated output voltage 5.15 V (adjustable) at 25 A load
Voltage variation 5.3 V max., 5.0 V min. at 0 A and 40 A, respectively
Ripple voltage 10 mV typ. at 40 A load
Load range 1 A - 35 A exclusive 2 V load
Current limit 43 A ± 3 A (inclusive 2 V), $U_{in} = 24$ V
Overvoltage protection 6.3 V electronic
7 V typ. (6.5 V min.) zener clamp

Output 2 V d.c.

Rated output voltage 2.1 V at 1.5 A load
Voltage variation 2.2 V max., 2.0 V min. at 0 A and 6 A, respectively
Ripple voltage <10 mV typ. at <8 A load
Rated load current 1.3 A average
Current limit 8 A min. (9.5 A typ.)
Temperature protection Linearly, decreasing output current at overtemperature

Mechanical Data

Module size: 6 SU, 12 mp ("half height, double width")
Weight: 1.6 kg (3.5 lbs.)

Block Diagram

