MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Amikon cover with selected official ABB reference pages

AC 800M / S800 I/O / 3BSC610066R1

SD833

24 V DC POWER SUPPLY

OFFICIAL SOURCES

ABB 3BSE036351-600 A. Selected notice, hardware and specification pages retain their original content and proportions.

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Table 120. PSU's SD821, 822 and 823 – Mounting Dimensions

Parameter	SD821 Converter	SD822 Converter	SD823 Converter
Dimensions, Width HxD = 125 x 110 mm (4.9" x 4.3")	50 mm (2.0 in)	65 mm (2.6 in)	120 mm (4.7 in)
Mounting spacing W mm	10 mm (0.4 in)	15 mm (0.6 in)	15 mm (0.6 in)
Mounting spacing H mm	25 mm (1.0 in)	25 mm (1.0 in)	25 mm (1.0 in)
Weight (lbs)	600 g (1.3 lb)	700 g (1.5 lb)	1100 g (2.4 lb)

Power Supply Units - Types SD831, SD832, SD833, and SD834

Key Features

- Simple DIN-rail mounting.
- Class I Equipment, (when connected to Protective Earth, (PE)).
- Over-voltage Category III for connection to primary main TN network of Installation Category III.
- Protective separation of secondary circuit from primary circuit.
- Accepted for SELV and PELV applications.
- The output of the units is protected against over current (current limit) and over voltage (OVP).
- SD834 can be connected in parallel to increase output power.
- Both a.c. and d.c. input at SD831 and SD834.
- Floating DC-OK relay contact at SD834.

Equipment Class

The Power Supply Units, (PSU), are designed to meet all the applicable electrical safety data stated by the EN 50178 harmonized European Standard Publication and the additional safety and function data required by EN 61131-2 and UL 508.

The secondary output circuitry is accepted for SELV or PELV applications.

SELV according to EN 50178, EN 60950 and VDE 0100 Part 410.

For PELV applications; in accordance with EN 50178.

UL 508, listed E 198865.

Ingress Protection

IP20 according to EN 60529, IEC 60529

Protective Class I according to EN 50718; 3.56

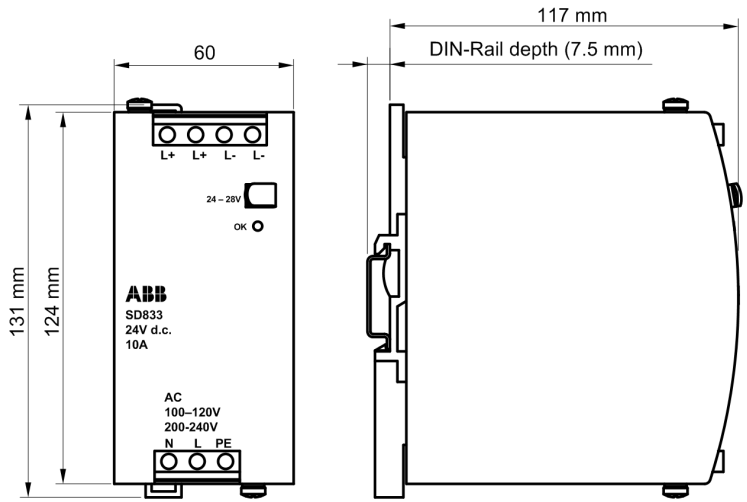


Figure 100. SD833 Connections for 10 A Power Supply

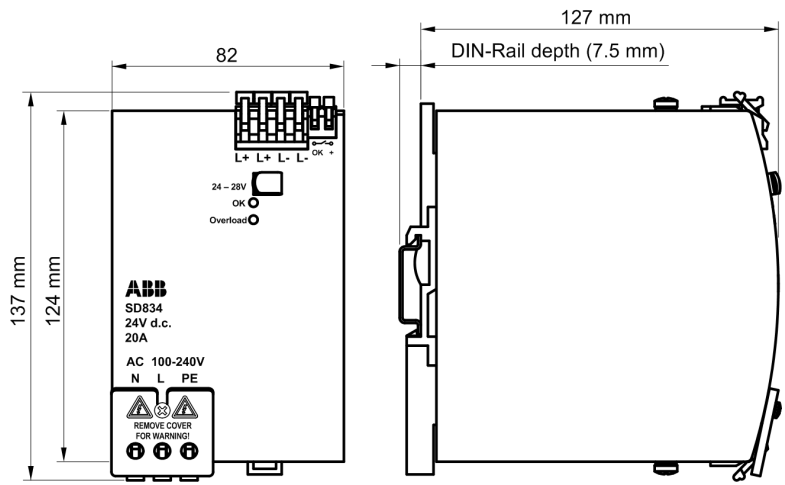


Figure 101. SD834 Connections for 20 A Power Supply

Power Supply Units Types SD831 / 832 / 833 / 834- Description

ABB recommend the use of robust and reliable power supply units, (PSUs), for providing power to the AC800 and S800I/O system, when connected to an industrial mains network of installation category III. PSUs can be used for both non-redundant and redundant applications.

The four PSUs are designed as switch mode power converters. They converting a.c. or d.c. mains supply voltage to a regulated d.c. 24 V output. The four PSUs have data as follows:

- SD831 = Input a.c. 100-240 V or d.c. 110-300 V.

  Output d.c. 24 Volts regulated @ 3 A.
- SD832 = Input a.c. 100-120 or 200-240 V.

  Output d.c. 24 Volts regulated @ 5 A
- SD833 = Input a.c. 100-120 or 200-240 V.

  Output d.c. 24 Volts regulated @ 10 A
- SD834 = Input a.c. 100-240 V or d.c. 110-300 V.

  Output d.c. 24 Volts regulated @ 20 A

The output voltage of the four PSUs is, as stated, a regulated, low noise, d.c. 24 V. A LED, mounted on the PSU front panel indicates that the output voltage is within range.

The PCS´s provide a soft start feature. The controlled power-on of a PSU therefore, will not trip fuses or earth-fault circuit breakers. In addition, the normal disturbances that occur within an industrial main network will not cause any transient fault conditions or trips to occur.

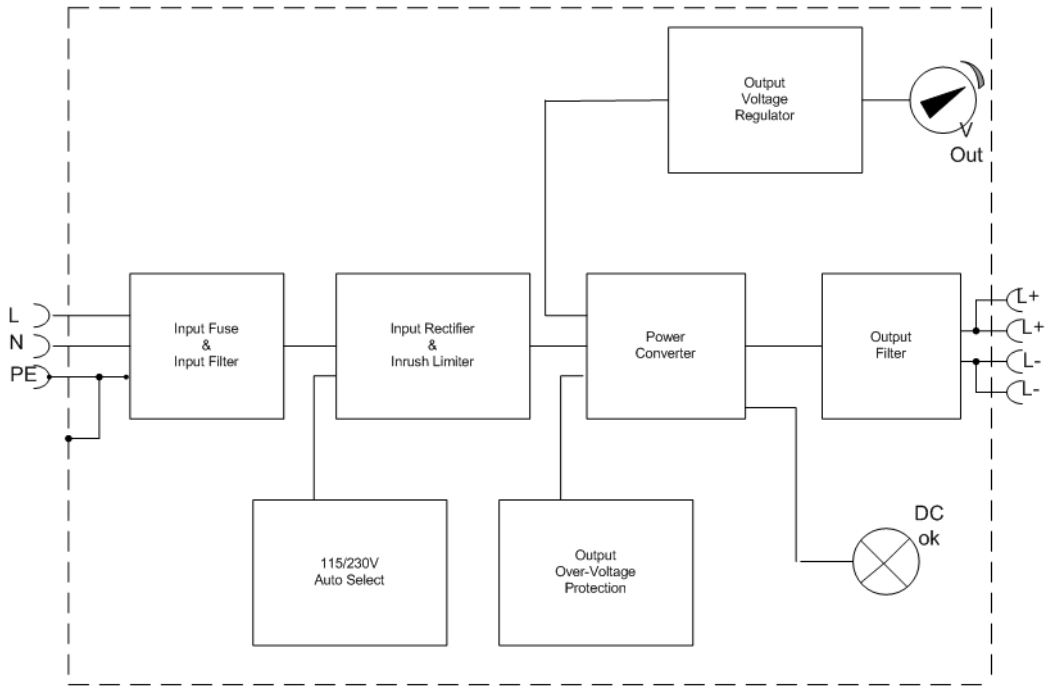
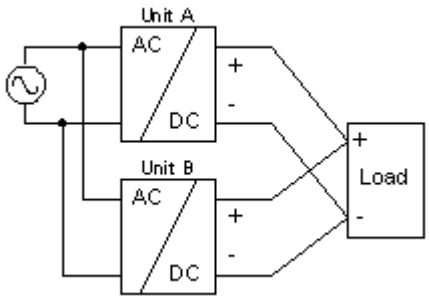


Figure 103. Functional Diagram SD832/SD833 for a 5 A/ 10 A Power Supply

SD834 in parallel to increase output power

Table 122. SD834 Schematic and Instructions for parallel use.

Schematic for parallel operation	Instructions for parallel use
	a) Only SD834 can be used in parallel connection. b) Adjust the output voltages of all power supplies to approximately the same value (±500mV). Otherwise, the DC-OK signal might not work properly. c) A fuse (or diode) on the output is only required if more than three units are connected in parallel. d) Do not continuously load the terminals with more than 25A. Keep an installation clearance of 15mm (left/right) between two power supplies and avoid installing the power supplies on top of each other.

Fuses and Protective Devices

Recommended primary external fuse:

Table 123. Power Supply Units - Fuses and Protective Devices Power Supply Units Types SD83x

Fuse	SD831	SD832	SD833	SD834
Primary: Recommended external fuse (1) min/max	10 - 20A	10 - 20A	10 - 20A	10 - 20A
Primary: Recommended external fuse (2) min/max	6 - 20A	6 - 20A	6 - 20A	10 - 20A
Secondary: Short circuit	<8 A	<14 A	<18 A	<40 A
Secondary: Over-Voltage protection	<39 V	<39 V	<39 V	<37 V

(1) Microcircuit Breaker (MCB), Characteristic B or a delayed action fuse.
(2) Microcircuit Breaker (MCB), Characteristic C