

ABB SB510 3BSE000860R1 Backup Power Supply

A.11 SB510 - Backup Power Supply 110-230 V a.c/d.c.

Module included in backup power supply system for RAM

Connectable to mains supply 100 - 230 V a.c. or d.c.

Three modes of operation: battery recharging and trickle charging from mains supply and battery discharging

Fits NiCd battery unit SB522.

Description

SB510 is a battery charger which works together with one single battery package, for example, SB522. Use these two modules for current supply of processor module RAM in the event of mains supply drop out.

The capacity expressed in time of backup depends on the application.

Please refer to the actual Advant Controller documentation.

Use two sets (SB510 and SB522) to double the backup time.

SB510 is positioned in a controller subrack to interface with the backplane bus and the battery.

Mains supply is connected via a module front connector.

The mains supply input provides fusing and other adequate protection.

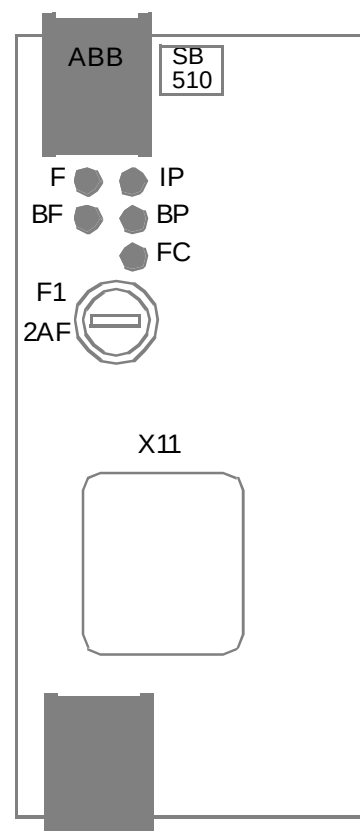
The input energy is converted and used for 5 V internal unit supply and by a controlled current generator for battery charging.

The current generator produces a current adapted to the mode of operation: recharging, which takes approximately 10 hours after power-up or battery replacement, or trickle charging.

During recharging, a LED FC on the module front lights up.

Diagnostic functions continuously supervise the operation. Error and other statuses are indicated by module front LEDs. The information is available on the backplane for further processing by the system status functions.

At installation, insert the module in the subrack first. Then connect the power supply (X11)!



Front view

Technical Data

Input Data

Mains supply: 110 - 230 V a.c.; variation -15 to +10%; ripple <15%
110 - 230 V d.c.; -20 to +20%; ripple <15% (no respect to polarity at d.c.)
Max. power: 25 VA

Safety Classification: Class I according to IEC 536 (earth protected)

Protection Rating: IP20 according to IEC 144

Insulation: Dielectric test voltage 3.2 kV d.c. 2 sec. (Isolation provided by a transformer).

Fuses

The mains supply input includes a fuse 2AF (fast) (accessible from the module front).

Power Supply of RAM

Output voltage at normal operation: 5.6 V $\pm$ 0.2 V (zero load)

Output voltage at backup operation: 6.0 V $\pm$ 0.2 V

Max. current: 2 A

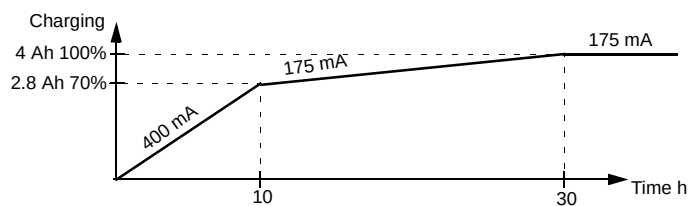
Notes:

- The output voltage level is raised during backup operation to compensate for voltage drops in voting circuitry.
- The output current is short-circuit proof.
- The physical output has a serial diode to provide two SB510s in parallel operation.

Battery Charging

Designed to NiCd battery 12 V, 4 Ah, for example, SB522.

Charging current:



Indicators

LEDs on module front:

F, Fault (red)	Low-charging current, low 5 V supply (IP is supposed to indicate converter in operation)
IP, Input Power (green)	Mains supply available, converter in operation
BP, Battery Powered (ylw)	Mains supply not available, discharging of battery
BF, Battery Fault (red)	Discharged/unconnected battery, short-circuit or interruption in battery, cold battery at start
FC, Fast Charging (ylw)	Indicates recharging after power-up or battery replacement (10 hours).

Maintenance Parts

Miniature Fuse Link, 5 x 20 mm, 2AF (fast)

ABB part no. 5672 2011-17

Mechanical Data

Module size: 6 SU, 12 mp ("half height, double width")

Weight: 0.95 kg (2.1 lbs.)

Block Diagram

