B520 Auxiliary Power Supply Module

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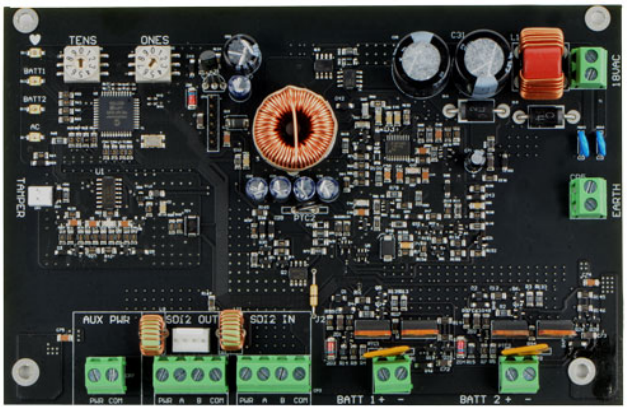

- Provides up to 2 A of 12 V standby current for Fire or Burglar Applications (4 A of Burglary alarm current)
- Supervises up to two 12 V 7-18 Ah batteries independently for up to 36 Ah of capacity
- Provides up to 80 hours of standby time
- Uses the Bosch standard TR1850 plug-in transformer
- Easy-to-read switch addressing

The B520 Auxiliary Power Supply Module is an auxiliary power supply expansion device that connects to compatible control panels through the SDI2 bus. This module is supervised and communicates all status changes to the control panel.
Industrial, commercial, and institutional facilities are typical installations for the B520 module. The B520 address switches allow for easy device addressing. The SDI2 Out terminals provide auxiliary power for SDI2 expansion devices, such as keypads. The AUX PWR terminals provides added auxiliary power capabilities for additional devices such as PIR motion detectors.

Functions

Supervision monitoring

The module monitors and communicates status information over the SDI2 bus for the following:

- Operation (Heartbeat)
- Battery 1 (BATT 1)
- Battery 2 (BATT 2)
- AC input power (AC)
- Battery OK
- Low Battery
- Missing Battery

Indicators

- Heartbeat [icon]. Blue LED flashing On and Off when system is operating normally. A steady On or Off LED indicates a system fault. Triple flash indicates communication failure.
- BATT 1 LED. Green steady On LED indicates the battery status of BATT 1 is operating normally. Flashing indicates low battery. Triple flash indicates battery charger failure. Off LED indicates a missing battery.
- BATT 2 LED. Green steady On LED indicates the battery status of BATT 2 is operating normally. Flashing indicates low battery. Triple flash indicates battery charger failure. Off LED indicates a missing battery.
- AC LED. Green steady On LED indicates the AC power is operational. A pulsating LED (3 pulses per second) occurs when a battery test is being performed. Flashing indicates low or failed AC.

Battery charging

Fully charged batteries, connected to the battery terminals, sustain power to the B520 in the event that the AC power fails.
If AC power input for the B520 fails (is absent, or low), the B520 automatically switches from primary power (AC) to secondary power (battery). When AC power is present, the B520 performs periodic battery tests to ensure battery life and usability.

Certifications and approvals

Region	Certification	
USA	UL	
	UL	UL 365 - Police Station Connected Burglar Alarm Units
	UL	UL 609 - Standard for Local Burglar Alarm Units and Systems
	UL	UL 636 - Holdup Alarm Units and Systems
	UL	UL 864 - Standard for Control Units and Accessories for Fire Alarm Systems
	UL	UL 985 - Household Fire Warning System Units
	UL	UL 1023 - Household Burglar Alarm System Units
	UL	UL 1076 - Proprietary Burglar Alarm Units and Systems
	UL	UL 1610 - Central Station Burglar Alarm Units
	CSFM	see our website
	FCC	Part 15 Class B
Canada	ULC	CAN/ULC S303 - Local Burglar Alarm Units and Systems
	ULC	CAN/ULC S304 - Standard for Signal Receiving Center and Premise Burglar Alarm
	ULC	ULC-ORD C1023 - Household Burglar Alarm System Units
	ULC	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	IC	ICES-003 - Information Technology Equipment (ITE)

Installation/configuration notes

Mounting considerations

You can mount the B520 in a variety of enclosures. The B8103/D8103 enclosure supports up to two 12 V, 18 Ah batteries. Mounting in the B8103/D8103 requires the B12 Mounting Plate for D8103 Enclosure. The B10 supports either one 12 V, 18 Ah or up to two 12 V, 7 Ah batteries.

Wiring considerations

The B520 connects to a control panel using the SDI2 IN connections (PWR, A, B, COM). Use 12 AWG to 22 AWG (1.5 mm to 0.6 mm) wires from the power supply to the control panel.
The B520 provides auxiliary power to expansion modules via the SDI2 OUT (PWR, A, B, COM), or AUX Power (AUX PWR) connections using the screw terminal strip, or by using the interconnect wiring connection. Use 12 AWG to 22 AWG (1.5 mm to 0.6 mm) wires from the module to the SDI2 expansion module(s).

Compatibility

Control panels	B9512G/B9512G-E (Up to 8 modules) B8512G/B8512G-E (Up to 4 modules) B6512 (Up to 4 modules) B5512/B5512E (Up to 4 modules) B4512/B4512E (Up to 2 modules) B3512 (Up to 2 modules) D9412GV4 v 2.xx (Up to 8 modules) D7412GV4 v2.xx (Up to 8 modules)
Enclosures	B8103 Universal Enclosure and D8103 Universal Enclosure (holds up to two 18 Ah, or two 7 Ah batteries) B10 Medium Control Panel Enclosure (Holds up to one 18 Ah, or two 7 Ah batteries) B12 Mounting Plate for the D8103 Enclosure D8108A Attack Resistant Enclosure D2203 Enclosure BATB-40 Enclosure AE1/AE2 Enclosures D8004 Transformer Enclosure* *The D8004 Transformer Enclosure is required when the B520 and TR1850 (18 VAC, 50 VA) Transformer are used in UL 864 Fire, or Combination Burg and Fire applications.
Transformer power supplies	TR1850 (18 VAC, 50 VA) TR1850-CA (18 VAC, 50 VA) for Canada
SDI2 interconnect cables	B501-10 (10 per pack)

Parts included

Quantity	Component
1	B520 Auxiliary Power Supply Module
1	Hardware pack
1	Literature pack

Technical specifications

Properties

Dimensions	11.43 cm x 17.62 cm x 2.9 cm (4.5 in x 6.94 in x 1.15 in)
Maximum distance – Wire size	305 m (1000 ft) - 0.65 mm (22 AWG) 305 m (1000 ft) – 2 mm (18 AWG) Unshielded wire only

Power

Input power	18 VAC, 50 VA
Current output (maximum)	2.0 A SDI2 Out and AUX Power (Combined) (up to 4.0 A of alarm current for Burglar Applications)
Current reserved for charging batteries	150 mA

Current draw (from the control panel)	15 mA
Voltage (rated range)	11.5 to 12.2 VDC (special application)
Battery configuration	Supports two*, separate 12 V sealed lead acid batteries (7-18 Ah) for up to 36 amp. *Battery 1 is required for normal operations. Battery 2 is optional.

Environmental considerations

Temperature (operating)	+32° to +120° F (0° to +49°C)
Temperature (storage)	-4° to 140° F (-20° to +60° C)
Relative humidity	5% to 93% at +32° (+90°F) non-condensing

Ordering information

B520 Auxiliary Power Supply Module
Provides auxiliary power to 12 VDC devices or to SDI2 modules.
Order number **B520**

Accessories

B10 Medium Control Panel Enclosure
White, steel enclosure. Accepts an optional lock and tamper switch. Measures 35.6 cm x 31.8 cm x 7.6 cm (14 in x 12.5 in x 3 in).
Order number **B10**

B8103 Enclosure
White steel enclosure measuring 41 cm x 41 cm x 9 cm (16 in. x 16 in. x 3.5 in.).
Order number **B8103**

D2203 Enclosure
Gray steel enclosure. Accepts an optional lock and tamper switch. Measures 35.6 cm x 31.8 cm x 7.6 cm (14 in x 12.5 in x 3 in).
Order number **D2203**

D8103 Enclosure
Grey steel enclosure measuring 41 cm x 41 cm x 9 cm (16 in. x 16 in. x 3.5 in.).
Order number **D8103**

D8108A Attack Resistant Enclosure
Grey steel enclosure measuring 41 cm x 41 cm x 9 cm (16 in. x 16 in. x 3.5 in.). UL Listed. Includes a lock and key set.
Order number **D8108A**

AE1 Standard Enclosure (Gray)
Standard gray enclosure with keyed lock. Measures 35.6 cm x 31.8 cm x 7.6 cm (14 in x 12.5 in x 3 in).
Order number **AE1**

AE2 Standard Enclosure (Red)
Standard red enclosure with keyed lock. Measures 35.6 cm x 31.8 cm x 7.6 cm (14 in. x 12.5 in. x 3 in.).
Order number **AE2**

D8004 Transformer Enclosure
For applications such as fire alarm that might require a transformer enclosure.
Order number **D8004**

B12 Mounting Plate for D8103 Enclosure
Required for mounting select control panels and other devices in D8103, D8108A, D8109, or BATB Battery Box enclosures.
Order number **B12**

TR1850 Transformer
For use in North America. Plug-in transformer with input: 120 VAC, 60 Hz, 0.50 A; output 18 VAC, 50 VA output.
Order number **TR1850**

D101 Lock and Key Set
Short-body lock set with one key supplied. Uses the D102 (#1358) replacement key.
Order number **D101**

ICP-EZTS Dual Tamper Switch
Combination tamper switch with a wire loop for additional tamper outputs.
Order number **ICP-EZTS**

BATB-40 Battery Box\Enclosure
The BATB-40 Battery Box holds two dry or wet cell batteries. The box can be used with fire alarm systems or intrusion systems.
Order number **BATB-40**

B520 Kit, B10 Enclosure
B520 Auxiliary Power Supply Module kit. Includes a TR1850 transformer, and a B10 Medium Control Panel Enclosure.
Order number **B520-B**

B520 Kit, B8103 Enclosure
B520 Auxiliary Power Supply Module kit. Includes a TR1850 transformer, a B12 mounting plate, and a B8103 Universal Enclosure.
Order number **B520-C**

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