Safety

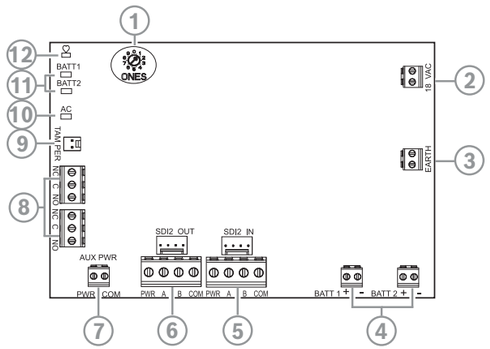
Caution!
Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Introduction

This device is an addressable class B auxiliary power supply module. Through the use of the SDI2 bus, this device is supervised and will communicate all status changes directly to the compatible control panel.

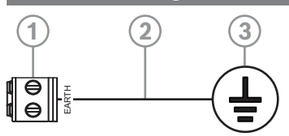
Notice!
Depending on the application, the installation may need to be installed in accordance with the NFPA 70 (National Electrical Code) and NFPA 72 (National Fire Alarm code) or CSA C22.1, Canadian Electrical Code, Part I

System overview



1	Address switch	2	18 VAC (transformer input terminal)
3	EARTH (ground connector terminal)	4	BATT1/BATT2 (battery connection terminals)
5	SDI2 IN (PWR/A/B/COM) terminals (from control panel)	6	SDI2 OUT (PWR/A/B/COM) terminals (to modules)
7	AUX PWR (Auxiliary power terminal)	8	Programmable Relay output terminals
9	TAMPER (Tamper switch connector)	10	AC LED (green)
11	BATT1/BATT2 LED (green)	12	Heartbeat LED (blue)

Wire the earth ground terminal



1	Power supply module
2	14 AWG - 16 AWG (1.6 mm - 1.3 mm) wire
3	Ground device (grounding rod or cold water pipe)

To help prevent damage from electrostatic charges or other transient electrical surges:

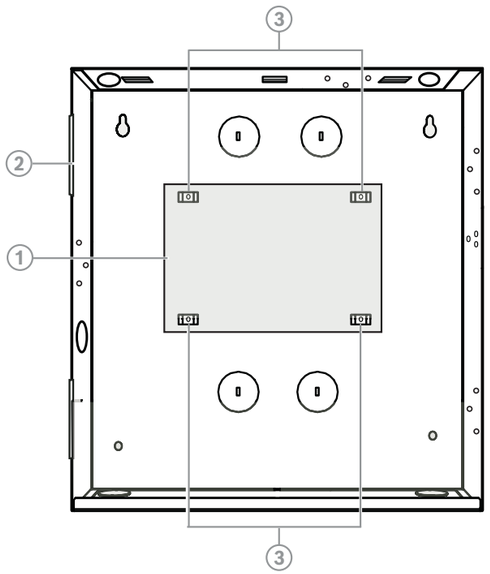
1. Connect the system to earth ground before making other connections.
2. Recommended earth ground references are a grounding rod or a cold water pipe.
3. When grounding, run wire as close as possible to grounding device.

Notice!
Earth grounding
Do not use telephone or electrical ground for the earth ground connection. Use 14 AWG (1.6 mm) to 16 AWG (1.3 mm) wire when making the connection.

Install B532 into enclosure

Installing the B532 module into a supported enclosure varies depending on the specific enclosure used during installation. Enclosures such as the B8103, D8108A, D8109, BATB-40, and BATB-80 require installing the B12 Mounting Plate before the installation described below.

For B10 and B18 enclosures, follow the procedure below.

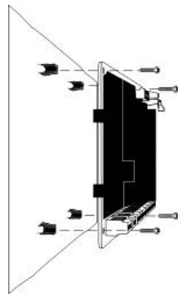


1	B532 module	2	Compatible enclosure
3	Mounting screw standoff		

1. Locate the Mounting screw standoff (Callout #3).
2. Place the standoffs onto the mounting screw locations within the enclosure.



3. Secure the B532 onto the mounting screw standoff.

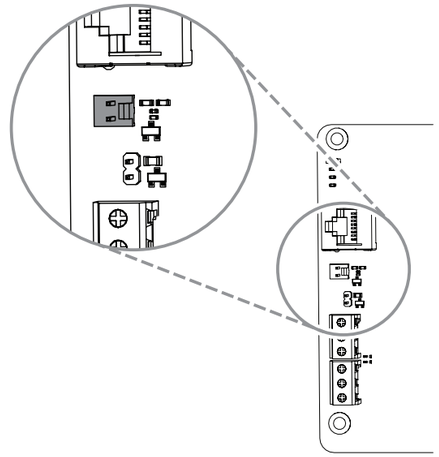


Caution!
Battery terminals and wire are not power limited
Maintain a 0.250 in (6.4 mm) space between the battery terminals, battery wiring, and all other wiring.

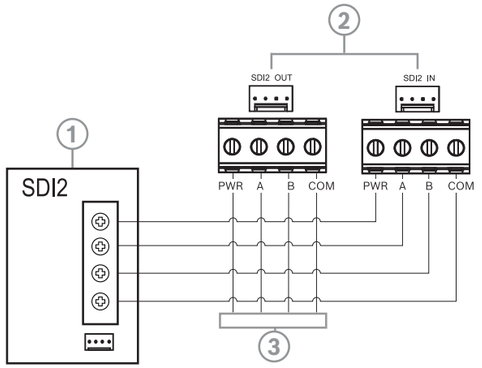
Mount and wire the tamper switch

You can connect an optional ICP-EZTS tamper switch for wall and door tempering of the enclosure.

1. Mount the tamper switch into the enclosure tamper switch mounting location.
2. Plug the tamper switch wire into the power supply module tamper switch connector.



Wire the power supply module to the control panel



1	Control panel SDI2 bus connection
2	Power supply module. See the control panel *Installation and System Reference Guide* for multiple module configurations.
3	To SDI2 devices

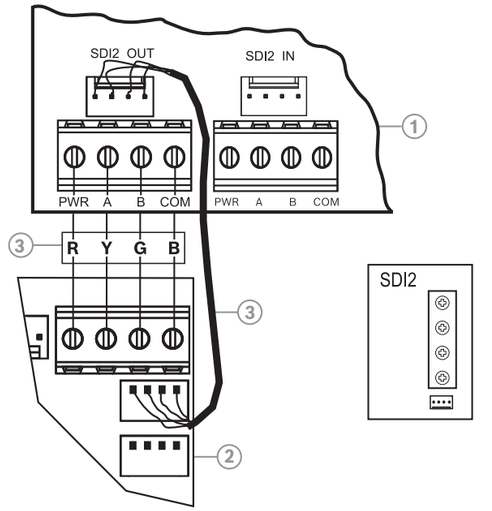
1. Use the terminal strip labeled SDI2 IN with PWR, A, B, and COM to wire to the designated terminals, according to the compatible control panel configuration.
2. Make sure the wires attach properly. See the wiring diagrams in this document for all wiring configurations.

Notice!
Use the following table to determine corrective actions if broken wire condition is reported.

Control panel firmware version	[1]B9512G/ B8512G	B6512/B5512/ B4512	Corrective action
3.15 or greater	Broken wire condition will be reported as a broken wire.	Broken wire condition will be ignored.	
3.15 or less	Broken wire condition will appear to the panel as a low voltage condition.	Broken wire condition will appear to the panel as a low voltage condition.	If the B532 reports a low voltage condition a technician will need to measure voltage at device or use RPS diagnostics. If voltage is not low, then check for a broken wire.

[1]UL Commercial Fire control panels.

Wire to powered SDI2 devices



1	Power supply module
2	SDI2 module
3	Wiring (SDI2) (Terminal wiring or Interconnect wiring cable) (Class B Communication)

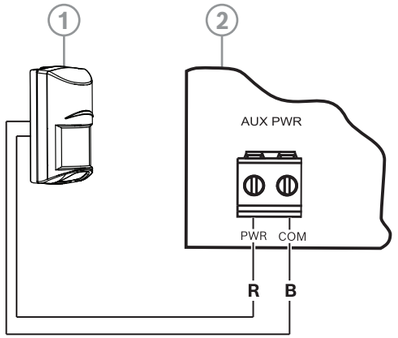
* You can use terminal wiring OR the interconnect wiring cable (included)

1. Wire the output of the power supply module module to the SDI2 module.
2. Use the terminal strip of the SDI2 OUT terminal labeled with PWR, A, B, COM, or the interconnect wiring connectors.

Notice!
SDI2 wiring length
Do not exceed 1000ft of wiring distance from the control panel to the first power supply module.

Each power supply can support up to 1000 ft of wiring on the SDI2 output.

Wire to powered non-SDI2 devices



1	Peripheral device
2	Power supply module AUX PWR power terminals

- Wire the AUX PWR terminal strip to provide auxiliary power for additional peripheral devices such as PIR and keypads.

Notice!
To power a local security annunciator (e.g. bell) or a DACT, install the power supply module into the D8108A attack resistant enclosure.

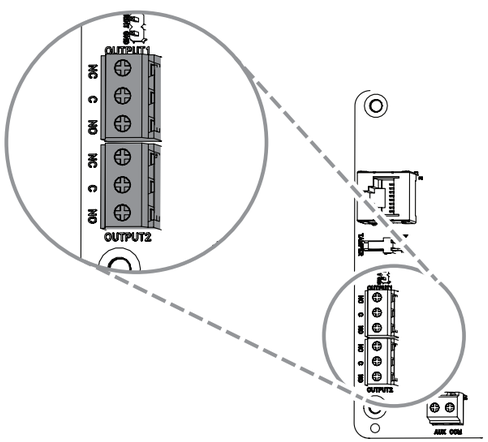
Notice!
For Fire applications which require supervision of power, refer to the device's manual

Wire Relay output

The NO, C (COMMON), and NC terminals are available in each terminal. The silkscreen on the edge of the circuit board shows the function of each terminal and the relay output number.

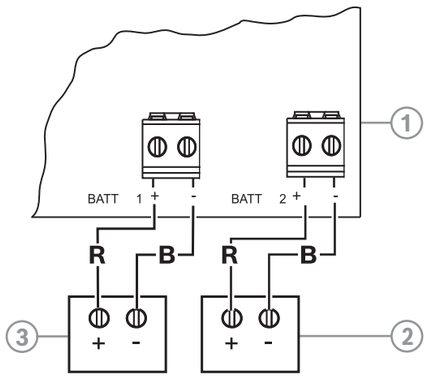
The middle terminal of each output position is the COMMON and is labeled C. When the output is inactive, the NC (Normally Closed) terminal has continuity with the C terminal. When the output is active (energized), the NO (Normally Opened) has continuity with the C terminal.

Notice!
Relay terminal blocks
Both relays are programmable. Refer to your control panel programming manual for more information.



Notice!
Do not exceed relay contact ratings of 3.0 A, 24 VDC, resistive load.

Wire to the batteries



1	Power supply module
2	Battery 2 (BATT 2)
3	Battery 1 (BATT 1)

1. Wire the power supply module to BATT 1 for operation of standby power for the power supply module.
2. Wire BATT 2 when a control panel is configured for two batteries as the standby power source.

Notice!
BATT 2 must have the same capacity, and same rating as BATT 1.

Non-power-limited wiring

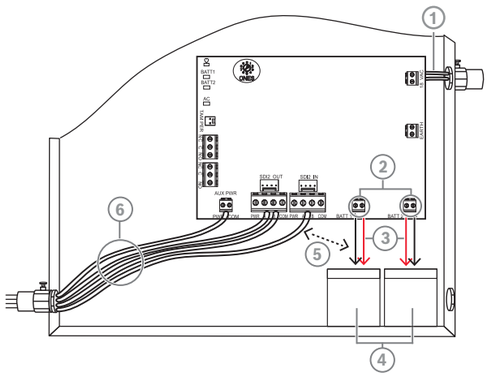
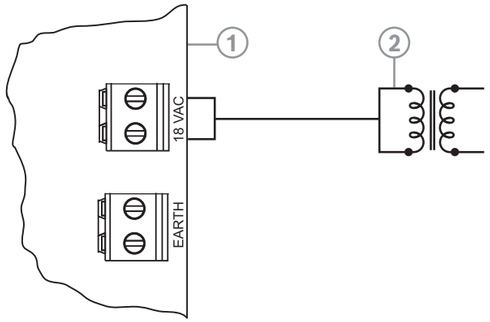


Fig. 1: B532_non_power_wiring

1	18 VAC wires	2	BATT 1 and Batt 2 terminals
3	Battery wires	4	12 V sealed lead-acid rechargeable battery
5	Wiring distance	6	Power limited wiring

Caution!
Battery terminals and wire are not power limited. Maintain a 0.250 in (6.4 mm) space between the battery terminals, battery wiring, and all other wiring.

Wire to the transformer



1	Power supply module
2	Compatible transformer

- Wire the plug-in transformer to 18 VAC power supply terminal for proper operation of the power supply module.

Caution!
Do not plug the transformer into an outlet that has switched power.

Notice!
Transformer distance cannot exceed a maximum distance of 10 ft between the transformer and the power supply module.

Notice!
UL required
UL requires the use of the D8004 when using the TR1850 for Commercial Fire or Burg applications.

Notice!
UL required
For Commercial Fire Applications, the use of conduit is needed to connect the wall transformer and the power supply.

Configuration

The address switch determines the address for the power supply module. The control panel uses the address for communications.

The output assignment numbers are dependent on the address selected for the module and uses positions "7" and "8". For example if the power supply module is set for address position "3", the two outputs will be assigned as "37 and 38".

Notice!
The module reads the address switch setting only during power up. If you change the address after you apply power to the module, cycle the module power to enable the new setting.

1. Set the address switches per the control panel configuration.
2. If multiple power supply modules are in use, each module must have a unique address.
3. For single-digit address numbers 1 through 8, set the switch to the appropriate number.

B532 battery calculation

Battery configurations and calculations

Refer to the following battery calculation table.

Battery Size (AH's) for Commercial Fire Applications: To select the battery size, compare the current calculations from the Battery calculation chart against the highest current available for the standby hours required from the **Battery recharge table**. If the current from "Total A" or "Total B" exceeds that value, then use a second B532 to split the current load.

Battery Size (AH's) for Burglar Applications: To select the battery size, compare the current calculations from the Battery calculation chart against the highest current available for the standby hours required from the **Battery recharge table**. If the current from "Total A" is bigger than the highest value in that column, or the current from "Total B" is bigger than 4A, then use a second B532 to split the current load.

Notice!
All external connections, except battery terminals and wire, are power-limited. Keep 0.25 in (6.4 mm) space between the battery terminals, battery wiring, and all other wiring. Do not share the battery wiring with the same conduit, conduit fittings, or conduit knock-outs with other wiring. All external connections are supervised.

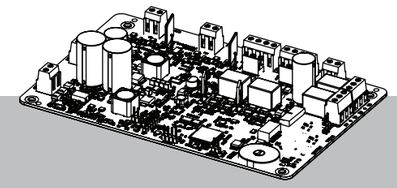
Compatible enclosures and batteries

Enclosure	7 Ah batteries		18 Ah batteries		Requires B12 Mounting Plate
	1 Batt	2 Batt	1 Batt	2 Batt	
B10	X	X			
B8103	X	X	X	X	X
D8108A	X	X	X	X	X
D8109	X	X	X	X	X
B18	X	X	X	X	
BATB-40	X	X	X	X	X
BATB-80	X	X	X	X	X

BOSCH

Auxiliary Power Supply module

B532



en Quick installation guide

Bosch Security Systems B.V.
Torenallee 49
5617 BA Eindhoven
Netherlands
www.boschsecurity.com

© Bosch Security Systems B.V., 2025

Building solutions for a better life

2025.06 | 04 | F.01U.420.789 | 202506261738

Battery calculation chart

		A Standby current (mA)			B In alarm Maximum current (mA)		
Model	Qty used	Each unit	Qty	Total	Each unit	Qty	Total
B208		35	X Qty		35	X Qty	
B308*		22	X Qty		22	X Qty	
B299		35	X Qty		35	X Qty	
B426		100	X Qty		100	X Qty	
B450		60	X Qty		180	X Qty	
B810***		70	X Qty		70	X Qty	
B915/ B915i***		35	X Qty		70	X Qty	
B920***		35	X Qty		70	X Qty	
B921C***		45	X Qty		85	X Qty	
B925F/ B926F		35	X Qty		70	X Qty	
B926M		35	X Qty		70	X Qty	
B930***		35	X Qty		85	X Qty	
B940***		250	X Qty		365	X Qty	
B942/ B942W*** Proximity enabled		200 300	X Qty		300 400	X Qty	
B901** (***)		110	X Qty		110	X Qty	
Other devices							
			Total A =			**Total B =**	

*(digital section = 22 mA) + (Qty of relays x 16 mA) = total current.

** Use 110 mA + reader current. **Do not exceed 260 mA.**

*** Device is not listed for Commercial Fire

Battery recharge table

Table key S/h = Standby hours A/m = Alarm minutes R/h = Recharge hours		Rechargeable battery size (Ah) All calculations include 20% de-rating of the battery			
		7	14 (2x7 Ah)	18	36 (2x18 Ah)
S/h -4 A/m - 15 R/h - 24	Standby mA)	1200	1400	1400	1400
	(Alarm mA)	500	400	400	400
S/h - 8 A/m - 0 R/h - 24	Standby mA)	600	1200	1700	1700
	(Alarm mA)	0	0	0	0
S/h - 24 A/m - 5 R/h - 24	Standby mA)	150	380	510	760
	(Alarm mA)	800	800	800	800
[1]S/h - 24 A/m - 15 R/h - 48	Standby mA)	150	380	500	1100
	(Alarm mA)	800	800	800	750
S/h - 24 A/m - 30 R/h - 48	Standby mA)	140	370	500	1000
	(Alarm mA)	800	800	800	800
S/h - 72 A/m - 15 R/h - 72	Standby mA)		80	120	320
	(Alarm mA)		800	800	800
S/h - 72 A/h - 30 R/h - 72	Standby mA)		80	120	320
	(Alarm mA)		500	800	800

[1] For Commercial Fire (per NFPA 72)

Commercial Fire wiring requirements

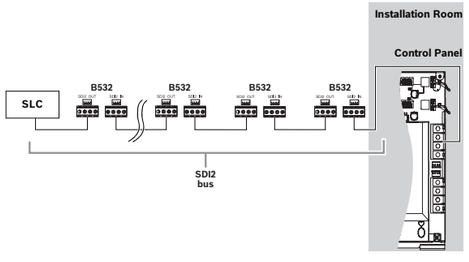
The B532 communicates to the control panel by assigning an address value on the B532. Use a flat-head screw driver to set the desired address. Refer to **Configuration.**

Notice!
UL requirement
To meet Commercial Fire requirements, if used in a single zone to extend the SDI2 bus length, only one SLC device can be used at end of the series of B532 power supplies that are in an addressable fire alarm system.

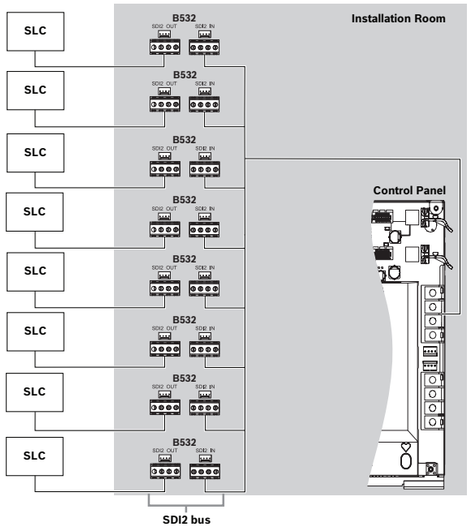
Wiring

The purpose of the following wiring workflow is to provide basic wiring instructions to satisfy commercial fire wiring requirements and extend the SDI2 bus length outside of the control panel's installation location.

1. Run wire (R, Y, G, B) from the control panel's **SDI2** terminal block into the B532's **SDI2 IN** terminal block.
2. Run another set of wires (R, Y, G, B) from the first B532's **SDI2 OUT** terminal block into the next B532's **SDI2 IN** terminal block.
3. Complete wiring series based on your specific requirements.



Notice!
UL requirement
To meet Commercial Fire requirements, only 1 Signal Line Circuit (SLC) device used in a single zone is allowed per B532 power supply module if located within the same room, within 20 ft. in conduit.



LED functions

Blue LED (Heartbeat)

Flash pattern	Function
Once every second	Indicates normal operation state.
3 quick flashes every second	Indicates a SDI2 communication error.
Steady	Indicates poor communication or module malfunction.
Off	LED trouble state. Module is not powered.

Green LED (BATT 1 and BATT2)

Flash pattern	Function
Once every second	Low battery.
3 quick flashes every second	Battery charger failure.
Steady	Indicates normal operation state.
Off	Battery missing.

Green LED (AC)

Flash pattern	Function
Once every second	Low or failed AC.
Steady	Indicates normal operation state.

LED troubleshooting

Flash pattern	Corrective action
Heartbeat - 3 quick flashes every second	Check wiring connection. Check control panel programming. Check address selections.
BATT 1 and BATT 2 - 3 quick flashes every second	Measure the voltage at the terminals. If the voltage is above 1.3 VDC, and the battery is fully charged, the module goes back to normal state after some of the energy is removed from the battery.
AC Off	AC missing or low.

Firmware version

1. With a tamper switch, push and release the switch with the enclosure door open.
2. Without a tamper switch, briefly short the tamper pins.

When the tamper switch is activated (closed to open), the heartbeat LED stays OFF for 3 seconds, then shows the firmware version. The LED pulses the major, minor, and micro digits of the version, with a 1 second pause after each digit.

Flashing patterns start after the tamper is open (short is removed).

The following is an example: The version 1.4.3 would be shown as LED flashes: [3 second pause] *___****___*** [3 second pause, then normal operation]

Battery maintenance and replacement

Use 12 VDC sealed lead-acid rechargeable battery (7 Ah or 18 Ah). The power supply supports up to 36 Ah of battery. If you use two batteries, they must have the same capacity.

Replace the batteries every 3 to 5 years. If you install two batteries, replace them both at the same time.

Specifications

Notice!
UL required
In order to meet UL requirements, the AC Fail time range must be set between 60-90 minutes.

Notice!
This device is not intended to support Notification Appliance Circuit.

Dimensions	11.44 cm x 17.65 cm x 2.9 cm (4.5 in. x 6.94 in. x 1.15 in.)
SDI2 and AUX output voltage:	12 VDC Nominal Special Application: 9.88 VDC-13.72 VDC
AC line input voltage frequency	18 VAC, 50 VA
Relay outputs	Dry contacts rated for .001 - 3.0 A at 5 - 24 VDC (resistive load).
Commercial Fire	2.0 A max standby and alarm combined
Commercial Burg	2.0 A max standby 4.0 A max standby and alarm combined
B532 quiescent current	Standby 75mA, Alarm 110mA
Battery input	2 supervised 12 V lead acid batteries (7 or 18 Ah). Maximum combined capacity of 36 Ah.
Operating temperature	0° C to +49° C (+32° F to +120° F)
Relative humidity	5% to 93% at +32° C (+90° F) noncondensing
Storage temperature	-20° to +60°C (-4° F to +140° F)
Transformer power supply	TR1850 (18 VAC, 50 VA) TR1850-CA (18 VAC, 50 VA) for Canada
Transformer input	120V 0.48A, 60Hz
Transformer wiring	12-18 AWG
Terminal wire size	12-22 AWG - (If connection of multiple wires is needed, a separate distribution module should be used).
SDI2 wiring	Maximum distance - Wire size: (Unshielded wire only) 305 m (1000 ft) - 22 AWG (0.6 mm) 305 m (1000 ft) - 18 AWG (1 mm) Do not exceed 1000ft of wiring distance from the control panel to the first power supply module. Each power supply can support up to 1000 ft of wiring on the SDI2 output.
Ground fault	Ground fault detection < 300 Ω.

Compatibility with control panels	B9512G/B8512G B6512/B5512/B4512/B3512

Certifications

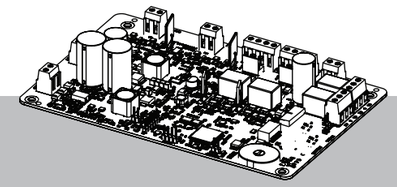
Regions	
Canada	CAN/ULC S304 - Signal Receiving Centre and Premise Alarm Control Units
	CAN/ULC S545 - Residential Fire Warning System Control Units
	ULC/ORD-C1076-M1986: Proprietary Burglar Alarm Units and Systems, 1986
	ICES-003 Issue 7 - Information Technology Equipment (including Digital Apparatus)
USA	UL 864 - Standard for Control Units and Accessories for Fire Alarm Systems
	UL 985 - Household Fire Warning System Units.
	UL 1023 - Household Burglar-Alarm System Units
	UL 2610 - Commercial Premises Security Alarm Units and Systems (Replaces UL 365, UL 609, UL 636, UL 1076, UL 1610)
	CSFM - California State Fire Marshal
	FCC 47 CFR Part 15 Subpart B, Class B

CE	RoHS Directive 2011/65/EU - RoHS EN IEC 63000:2018 - Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
	EN IEC 62368-1:2020 + A11:2020 and EN IEC 62368-1-2024 + A11:2024 Audio/video, information and communication technology equipment - Part 1: Safety requirements
	REACH (Chemical Substances) EMC Directive 2014/30/EU - Regulation (EC) No. 1907/2006 EMC (Emissions) EN 55032:2015+A1:2020 (2021) - Electromagnetic compatibility of multimedia equipment. Emission requirements
	EMC Directive 2014/30/EU - EMC (Emissions) EN 61000-6-3:2007/A1:2011/AC:2012 - Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential EMC (Emissions) EN 61000-6-8:2020 - Electromagnetic compatibility (EMC) - Part 6-8: Generic standards - Emission standard for commercial and light-industrial environments
	EMC Directive 2014/30/EU - EMC (Immunity) EN 50130-4:2011+A1:2014 - Alarm systems Electromagnetic compatibility. Product family standard: Immunity requirements for components of fire, intruder, hold up, CCTV, access control and social alarm systems
	Low Voltage Directive (LVD) 2014/35/EU - Safety EN 62368-1:2014+A11:2017 (2024) - Audio/video, information and communication technology equipment Safety requirements

BOSCH

Auxiliary Power Supply module

B532



en Quick installation guide

Bosch Security Systems B.V.

Torenallee 49

5617 BA Eindhoven

Netherlands

www.boschsecurity.com

© Bosch Security Systems B.V., 2025

Building solutions for a better life

2025.06 | 04 | F.01U.420.789 | 202506261738