FIRE ALARM PRODUCT DATA

Walmart Supercenter #2403
310 31ST AVENUE SE
PUYALLUP, WA 98374

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The product data sheets included herein are for reference to indicate the specific products and materials that were included in the Fire Alarm design for this project. These products and materials are being provided as work products of other entities. The Engineer of Record for the Fire Alarm design project (Jason C. Adams, P.E. **) does not intend to portray any responsibility for these products other than to specify them as finished products and materials for inclusion as components in the Fire Alarm design.**

B9512G Control Panels

www.boschsecurity.com

BOSCH
Invented for life

- Fully integrated intrusion, fire, and access control allows users to interface with one system instead of three
- Provides up to 599 points using a combination of hardwired or wireless devices for installation flexibility, and up to 32 areas and 32 doors for up to 2,000 users
- On-board Ethernet port for Conettix IP alarm communication and remote programming, compatible with modern IP networks including IPv6/IPv4, AutoIP, and Universal Plug and Play
- Installer-friendly features including on-board USB for easy on-site RPS programming, plus support for Remote Connect Service and plug-in PSTN and cellular communication modules for simple installation and communications
- Remote Security Control (RSC) app which allows users to control their security systems – and view system cameras - remotely from mobile devices such as phones and tablets

The B9512G Control Panel and the B8512G Control Panel are the new premier commercial control panels from Bosch. B9512G control panels integrate intrusion, fire, and access control providing one simple user interface for all systems.
With the ability to adapt to large and small applications, the B9512G provides up to 599 individually identified points that can be split into 32 areas.
The control panel can communicate through it's built-in Ethernet port (not applicable to "E" control panels), or through compatible plug-in modules that can send events over the public switched telephone network (PSTN) or over cellular network communications.

For users, programmable keypad shortcuts, situation sensitive on-screen help, and a bilingual user interface make system operation simple and easy.
With the B9512G Control Panel, you can:

- Monitor alarm points for intruder, gas, or fire alarms.
- Program all system functions local or remote using Remote Programming Software (RPS) or by using basic programming through the keypad.
- Add up to 32 doors of access control using the optional B901 Access Control Module. (Optionally use the D9210C Access Control Interface Module for up to eight of the 32 doors.)

The B9512G is a direct replacement for previous control panel models D9412GV4, D9412GV3, D9412GV2, and D9412G.

Functions

Programmable outputs
- Four alarm-output patterns
- Programmable bell test

Point response
- Selectable point response time
- Selectable EOL values and configuration
- Cross point capability
- Fire alarm verification
- Dangerous gas indicator includes carbon monoxide (NFPA 720)
- Watch mode
- 63 point indexes

User interface
- Supervision of up to 32 keypads
- Custom keypad text is fully programmable through RPS
- Full function menu including customizable shortcuts
- Authority by area and 32 character name for each user
- 14 custom authority levels to restrict system features that each user can access
- Programmable primary and secondary language by user and keypad; select from English, Spanish, French, and Portuguese

Area configurations
Link multiple areas to a shared area such as a lobby or common entryway. The shared area then automatically turns On (arms) when all associate areas are armed and turns Off (disarms) when any one associate area is disarmed. For higher security applications, the Area Re-Arm feature guarantees that areas are always rearmed, and are disarmed for no longer than a specific, configurable, amount of time (for example, service time).

Custom functions
For added convenience, the installer can program custom functions that allow customers to complete complex tasks with one simple action. For example, a custom function can bypass a group of points and arm the system, allowing the user to perform these functions with one easy command. Users can activate custom functions with a keypad, keyfob, token, or card, or the control panel can activate a function in reaction to a faulted point, or automatically through a scheduled event (SKED).

Passcode security
- Two-man rule. Requires two people with two unique passcodes to be present at the time of opening.
- Early ambush. Allows users to verify that the facility is safe by requiring two passcodes. The control panel sends a duress event if the user does not enter the passcode a second time after inspecting the premises.
- Dual authentication. Requires two forms of identification before processing certain system commands, including turning off the system and opening doors. A standard system user must have a passcode, a credential (token or card), and appropriate command authority permissions.

Door control
Using the B901 Access Control Module or D9210C Access Control Interface Module, the control panel provides a fully supervised access control solution. The solution offers 14 programmable levels of access authority. Authority for door access is controlled by the user level, the group of the user, the time of day, the door state, and the area armed (On/Off) state.

Easy exit control
The control panel changes from one On (armed) state to another without turning off (disarming) the system. For example, if you change the state from Part On (Perimeter Arm) to All On (Master Arm), the control panel complies and reports the change. Easy Exit Control reduces the number of keystrokes, simplifying system operation.

Programmable passcode-controlled menu list
Passcode-controlled shortcuts provide users only with the options and information pertinent to them, simplifying system operation.

Flexible control
The system provides the flexibility to choose added convenience or high security. For example, you can restrict to a keypad's immediate local area turning on (arming) and turning off (disarming) the system with a passcode, even if the user has access to other areas. This is particularly useful for high security areas, where a user may have access to the area, but would prefer to only turn off (disarm) the area individually rather than with the rest of the system.

Monitor Delay/Delayed Response
Create a special point index that delays the reaction of a point for a specified time (up to 1 hour in minutes and seconds). This delay provides time for the specified condition to reset before activating any annunciation. The system can annunciate locally and send a report, if desired. When the system is armed, the point can respond like a normal point – providing dual functionality. Use this feature to ensure that perimeter doors have not been propped open, or to monitor critical areas such as computer rooms and safes, for example.

System users
The system supports up to 2,000 users. Each user can have a personalized passcode, a wireless keyfob, and a credential to control the system. You can assign passcodes to one of 14 customized authority levels in each area that can be restricted to operate only during certain times. You can program a primary and secondary language for each user and by keypad (select from English, Spanish, French, and Portuguese). The keypad changes to the user's programmed language when the user enters his passcode or holds the Help key.

Communication formats
The control panel prioritizes and sends reports to four route groups. Network and phone communications can use either the Modem4 or the Contact ID communications formats. Each group has a programmable primary and backup destination.
The control panel provides flexible communications for most central stations with reporting capabilities such as:

- Individual point numbers
- Opening or closing reports by user and area number
- Remote programming attempts
- Diagnostic reports

Notice
For premises equipment used in the communication path, such as routers, use only UL listed equipment.

IP communication
The control panel can use on-board Ethernet (IP) connection (the on-board Ethernet port is excluded on “E” versions) to communicate with a Conettix D6600 or a Conettix D6100IPv6 Communications Receiver/ Gateway.
The control panel can optionally use a Conettix Plug-in Cellular Communicator (B440/B441/B442/B443).
Using Conettix IP communication offers a secure path that includes anti-replay/anti-substitution features and provides enhanced security with up to AES 256-bit encryption (using Cipher Block Chaining (CBC)).
The control panel supports Domain Name System (DNS) for both remote programming and central station communication. DNS provides ease of use, eliminating the need to use static IP addresses as your reporting destination, and accommodates a simple solution for central station disaster recovery. The control panel supports both IPv6 and IPv4 networks.

Communication paths
The control panel accommodates up to four separate phone and four separate network paths to the central station receiver. When resetting alarms or turning a system on and off, the user is identified by name and number.

Personal notification
The control panel can send text messages and emails for personal notification over Ethernet or using a cellular communicator. You can configure up to 32 destinations using a combination of cellular phone numbers and email addresses. The control panel sends notifications in the user’s programmed primary language.

Bosch Remote Connect (Cloud)
Remote Connect simplifies connections from RPS, and the Remote Security Control app, using Bosch Cloud services. This service creates a secure connection to the control panel without specific router settings or the need for a static IP address or DNS.

Firmware updates
The system allows remote firmware updates through Remote Programming Software (RPS) using the RPS Firmware Update Wizard. The Firmware Update Wizard uses the on-board USB connection or the on-board Ethernet (IP) connection (the on-board Ethernet port is excluded on “E” versions) to transfer firmware updates.
The control panel can optionally receive firmware updates from RPS using a B426 Conettix Ethernet Communication Module or a Conettix Plug-in Cellular Communicator (B440/B441/B442/B443). **Notice!**
Cellular firmware updates require more time than Ethernet updates and carrier data rates apply.

- Control panel updates. Remotely update the control panel firmware for easy feature enhancements without replacing ROM chips.
- Module update support. Remotely update the firmware on connected SDI2 modules for easy feature enhancements without visiting each individual module.

A wide variety of input options
Each point:

- Single 1 kΩ, single 2 kΩ, dual 1 kΩ (1 kΩ + 1 kΩ), and No EOL (end-of-line) (EOL) resistor options (for on-board and B208 inputs)
- Programmable for Fire, Intrusion, Access, Gas, and Supervisory devices
- Supports hardwired and wireless devices
- Supports IP cameras by Bosch as point and output devices

IP camera support
The control panel can integrate directly with Bosch IP cameras, using them as fully supervised points and outputs.
Integration of cameras allows the camera’s video motion detection to activate points on the control panel. The control panel’s virtual outputs can be configured to trigger camera actions, including sending video snapshots via email.

Security and fire detection
The control panel provides eight on-board points, and up to 591 additional off-board points (depending on model and expansion interfaces). You can program individual points to monitor some types of burglar alarms, fire alarms, and supervision devices.

Event log
The event log stores up to 10192 local and reported events. The event log includes time, date, event, area, point, and user. View the event log from a keypad or use RPS to remotely retrieve event information. When the event log reaches a programmed threshold of stored events, it can send an optional report to a receiver.

Scheduled events (SKEDs)
The internal clock and calendar start individually scheduled events (SKEDs). SKEDs perform several functions such as turn on or off, relay control, or point bypassing.
The control panel offers:
- 80 scheduled events with up to 31 different functions
- 32 opening windows and 32 closing windows
- 32 user group windows
- Day-of-week, date-of-month, or holiday only schedules
- 8 holiday schedules of 366 days (leap year)

Dual bus and SDI keypad retrofits
The dual SDI2 device bus design provides greater installation flexibility, such as bus isolation for Intrusion and Fire. To use popular SDI keypads (for example D1255 and D1260), program one of the two SDI2 buses for SDI operation.

ZONEX and POPEX retrofits
To retrofit legacy Bosch control panels that use ZONEX and POPEX devices, the control panel is compatible with the B600 Retrofit (ZONEX) Module. The B600 adds two ZONEX buses to the control panel which can connect to existing legacy point bus (POPEX) devices (for example, the D8125).

Programming
Installers can perform limited programming on-site with a keypad (critical parameters; such as account IDs, central station and RPS IP addresses and phone numbers, reporting formats, and more). They can also do full programming on-site or remotely (attended or unattended) with RPS. A programmable system passcode prevents unauthorized remote programming.

Diagnostics
Keypads and RPS offer diagnostic help for monitoring and troubleshooting. The diagnostics features allow you to view the status of the wired and wireless devices. The features provide the status of the control panel and its connected devices, such as firmware version, power, and missing conditions. View the status of each area.

Remote Security Control app
The Remote Security Control (RSC) app allows users to control their security systems remotely from their devices. Users can:
- Turn their security system On or Off
- Turn specific areas On or Off
- Control outputs for applications such as lighting control
- View live video from Bosch IP cameras
- Grant access remotely by unlocking and locking doors

The app requires the installing dealer to create a Remote Access Profile for users, and to install the profile on their devices.

Bosch Video Management System integration
With Bosch Video Management System (Bosch VMS) and an intrusion system, the VMS operator has a single user interface to monitor and control the intrusion system combined with video surveillance. With Bosch VMS and a control panel, the operator can, for example:
- View videos triggered by intrusion events, including all relevant information such as areas, point, and user show in the display with the event
- View areas, points, outputs, and doors – with their statuses – on the Bosch VMS map, providing the exact location in the system.
- Turn on (arm) and turn off (disarm) areas.
- Bypass and unbypass points.
- Lock and unlock doors (Bosch VMS 6.0 and higher).

Requirements to integrate Bosch VMS with a control panel:
- A licensed Bosch VMS system using Professional Editions v5.5 or higher or Bosch VMS Enterprise
- Edition v5.5 or higher.
- Expansion license to integrate the intrusion control panel. One license needed per control panel. Order number MBX-XINT-xx for the expansion license added to a Bosch VMS base license. Refer to the Bosch Video Management Software product page on the Bosch website, www.boschsecurity.com.
- Access to Remote Programming Software (RPS).

Certifications and approvals

Region	Certification	
USA	ANSI-SIA	CP-01-2010-Control Panel Standard - Features for False Alarm Reduction
Europe	CE	EMC, LVD, RoHS
USA	UL	
	UL	UL 294 - Standard for Access Control Units and Systems
	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
	UL	UL 1635 - Standard for Digital Alarm Communicator System Units
	CSFM	California State Fire Marshal (see our website)
	FCC	Part 15 Class B

Region	Certification	
	FDNY-CoA	Fire Department of New York City
Canada	ULC	
	ULC	CAN/ULC S303 - Local Burglar Alarm Units and Systems
	ULC	CAN/ULC S304 - Standard for Signal Receiving Center and Premise Burglar Alarm
	ULC	CAN/ULC S545 - Residential Fire Warning System Control Units
	ULC	CAN/ULC S559 - Fire Signal Receiving Centres and Systems
	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

Compatible products

Keypads

B942/B942W Touch Screen Keypad (SDI2)

B930 ATM Style Alphanumeric Keypad (SDI2) (SDI2)

B926F Fire Keypad (SDI2)

B925F Fire Keypad (SDI2)

B921C Two-line Capacitive Keypad (SDI2)

B920 Two-line Alphanumeric Keypad (SDI2)

B915/B915I Basic Keypad (SDI2)

D1255 Series Keypads

D1260 Series Keypads

D1256RB Fire Keypad

D1257RB Remote Fire Alarm Annunciator

Transformers

D1640 16.5 VAC 40 VA Transformer

D1640-CA 16.5 VAC 40 VA Transformer for Cananda

Enclosures

B8103 Universal Enclosure (White)

D8103 Universal Enclosure (Gray)

D8108A Attack Resistant Enclosure

D8109 Fire Enclosure

Accessories

B56 Keypad Surface Mount Box

B96 Keypad Trim Bezel

B99 USB Direct Connect Cable

B501-10 Interconnect wiring cables (pack of 10)

D122 Dual Battery Harness

D122L Dual Battery Harness with Long Leads

D161 Dual Modular Telephone Cord (7 f)

D162 Modular Telephone Cord (2 ft)

D166 Telephone Jack (RJ31X)

Detectors

D7050 Series Addressable Photoelectric Smoke and Smoke Heat Detector Heads

F220-B6PM/S 12/24 VDC Addressable Detector Bases with POPITs

F220-B6 12/24 VDC Two-wire Base

F220-B6R Standard 12/24 VDC Four-wire Base)

F220-P Photoelectric Smoke Detector

F220-PTH Photoelectric Smoke Detector with +135°F (+57°C) Heat Sensor

F220-PTH Photoelectric Smoke Detector with +135°F (+57°C) Heat Sensor and Carbon Monoxide Sensors

F220-B6C 12/24 VDC Four-wire Base with Auxiliary Form C Relay

FCC-380 Carbon Monoxide Detector

MX775i Addressable PIR Detector

MX794i Long Range Multiplex PIR Detector

MX934i Addressable PIR Detector

MX938i Addressable PIR Detector

ZX776Z PIR Detector

ZX794Z Long Range PIR Detector

ZX835 TriTech Microwave/PIR Detector

ZX935Z PIR Detector

ZX938Z PIR Detector

ZX970 PIR/Microwave Detector

Bosch conventional detectors, including Professional Series, Blue Line Gen2, Blue Line, Classic Line, Commercial Line, and Ceiling Mount motion detectors, as well as glass break, seismic, request-to-exit, photoelectric, heat, and smoke detectors.

Modules

B208 Octo-input Module

B299 POPEX Module

B308 Octo-output Module

B426 Conettix Ethernet Communication Module

B430 Plug-in Telephone Communicator

B440 Conettix Plug-in Cellular Communicator (using 3G)

B441 Conettix Plug-in Cellular Communicator (using CDMA)

B442 Conettix Plug-in Cellular Communicator (using GPRS)*

B443 Conettix Plug-in Cellular Communicator (using HSPA+)*

B450 Conettix Plug-in Communicator Interface

B520 Auxiliary Power Supply Module

B600 Retrofit (ZONEX) Module

B810 wireless receiver (RADION)

B820 SDI2 Inovonics Interface Module

B901 Access Control Module

D113 Battery Lead Supervision Module

D125B Dual Class B Initiating Module

D126 Standby Battery (12 V, 7 Ah)

D129 Class A Initiating Module

D130 Auxiliary Relay Module

D132A Smoke Detector Reversing Relay Module

D133 Single Relay Module

D134 Dual Relay Module

D185 Reverse Polarity Signaling Module

D192G Class “B”, Style Y Bell Circuit Supervision

D1218 Battery (12 V, 18 Ah)

D8125 Addressable Expansion Module

D8125MUX Multiplex Bus Interface

D8128D OctoPOPIT Eight-point Expander

D8129 Octo-relay Module

D8130 Door Release Module

D9127U/T POPIT Module

DS7461i Single-zone Input Module

DS7465i Input-output Module

D9210C Access Control Interface Module

ICP-EZTS Cover and Wall Tamper Switch

ICP-SDI-9114 SDI Splitter

Applications

Remote Programming Software (RPS or RPS-LITE) v6.00 and higher

Bosch Video Management System v5.5 and higher

Conettix receivers

(Managed and configured with Conettix D6200 Programming/ Administration Software v2.10)

Conettix D6600 Communications Receiver/Gateway (with only D6641 line cards installed) with CPU version 01.10.00

Conettix D6100IPv6 Communications Receiver/Gateway with CPU version 61.10.00

Conettix D6100i Communications Receiver/Gateway with CPU version 61.10.00

RADION wireless from Bosch

B810 wireless receiver (RADION)

RFBT-A bill trap

RFDL-11-A TriTech motion detector

RFDW-RM-A recessed mount door/window contact

RFDW-SM-A surface mount door/window contact

RFGB-A glass break detector

RFIN-A inertia detector

RFKF-A two-button keyfob

RFKF-FB-A four-button keyfob

RFKF-TB-A two-button keyfob

RFPB-SB-A single-button panic

RFPB-TB-A two-button panic

RFRP-A repeater

RFSM-A smoke detector

RFPR-12-A PIR motion detector

RFPR-C12-A PIR curtain motion detector

RFUN-A universal transmitter

Inovonics Wireless

B820 SDI2 Inovonics Interface Module

ENKIT-SDI2 SDI2 Inovonics Interface and Receiver Kit. Includes B820 and EN4200

EN1210 Universal Transmitter (Single-input)

EN1210EOL Universal Transmitter with EOL Resistor

EN1210W Door-Window Transmitter with Reed Switch

EN1215EOL Universal Transmitter with Wall Tamper, Reed Switch, and EOL Resistor

EN1223D Water-resistant Pendant Transmitter (Double-button)

EN1223S Water-resistant Pendant Transmitter (Single-button)

EN1224-ON Multiple-Condition Pendant Transmitter

EN1233D Necklace Pendant Transmitter (Double-button)

EN1233S Necklace Pendant Transmitter (Single-button)

EN1235D Beltclip Pendant Transmitter (Double-button)

EN1235DF Fixed-location Transmitter (Double-button)

EN1235S Beltclip Pendant Transmitter (Single-button)

EN1235SF Fixed-location Transmitter (Single-button)

EN1247 Glass-break Detector Transmitter

EN1249 Bill Trap Transmitter

EN1242 Smoke Detector Transmitter

EN1260 Wall Mount Motion Detector

EN1261HT High Traffic Motion Detector

EN1262 Motion Detector with Pet Immunity

EN1265 360° Ceiling Mount Motion Detector

EN4200 Serial Receiver

EN5040-T High Power Repeater with Transformer

*For these cellular modules, check for availability in your region.

Parts included

The B9512G includes the following:

Quant.	Component
1	B9512G
1	Literature pack • UL Installation Guide • ULC Installation Guide • Owner's Manual • Release Notes • SIA Quick Reference Guide
1	Literature CD containing product literature

Each B9512G-E control panel kit includes the following:

Quant.	Component
1	B9512G-E (without on-board Ethernet port)
1	Plug-in communicator (telephone or cellular, depending on the kit)
1	Plug-in Transformer (16.5 VAC 40 VA)
1	Control panel enclosure
1	Literature pack • UL Installation Guide • ULC Installation Guide • Owner's Manual • Release Notes • SIA Quick Reference Guide
1	Literature CD containing product literature

Technical specifications

Properties

Dimensions	10.625 in x 7.75in x 1.875 in (26.99 x 19.69 x 4.76 cm)
Weight	1.95 lbs (0.88kg)

Communications

Ethernet	10/100 full duplex (N/A for "E" control panels)

Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F)
Temperature (operating)	0°C to +49°C (+32°F to +120°F)

Power requirements

Current (maximum)	Standby: 180 mA Alarm: 260 mA
Output (alarm)	2 A at 12 VDC
Output (auxiliary, continuous power, and switched auxiliary combined)	1.4 A at 12 VDC nominal
Voltage (operating)	12 VDC nominal
Voltage (AC)	16.5 VAC 40 VA plug-in transformer (D1640/D1640-CA)

Wiring

Terminal wire size	12 AWG to 22 AWG (2.0 mm to 0.65 mm)
SDI2 wiring	Maximum distance – Wire size (unshielded wire only): 7,500 ft (2,286 m) – 22 AWG (0.65 mm)

Number of...

Areas	32
Custom functions	32
Keypads	32 keypads, including 16 SDI keypads
Events	Up to 10,192
Passcode users	2000, plus 1 Installer passcode
Points	599 (8 on-board, up to 591 off-board and virtual)
Programmable outputs	599 (3 on-board, up to 596 off-board and virtual)
RF points	591
IP cameras	16
SKEDs	80

Ordering information

B9512G Control Panel
The B9512G is available individually or in kits.
For kits, refer to *Quick Selection Guide (B9512G/ B8512G Kits)* on the Documents tab of the control panel's Product Page at us.boschsecurity.com.
Order number **B9512G**

B9512G-E Control Panel
The B9512G-E is available only in kits.
For kits, refer to *Quick Selection Guide (B9512G/ B8512G Kits)* on the Documents tab of the control panel's Product Page at us.boschsecurity.com.
Order number **B9512G-E**

D1640-CA Transformer
For use in Canada. System transformer rated at 16.5 VAC, 40 VA.
Order number **D1640-CA**

Accessories

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

B208 Octo-input Module
Provides 8 programmable inputs.
Order number **B208**

B308 Octo-output Module
Provides 8 programmable relays.
Order number **B308**

RADION receiver SD
Receives RF signals from RADION transmitters, repeaters, and glassbreaks. Operates at 433.42 MHz. For use with compatible SDI2 bus control panels.
Order number **B810**

D122 Dual Battery Harness
Harness with circuit breaker. Connects two batteries to a compatible control panel.
Order number **D122**

D122L Dual Battery Harness with Long Leads
Color-coded harness with circuit breaker and leads measuring 89 cm (35 in.). Connects 12 V batteries to compatible control panels.
Order number **D122L**

D126 Standby Battery (12 V, 7 Ah)
A rechargeable sealed lead-acid power supply used as a secondary power supply or in auxiliary or ancillary functions.
Order number **D126**

D1218 Battery (12 V, 18 Ah)
A 12 V sealed lead-acid battery for standby and auxiliary power with two bolt-fastened terminals. Includes hardware for attaching battery leads or spade connectors
Order number **D1218**

D1238 Battery (12 V, 38 Ah)
A 12 V sealed lead-acid battery for standby and auxiliary power with two bolt-fastened terminals. Includes hardware for attaching battery leads or spade connectors.
Order number **D1238**

D137 Mounting Bracket
Used to mount accessory modules in D8103, D8108A, and D8109 enclosures.
Order number **D137**

D138 Mounting Bracket, Right Angle
Used to mount accessory modules in D8103, D8108A, and D8109 enclosures.
Order number **D138**

D1640 Transformer
System transformer rated at 16.5 VAC, 40 VA.
Order number **D1640**

D9002-5 Mounting Skirt
5 pack of mounting skirts for B8103, D8103, D8108A, and D8109 enclosures. Each skirt can hold up to six standard 3-hole mounting modules.
Order number **D9002-5**

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

D110 Tamper Switch
Screw-on tamper switch that fits all enclosures. Shipped in packages of two.
Order number **D110**

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

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**

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**

D8109 Fire Enclosure
Red steel enclosure measuring 40.6 cm x 40.6 cm x 8.9 cm (16 in. x 16 in. x 3.5 in). UL Listed. Includes a lock and key set.
Order number **D8109**

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

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**

BATB-80 Battery Box\Enclosure with Shelf
The BATB-80 Battery Box holds up to four dry or wet cell batteries. The box can be used with fire alarm systems or with intrusion systems.
Order number **BATB-80**

B99 USB Direct Connect Cable
Male A to Male A USB cable for local programming of control panels with on-board USB ports.
Order number **B99**

B915 Basic Keypad
Two-line alphanumeric basic keypad with English function keys.
Order number **B915**

B915I Basic Keypad
Two-line alphanumeric basic keypad with icon function keys.
Order number **B915I**

B920 Two-line Alphanumeric Keypad (SDI2)
Two-line alphanumeric keypad
Order number **B920**

B921C Two-line Capacitive Keypad with Inputs (SDI2)
Two-line alphanumeric keypad with inputs and capacitive touch keys in black.
Order number **B921C**

B930 ATM Style Alphanumeric Keypad (SDI2)
Five-line ATM style alphanumeric keypad
Order number **B930**

B942 Touch Screen Keypad
Black SDI2 touch screen keypad with inputs and one output.
Order number **B942**

B942W Touch Screen Keypad
White SDI2 touch screen keypad with inputs and one output.
Order number **B942W**

B925F Fire Keypad
Two-line alphanumeric fire and intrusion keypad.
Order number **B925F**

B926F Fire Keypad
Two-line alphanumeric fire keypad
Order number **B926F**

Software Options

RPS Kit (DVD-ROM and USB Security Block)
Account management and control panel programming software with USB security key (dongle).
Order number **D5500C-USB**

Bosch VMS Enterprise Edition
Base license for Enterprise System. 2 Management Server subsystems (1 required for Enterprise Management); 8 cameras; 2 workstations (1 with Forensic Search); 1 CCTV keyboard; 1 DVR. All MBV-X* and MBV-F* options are only available with Base license.
Order number **MBV-BENT-65**

Bosch VMS Professional Edition
Base license for Professional Edition. 8 cameras; 2 workstations (1 with Forensic Search); 1 CCTV keyboard; 1 DVR. All MBV-X* and MBV-F* options are only available with Base license.
Order number **MBV-BPRO-65**

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www.boschsecurity.asia

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13825787531 | en, V16, 19. Aug 2016

N1178C SHK

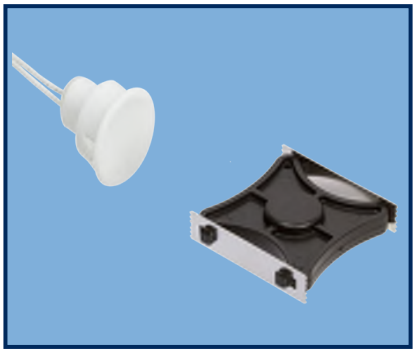
3/4” RECESSED STUBBY DOOR CONTACT WITH SHARK MAGNET

DESCRIPTION

Nascom’s N1178C SHK Series is a 3/4” recessed stubby door contact couple with the patented SHARK™ magnet. The set is designed for residential, commercial and industrial steel and wood door applications.

The N1178C SHK is the installer’s choice of contact configuration because the contact set is designed to cut installation times .. just a pinch of the springs installs the SHARK™ magnet permanently and the powerful rare earth magnet helps to prevent false alarms caused by shifting or warping doors.

The N1178C SHK Series is designed for installation in every type of hinged door including wood doors.



FEATURES

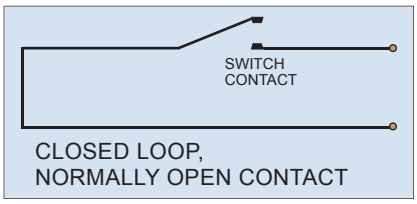
- SNAP FIT ON STEEL - NO GLUE REQUIRED
- TIME SAVING INSTALLATION
- 12” 22AWG WIRE LEADS
- WIDE GAP - N35 NdFeB RARE EARTH MAGNET
- ENCAPSULATED HERMETICALLY SEALED CONTACTS
- NO SILICONE REQUIRED, NO MESS
- POLYPROPYLENE SWITCH HOUSING
- LISTED TO UL634 STANDARD

ORDERING INFORMATION

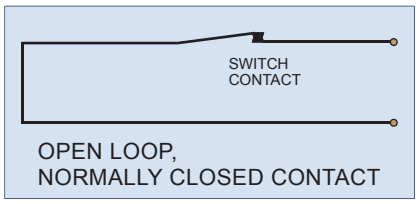
PART NUMBER	COLOR	OPERATE GAP (in inches)	CONTACT RATING (Max DC/Peak AC Resistive)				STATIC CONTACT RESISTANCE (50mV, 100mA)
			SWITCHING		CARRY		
			V	I	V	I	
CLOSED LOOP, NORMALLY OPEN, 1FA, SWITCH/MAGNET SET:							
N1178CBSHK/ST N1178CGSHK/ST N1178CTSHK/ST N1178CWSHK/ST	BROWN GREY TAN WHITE	0.75 to 1.25	200 VDC	0.5 Amps	10vA	1.5 Amps	150 mOhms
DUAL CLOSED LOOP, NORMALLY OPEN, 1FA, SWITCH/MAGNET SET:							
N1178CBSHK/ST2CR N1178CGSHK/ST2CR N1178CTSHK/ST2CR N1178CWSHK/ST2CR	BROWN GREY TAN WHITE	0.75 to 1.25	200 VDC	0.5 Amps	10vA	1.5 Amps	150 mOhms
OPEN LOOP, NORMALLY CLOSED, 1FB, SWITCH/MAGNET SET:							
N1178CBSHK/STFB N1178CGSHK/STFB N1178CTSHK/STFB N1178CWSHK/STFB	BROWN GREY TAN WHITE	0.75 to 1.25	30 VDC	0.2 Amps	3vA	0.5 Amps	150 mOhms
SINGLE POLE DOUBLE THROW, SWITCH/MAGNET SET:							
N1178CBSHK/STSD N1178CGSHK/STSD N1178CTSHK/STSD N1178CWSHK/STSD	BROWN GREY TAN WHITE	0.75 to 1.25	30 VDC	0.2 Amps	3vA	0.5 Amps	150 mOhms
DOUBLE POLE DOUBLE THROW, SWITCH/MAGNET SET:							
N1178CB/STDD N1178CG/STDD N1178CT/STDD N1178CW/STDD	BROWN GREY TAN WHITE	0.75 to 1.25	30 VDC	0.2 Amps	3vA	0.5 Amps	150 mOhms
HIGH SECURITY, NORMALLY OPEN, 1FA, SWITCH/MAGNET SET:							
N1178CBSHK/STHS N1178CGSHK/STHS N1178CTSHK/STHS N1178CWSHK/STHS	BROWN GREY TAN WHITE	0.1875 to 0.5000	300 VDC	0.25 Amps	10vA	0.25 Amps	150 mOhms initial

DWG No. 131125-06 Rev. 1

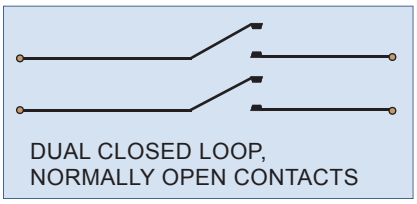
WIRING SCHEMATIC



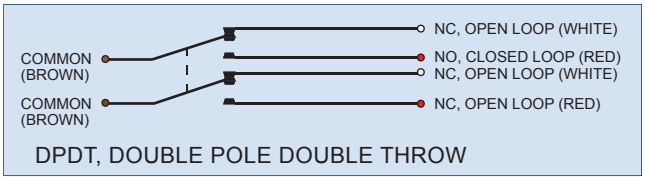
CLOSED LOOP,
NORMALLY OPEN CONTACT



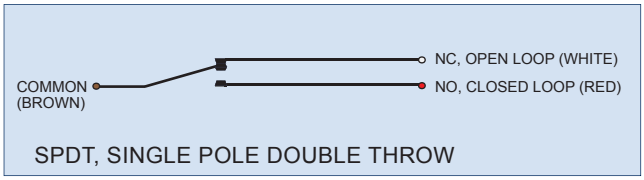
OPEN LOOP,
NORMALLY CLOSED CONTACT



DUAL CLOSED LOOP,
NORMALLY OPEN CONTACTS

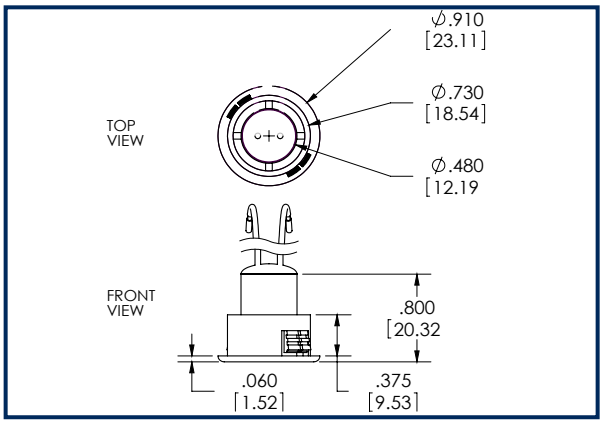


DPDT, DOUBLE POLE DOUBLE THROW

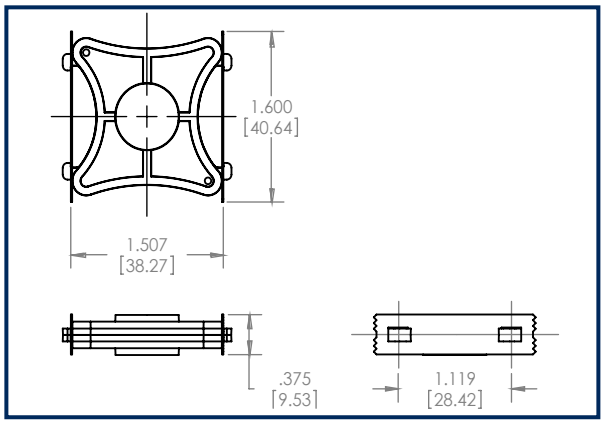


SPDT, SINGLE POLE DOUBLE THROW

DIMENSIONS - IN [mm]



SWITCH



MAGNET

INSTALLATION INSTRUCTIONS

- Mark location for the switch on the door frame.
- Drill a hole for the switch using a 3/4” Hole Saw for steel doors or a Forstner bit for wood doors.
- Connect the switch leads to the alarm circuit conductors. Hold the wire leads (not the switch housing) when cutting and stripping to prevent damage to the switch.
- Feed the switch conductors into the hole and insert the switch housing pressing firmly until seated. Silicone may be used to secure the switch in wood doors.
- Test switch for correct operation and make sure gap performance is acceptable.
- Place a mark on the top edge of the door aligned with the center of the switch.
- Press the springs inward on the sides of magnet.
- Insert the magnet in u-channel in the top of the door centered with the alignment mark.
- Release the springs to secure the magnet and complete the installation.

PART NUMBER SYSTEM

N1178C X SHK / ST XXX XXXX XX XXX X XX

COLOR:
- B = BROWN
- G = GREY
- T = TAN
- W = WHITE

CIRCUIT (0, 2 or 3 digits):
- Blank = CLOSED LOOP
- 2CR = DUAL CLOSED LOOP
- FB = OPEN LOOP
- SD = SPDT
- DD = DPDT
- HS = HIGH SECURITY

LEAD LENGTH (zero, 3 or 4 digits):
- Blank - 12 Inches
- All other lengths specified in Inches with 3 digits (e.g. 036 = 36 Inches)

WIRE TYPE (0 or 1 digit):
- Blank = UL1061 | 22AWG | 7/30
- Z = Zipcord ZIP NEC (UL) TYPE CL2
- J = 2-conductor PVC Jacketed NEC Type CL2 and CM

LEAD WIRE COLOR (zero to 2 digits):
- Blank = Switch Color except:
  - » resistor contacts standard is red wire
  - » all 2 conductor jacketed wire is grey
- BL = Blue leads
- OL = Orange leads

BUILT-IN END OF LINE RESISTOR VALUE (zero to 4 digits):
- Blank = No built-in end of line resistor
- All other resistor values are specified (e.g. 1K = 1,000 Ω)

END OF LINE RESISTOR (zero to 4 digits):
- Blank = Resistor in series with the switch
- P = Resistor in parallel with the switch
- SP = Resistor 1 in series to the switch; resistor 2 in parallel to the switch

N200AU

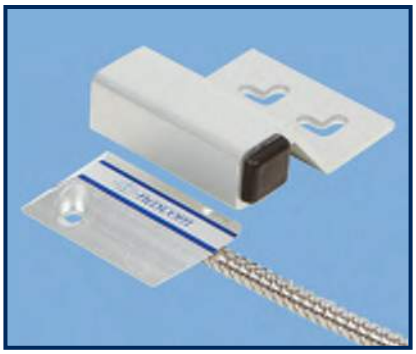
MIGHTY MITE OVERHEAD DOOR SWITCH WITH UNIVERSAL MAGNET

DESCRIPTION

Nascom's N200AU MIGHTY MITE is a mini overhead door switch with universal magnet for commercial and industrial overhead door applications.

The MIGHTY MITE combines the installers' choice of contact configuration with an N35 NdFeB magnet for maximum gap performance.

The closed loop versions of the N200AU prevent false alarms caused by the side to side shifting of overhead doors with our unique **NO DEAD SPOT**™ technology.



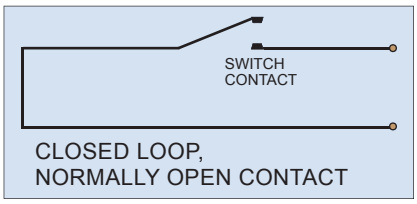
FEATURES

- **NO DEAD SPOT**™ TECHNOLOGY
- EXTRA WIDE GAP - N35 NdFeB RARE EARTH MAGNET
- 24" ARMORED CABLE LEAD PROTECTION
- LISTED TO UL634 STANDARD
- UNIVERSAL MOUNT
- 36" 22AWG WIRE LEADS
- EXTRUDED ANODIZED (TYPE II) ALUMINUM

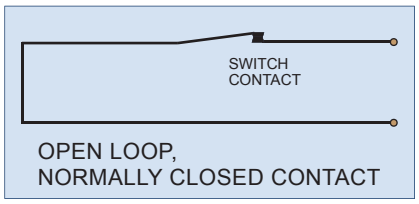
ORDERING INFORMATION

PART NUMBER	COLOR	OPERATE GAP (in INCHES)	CONTACT RATING (Max DC/Peak AC Resistive)				STATIC CONTACT RESISTANCE (50mV, 100mA)
			SWITCHING		CARRY		
			V	I	V	I	
CLOSED LOOP, NORMALLY OPEN, 1FA, SWITCH/MAGNET SET:							
N200AU/ST	SILVER	1.75 to 2.75	200 VDC	0.5 Amps	10vA	1.5 Amps	150 mOhms
DUAL CLOSED LOOP, NORMALLY OPEN, 1FA, SWITCH/MAGNET SET:							
N200AU/ST2CR	SILVER	1.75 to 2.75	200 VDC	0.5 Amps	10vA	0.5 Amps	150 mOhms
OPEN LOOP, NORMALLY CLOSED, 1FB, SWITCH/MAGNET SET:							
N200AU/STFB	SILVER	1.50 to 2.50	30 VDC	0.2 Amps	3vA	0.5 Amps	100 mOhms
SINGLE POLE DOUBLE THROW, SWITCH/MAGNET SET:							
N200AU/STSD	SILVER	1.50 to 2.50	30 VDC	0.2 Amps	3vA	0.5 Amps	100 mOhms
DOUBLE POLE DOUBLE THROW, SWITCH/MAGNET SET:							
N200AU/STDD	SILVER	1.50 to 2.50	30 VDC	0.2 Amps	3vA	0.5 Amps	100 mOhms
HIGH SECURITY, NORMALLY OPEN, 1FA, SWITCH/MAGNET SET:							
N200AU/STHS	SILVER	0.1875 to 0.50	300 VDC	0.25 Amps	10vA	0.25 Amps	150 mOhms initial

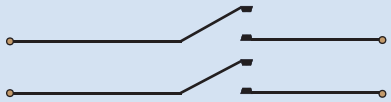
WIRING SCHEMATIC



CLOSED LOOP,
NORMALLY OPEN CONTACT

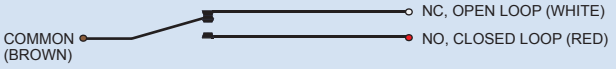


OPEN LOOP,
NORMALLY CLOSED CONTACT



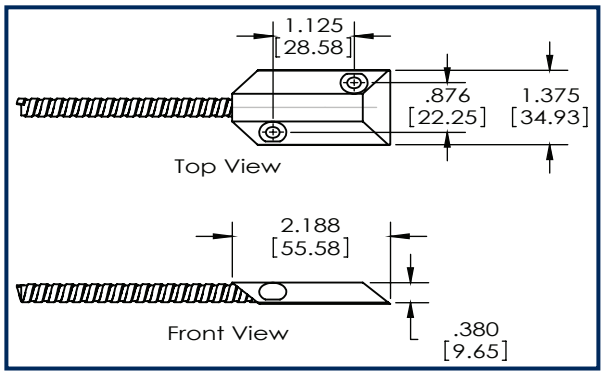
DUAL CLOSED LOOP,
NORMALLY OPEN CONTACTS

DPDT, DOUBLE POLE DOUBLE THROW

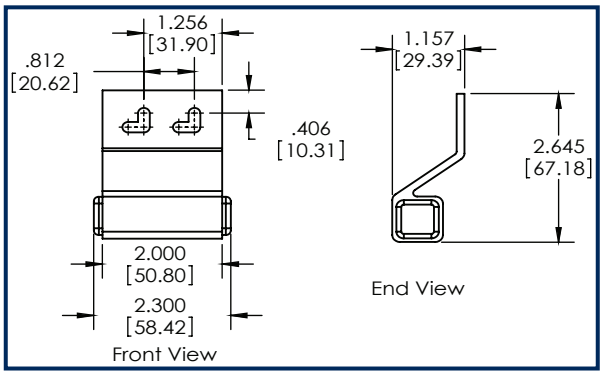


SPDT, SINGLE POLE DOUBLE THROW

DIMENSIONS - IN [mm]



SWITCH



MAGNET

INSTALLATION INSTRUCTIONS

The switch can be mounted on the floor at the base of the door or on the wall at the top of the door. For best performance, align the switch and magnet housings and keep the gap distance between the switch and magnet as close as possible.

FLOOR MOUNT:

- With the overhead door closed, position the magnet on the lower right or left side of the door, then align the switch under the magnet. Adjust the position of the switch and magnet to ensure there is adequate clearance between the housings (1/4" minimum).
- Make sure the stainless steel armored cable will not interfere with the door operation.
- Mark the mounting hole locations for the switch and magnet.
- Drill the marked locations on the door using a high speed drill adequately sized for self-tapping screws or machine screws.
- Mount the magnet on the door.
- Raise the door and drill the switch mounting hole locations using a masonry bit for concrete floors, sized to fit expansion anchors for #6 self-tapping screws.
- Secure the switch to the floor.
- Test the switch by attaching an ohm meter to the switch leads and operate the door.
- Connect the leads to the alarm system conductors.

INSTALLATION INSTRUCTIONS, continued

TOP MOUNT:

- With the overhead door closed, position the magnet at the top of the door in the desired location, then align the switch under the magnet. Adjust the position of the switch and magnet to ensure there is adequate clearance between the housings (1/4" minimum).
- Make sure the stainless steel armored cable will not interfere with the door operation.
- Mark the mounting hole locations for the switch and magnet.
- Drill the marked locations on the door using a high speed drill adequately sized for self-tapping screws or machine screws.
- Drill the switch mounting hole locations using a masonry bit for concrete or cement block walls sized to fit expansion anchors for #6 self-tapping screws or use dry wall anchors for sheet rock walls.
- Attach the switch to the wall first using #6 self-tapping screws and then attach the magnet to the door using #8 self-tapping screws.
- Test the switch by attaching an ohm meter to the switch leads and operate the door.
- Connect the leads to the alarm system conductors.

PART NUMBER SYSTEM

N200AU / XX XXX XXXX X XX XXXX XXXX

PRODUCT TYPE (1 or 2 digits):

- ST = SWITCH/MAGNET SET
- SW = SWITCH ONLY
- M = MAGNET ONLY

CIRCUIT (0, 2 or 3 digits):

- Blank = CLOSED LOOP
- 2CR = DUAL CLOSED LOOP
- FB = OPEN LOOP
- SD = SPDT
- DD = DPDT
- HS = HIGH SECURITY

LEAD LENGTH (zero, 3 or 4 digits):

- Blank - 24 Inches
- All other lengths specified in Inches with 3 digits (e.g. 036 = 36 Inches)

* lead length is armored cable length- wire length is 12 inches greater than armored cable length

WIRE TYPE (0 or 1 digit):

- Blank = UL1061 | 22AWG | 7/30
- J = 2-conductor PVC Jacketed NEC Type CL2 and CM

END OF LINE RESISTOR (zero to 4 digits):

- Blank = Resistor in series with the switch
- P = Resistor in parallel with the switch
- SP = Resistor 1 in series to the switch; resistor 2 in parallel to the switch

BUILT-IN END OF LINE RESISTOR VALUE (zero to 4 digits):

- Blank = No built-in end of line resistor
- All other resistor values are specified (e.g. 1K = 1,000 Ω)

LEAD WIRE COLOR (zero to 2 digits):

- Blank = Switch Color except:
  - » resistor contacts standard is red wire
  - » all 2 conductor jacketed wire is grey
- BL = Blue leads
- OL = Orange leads

B920 Two-line Alphanumeric Keypad (SDI2)

www.boschsecurity.com

BOSCH
Invented for life

- 2-line LCD display with up to 32 character point, user, and area names
- Simple menu-style user interface with dedicated function buttons for common commands, including status indication
- Situation sensitive on-screen help makes system operation simple and easy
- Highly visible on (arm)/alarm, ready to turn on (arm), power and gas alarm indicators
- Simple installation with self-locking base and chassis design, plus built-in bubble level

The B920 Two-line Alphanumeric Keypad (SDI2) is a SDI2 bus compatible device. Each keypad has user adjustable options such as volume and display brightness. The B920 shows two-line system messages for all areas.

System overview

- For commercial use, install the keypad in building entrances and areas with unrestricted access. Mounting a keypad near exterior doors in hotel or business lobbies allows people to identify the type and location of the emergency.
- For residential use, install the keypad near the front and rear entrances to the home. Install additional keypads in a kitchen or in a bedroom.
- Use multiple keypads in a large building with many separate areas of security. Program multiple keypads to control multiple areas.
- Audible tones from the keypad sounder alert personnel to fire events and assist fire fighters in locating the keypad.

Functions

LCD display
The keypad uses words, numbers, and symbols to show the status of the security system. When several events occur, the keypad shows each event in order of priority.

Keys
Each keypad has 10 number keys, 7 function keys, and 6 navigation keys. When pressed, keys turn on keypad backlighting and emit the keypress tone (short beep). The function keys include programmable function keys and keys to initiate arming and bypassing with one keypress.

Audible tones
The keypad has a built-in speaker that produces several distinct warning tones. The tones are differentiated so that the user can recognize an event simply by hearing its associated tone. The keypad backlight illuminates when it emits an audible tone. Users can use a passcode to silence the tone.

Status indicators
The status indicators on the keypad provide a quick visual reference for system status.

✓	The indicator lights when the system is ready to turn on (arm).
	The indicator lights when the system is on (armed).
⚠	The indicator lights when there is a trouble condition.
GAS	The indicator lights when dangerous gases are present including carbon monoxide (NFPA 720).
	The indicator lights when the system has power.

Certifications and approvals

Region	Certification	
Europe	CE	EMC, RoHS B915, B920, B930, B430, B208, B308, B901
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 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	CAN/ULC S545 - Residential Fire Warning System Control Units
	ULC	CAN/ULC S559 - Fire Signal Receiving Centres and Systems
	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
Mount in indoor, dry locations.

Power supply
A compatible control panel supplies the power and data requirements to the keypad through a four-wire connection.

Enclosure and wiring
The sliding self-locking enclosure has an integrated bubble level and custom gap-free, lift-gate style terminal blocks to make installation easier.

Compatible control panels
B9512G/B9512G-E
B8512G/B8512G-E
B6512
B5512/B5512E firmware v2.02 and higher
B4512/B4512E firmware v2.02 and higher
B3512/B3512E firmware v2.02 and higher
D9412GV4/D7412GV4 firmware v2.02 and higher

Parts included

Quant.	Component
1	Keypad
1	Hardware pack
1	Set of ABC key labels
1	Installation Guide
1	User Quick Reference Guide

Technical specifications

Properties

Dimensions	6.2 in x 4.7 in x 1 in (158 mm x 120 mm x 26 mm)
Weight	11.3 oz (0.32 kg)
Material	Acrylonitrile butadiene styrene (ABS) Poly(methyl methacrylate) (PMMA)
Display window	2 line display 18 characters per line
Indicators	Illuminated keys Status indicators Warning and indicating tones

Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F) non-condensing
Temperature (operating)	0°C to +50°C (+32°F to +122°F)

Power requirements

Current	Standby:35 mA Alarm: 70 mA
Voltage (input)	12 VDC nominal

Wiring

Terminal wire size	12 AWG to 22 AWG (2.0 mm to 0.65 mm)
SDI2 wiring	Maximum distance – wire size (unshielded wire only): 1000 ft (305 m) – 22 AWG (0.65 mm)

Ordering information

B920 Two-line Alphanumeric Keypad (SDI2)
Two-line alphanumeric keypad
Order number **B920**

Accessories

B56 Keypad Surface Mount Box
Surface mount box for mounting a keypad to concrete or block.
Order number **B56**

B96 Keypad Trim Bezel
Cover the wall footprint of previous keypads when replacing them with the new, slim design of B Series keypads. The white trim bezel is 8.6 in x 6.3 in x 0.12 in (22 mm x 16 mm x 3 mm).
Order number **B96**

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B942 Touch Screen Keypad

www.boschsecurity.com

BOSCH
Invented for life

- Color graphic touch screen display uses a combination of simple icons and text for easy operation
- Built-in presence detector lights the display when user approaches keypad
- Built-in proximity reader allows use of a token or card as replacement for a passcode, or for use with dual authentication for high security areas
- Four inputs and one output provide cost effective expansion
- Slim, modern design blends with any decor

The B942 keypad is an SDI2 bus compatible device. The keypad features an illuminated touch screen and graphical interface. With an elegant design and low profile, the keypad fits with any modern decor. Each keypad has user adjustable options such as volume and brightness. They have four inputs and one output. The keypad shows system messages for all areas.

System overview

- For commercial use, install the keypad in building entrances and areas with unrestricted access. Mounting a keypad near exterior doors in hotel or business lobbies allows people to identify the type and location of the emergency.
- For residential use, install the keypad near the front and rear entrances to the home. Install additional keypads in a kitchen or in a bedroom.
- Use multiple keypads in a large building with many separate areas of security. Program multiple keypads to control multiple areas.
- Audible tones from the keypad sounder alert personnel to fire events and assist fire fighters in locating the keypad.

Functions

Display
The touch screen display uses icons, words, numbers, and symbols to show the status of the security system and for interacting with the security system. When several events occur, the keypad shows each event in order of priority. The keypad detects when a user approaches and automatically activates the display.

User icons and keys
The keypad greets the user with a home screen that shows the system status at one glance using a large icon. The user can change the system status by simply touching this home screen icon. The touch screen display also offers icons on the ribbon bar. These visually pleasing graphical icons are easy to use for accessing menus and other options. The keypad has a variety of keyboards for entering alphanumeric characters. The keypad screen has numeric keys and one function [CMD] key. When pressed, keys emit a muted beep. Use the keyboards for entering passcodes, activating commands, and entering alphanumeric characters.

Audible tones
The keypad has a built-in speaker that produces several distinct warning tones. The tones are differentiated so that the user can recognize an event simply by hearing its associated tone. The keypad backlight illuminates when it emits an audible tone. Users can use a passcode or credential to silence the tone.

Status indicators
The status indicators on the keypad provide a quick visual reference for system status.

✓	The indicator lights when the system is ready to turn on (arm).
	The indicator lights when the system is on (armed).
⚠	The indicator lights when there is a trouble condition.
GAS	The indicator lights when dangerous gases are present including carbon monoxide (NFPA 720).
	The indicator lights when the system has power.

Proximity reader
The proximity reader allows users to use a token or card in place of a passcode to turn on or off the security system. The proximity reader supports EM4102 (125 kHz) credentials. The Bosch ACA-ATR13-RFID tag and Bosch ACD-ATR11ISO-RFID card are examples.

Certifications and approvals

Region	Certification	
Europe	CE	EMC, LVD, R&TTE, RoHS
USA	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 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	CAN/ULC S545 - Residential Fire Warning System Control Units
	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

Power supply
A compatible control panel supplies the power and data requirements to the keypad through a four-wire connection.

Mounting and wiring
Mount in dry indoor locations.
Includes a slim mounting plate for recessing wiring, and a surface mounting plate for surface mounting and wiring.

Compatible control panels
B9512G/B9512G-E
B8512G/B8512G-E
B6512
B5512/B5512E firmware v2.03 and higher
B4512/B4512E firmware v2.03 and higher
B3512/B3512E firmware v2.03 and higher
D9412GV4/D7412GV4 v2.03 and higher

Parts included

Quant.	Component
1	Keypad
2	Mounting plates (slim and surface)
1	Hardware pack
4	1k Ω EOL Resistors
1	Installation Guide
1	User's Quick Reference Guide

Technical specifications

Properties

Dimensions	6.2 in x 4.7 in x 0.65 in (158 mm x 120 mm x 16.5 mm)
Weight	11.3 oz (0.32 kg)
Material	Acrylonitrile butadiene styrene (ABS) Poly(methyl methacrylate) (PMMA)
Display window	Touch screen Multi-line messages

Indicators	Power indicator LED Status indicators Main icon Warning and indicating tones
Inputs	4 (four) 1k Ω supervised inputs
Output	1 (one) NO (normally open) contact

Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F) non-condensing
Temperature (operating)	0°C to +50°C (+32°F to +122°F)

Power requirements

Current with proximity reader disabled	Standby: 200 mA Alarm: 300 mA
Current with proximity reader enabled	Standby: 300 mA Alarm: 400 mA
Voltage (input)	12 VDC nominal

Wiring

Terminal wire size	18 AWG to 22 AWG (1.02 mm to 0.65 mm)
SDI2 wiring with prox detector disabled	Maximum distance - wire size (unshielded wire only): 200 ft (61 m) - 22 AWG (0.65 mm) 520 ft (159 m) - 18 AWG (1.02 mm)
SDI2 wiring with prox detector enabled	Maximum distance - wire size (unshielded wire only): 150 ft (46 m) - 22 AWG (0.65 mm) 390 ft (119 m) - 18 AWG (1.02 mm)

Inputs and output

On-board points voltage ranges	Open: 2.2 to 5.0 VDC Normal: 1.4 to 1.8 VDC Short: 0.0 to 1.0 VDC Short circuit current: 2.3 mA
Relay contact rating	24 VDC, 1 A, power factor: 1

Ordering information

B942 Touch Screen Keypad
Black SDI2 touch screen keypad with inputs and one output.
Order number **B942**

B942W Touch Screen Keypad
White SDI2 touch screen keypad with inputs and one output.
Order number **B942W**

Accessories

B56 Keypad Surface Mount Box
Surface mount box for mounting a keypad to concrete or block.
Order number **B56**

B96 Keypad Trim Bezel
Cover the wall footprint of previous keypads when replacing them with the new, slim design of B Series keypads. The white trim bezel is 8.6 in x 6.3 in x 0.12 in (22 mm x 16 mm x 3 mm).
Order number **B96**

Represented by:

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D1640 Transformer

www.boschsecurity.com

BOSCH
Invented for life

System transformer rated at 16.5 VAC, 40 VA.

Certifications and approvals

Region	Certification	
USA	UL	UOXX: Control Unit Accessories, System (UL864, 9th edition)
	CSFM	7167-1615:0243 7167 -- CONTROL UNIT (HOUSEHOLD)
	CSFM	7165-1615:0242 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)
	CSFM	7165-1615:0238 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)
	CSFM	7167-1615:0124 7167 -- CONTROL UNIT (HOUSEHOLD)
	CSFM	7165-1615:0119 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)
	CSFM	7167-1615:0239 7167 -- CONTROL UNIT (HOUSEHOLD)

Ordering information

D1640 Transformer
System transformer rated at 16.5 VAC, 40 VA.
Order number **D1640**

AL400ULPD4
Multi-Output Power Supply/Charger

Rev. DSAL400ULPD4_05052015

AL400ULPD4

Overview

AL400ULPD4 is a multi-output power supply/charger that converts a 115VAC/60Hz input into four (4) Class 2 Rated 12VDC or 24VDC power-limited outputs.

Specifications

Input:
- Input 115VAC, 60Hz, 3.5 amp.
- Input fuse rated @ 3.5 amp/250V.

Output:
- 12VDC or 24VDC selectable output.
- 12VDC @ 4 amp or 24VDC @ 3 amp supply current.
- Four (4) Class 2 Rated fuse protected power-limited outputs.
- Outputs are rated @ 3.5 amp.
- Filtered and electronically regulated outputs.
- Short circuit and thermal overload protection.

Battery Backup:
- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails.
- Maximum charge current 0.7 amp.

Supervision:
- AC fail supervision (form “C” contacts).
  - Notification trigger is selectable for 30 seconds (factory set) or 6 hours.
- Low battery supervision (form “C” contacts).
- Battery presence supervision (form “C” contacts).

Visual Indicators:
- AC input and DC output LED indicators.

Electrical:
- Operating temperature: 0º C to 49º C ambient.
- 24.57 or 36.85 BTU/Hr.
- System AC input VA requirement: 402.5VA.

Mechanical:
- Enclosure Dimensions (H x W x D approx.): 13.5” x 13” x 3.25” (342.9mm x 330.2mm x 82.55mm)
  - Accommodates up to two (2) 12VDC/7AH batteries.
- Product weight (approx.): 7.3 lbs. (3.31 kg).
- Shipping weight (approx.): 8.4 lbs. (3.81 kg).

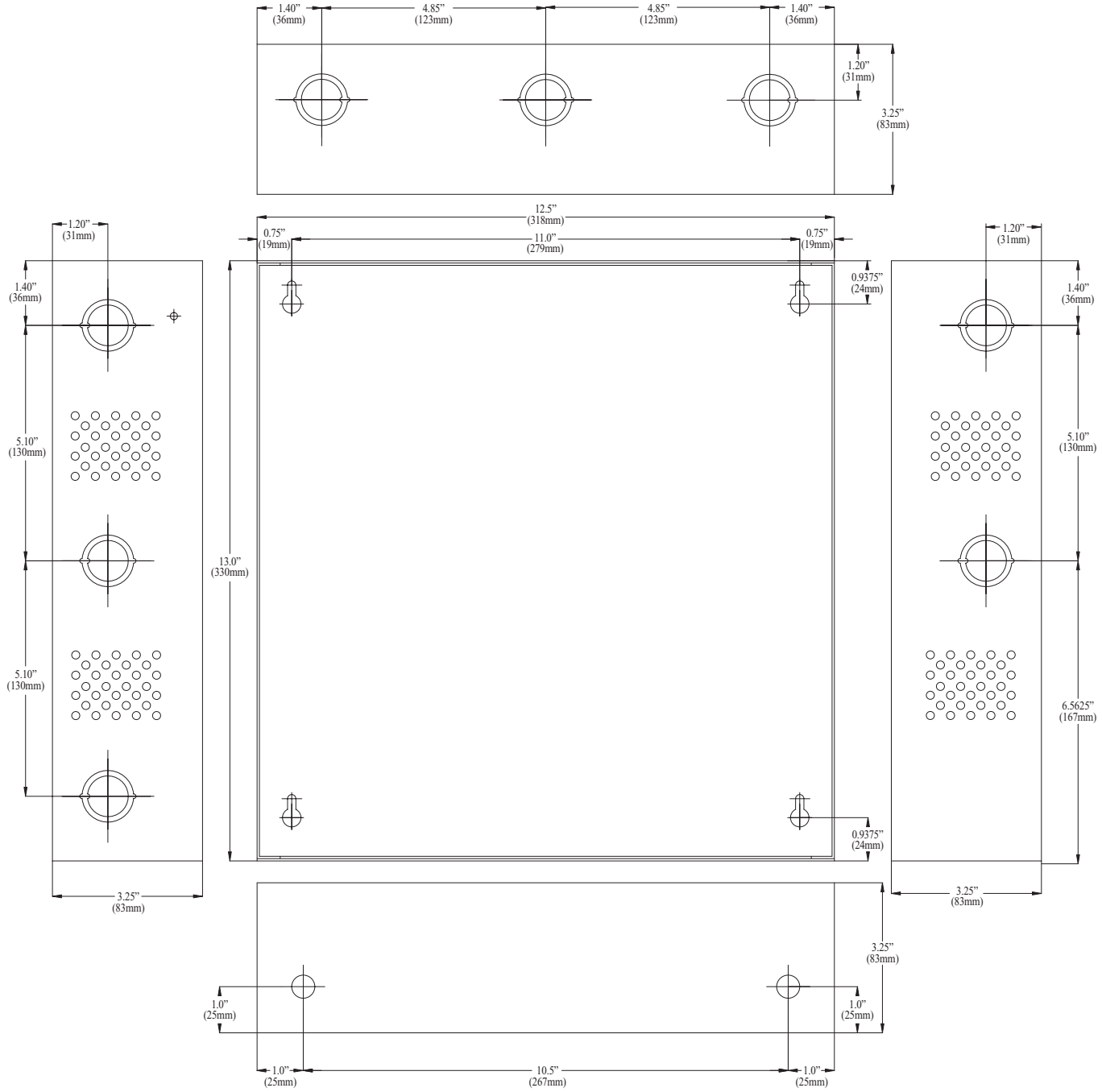
Agency Approvals

UL 294	UL Listed for Access Control System Units.
UL 603	UL Listed Standard for Power Supplies for Use with Burglar Alarm Systems.
UL 1069	UL Listed Hospital Signaling and Nurse Call Equipment.
UL 1481	UL Listed Standard for Safety for Fire Protective Signaling Systems.

c UL General Signaling Equipment
Evaluated to CSA Standard C22.2 No.205-M1983

Enclosure Dimensions *(H x W x D approximate)*:

13.5” x 13” x 3.25” (342.9mm x 330.2mm x 82.55mm)



D9127 Series POPIT Modules

www.boschsecurity.com

BOSCH
Invented for life

- Provides point identification of initiating devices
- Supervises wiring to devices for circuit integrity
- Expands the number of points in the system
- Compact size
- Terminal connections for reliability

The D9127 Series POPIT Modules includes the D9127T (with magnetic tamper switch) and the D9127U (without tamper). They are used with a D8125 Addressable Expansion Module when there is a need to expand a compatible control panel beyond its standard number of on-board initiating zones or points. Future system expansion is very economical as D9127 Series POPITs can be added anywhere along the two-wire data expansion loop from the D8125 module.
Both modules include proven technology that combines zone and point supervision with individual device addressing on one pair of wires. Screw terminals provide reliable connections for the data expansion loop and supervised sensor loop wiring. Install a 33 kΩ end-of-line resistor at the farthest point on the loop for proper supervision. The units are small and easily installed in standard outlet boxes, above false ceilings, closets, or other accessible locations.

Certifications and approvals

Region	Certification	
USA	UL	
	UL	UL 365 - Police Station Connected Burglar Alarm Units
	UL	UL 464 - Standard for Audible Signal Appliances
	UL	UL 609 - Standard for Local Burglar 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
	UL	UL 1635 - Standard for Digital Alarm Communicator System Units
	FM	

Region	Certification	
	CSFM	see our website
	FDNY-CoA	6059 [D9412GV3 & D7412GV3]
	FDNY-CoA	6174
	FDNY-CoA	6196
Australia	CTICK	C-Tick
Canada	ULC	AMCX7.S1871 - Central Station Alarm Units Certified for Canada
	ULC	AOTX7.S1871 Local Alarm Units Certified for Canada
	ULC	APAW7.S1871 Police-station-connected Alarm Units Certified for Canada
	ULC	APOU7.S1871 Proprietary Alarm Units Certified for Canada
	ULC	NBSX7.S1871 Household Burglar Alarm System Units Certified for Canada

Installation/configuration notes

Compatibility Information

Control Panels	All G Series control panels, D9412, D7412, D7212, D7212B1, D9112, D9112B1, D8112G1, D8112G2, and D9124
Module	D8125

The D8125 Multiplex Zone Expander is required. The D9127 modules are wired in parallel on the D8125 data loop.

Number of POPIT Modules per Control Panel

D7212G, D7212GV2, D7212GV3	32 D9127 POPITs
D7212B1	40 D9127 POPITs
D7212, D7412, D7412G, D7412GV2, D7412GV3	67 D9127 POPITs
D9124	119 D9127 POPITs
D9112B1	126 D9127 POPITs
D9112, D9412, D9412G, D9412GV2, D9412GV3	238 D9127 POPITs

Wiring Considerations

Wire Size	Maximum Length of all Data Expansion Loops Combined
0.8 mm (22 AWG)	549 m (1800 ft)
1.0 mm (20 AWG)	881 m (2890 ft)
1.2 mm (18 AWG)	1402 m (4600 ft)
1.5 mm (16 AWG)	2231 m (7320 ft)
1.8 mm (14 AWG)	3551 m (11650 ft)

D8125 to POPIT Loops

Use one two-wire data expansion loop, or distribute the POPITs on up to three loops. The maximum lengths shown in the following table are for all data expansion loops combined connected to the same D8125 module. Setting DIP switches on the POPIT modules assigns them to point numbers. The switch setting on each POPIT assigns it a point number, regardless of its physical location.

POPIT to Sensor Loops

The number of detection devices each sensor loop can supervise is limited only by the resistance on the loop. Resistance on each sensor loop must be less than 100 Ω not including the end-of-line (EOL) resistor. Certain UL and National Fire Protection Association (NFPA) applications can limit the number of detection devices. Consult the appropriate UL or NFPA standards.

Terminate each POPIT sensor loop with the 33 kΩ EOL resistor included with each POPIT.

Use a twisted-pair wire (six twists per foot) in all POPIT installations for both the data expansion loop wiring and the POPIT sensor loops. Run wires away from AC sources to prevent AC induction.

Parts included

Quantity	Component
1	POPIT module
1	33 kΩ EOL resistor
1	Magnet (D9127T only)
1	Hardware pack
1	Literature pack

Technical specifications

Environmental Considerations

Relative humidity	Up to 93% non-condensing
Temperature (operating)	0°C to +50°C (+32°F to +122°F)

Properties

Color	Off white
Dimensions	8.1 cm x 3.8 cm x 2.4 cm (3.2 in. x 1.5 in. x 0.9 in.)
Material	UL Listed fire-resistant

Power Requirements

Current draw	0.8 mA maximum
Resistance	Maximum increase in resistance on the POPIT loop is 1000 Ω. Maximum resistance between the D8125 module and each POPIT is 90 Ω.
Voltage (operating)	12 VDC nominal

Sensor Loop

Resistance	Maximum resistance on the sensor loop is 100 Ω.
Response time	1 sec approximately

Ordering information

D9127T POPIT Module
Includes a magnetic tamper switch.
Order number **D9127T**

D9127U POPIT Module
No tamper switch.
Order number **D9127U**

Represented by:

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DS9360 Panoramic TriTech Detector

www.boschsecurity.com

BOSCH
Invented for life

- Motion Analyzer II processing
- Microwave adaptive processing
- Self-test supervision systems
- Changeable mirrors (two mirrors provided)
- 360° x 18 m (60 ft) diameter pattern

The ceiling mount panoramic DS9360 TriTech® PIR/ Microwave Detector uses several patented processing techniques to provide excellent catch performance with freedom from false alarm. Supervised microwave and PIR sections ensure that the detector is working properly. Field replaceable mirrored optics allows it to be mounted on ceilings from 2.5 m to 6 m (8 ft to 18 ft) in height.

Functions

Signal Processing
Uses passive infrared and microwave technologies to provide an alarm condition when both fields of protection are simultaneously activated. Alarm signals must meet the signaling requirements of both technologies to activate an alarm. Adjustable PIR and microwave sensitivity.

PIR Signal Processing
Motion Analyzer II uses multiple thresholds and timing windows to analyze timing, amplitude, duration and polarity of signals to make an alarm decision. Will not alarm on extreme levels of thermal and illumination disturbances caused by heaters and air conditioners, hot and cold drafts, sunlight, lightning, and moving headlights. Two sensitivity settings are provided.

Microwave Signal Processing
Adaptive processing adjusts to background disturbances. This helps to reduce false alarms while maintaining catch performance.

Test Features
Two high output tri-color alarm LEDs visible from any angle, and flash to indicate a trouble condition.

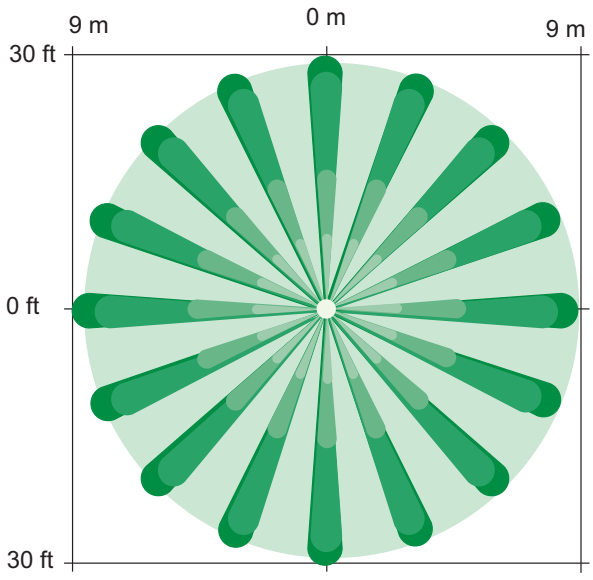
Certifications and Approvals

This detector has been designed to also comply with the requirements of:

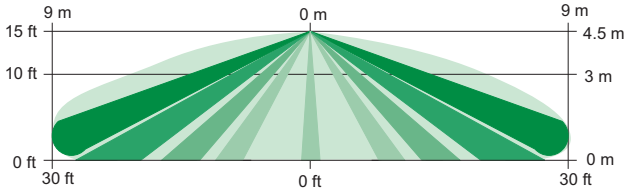
Europe Complies with EN50131-1, Grade 2

Region	Certification	
USA	UL	ANSR: Intrusion Detection Units (UL639)
	FCC	ESV9360
Singapore	iDA	LPREQ-S0153-2004
Brazil	ANATEL	0868-03-1855
Europe	CE	2004/108/EC EMC Directive (EMC); 2006/95/EC Low-Voltage (LVD) [DS9360]

Installation/Configuration Notes



Top View
One of each type of mirror is shipped with the product.
360° x 18 m (60 ft) diameter



AR13-18 Side View
One of each type of mirror is shipped with the product.
360° x 18 m (60 ft) diameter

Technical Specifications

Enclosure Design

Design:	Modular high impact ABS electronic head and mounting/wiring base design with rugged polyethylene dome provides easy access to field setup switches.
Dimensions:	8.5 cm x 13.3 cm (3.5 in. x 5.25 in.)
Material:	High impact ABS plastic enclosure

Environmental Considerations

Operating Temperature:	-40°C to +49°C (-40°F to +120°F) *For UL Certificated installations, 0°C to +49°C (+32°F to +120°F)*
Radio Frequency Interference (RFI) Immunity:	No alarm or setup on critical frequencies in the range from 26 MHz to 950 MHz at 50 V/m.

Complies with Environmental Class II (EN50130-5)

Mounting

Height Range:	2.5 m to 6 m (8 ft to 18 ft) recommended
Location:	Mounts directly to ceiling or to standard 10.2 cm (4 in.) octagonal electrical box.

Outputs

Alarm:	Form C reed relay rated at 3.0 W, 125 mA at 28 VDC for resistive loads.
Tamper:	Normally-closed (with cover in place) tamper switch. Contacts rated at 28 VDC, 125 mA maximum.

Power Requirements

Current:	18 mA standby; 75 mA in alarm
Voltage:	6 VDC to 15 VDC

Trademarks

TriTech® is a registered trademark of Bosch Security Systems, Inc. in the United States.

Ordering Information

DS9360 Panoramic TriTech Detector
Provides two movable mirrors, 360° x 18 m (60 ft) diameter coverage, and 2.5 m to 6 m (8 ft to 18 ft) mounting height.
Order number **DS9360**

Accessories

AR13-18-3 Optical Module
Designed for 4 m (13 ft) to 6 m (18 ft) mounting height. Shipped in packages of three.
Order number **AR13-18-3**

Represented by:

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Blue Line Gen2 TriTech Motion Detectors

www.boschsecurity.com

BOSCH
Invented for life

- Pet-friendly Selectable model available – optimize installation for pet (45 kg [100 lb]) and non-pet applications
- Dynamic Temperature Compensation – superior catch performance in any environment
- Microwave Noise Adaptive processing – reduce false alarms from repetitive sources
- Wall to Wall Coverage – superior catch performance
- Flexible Mounting Height, No Adjustments – reduce installation time and false alarms, improve catch performance

The Blue Line Gen2 TriTech Motion Detectors (ISC-BDL2) use a combination of passive infrared (PIR) and microwave Doppler radar detection with advanced signal processing. The pet-friendly (-WP) models generate alarms for human intruders without generating false alarms for pets. These small unobtrusive detectors are simple to install and do not need field adjustments.

Functions

First Step Processing (FSP)
First Step Processing (FSP) almost instantly responds to human targets without producing false alarms from other sources. FSP adjusts the detector's sensitivity based on signal amplitude, polarity, slope, and timing. This eliminates the need for the installer to select the sensitivity level, thus improving ease of installation and reliability.

Pet-friendly Selectivity (-WP models only)
The installer can turn pet immunity on or off based upon application requirements. When pet immunity is turned off, the detector provides superior catch performance identical to the non-pet models. When pet immunity is turned on, the detector can distinguish between signals caused by humans and signals caused by pets. It ignores signals caused by one or two pets up to 45 kg (100 lb) or numerous rodents.

Microwave Noise Adaptive Processing
Microwave Noise Adaptive Processing adjusts to background disturbances, reducing false alarms without sacrificing intruder detection.

Dynamic Temperature Compensation
The detector intelligently adjusts its sensitivity so that it can identify human intruders at virtually any temperature.

Wall-to-Wall Coverage
An improved lookdown zone and coverage range of 12 m x 12 m (40 ft x 40 ft) provide wall-to-wall coverage.

Self-locking Enclosure
The sliding self-locking enclosure has an integrated bubble level and custom gap-free, lift-gate style terminal blocks to make installation easier.

Sealed Optics and Electronics
The optics and electronics are assembled into the front enclosure and sealed with a protective cover to prevent damage during installation. The sealed optical chamber also prevents drafts and insects from affecting the detector.

Test Features
Externally visible alarm LED can be disabled after installation.

RFI and Impact Immunity
E-models feature improved immunity to false alarms from external sources including radio frequency interference, “popcorn noise”, as well as physical impact. Through use of a high performance pyro (infrared) sensor with integrated signal filtering, the highest quality electrical components and design that produces the best-in-class signal to noise ratio, and sophisticated signal processing, these detectors are more robust than ever against false alarms.

Improved Resistance to Sabotage
E-model detectors are now tested and approved to the EN50131-5-3 requirements for immunity to interference from external radio frequency sources. Detection performance and false alarm immunity are ensured when in the presence of such sources that could degrade the performance of detectors that are not approved to this standard.

Certifications and approvals

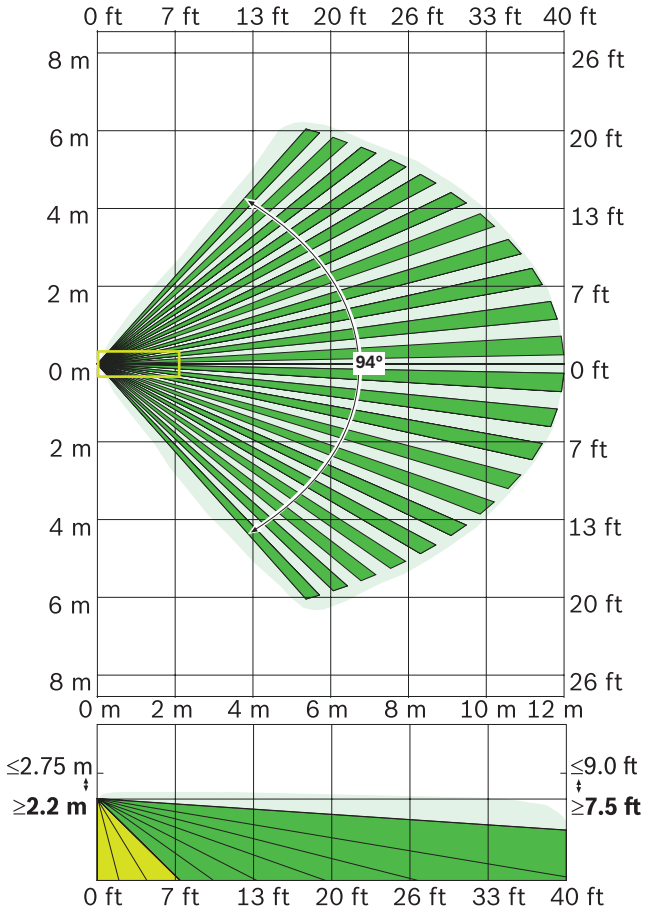
These detectors are also designed to comply with the following:

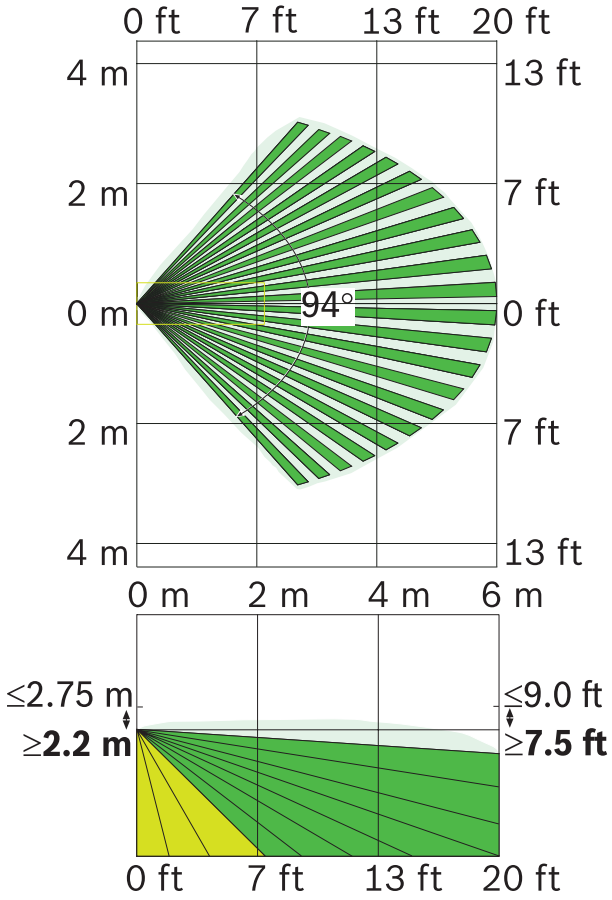
Europe	Complies with Directive 2002/95/EC - Restriction of the use of certain Hazardous Substances (RoHS)
China	Complies with CCC GB10408.1 and GB10408.9

Region	Regulatory compliance/quality marks	
Europe	CE	2014/53/EU (RED) 2011/65/EU (RoHS) (EU 2015/863 amending Annex II to Directive 2011/65/EU [Notified body 0700]) | [ISC-BDL2-W12GE, ISC-BDL2-WP12GE, ISC-BDL2-W12HE, ISC-BDL2-WP12HE]
	EN50131	EN50131-2-4 Grade 2 Environmental Class II (G models) I (H models)
Sweden	SBSC	20-43 Intyg_20-43_ISC-BDL2-W12GE_EN
	SBSC	20-44 SBSC_ISC-BDL2-WP12GE
USA	UL	[ISC-BDL2-W12G, ISC-BDL2-WP12G, ISC-BDL2-WP6G]
	UL	20190115; UL639 – Standard for Intrusion-Detection Units
	FCC	[ISC-BDL2-W12G, ISC-BDL2-WP12G, ISC-BDL2-WP6G]
Canada	ULC	CAN/ULC S306-03 - Canadian Standard for Intrusion Detection Units
Region	Regulatory compliance/quality marks	
	IC	[ISC-BDL2--W12G, ISC-BDL2-WP12G, ISC-BDL2-WP6G]
France	AFNOR	EN50131-2-4 Grade 2, NF324-H58 + RTC 50131-2-4 ISC-BDL2-W12HE - Certificate # 2820200003A1 ISC-BDL2-WP12HE - Certificate # 2820200003B1
China	CCC	2010031901000323 [ISC-BDL2-WP6G-CHI, ISC-BDL2-WP12G-CHI, ISC-BDL2-CB12G-CHI]

Installation/configuration notes

Coverage Patterns





Mounting

The recommended mounting height is 2.2 m to 2.75 m (7.5 ft to 9 ft) with no adjustments required.

Mount the motion detector level, both horizontally and vertically.

Mounting options:

- On a flat wall (surface, semi-flush), with the optional B335-3 Swiveling low-profile mount, or with the optional B328 Gimbal-mount Bracket
- In a corner (the junction of two perpendicular walls)
- On the ceiling with the optional B338 Universal Ceiling-mount Bracket

Technical specifications

Electrical

Current (alarm/standby)	10 mA at 12 VDC
Voltage (operating)	9 VDC to 15 VDC

Environmental

Pet Immunity[1]	One or two pets up to 45 kg (100 lb) or numerous rodents
Relative Humidity	0 to 95%, non-condensing *For UL Listed product installations* *0 to 85%, non-condensing*
Temperature (operating)	G models = - 20°C to + 55°C (- 4°F to + 131°F) GE models = - 10°C to + 55°C HE models= + 5°C to + 40°C UL/ C-UL= 0°C to + 49°C (+32°F to + 120°F)

[1] Applies to the Pet Friendly models only and only when the Pet Immunity feature is turned on.

Mechanical

Color	white
Dimensions	105 mm x 61 mm x 44 mm (4.2 in. x 2.4 in. x 1.7 in.)
Material	High-impact ABS plastic

Outputs

Relay	Solid state, supervised, Form A normally-closed (NC) contacts rated for ≤100 mA, 25 VDC, 2.5 W, <20 Ω closed
Tamper	Normally-closed (NC) contacts (with cover on) rated for ≤100 mA, 25 VDC, 2.5 W Connect tamper circuit to 24-hour protection circuit.

Ordering information

ISC-BDL2-W12G Motion detector, 40ft (12m)
Provides PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. Frequency: 10.525 GHz
Order number **ISC-BDL2-W12G**

ISC-BDL2-WP6G Motion detector, pet friendly, 20ft (6m)
Provides Pet Friendly PIR and microwave, 6 m x 6 m (20 ft x 20 ft) coverage. Frequency: 10.525 GHz
Order number **ISC-BDL2-WP6G**

ISC-BDL2-WP12G Motion detector, pet friendly 40ft (12m)
Provides Pet Friendly PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. Frequency: 10.525 GHz
Order number **ISC-BDL2-WP12G**

ISC-BDL2-WP6G-CHI Motion detector, pet friendly, 20ft (6m)
Provides Pet Friendly PIR and microwave, 6 m x 6 m (20 ft x 20 ft) coverage. For use in China. Frequency: 10.525 GHz
Order number **ISC-BDL2-WP6G-CHI**

ISC-BDL2-WP12G-CHI Motion detector, pet friendly 40ft (12m)
Provides Pet Friendly PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. For use in China. Frequency: 10.525 GHz
Order number **ISC-BDL2-WP12G-CHI**

ISC-BDL2-W12GE Motion detector, 40ft (12m)
Provides PIR and microwave, 12 m x 12 m (40 ft x 40ft) coverage. Frequency: 10.510 to 10.580 GHz
Order number **ISC-BDL2-W12GE**

ISC-BDL2-W12HE Motion detector, 12m, FR
Provides PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. For use in France. Frequency: 10.570 to 10.610 GHz
Order number **ISC-BDL2-W12HE**

ISC-BDL2-WP12GE Motion detector, pet friendly 40ft (12m)
Provides Pet Friendly PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. Frequency: 10.510 to 10.580 GHz
Order number **ISC-BDL2-WP12GE**

ISC-BDL2-WP12HE Motion detector, pet friendly, 12m, FR
Provides Pet Friendly PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. For use in France. Frequency: 10.570 to 10.610 GHz
Order number **ISC-BDL2-WP12HE**

Accessories

B328 Mounting bracket, gimbal
Mounts on a single-gang box and allows rotation of a detector. Wires are hidden inside.
Order number **B328**

B335-3 Mounting bracket, swivel, low profile
Swiveling, low-profile, universal bracket for wall mounting. The vertical swivel range is +10° to -20°, while the horizontal swivel range is ±25°.
Order number **B335-3**

B338 Mounting bracket, ceiling, universal
Swiveling universal bracket for ceiling mounting. The vertical swivel range is +7° to -16°, while the horizontal swivel range is ±45°.
Order number **B338**

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D130 Auxiliary Relay Module

www.boschsecurity.com

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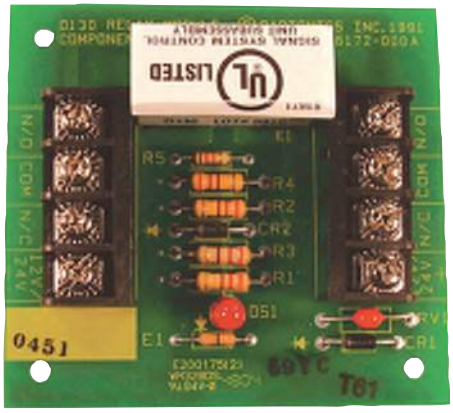

- 12 VDC or 24 VDC relay
- Allows switching of current or voltage
- Two non-latching Form C dry contact outputs
- Red LED shows coil is energized
- Mounts in control panel enclosure

The D130 Auxiliary Relay Module can be used with all Bosch Security Systems control panels. The relay module consists of a 12 VDC or 24 VDC relay. This device allows the system to handle larger amounts of current or different voltages that are beyond the control panel's auxiliary power rating, or the rating of modules such as the D8129 OctoRelay.

Notice
A UL Listed, 12 VDC or 24 VDC auxiliary power supply is required to supply power to the D130's coil.

The relay is polarized and has two sets of non-latching Form C contacts. When the contacts are in the inactive state, the normally-closed terminal has continuity with the common terminal. When the contacts are in the active state, the normally-open terminal has continuity with the common terminal. The relay is activated by switching polarity. A red LED lights to indicate the coil is energized.

System overview

Initiating Circuit Application
The D130 is commonly used with a D125B Dual Class B Initiating Module and a UL Listed 24 VDC power supply. In this configuration power to the detectors can be interrupted by a command from the fire alarm control panel (FACP).

Certifications and approvals

Region	Certification	
USA	UL	APOU: Proprietary Alarm Units (UL1076), UOJZ: Control Units, System (UL864, 9th edition)
	FM	
	CSFM	7167-1615: 100 and 7165-1615: 119
	NYC-MEA	12-92-E, Vol. II 12-92-E, Vol. II
	NYC-MEA	12-92-E, Vol. 12 12-92-E, Vol. 12
	NYC-MEA	12-92-E, Vol. 15 12-92-E, Vol. 15

Region	Certification	
	FDNY-CoA	6059
	CSFM	7165-1615:0242
	CSFM	7165-1615:0238
	CSFM	7165-1615:0119
	CSFM	7167-1615:0239

Installation/configuration notes

Compatible Products

The following products are compatible with the D130 Auxiliary Relay Module:

Category	Product ID	Product Description
Control Panels	All Bosch Security System control panels and FACPs	
Modules	D125B	Dual Class B initiating module
	D8129	OctoRelay module
Power Supplies	D9142F	24 VDC auxiliary power supply

Mounting

The D130 Auxiliary Relay Module attaches to a mounting plate for easy mounting in any enclosure. The assembly can be mounted in the control panel's enclosure by means of supplied screws.

Wiring Considerations

The D130 can connect directly to the FACP or can connect through a D8129 OctoRelay Module. Refer to the installation instructions for the FACP or the D8129 for specific wiring requirements.

Parts included

Quantity	Component
1	D130 module
1	Mounting plate
1	Hardware pack
1	Literature pack

Technical specifications

Properties

Dimensions:	2.75 in. x 3.0 in. (7 cm x 7.6 cm)

Outputs

Rating:	10 mA at 5 VDC mimimum 5 A at 30 VDC maximum
Type:	Two non-latching Form C

Power Requirements

Current:	60 mA maximum
Voltage (operating):	12 VDC or 24 VDC nominal

Ordering information

D130 Auxiliary Relay Module
12 VDC or 24 VDC relay. Allows switching of current or voltage.
Order number **D130**

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B299 POPEX Module

www.boschsecurity.com

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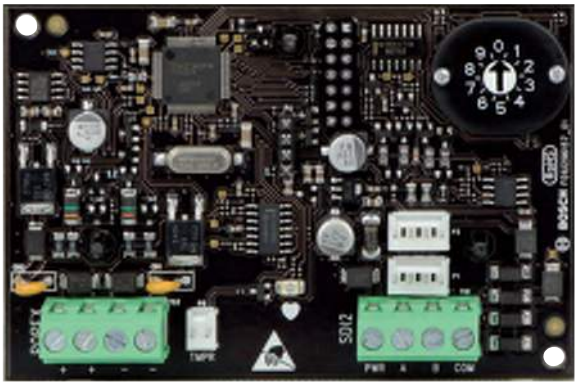

- Provides point identification for up to 100 connected addressable initiating devices using POPITs
- Supervises wiring to devices for circuit integrity
- Expands the number of points in the system
- Compact size
- Interconnect wiring connectors for easy installation

The B299 POPEX Module is an SDI2 compatible device. The module communicates to the control panel over the SDI2 bus, and provides support for up to 100 POPIT (Point Of Protection Input Transponder) devices. This occurs over a single expansion loop using two pairs of terminals.

System overview

Each module installs in the control panel enclosure or in an adjacent approved enclosure. Future system expansion is very economical as the module supports zone expansion through supporting D9127U/T POPIT modules and POPIT'ed detectors. The POPIT modules can be placed anywhere along the two-wire data expansion loop from the module.

Certifications and approvals

Region	Certification	
USA	ANSI-SIA	CP-01-2010-Control Panel Standard - Features for False Alarm Reduction
	UL	
	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
	UL	UL 1635 - Standard for Digital Alarm Communicator System Units
	UL	UL 294 - Standard for Access Control Units and Systems
	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
	CSFM	California Office of The State Fire Marshall
	FCC	Part 15 Class B
Canada	ULC	
	ULC	CAN/ULC S303 - Local Burglar Alarm Units and Systems

Region	Certification	
	ULC	CAN/ULC S304 - Standard for Signal Receiving Center and Premise Burglar Alarm
	ULC	CAN/ULC S545 - Residential Fire Warning System Control Units
	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

Mount the module into the enclosure's 3-hole mounting pattern using the mounting screws and mounting bracket.

Wiring

Use the control panel SDI2 terminals labeled R, Y, G, B (PWR, A, B, COM) when wiring to the module. Connect the control panel terminals to the module terminals labeled R, Y, G, B (PWR, A, B, COM). You can also use the SDI2 interconnect cable.

Compatibility

Control panels	B9512G/B9512G-E (6 total B299 modules) B8512G/B8512G-E (1 B299 module)
POPIT devices	D9127U/T POPIT module ZX776Z/ZX794Z PIR motion detector ZX835 TriTech motion detector ZX935Z/ZX938Z PIR motion detector ZX970 TriTech motion detector D278S 12V smoke base D298S 24V smoke base F220-B6PM POPIT smoke (master) F220-B6PS POPIT smoke base

Parts included

Quantity	Component
1	POPEX module
1	Hardware pack
1	Literature pack
1	Interconnect cable

Technical specifications

Properties

Dimensions	2.9 in x 5.0 in x 0.6 in (73.5 mm x 127 mm x 15.25 mm)
Weight	11.2 oz (0.30 kg)

Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F)
Temperature (operating)	0°C to +49°C (+32°F to +120°F)

Power requirements

Current	Standby: 35 mA + total device current Alarm: 35 mA + total device current
Voltage (input)	12 VDC

Wiring

Terminal wire size	12 AWG to 22 AWG (2.0 mm to 0.65 mm)
SDI2 wiring	Maximum distance – Wire size (unshielded wire only): 200 ft (60 m) – 22 AWG (0.65 mm), 500 ft (152 m) – 18 AWG (1.02 mm)
POPIT loop wiring	Maximum wire length: 1800 ft (548 m) – 22 AWG (0.65 mm), 4497 ft (2682 m) – 18 AWG (1.02 mm)

Ordering information

B299 POPEX Module

Provides system expansion support for up to 100 POPIT devices

Order number **B299**

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B926F Fire Keypad

www.boschsecurity.com

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- Fire keypad with fire function keys: ACK, SILENCE, RESET, and DRILL
- 2-line LCD display with up to 32 character point, user, and area names
- Simple menu-style user interface with dedicated function buttons for common commands, including status indication
- Quickly identifiable, visual indicators for critical system statuses
- Simple installation with self-locking base and chassis design, plus built-in bubble level

The B926F Fire Keypad is a fully supervised SDI2 device for fire applications.
Each keypad has user-adjustable backlit keys, a display that shows system messages, and a sounder. The sounder emits distinct condition tones to alert you to a fire alarm, a fire trouble, or fire supervisory events as they occur. The keypad includes fire status indicators and fire function keys.

Functions

LCD display
The keypad uses words, numbers, and symbols to show the status of the security system. When several events occur, the keypad shows each event in order of priority.

Keys
Each keypad has 10 number keys and 5 navigation keys.
When pressed, keys turn on keypad backlighting and emit the keypress tone (short beep). The keypad has 4 Fire function keys:

- ACK. Press to acknowledge the system alarm or trouble condition.
- SILENCE. Press to silence fire alarms or troubles.
- RESET. Press to reset devices such as smoke detectors, and clear restored points.
- DRILL. Press and hold to initiate a fire drill.

Audible tones
The keypad has a built-in sounder that produces several distinct warning tones. The tones are differentiated so that the user can recognize an event simply by hearing its associated tone.

Status indicators
The status indicators on the keypad provide a quick visual reference for system status.

✓	The indicator lights when the system is ready to turn on (arm).
🔒	The indicator lights when the system is on (armed).
GAS	The indicator lights when dangerous gases are present including carbon monoxide (NFPA 720).
🔌	The indicator lights when the system has power.

Fire status indicators

In conjunction with the display and status indicators, the fire keypad includes Fire status indicators.

	The indicator lights when a fire alarm condition exists.
	The indicator lights when a user silenced a fire alarm condition.
	The indicator lights when a supervisory point is not normal.
	The indicator lights when there is a trouble condition

Certifications and approvals

Region	Certification	
USA	ANSI-SIA	CP-01-2010-Control Panel Standard - Features for False Alarm Reduction
	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
	UL	
	UL	UL 294 - Standard for Access Control Units and Systems
	UL	UL 1635 - Standard for Digital Alarm Communicator System Units
	CSFM	California Office of The State Fire Marshall
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	CAN/ULC S545 - Residential Fire Warning System Control Units
	ULC	ULC-ORD C1023 - Household Burglar Alarm System Units
	ULC	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	ULC	
	IC	ICES-003 - Information Technology Equipment (ITE)

Installation/configuration notes

Mounting considerations

Mount in indoor, dry locations.

Power supply

A compatible control panel supplies the power and data requirements to the keypad through a four-wire connection.

Enclosure and wiring

The sliding self-locking enclosure has an integrated bubble level and custom gap-free, lift-gate style terminal blocks to make installation easier.

Compatible control panels

B9512G/B9512G-E
B8512G/B8512G-E

Parts included

Qty.	Component
1	Keypad
1	Hardware pack
1	Installation Guide
1	User's Quick Reference Guide

Technical specifications

Materials and hardware features

Dimensions	158 mm x 120 mm x 26 mm (6.2 in x 4.7 in x 1 in)
Weight	11.3 oz (0.32 kg)
Material	Acrylonitrile butadiene styrene (ABS) Poly(methyl methacrylate) (PMMA)
Display window	2 line display 18 characters per line
Indicators	Illuminated keys Status indicators Warning and indicating tones

Power requirements

Current	Standby: 35 mA Alarm: 70 mA
Voltage (input)	12 VDC nominal

Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F)
Temperature (operating)	0°C to +49°C (+32°F to +120°F)

Wiring

Terminal wire size	1.02 mm (18 AWG) to 0.65 mm (22 AWG)
SDI2 wiring	Maximum distance – wire size: 260 m (850 ft) - 0.65 mm (22 AWG) 305 m (1000 ft) - 1.02 mm (18 AWG)

Ordering information

B926F Fire Keypad
Two-line alphanumeric fire keypad
Order number **B926F**

Accessories

B56 Keypad Surface Mount Box
Surface mount box for mounting a keypad to concrete or block.
Order number **B56**

B96 Keypad Trim Bezel
Cover the wall footprint of previous keypads when replacing them with the new, slim design of B Series keypads. The white trim bezel is 8.6 in x 6.3 in x 0.12 in (22 mm x 16 mm x 3 mm).
Order number **B96**

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18689434123 | en, V10, 18. Aug 2016

FCP-350 Smoke Detector Head Series

- Wide viewing angle alarm indicators
- Automatic drift compensation and maintenance indication
- Built-in magnetic test feature
- Optimized reduction to false alarms and enhanced reaction time to real fires

The device is UL 268 7th edition listed and is a reliable, high-quality multi-criteria Photoelectric Smoke Detector. It can be used in all open areas where Photoelectric Smoke Detectors are required. The newly developed multi-spectrum smoke categorization technology detects smoldering and flaming fires fueled by traditional materials and polyurethane while reducing nuisance alarms.

System overview

This device utilizes a green/red LED for indication of status. In a normal standby condition the LED flashes green every 3 seconds. When the detector senses that its sensitivity has drifted outside the UL listed sensitivity window the LED will flash Red every 3 seconds. When the detector senses smoke and goes into alarm the status the LED will latch on Red.

Functions

This device utilizes an Infrared and Blue LED light source and silicon photodiode receiving element in the smoke chamber. In a normal standby condition, the receiving element receives no light from the pulsing LED light source. In the event of a fire, smoke enters the device smoke chamber and light is reflected from the smoke particles to the receiving element. The light received is converted into an electronic signal.
Fire Judgement signals are processed and compared to a reference level. When the signal exceeds the reference level, the alarm signal is triggered. The status LED latch on continuously during the alarm period.

Installation/configuration notes

Compatible bases

- FCA-350-B4
- FCA-350-B6
- FCA-350-B6R12
- FCA-350-B6R24
- FAA-350

Technical specifications

Mechanical

Dimensions (H x W x D) (cm)	10.00 cm x 10.00 cm x 5.53 cm
Dimensions (H x W x D) (in)	3.94 inch 3.94 inch x 2.18 inch
Weight	3.4 oz
Color	Ivory
Material	ABS plastic

Environmental

Integrated heat detector response temperature (FCP-350-PTH) (ºC)	57ºC
Integrated heat detector response temperature (FCP-350-PTH) (ºF)	135ºF

Relative Humidity	<95%RH @ 104ºF (40 ºC), <80%RH @ 120 ºF (48 ºC)
Operating temperature (C) (FCP-350-P)	0ºC - 49ºC
Operating temperature (F) (FCP-350-P)	32ºF - 120ºF
Operating temperature (C) (FCP-350-PTH)	0ºC - 47ºC
Operating temperature (F) (FCP-350-PTH)	32ºF - 117ºF
Storage temperature (C)	-30ºC - 60ºC
Storage temperature (F)	-22 F - 140 F
Smoke density range	1.82-3.16%/ft@ Open area
Nominal spacing (m)	9.1 m
Nominal spacing (ft)	30 ft
Usage	Indoor/dry

Note: The normal environment where these detectors are installed should be within the specified normal operating temperature limits.

Electrical

Operating voltage	8-35 VDC
Maximum voltage	42 VDC
Standby current	59µA
Remote indicator current	8.0 mA (Internally Limited)
Alarm current	5 mA - 150 mA (limited by control panel)

Ordering information

FCP-350-P Smoke detector head, photoelectric
High quality Photoelectric Smoke Detector that can be used in all open areas where Photoelectric Smoke Detectors are require.
Order number **FCP-350-P | F.01U.397.731**

FCP-350-PTH Smoke detector head, photo/heat
High quality Photoelectric Smoke Detector that can be used in all open areas where Photoelectric Smoke Detectors are require.
Order number **FCP-350-PTH | F.01U.397.732**

Accessories

FCA-350-B6 Detector base, 6", 2-wire
Standard base for two-wire (12 VDC or 24 VDC system) applications. The base works with the FCH-350 and FCP-350 smoke detectors and heat detectors.
Order number **FCA-350-B6 | F.01U.397.737**

FCA-350-B6R12 Detector base, 6", 4-wire, 12V
Standard base for four-wire (12 VDC system) applications. The base works with the FCH-350 and FCP-350 smoke detectors and heat detectors.
Order number **FCA-350-B6R12 | F.01U.397.739**

FCA-350-B6R24 Detector base, 6", 4-wire, 24V
Standard base for four-wire (24 VDC system) applications. The base works with the FCH-350 and FCP-350 smoke detectors and heat detectors.
Order number **FCA-350-B6R24 | F.01U.397.738**

FCA-350-B4 Detector base, 4", 2-wire
Standard base for two-wire applications. The base works with the FCP-350 series smoke detectors and FCH-350 heat detectors.
Order number **FCA-350-B4 | F.01U.397.740**

FAA-350 Detector base, 6", POPIT
Heat detector head for use with a 4-wire (2 data and 2 power), 12 VDC or 24 VDC compatible addressable base.
Order number **FAA-350 | F.01U.398.322**

Represented by:

Europe, Middle East, Africa:
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5600 JB Eindhoven, The Netherlands
Phone: + 31 40 2577 284
www.boschsecurity.com/xc/en/contact/
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Tel.: +49 (0)89 6290 0
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www.boschsecurity.com

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PAM-1, PAM-2, and PAM-4

Multi-Voltage Relay Modules

FIRE-LITE ALARMS by Honeywell

Relays

General

Air Products & Controls, Inc. PAM-1, PAM-2, and PAM-4 Multi-Voltage Relay Modules are encapsulated multi-voltage devices. The PAM-1 relay provides 10.0 Amp Form-C contacts and may be energized by one of three input voltages: 24 VAC, 24 VDC, or 115 VAC. The PAM-2 relay provides 7.0 Amp Form-C contacts and may be energized by one of two input voltages: 12 VDC or 24 VDC. The PAM-4 relay provides 10.0 Amp Form-C contacts and may be energized by a wide voltage range from 9 VDC to 40 VDC.

A red LED is provided on both models. When illuminated, it indicates the relay coil is energized.

Either model may be mounted by using the double-sided adhesive tape, the self-drilling screw, or by placing loosely in a backbox.

PAM-1, PAM-2, and PAM-4 Relay Modules are ideal for applications where remote relays are required for control or status feedback. They are suitable for use with HVAC, temperature control, fire alarm, security, energy management, and lighting control systems.

Specifications

Power requirements:

- PAM-1: 0.015 Amps per position @ 24 VDC, 24 VAC, 115 VAC.
- PAM-2: 0.015 Amps per position @12 VDC or 24 VDC.
- PAM-4: 0.015 Amps per position @ 24 VDC or 12 VDC.

Relay: UL-recognized SPDT.

Contact Rating:

- PAM-1: 10.0 A @ 115 VAC, 7.0 A @ 28 VDC, 250uA @ 5 VDC.
- PAM-2: 7.0 A @ 115 VAC, 7.0 A @ 28 VDC, 250uA @ 5 VDC.
- PAM-4: 10.0 A @ 120 VAC, 7.0 A @ 24 VDC, 250uA @ 5 VDC.

Ambient Temperature Range: -58°F to 185°F (-50°C to 85°C).

Dimensions: 1.5” (3.81 cm) high x 1.0” (2.54 cm) wide x 0.875” (2.223 cm) deep, with 12” (30.48 cm) wire leads @ 18 AWG (0.75 mm^2).

6755pho1.jpg

PAM-1

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S3403
- **MEA:** 73-92-E, Volume XXI
- **CSFM:** 7300-1004:101

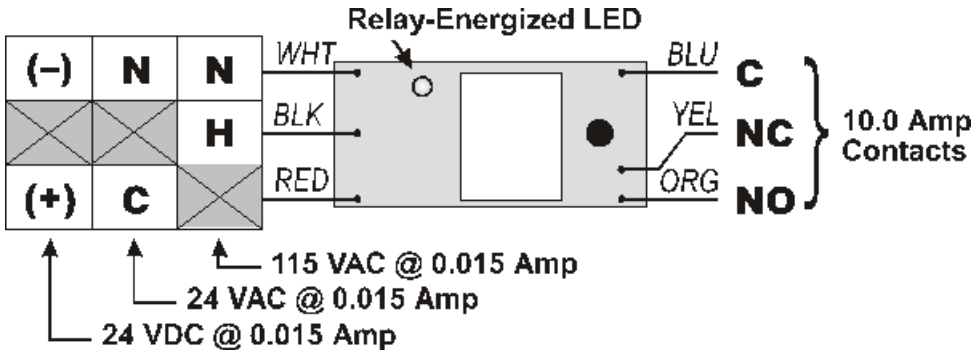
Product Line Information

PAM-1: Single SPDT relay with LED, double-sided adhesive tape, mounting screw, 12” (30.48 cm) leads, and six wire nuts.

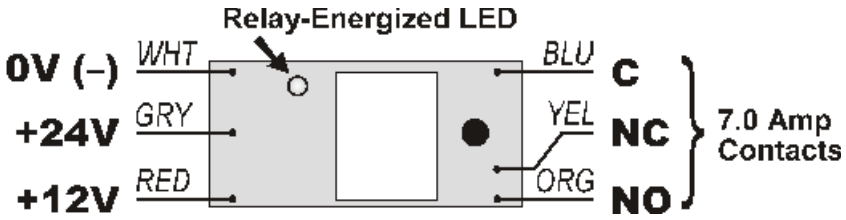
PAM-2: Single SPDT relay with LED, double-sided adhesive tape, mounting screw, 12” (30.48 cm) leads, and six wire nuts.

PAM-4: Single SPDT relay with LED, double-sided adhesive tape, mounting screw, 12” (30.48 cm) leads, and six wire nuts.

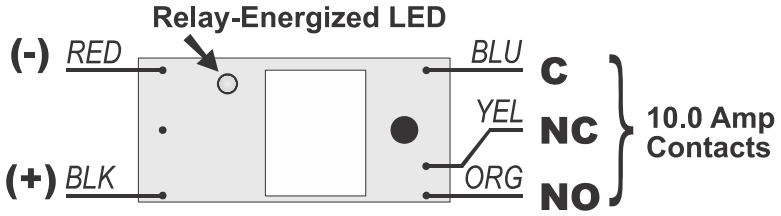
Wiring Diagrams



PAM-1



PAM-2



PAM-4

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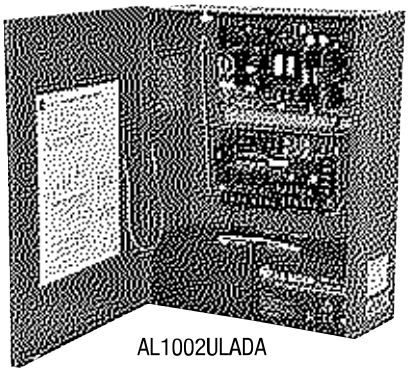
ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com

Altronix® AL1002ULADA NAC Power Extenders

Rev. AL1002ULADA_03102015



AL1002ULADA

Overview

AL1002ULADA are extremely cost effective voltage regulated remote NAC Power Extenders. They may be connected to any 24 volt Fire Alarm Control Panel (FACP). Primary applications include Notification Appliance Circuit (NAC) expansion (supports ADA requirements) and providing auxiliary power to support system accessories.

Specifications

Input:

- Power input 120VAC 60 Hz, 5 amp.
- Two (2) Class A, Style Z or two (2) Class B, Style W, Y FACP inputs.
- Two (2) NC dry contact trigger inputs.

Output:

- Class 2 Rated power-limited outputs.
- 24VDC @10 amp max total alarm current.
- 2.5 amp max current per output.
- Separate 1.0 amp auxiliary output.
- Programmable supervised indicating circuit outputs: Four (4) Class B, Style W, Y or Two (2) Class A, Style Z or One (1) Class A, Style Z and Two (2) Class B, Style W, Y.
- Thermal and short circuit protection with auto reset.

Battery Backup:

- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switchover to stand-by battery when AC Fails.
- Zero voltage drop when switching over to battery backup.

Supervision:

- AC fail supervision (form "C" contact, 1 amp / 28VDC). Factory set for 30 seconds with optional 2.5 to 3 hour delay setting (field selectable).
- Instant local AC trouble reporting relay (form "C" contact, 1 amp / 28VDC).
- Battery presence and low battery supervision (form "C" contact, 1 amp / 28VDC).

Visual Indicators:

- Input and output status LED indicators.

Special Features:

- 2-wire horn/strobe Sync mode allows audible notification appliances (horns) to be silenced while visual notification appliances (strobes) continue to operate.
- Sync protocols include Potter/Amseco, Faraday, Gentex®, System Sensor®, and CooperWheelock®.
- Temporal Code 3, Steady Mode, Input to Output Follower Mode (maintains synchronization of notification appliances circuit).
- Compatible with 12VDC or 24VDC fire panels.
- Output loop supervision steered to input 1 or input 2.
- Signal circuit trouble memory (helps identify intermittent loop problems).
- Common trouble input and output.
- Ground fault detection.
- Unit includes power supply, red enclosure, cam lock, and battery leads.

Mechanical:

- Enclosure Dimensions (H x W x D approx.): 15.5" x 12" x 4.5" (393.7mm x 304.8mm x 114.3mm)
- Product weight (approx.): 12 lbs. (5.44 kg).
- Shipping weight (approx.): 13.3 lbs. (6.03 kg).

Agency Approvals

UL Listed Control Units and Accessories for Fire Alarm Systems (UL 864) Ninth Edition

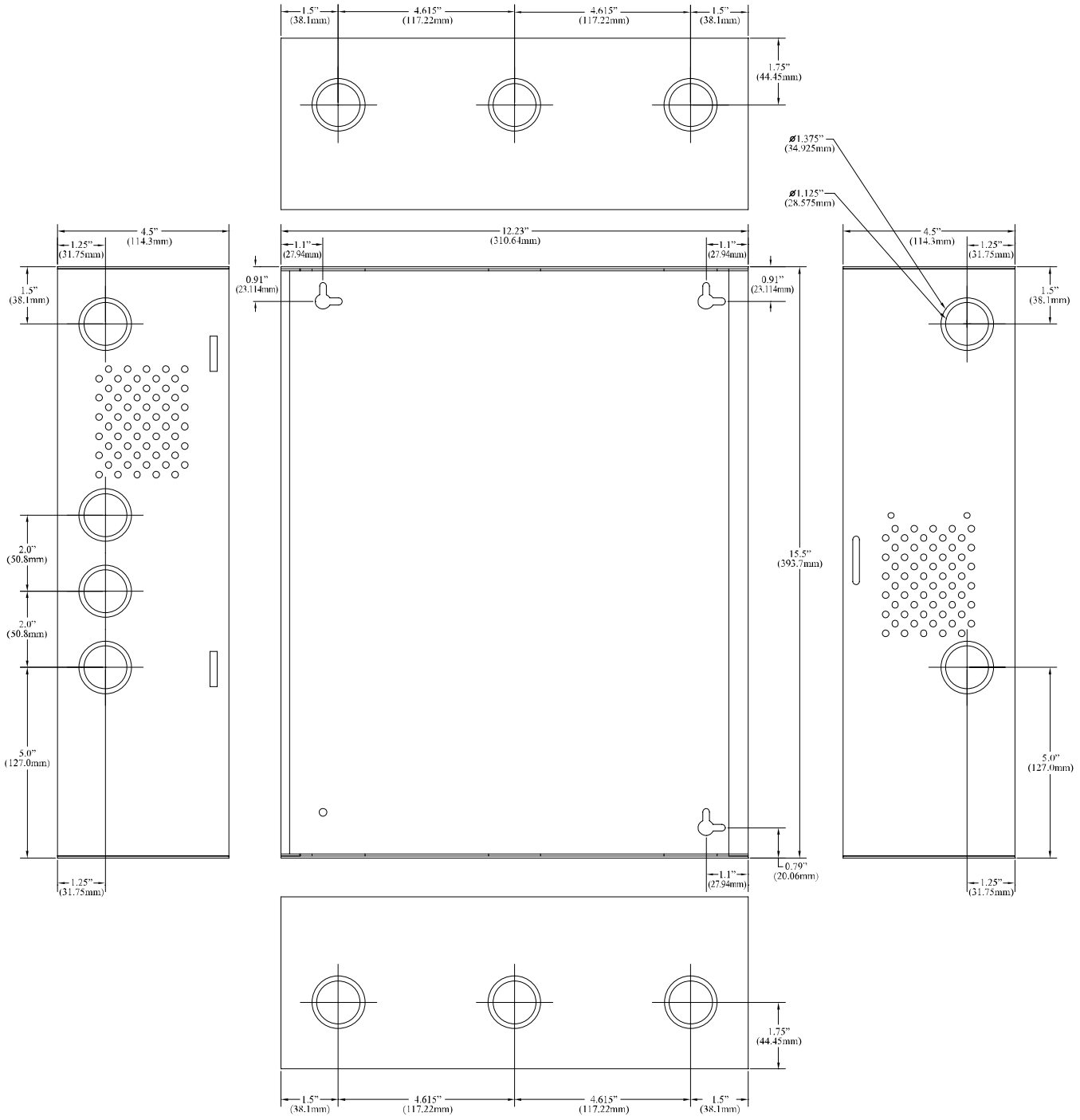
MEA Approved — NYC Department of Buildings Approved.

California State Fire Marshal Approved.

FM APPROVED — Factory Mutual Approved.

Enclosure Dimensions *(H x W x D approximate)*:

15.5” x 12” x 4.5” (393.7mm x 304.8mm x 114.3mm)



D273 Photoelectric Smoke and Smoke and Heat Detectors

www.boschsecurity.com

BOSCH
Invented for life

- 12 VDC or 24 VDC input
- Designed for commercial or residential use
- Four-wire application
- Light-emitting diodes (LEDs) indicate the status of the chamber, power, and alarm
- Removable terminal block to simplify wiring connections

The D273 Family includes the following detector models:

Model	Description
D273	Four-wire
D273IS[1]	Four-wire with an isolated 135°F (57°C) heat sensor and sounder
D273TH	Four-wire with 135°F (57°C) heat sensor
D273THC	Four-wire with 135°F (57°C) heat sensor and auxiliary relay
D273THCS[1]	Four-wire with 135°F (57°C) heat sensor, auxiliary relay, and sounder
D273THE	Four-wire with 135°F (57°C) heat sensor and EOL relay
D273THR[2]	Four-wire with 135°F (57°C) heat sensor and trouble relay
D273THS[1]	Four-wire with 135°F (57°C) heat sensor and sounder
D273THES[1]	Four-wire with 135°F (57°C) heat sensor, sounder, and EOL relay

1 Sounders produce 85 dB at 10 ft (3 m).

2 The trouble relay indicates both Dirty Smoke Chamber and/or Power Loss conditions.

Each of the detector models is UL Listed and works with commercial fire protective signaling and household fire warning systems. Each model detects smoke particles produced during wood, paper, and fabric combustion.

System overview

These detector models use an infrared (IR) LED light source and a silicon photodiode to measure light in a chamber. A fine screen covers the chamber to deter insects and reduce dust accumulation and nuisance alarms.
During a fire, smoke particles reflect light onto the photodiode. When the photodiode measurements exceed the alarm threshold, the detector signals an alarm condition. After the alarm condition clears, interrupt power at the control panel to reset the detector.

When a D132B Reversing Relay Module is used, the LED does not latch on alarm.

Functions

Chamber Calibration Tests

Check the sensitivity and calibration of any of these detectors using a visual check, a magnet test, or a voltage measurement test. Refer to the *D263/D273 Families Installation Guide* for specific instructions to perform these sensitivity tests.

Certifications and approvals

Region	Certification	
USA	UL	UROX: Smoke - Automatic Fire Detectors (UL268 and A), UROX7: Smoke - Automatic Fire Detectors Certified for Canada (cULus)
	CSFM	see our website
	NYC-MEA	274-93-E, Vol. VII
	MSFM	
Hong Kong	HKFSD	J-005/C/023

Installation/configuration notes

Use smoke detectors for detection circuits that protect people. Use heat detectors for circuits that protect property.

Compatible Products

The following products are compatible with the D273 Family detectors:

Category	Product ID	Product Description
Control Panels	These detector models are compatible with UL Listed four-wire control panels. Refer to the manufacturer's installation instructions to select the correct EOL resistor.	
Modules	D132B	Reversing relay module

Loop Supervision

For loop supervision, install a Bosch Security Systems D275 Power Supervision Module and an EOL resistor after the last device on the loop.

Mounting

The detector has a mounting plate that attaches to a standard four-inch back box.

For commercial and industrial installations in accordance with NFPA 72, space each detector 30 ft (9.2 m) apart.

Wiring

The terminal block accepts up to 12 AWG (ISO 2.5 mm^2) wire. You can remove the terminal block from the detector for easier wiring. The terminal block snaps in and out of the detector.

Parts included

Quant.	Component
1	Detector
1	Literature pack – Installation Manual, Technical Service Note on installation

Technical specifications

Environmental Considerations

Relative Humidity:	Up to 93%, non-condensing
Operating and Storage Temperature:	+32°F to +120°F (0°C to +40°C)
Radio Frequency Interference (RFI) Immunity	No alarm or setup on critical frequencies in the range of 26 MHz to 950 MHz.

Mechanical Properties

Dimensions (Diameter x H):	5 in. x 2 in. (12.7 cm x 5.1 cm)
Material:	High impact, fire retardant ABS plastic

Power Requirements

Power-up Time:	22 sec maximum
RMS Ripple:	25% of DC input maximum
Voltage (stand-by):	10 VDC to 30 VDC
Current Draw (alarm) at 30 VDC	
D273, D273TH:	18 mA maximum
D273THC:	33 mA maximum
D273THE, D273THR:	36 mA maximum
D273THS:	78 mA maximum
D273THCS:	90 mA maximum
D273THES:	96 mA maximum
D273IS:	100 mA maximum
Current Draw (standby)	
D273, D273TH, D27THC, D273THCS, D273THS:	0.1 mA maximum
D273IS:	15 mA
D273THE, D273THES:	15 mA
D273THR:	18 mA maximum

Ordering information

D273 Four-Wire Smoke Detector

Four-wire smoke detector.

Order number **D273**

D273IS Four-Wire Smoke Detector with Isolated Heat Sensor and Sounder
Four-wire smoke detector with an isolated 135°F (57°C) heat sensor and a sounder.
Order number **D273IS**

D273TH Four-Wire Smoke/Heat Detector
Four-wire smoke detector with a 135°F (57°C) heat sensor.
Order number **D273TH**

D273THC Four-Wire Smoke/Heat Detector with Auxiliary Relay
Four-wire smoke detector with an isolated 135°F (57°C) heat sensor and an auxiliary relay.
Order number **D273THC**

D273THCS Four-Wire Smoke/Heat Detector with Auxiliary Relay and Sounder
Four-wire smoke detector with a 135°F (57°C) heat sensor, an auxiliary relay, and a sounder.
Order number **D273THCS**

D273THE Four-Wire Smoke/Heat Detector with EOL Relay
Four-wire smoke detector with a 135°F (57°C) heat detector and an EOL relay.
Order number **D273THE**

D273THES Four-Wire Smoke/Heat Detector with EOL Relay and Sounder
Four-wire smoke detector with a 135°F (57°C) heat sensor, a sounder, and an EOL relay.
Order number **D273THES**

D273THR Four-Wire Smoke/Heat Detector with Trouble Relay
Four-wire smoke detector with a 135°F (57°C) heat sensor and a trouble relay.
Order number **D273THR**

D273THS Four-Wire Smoke/Heat Detector with Sounder
Four-wire smoke detector with a 135°F (57°C) heat sensor and a sounder.
Order number **D273THS**

Accessories

D275 Power Supervision Module
Line supervision device for four-wire fire detection circuits
Order number **D275**

D1005 Test Cable
Connects a digital voltmeter to the detector's calibration pin for verifying that the detector is within its calibration range
Order number **D1005**

DT-2 Detector Removal Tool
Use the DT-2 to remove, replace, or test the detector head
Order number **DT-2**

TP280 Trim Plate
For retrofit and remodeling purposes; 16.2 cm (6 in.) diameter
Order number **TP280**

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2700558987 | en, V5, 31. Oct 2014

FMM-100 Die-cast Metal Fire Alarm Manual Stations

www.boschsecurity.com

BOSCH
Invented for life

- Single or dual action
- Terminal connections
- Gold-plated alarm contacts for corrosion resistance
- Surface or weatherproof back boxes

The FMM-100 family are versatile, high-quality, metal fire alarm manual stations. Single-action or dual-action models are available. All models come with a key lock and contain gold-plated contacts to resist corrosion.

Functions

Operation

Single-action

When the bar on the front of the manual station is pulled, it latches open and is easily visible from 50 ft (15 m). Reset the activation bar by opening the manual station with the key and placing the activation bar in its normal upright position. An optional scored acrylic break rod is available.

Dual-action

With the dual-action configuration the upper bar on the front of the manual station rotates inward allowing the activation bar to be grasped and operated by a single hand.

Certifications and approvals

Region	Certification	
USA	UL	UNIU: Boxes, Non-Coded (UL38), UNIU7: Boxes, Non-Coded Certified for Canada (cULus)
	CSFM	see our website
	NYC-MEA	382-94-E, Vol. VI

Installation/configuration notes

Compatibility Information

These manual stations are compatible with all Bosch Security Systems, Inc. Fire Alarm Control Panels.

Mounting Considerations

These manual stations can be surface mounted on either the FMM-100BB-R Surface-mount Back Box or the FMM-100WPBB-R Weatherproof Back Box. They can also be flush mounted on a standard single-gang back box.

Notice
When properly mounted on the FMM-100WPBB-R Weatherproof Back Box, these manual stations meet UL requirements for outdoor use.

To comply with ADA standards, the manual station must be less than 48 in. (1.2 m) above the floor for front wheelchair access and less than 54 in. (1.3 m) above the floor for side wheelchair access.

Parts included

Quant.	Component
1	Manual station
1	D102 Key (1358 key)
1	FMM-100GR Acrylic Break Rod
1	Hardware pack
1	Literature pack

Technical specifications

Environmental

Relative Humidity:	90% at +100°F (+38°C)
Temperature (operating):	-40°F to +150°F (-40°C to +66°C)

Mechanical

Color:	Red
Dimensions (H x W x D):	4.75 in. x 3.25 in. x 1.1 in. (12 cm x 8.3 cm x 2.8 cm)
Material:	die-cast metal

Inputs

Switch Rating:	1 A at 30 VDC or 125 VAC

Ordering information

FMM-100SATK Single-action Manual Station (red)
Versatile, high-quality, metal single-action fire alarm manual station with key lock and gold-plated contacts
Order number **FMM-100SATK**

FMM-100SATK-NYC Single-action Manual Station for New York City
Versatile, high-quality, metal single-action fire alarm manual station for New York City with key lock and gold-plated contacts
Order number **FMM-100SATK-NYC**

FMM-100DATK Dual-action Manual Station (red)
Versatile, high-quality, metal dual-action fire alarm manual station with key lock and gold-plated contacts
Order number **FMM-100DATK**

Accessories

D102 Replacement Key
Replacement key (#1358) for LOCK-1358 and the D101 lock.
Order number **D102**

FMM-100BB-R Surface-mount Back Box (red)
Red cast-metal back box
Order number **FMM-100BB-R**

FMM-100WPBB-R Weatherproof Back Box (red)
Red cast-metal weatherproof back box
Order number **FMM-100WPBB-R**

FMM-100GR Scored Acrylic Break Rods
Scored acrylic rods (12 per package)
Order number **FMM-100GR**

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2708627339 | en, V2, 11. Aug 2014

ACEBOX
BY SPACE AGE ELECTRONICS

FAD

Fire Alarm Documents

Store important system documents in a secure location with a cabinet built specifically to meet the requirements of NFPA 72 7.7.2.4.

The number one goal at Space Age is to manufacture code compliant solutions, and the FAD is just that. NFPA 72 7.7.2.1 states, “With every new system, a documentation cabinet shall be installed at the system control unit or other approved location at the protected premises.”

The FAD includes our innovative 8GB flash drive slide tab that allows the user to select a USB-C or Micro USB connector to access records electronically (See NFPA 72 7.5.6.7).

FEATURES

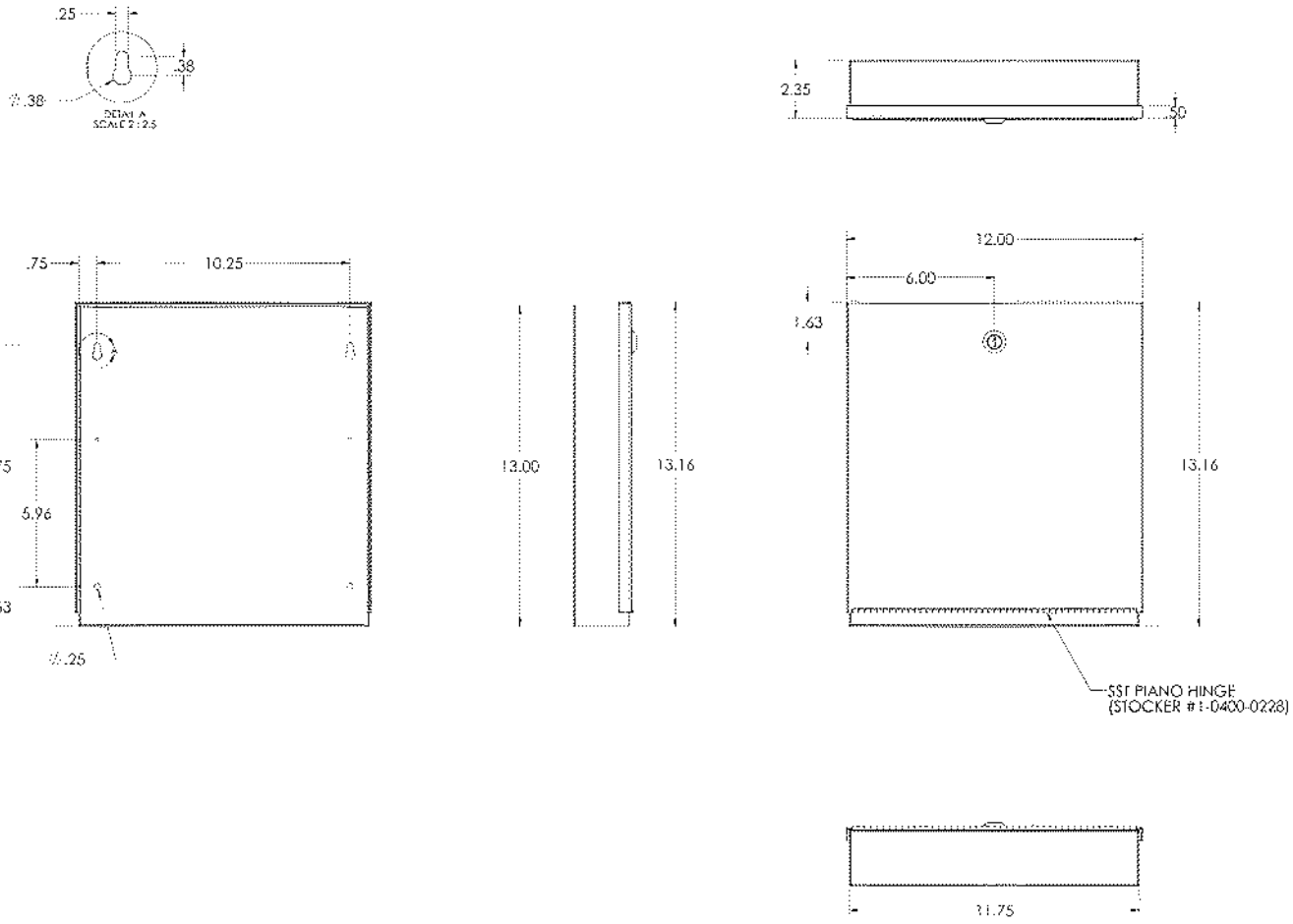
- 18 gauge cold rolled steel construction with red powder coat and white lettering
- Dimensions are 12” wide x 13” tall and 2 1/4” deep
- Stainless steel piano hinge
- Two key ring hooks to hold system keys
- Business card holder for key contacts
- Slide tab allows user to select USB-C or Micro USB connector to download from 8GB digital flash memory

SPECIFICATIONS

The FAD Fire Alarm Documents Box shall be UL Listed, constructed of 18 gauge cold rolled steel. It shall have a powder coat finish. The cover shall be permanently screed with lettering “FIRE ALARM DOCUMENTS” with white indelible ink. The access door shall be locked with a 3/4” barrel lock and there will be a 12” stainless steel piano hinge. The FAD will have a minimum of 8 gigabyte digital flash memory drive with a slide tab that allows user to select USB-C or Micro USB connector for uploading and downloading information. The enclosure will supply 4 mounting holes. Inside will accommodate standard 8 1/2” x 11” manuals and document records. A legend sheet will be attached to the door for system required documentation, key contacts and system information. The enclosure shall also provide 2 key ring holders with a location to mount standard business cards for key contact personnel.

CUSTOM COLORS AND BRANDING AVAILABLE

DIMENSIONS



ORDERING INFORMATION

P/N# SSU00685
Fire Alarm Documents Cabinet - Red

P/N# SSU00686
Fire Alarm Documents Cabinet - Red with your custom screened logo

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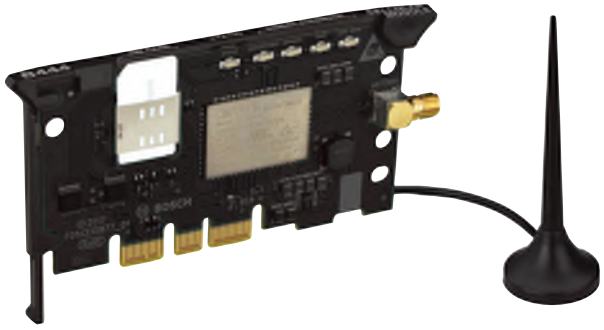
B444 Conettix Plug-in 4G LTE Cellular Communicator

www.boschsecurity.com

BOSCH
Invented for life



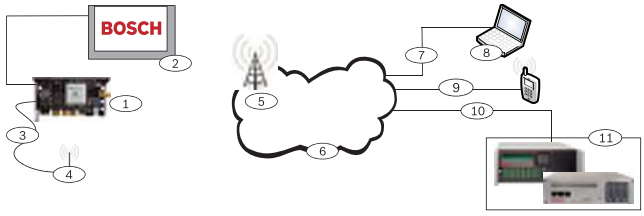
- Secure Conettix IP communication from compatible Bosch panels to Bosch receivers using Verizon 4G LTE cellular network
- Remote programming and monitoring of compatible Bosch panels
- Personal SMS message and e-mail notification options
- Direct configuration from Bosch Remote Programming Software (RPS) eliminating the need for separate configuration
- Simple LED status information and advanced keypad diagnostics available with easy 2 step plug-in installation, troubleshooting, and maintenance

The cellular communicator enables secure two-way IP communication over the Verizon 4G LTE cellular network by plugging into a compatible control panel or communicator interface.
Typical applications are:

- Alarm reporting to a central station
- Remote control panel programming through Remote Programming Software with supported control panels
- Remote monitoring and control through a mobile application with supported control panels
- Personal notification using SMS for compatible control panels

Notice
Cellular capability requires an Installer Services account and appropriate data plan.

System overview



Callout — Description	Callout — Description
1 — Cellular communicator	7 — Remote PC's network connection
2 — Compatible control panel	8 — Remote PC running RPS
3 — Antenna cable	9 — Personal SMS notification
4 — Magnetic base antenna	10 — Ethernet connection

5 — Base station on wireless carrier's network	11 — Central monitoring station
6 — IP network cloud	

Functions

Activation

The B444 module is shipped pre-activated.
The B444-C module needs to be activated. Activate the module by emailing: installer.services@us.bosch.com, or by call Bosch Installer Services at: 800-289-0096, option 6.

Conettix IP communication via Cellular

In addition to the security provided by the network operator, the cellular communicator uses our Conettix IP protocol that supports:

- Flexible polling intervals
- Resistance to Denial of Service attacks
- 128-bit to 256-bit AES encryption with Cypher Block Chaining
- Anti-replay/anti-substitution keys

Easy Installation, troubleshooting, and maintenance

- No networking expertise required at field site (no firewall or router settings)
- No PC or special tools required for installation and troubleshooting
- Service plans and settings managed through RPS
- Diagnostic LEDs for on-site troubleshooting

LED	Function
Blue (heartbeat)	System status indicator
Red	Unacceptable signal strength
Yellow	Marginal signal strength
1 Green	Good signal strength
2 Green	Very good signal strength

Remote programming of Bosch control panels

The cellular communicator supports secure RPS programming of compatible Bosch control panels.

Personal notification and control

The cellular communicator supports the Bosch Remote Security Control mobile application and can be configured for SMS personal notification reports to mobile phones or e-mail addresses.

Remote Connect Service Support

Remote Connect Service enables a secure control panel connection to remote programming software (RPS) using Bosch Cloud services. The service allows a secure TLS connection to a control panel without specific port and router settings and without a static IP or DNS.

Certifications and approvals

Region	Certification	
USA	Verizon	Open Development Certified

Region	Regulatory compliance/quality marks	
USA	UL	UL 864 - Standard for Control Units and Accessories for Fire Alarm Systems
	UL	UL 1076 - Proprietary Burglar Alarm Units and Systems
	UL	UL 1610 - Central Station Burglar Alarm Units
	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 985 - Household Fire Warning System Units
	UL	UL 1023 - Household Burglar Alarm System Units
	CSFM	see www.boschsecurity.com (the Bosch website)
	FCC	Part 15 Class B
Canada	ULC	S1871-20121210

Installation/configuration notes

Mounting considerations

The module plugs into any compatible control panel, available in a variety of enclosures.

Wiring considerations

The module connects to any compatible control panel without tools or physical wiring for power. When used with the B450, the B450 is wired to the control panel data bus. The cellular module has a screw on SMA antenna connection.

Compatibilities

Devices	B9512G/B9512G-E, B8512G/B8512G-E B6512 B6512/B5512/B4512/B3512, B5512E/B4512E/B3512E control panel with firmware v3.05 or higher (direct insertion) The module is compatible with most Bosch control panels when used with a B450 Conettix Plug-in Communicator Interface with firmware v3.05 or higher. Refer to the B450 datasheet for complete control panel compatibility listings. B465 Conettix Universal Dual Path Communicator with firmware v2.0 or higher. B40 antennas
Cellular	4G LTE - Cat 1

Commercial Fire and Burglary applications
Approved for Commercial Fire/Burglary applications as sole, primary, or secondary communications path when the system is installed to the NFPA-72 specification

Technical specifications

Electrical

Current (operating)	Standby: 35 mA Alarm: 100 mA
Voltage (operating)	12 VDC nominal
Radio	Verizon LTE CAT 1 Band 4 and 13

Environmental

Environment	Environmental Class III - Indoor
Relative humidity	5 - 93% at +32°C (+90°F) non-condensing
Operating temperature	0°C to +49°C (+32°F to +120°F)

Mechanical

Board dimensions	2 in x 3.68 in x 0.60 in (50 mm x 93.5 mm x 15.25 mm)
Antenna (included)	• Magnetic base omni-directional • 8.2 ft (2.5 m) cable with SMA connector

Ordering information

B444 Conettix Plug-in 4G LTE Cellular Communicator
Pre-activated 4G LTE cellular communicator for secure two-way IP communication on the Verizon Wireless LTE network.
Order number **B444**

B40-P Outdoor puck antenna, cell, 6.5ft
Omnidirectional, low profile antenna for metallic indoor/outdoor surface mounting. Supports LTE, and 2G/3G/4G data communication. Operates over 698-960 MHz and 1710-2170 MHz bands.
Order number **B40-P**

B40-MB50 Outdoor multiband antenna, cell, 50ft
Provides wide bandwidth and low angle radiation pattern for indoor/outdoor applications. Supports 2G/3G/4G data communication, Domestic (US) LTE 700 band, Global LTE 2600 band, Domestic (US) Cellular, Global GSM, and WiMAX 2300/2500/2600 bands. Includes a 50 ft (15.2 m) cable, and a mounting bracket.
Order number **B40-MB50**

B40-MB25 Outdoor multiband antenna, cell, 25ft
Provides wide bandwidth and low angle radiation pattern for indoor/outdoor applications. Supports 2G/3G/4G data communication, Domestic (US) LTE 700 band, Global LTE 2600 band, Domestic (US) Cellular, Global GSM, and WiMAX 2300/2500/2600 bands. Includes a 25 ft (7.6 m) cable, and a mounting bracket.
Order number **B40-MB25**

B444-C Plug-in cell module, VZW LTE, cold
Non-activated 4G LTE cellular communicator for secure two-way IP communication on the Verizon Wireless LTE network.
Order number **B444-C**

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35406955147 | en, V7, 11. Dec 2018

D8130 Door Release Module

www.boschsecurity.com

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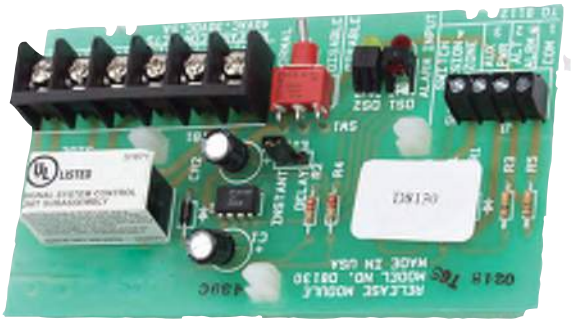

- Two Form C (5 A rated) contacts
- Remotely controls fire system devices
- Instant or delayed relay activation and restoral
- Relay closure follows indicating circuit duration
- Disable switch supervised for system testing

The D8130 Door Release Module is an accessory for fire alarm control panels (FACPs) that controls system functions commonly required in National Fire Prevention Association (NFPA) 72 fire alarm installations. Two independent Form C dry contacts, each rated at 5 A, connect low-voltage circuits to magnetic door holders, pilot relays, or contactor units for function control.
Typical applications are:

- releasing fire doors, emergency exit doors, and stairwell doors
- elevator recall
- HVAC control

Functions

Contact Activation
The control panel indicating output activates the contacts of the D8130. A red Alarm Input LED indicates contact activation.
The duration of the contact activation follows the programmed indicating circuit time. Use a jumper to set the contact activation to be instant or delayed by 14 sec when there is an alarm condition. With the delay option selected, a 14 sec delay also occurs upon restoral. This delay feature is useful for momentary bell tests.

If the user silences the alarm output, the D8130 contacts deactivate. Latching features must be provided for pilot relays or contactor units requiring control beyond the programmed indicating device time or after manual silencing of the indicating circuits.

Supervised Disable Switch
To facilitate fire alarm installation testing, the D8130 Module contains a supervised disable switch that prevents operation of the relay contacts. An amber Disable LED indicates when the switch is in the disable position. Connect one or more D8130 modules to any unused 1 kΩ zone or point of the control panel to detect module disabling.
A trouble is indicated when the D8130 switch is in the disable position, and a restoral signal is sent when the switch is returned to the normal position. (Refer to the control panel's *Program Entry Guide* for details on programming a trouble signal for an open or short condition.) When the contacts are activated with the switch in the normal position, no trouble indications are sent to the control panel.

Release Contact Outputs
A normally-open (NO) terminal, a normally-closed (NC) terminal, and a common (COM) terminal are provided for each D8130 contact. In the inactive state of the contact, the NC terminal has continuity with the COM terminal. In the active state of the contact, the NO terminal has continuity with the COM terminal.

Certifications and approvals

Complies with NFPA 72

Region	Certification	
USA	UL	AMCX: Central Station Alarm Units (UL1610, UL1635), AOTX: Local Alarm Units (UL464, UL609), APAW: Police Station Alarm Units (UL365, UL464), APOU: Proprietary Alarm Units (UL1076), NBSX: Household Burglar Alarm System Units (UL1023), UOJZ: Control Units, System (UL864, 9th edition), UTOU: Control Units and Accessories - Household System Type (UL985)
	CSFM	see our website
	FDNY-CoA	6174
	NYC-MEA	12-92-E, Vol. 12 12-92-E, Vol. 12
	NYC-MEA	12-92-E, Vol. XV

Installation/configuration notes

Compatible Products

The following products are compatible with the D8130 Release Module:

Category	Product ID	Product Description
Control Panels	G Series*	Control panels
	D9412	Control panel
	D7412	Control panel
	D7212**	Control panel
	D9124	Addressable fire alarm control panel
Modules	D191C	Bell supervision module
	D192G	Notification Appliance Circuit (NAC) Module

* G Series included B9512G, B8512G, D9412GV4, D8412GV4, D7212GV4**, D9412GV3, D8412GV3, D7212GV3**, D9412GV2, D8412GV2, D7212GV2**, D9412G, D8412G, D7212G**

** The D7212 models are **not** listed for commercial fire applications.

Mounting Considerations

The D8130 Door Release Module mounts in the control panel enclosure or in a separate approved enclosure. Up to four modules can be installed using the mounting locations provided.

Notice

Use a D138 Mounting Bracket to mount the D8130 in the D9124 FACP.

Wiring

Use the following table to determine correct contact wire size:

Maximum Wire Impedance: 6 Ω	
Distance (maximum)	**Wire Size**
350 ft	22 AWG
800 ft	18 AWG

Parts included

Quant.	Component
1	Door release module
1	Hardware pack
1	Literature pack

Technical specifications

Mechanical Properties

Dimensions (H x W x D):	5 in. x 3 in. x 0.75 in. (12.7 cm x 7.6 cm x 1.9 cm)

Outputs

Relays:	Two Form C dry contact
Relay Rating:	5.0 A at 30 VDC maximum for resistive loads

Power Requirements

Current	
Alarm:	60 mA maximum
Contacts Disabled:	15 mA
Standby:	7 mA
Voltage	
Nominal:	12 VDC nominal

Ordering information

D8130 Door Release Module

Provides two independent Form C dry contacts, each rated at 5 A, to connect low-voltage circuits to magnetic door holders, pilot relays, or contactor units for function control

Order number **D8130**

Accessories

D137 Mounting Bracket

Used to mount accessory modules in D8103, D8108A, and D8109 enclosures.

Order number **D137**

D138 Mounting Bracket, Right Angle
Used to mount accessory modules in D8103, D8108A, and D8109 enclosures.
Order number **D138**

P105F EOL Resistor
A 1 kΩ, 0.5 W end-of-line resistor. Supplied in packages of eight.
Order number **P105F**

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D192G Notification Appliance Circuit (NAC) Module

www.boschsecurity.com

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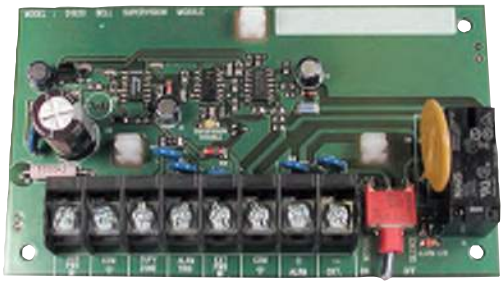

- Supervises 12 VDC or 24 VDC notification appliance circuits (NACs)
- Supervised signal silencing switch
- Notification appliance circuit rated at 3.0 A
- Multiple module configurations
- Mounts in panel enclosure

This module is used for wiring connections to remote signaling devices. You can connect up to twelve D192G modules to the same system on compatible control panels. Wiring is supervised for open, short, or grounded circuit faults.
The module powers notification appliances from the control panel power supply or from an Underwriters Laboratories, Inc. (UL 1481) Listed auxiliary 12 VDC or 24 VDC regulated/power-limited power supply for fire protective signaling units and commercial/residential burglar units. This feature allows the system to support more signaling devices on longer wire runs. It also allows the use of 12 V or 24 V notification appliances requiring the appropriate power supply.

Functions

Supervises 12 VDC or 24 VDC NACs
The D192G powers the notification devices from either the control panel's power supply or from a UL Listed Auxiliary 12 VDC or 24 VDC regulated power-limited power supply for use with Fire Protective Signaling Units and Commercial and Residential Burglar Units. The choice of power supply allows the use of 12 V or 24 V notification devices.

Supervised Signal Silencing Switch
The D192G module has a toggle switch for silencing the notification devices while testing the alarm panel. When this toggle switch is in the Silence (Off) position, the module indicates a supervisory trouble condition to the control panel.

Multiple Module Configurations
Several modules can be connected to the same zone or point on the control panel. If individual annunciation of a notification appliance circuit is desired, D192G modules can be connected to separate zones or points on-board or through the D8128D OctoPOPIT Eight-point Expander.

Mounts in Panel Enclosure
The D192G mounts inside the control panel enclosure using existing mounting holes or with a D137 or D138 Mounting Bracket. Refer to the control panel's installation guide for more information on mounting.

Certifications and approvals

Region	Certification	
USA	UL	AMCX: Central Station Alarm Units (UL1610,UL1635), APAW: Police Station Alarm Units (UL365, UL464), APOU: Proprietary Alarm Units (UL1076), NBSX: Household Burglar Alarm System Units (IL1023), UOJZ: Control Units, System (UL864, 9th edition)
	CSFM	see our website
	FDNY-CoA	#6174 UL 864 9th Edition
	NYC-MEA	12-92-E, Vol. 12 12-92-E, Vol. 12
	NYC-MEA	12-92-E, Vol. XV

Installation/configuration notes

Compatibility Information

Category	Product I
Control Panels	G-series[1]
	B-series[2]
	D9412[3], D7412[3], D7212[3]*
	D9124[3]
Detectors	For a list of compatible two wire detectors, refer to the *Approved Applications Compliance Guide* for the control panel being used.
Modules	D8128D OctoPOPIT Eight-point Expander
Mounting Brackets	D137 Mounting Bracket
	D138 Mounting Bracket, Right Angle

[1] G-series = D9412GV4, D7412GV4, D7212GV4*, D9412GV3, D7412GV3, D7212GV3*, D9412GV2, D7412GV2, D7212GV2*, D9412G[3], D7412G[3], D7212G[3]*

[2] B series = B5512 and B4512

[3] These products are legacy products and have been investigated for compatibility only to UL864 8th edition

* The D7212 models are not listed for commercial fire applications

Notification Appliances

Notification appliances used with the D192G Module must:

- Be polarized (DC) equipment
- Match the voltage rating of the alarm power supply
- Not exceed the current rating of the alarm power supply
- Not exceed 3.0 A in combined device current for each D192G Module

Wiring

Use a Class B, Style W, two-wire circuit and wire according to the instructions supplied with the module. No more than twelve D192G modules can be used per system. For UL applications, a listed (UTRZ) regulated power supply can be used to power notification devices through the D192G module.
To comply with NFPA Standards:

- The control panel and power supply must be supervised or installed in the same room not more than 20 ft (6 m) from the module
- Wiring between the control panel and the power supply must be in conduit
- Power supply fault conditions must be supervised by a UL Listed relay

Parts included

Quant.	Component
1	NAC module
1	Hardware pack
1	Literature pack

Technical specifications

Electrical

External Power In	
Current:	3.0 A maximum
Voltage:	12 VDC or 24 VDC nominal
Aux Power In	
Current:	100 mA maximum
Voltage:	12 VDC nominal
Supervisory Zone Control	
Current:	5 mA maximum

Mechanical

Dimensions:	5 in. x 3 in. x 0.75 in. (13 cm x 8 cm x 2 cm)

Ordering information

D192G Notification Appliance Circuit (NAC) Module
The D192G Notification Appliance Circuit (NAC) module is used for wiring connections to remote signaling devices. The wiring is supervised for open, short, or grounded circuit faults. Either 12 VDC or 24 VDC notification devices can be used depending on the choice of power supply.
Order number **D192G**

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2537484427 | en, V5, 17. Jul 2014

Sync•Circuit™ Module

The Sync•Circuit module synchronizes SpectrAlert® Advance strobes at 1 Hz and horns and chimes at temporal 3 over a single pair of wires. Patented module technology also allows the silencing of horns or chimes on horn/strobe and chime/strobe models over a pair of wires.

Features

- Two-wire operation from module to the devices
- Silences horns and chimes over a two-wire loop
- Synchronizes strobes at 1 Hz
- Synchronizes horns and chimes to temporal 3 pattern
- Patented technology
- Interconnects modules for multiple zone synchronization
- Module controls two Style Y (Class B) circuits or one Style Z (Class A) circuit
- New NAC slave feature enables the interconnection of slave modules over a supervised NAC loop

The MDL3 Module is designed to work with the SpectrAlert and SpectrAlert Advance series of notification appliances to provide a means of synchronizing the temporal-coded horns and chimes, synchronizing the one-second flash timing of the strobe, and silencing the horns and chimes of the horn/strobe and chime/strobes combination over a two-wire circuit while leaving the strobes active.

Application Flexibility. The Sync•Circuit module is designed to power and synchronize either two 3-amp circuits wired in Class B, or one 3-amp circuit powered as Class A. Should more than two zones require synchronization, additional modules can be added by interconnecting the "slave" input and output terminals between modules.

Agency Listings

S4011 S5512 7300-1653:202 3032010

Sync•Circuit™ Module Specifications

Architectural/Engineering Specifications

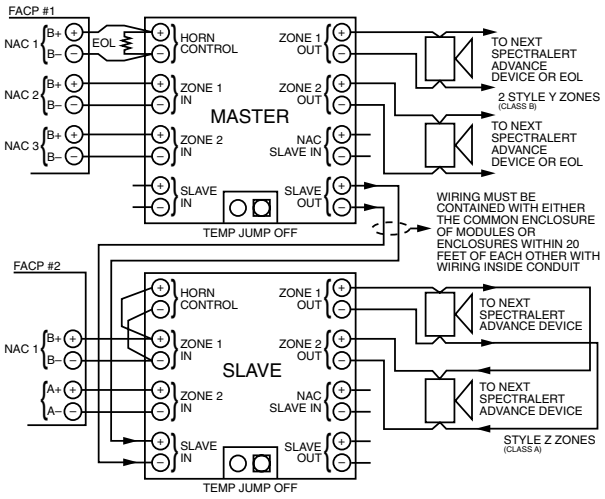
Synchronization Circuit Module shall be a System Sensor Sync•Circuit Model _____ listed to UL 464 and UL 1971 and shall be approved for fire protective service. The module shall synchronize SpectrAlert® or SpectrAlert Advance strobes at 1 Hz and horns at temporal 3. Also, the module shall be capable of silencing the horns on horn/strobe models, while operating the strobes, over a single pair of wires. The module shall be capable of mounting to a 4 11/16″ × 4 11/16″ × 2 1/8″ back box and shall control two Style Y (class B) or one Style Z (class A) circuit. The module shall be capable of multiple zone synchronization by connecting multiple modules (slaves) together. Slaves can be driven from either the slave output of a prior MDL3 or from the NAC output of the master. Using the NAC enables all wiring to be supervised, whereas the slave-out terminals are not supervised, so their use is confined to specific applications.

Note: The module shall not operate on a coded power supply.

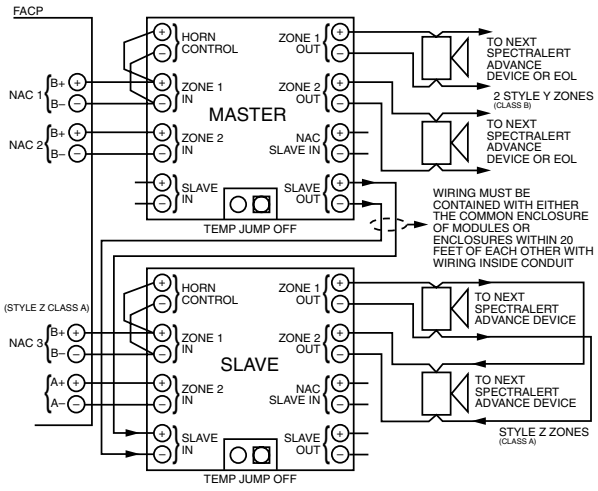
Physical Specifications	
Dimensions	5¼″ L × 5¼″ W
Mounting	4 11/16″ × 4 11/16″ × 2 1/8″ back box
Indoor Operating Temperature	32° to 120° F (0° to 49° C)
Electrical/Operating Specifications	
Operating Voltage	12 or 24 VDC and FWR unfiltered
Operating Voltage Range (12 V)	8.5 to 17.5 VDC
Operating Voltage Range (24 V)	16.5 to 33 VDC
Maximum Load on Loop	3 Amps/zone
U.S. Patent Nos.	5,598,139 5,850,178

Horns and Chimes Silenced Over Two-Wire Circuit

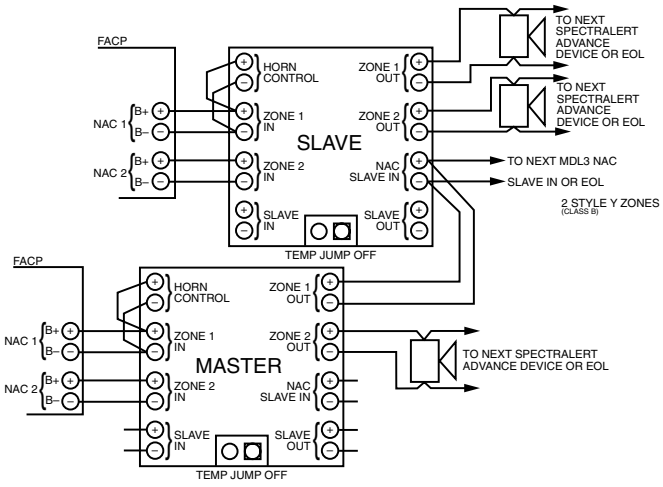
1. Any mix of Horn/Strobes, Chime/Strobes or Strobe-only devices is acceptable
2. Horn and chime control connects to interruptible power source



Master-Slave Mode



Master-Slave Using NAC-Slave Input



Current Draw and Ordering Information

			Average Current (mA)		Peak Current (mA)		In-rush Current (mA)		NAC Slave Input (mA)	
Red	White	Voltage	DC	FWR	DC	FWR	DC	FWR	DC	FWR
MDL3R,	MDL3W,	12	10	12	50	60	100	120	3.5	4
MDL3RA (Canadian)	MDL3WA (Canadian)	24	12	15	60	75	120	150	4.5	5

SYSTEM SENSOR®

3825 Ohio Avenue • St. Charles, IL 60174
Phone: 800-SENSOR2 • Fax: 630-377-6495

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A05-1007-005 • 2/09 • #2030

D8129 Octo-relay Module

www.boschsecurity.com

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- Programmable relay functions
- Provides eight Form C relays
- 1 A at 30 VDC relay contact rating
- Slide switch configuration
- Allows remote control of relays

The D8129 Octo-relay Module is suitable for applications requiring Form C relays to operate auxiliary systems or to display fire system status at remote annunciators. Building components such as HVAC, door lock releases, and stairwell pressurization can interface with the D8129 for complete system control and monitoring.
Industrial, commercial, and institutional facilities are typical installations for the D8129 module. The eight on-board relays can be programmed to activate on system alarm, system trouble, individual zone or point faults, and through remote control by authorized users.

System overview

The D8129 Octo-relay Module provides eight programmable Form C relays. Each relay provides dry contact switching rated for 1.0 A at 30 VDC. The relays are accessed through on-board screw terminal connections.
The D8129 uses information from the control panel serial data output to activate the relays. On-board switches are used to configure the D8129 for different operating modes, or to specify relay output numbers. These switches, along with control panel programming options, determine the D8129's response to the serial data. Programming within the control panel can activate specific relays or sets of relays in response to system conditions.
For the G Series control panels, slide switches are configured for specific relay output numbers, which are activated according to their programming. The D8129 uses five slide switches with multiple setting options to configure its mode of operation. The D8129 receives serial data from the control panel and activates relays in response to control panel conditions and slide switch settings. Relays can be programmed for remote control from a panel keypad.

Functions

Output Relays
Each relay output provides a normally-open and a normally-closed output.

Modes of Operation
A slide switch with multiple switch settings can be used to configure the module for a specific mode of operation for D8112 Series systems, or programming can be used to determine relay operation for G Series systems.

Certifications and approvals

Australia	C-Tick

Region	Certification	
USA	UL	AMCX: Central Station Alarm Units (UL1610, UL1635), AMCX7: Central Station Alarm Units Certified for Canada (cULus), AOTX: Local Alarm Units (UL464, UL609), AOTX7: Local Alarm Units Certified for Canada (cULus), APAW: Police Station Alarm Units (UL365, UL464), APAW7: Police Station Alarm Units Certified for Canada (cULus), APOU7: Proprietary Alarm Units Certified for Canada (cULus), NBSX: Household Burglar Alarm System Units (UL1023), NBSX7: Household Burglar Alarm System Units Certified for Canada (cULus), UOJZ: Control Units, System (UL864, 9th edition),UTOU: Control Units and Accessories - Household System Type (UL985), UTOU7: Control Units and Accessories - Household System Type Certified for Canada (cULus)
	CSFM	see our website
	FDNY-CoA	6059 [D9412GV3 & D7412GV3]
	FDNY-CoA	6174
Canada	ULC	AMCX7.S1871 - Central Station Alarm Units Certified for Canada
	ULC	NBSX7.S1871 Household Burglar Alarm System Units Certified for Canada
	ULC	AOTX7.S1871 Local Alarm Units Certified for Canada
	ULC	APAW7.S1871 Police-station-connected Alarm Units Certified for Canada

Installation/configuration notes

Compatible Control Panels

- B9512G/B9512G-E
- B8512G/B8512G-E
- D9412GV4/D7412GV4/D7212GV4[1]
- D9412GV3/D7412GV3/D7212GV3[1]
- D9412GV2/D7412GV2/D7212GV2[1]

[1]The D7212GV4, D7212GV3, and D7212GV2 are not listed for commercial fire applications.

Mounting Considerations

Up to four D8129 Octo-relay Modules can be mounted in a control panel enclosure. For additional modules, use the D137 Mounting Bracket.

Wiring Considerations

The D8129 connects to a control panel using the 12 VDC Auxiliary output, Serial Data Output, and common terminals. Use 1.5 mm to 0.6 mm (16 AWG to 22 AWG) wires from the module to the control panel.

Parts included

Quantity	Component
1	Octo-relay module
1	Hardware pack
1	Literature pack

Technical specifications

Properties

Board Dimensions:	12 cm x 7.6 cm x 1.9 cm (5.0 in. x 3.0 in. x 0.75 in.)

Power Requirements

Current:	130 mA maximum
Voltage:	12 VDC nominal

Relays

Contact Rating:	1.0 A at 30 VDC for resistive load
Timing:	During pulsed output, relay maintains closure for 1 sec
Type:	Form C dry contact

Ordering information

D8129 Octo-relay Module
Provides 8 programmable relays.
Order number **D8129**

Accessories

D137 Mounting Bracket
Used to mount accessory modules in D8103, D8108A, and D8109 enclosures.
Order number **D137**

D138 Mounting Bracket, Right Angle
Used to mount accessory modules in D8103, D8108A, and D8109 enclosures.
Order number **D138**

Represented by:

Americas:
Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
security.sales@us.bosch.com
www.boschsecurity.us

Europe, Middle East, Africa:
Bosch Security Systems B.V.
P.O. Box 80002
5617 BA Eindhoven, The Netherlands
Phone: + 31 40 2577 284
Fax: +31 40 2577 330
emea.securitysystems@bosch.com
www.boschsecurity.com

Asia-Pacific:
Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2808
Fax: +65 6571 2699
apr.securitysystems@bosch.com
www.boschsecurity.asia

China:
Bosch (Shanghai) Security Systems Ltd.
203 Building, No. 333 Fuquan Road North IBP
Changning District, Shanghai
200335 China
Phone +86 21 22181111
Fax: +86 21 22182398
www.boschsecurity.com.cn

America Latina:
Robert Bosch Ltda Security Systems Division
Via Anhanguera, Km 98
CEP 13065-900
Campinas, Sao Paulo, Brazil
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Fax: +55 19 2103 2862
latam.boschsecurity@bosch.com
www.boschsecurity.com

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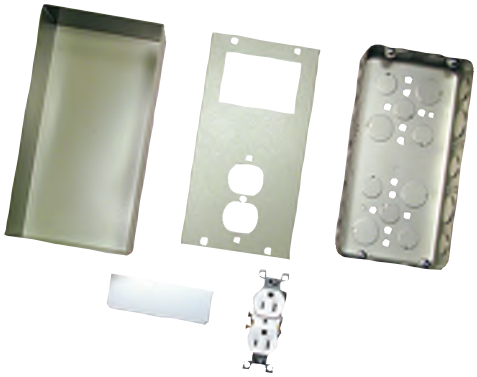
D8004 Transformer Enclosure

www.boschsecurity.com

BOSCH
Invented for life



The D8004 Transformer Enclosure protects the AC plug-in transformer and ensures that it remains securely fixed to the AC wall outlet. The D8004 Transformer Enclosure may be required for certain applications; the most common being fire alarm.

Certifications and approvals

Region	Certification	
USA	UL	AMCX: Central Station Alarm Units (UL1610, UL1635), AOTX: Local Alarm Units (UL464, UL609), APAW: Police Station Alarm Units (UL365, UL464), NBSX: Household Burglar Alarm System Units (UL1023), UOXX: Control Unit Accessories, System (UL864, 9th edition), UTOU: Control Units and Accessories - Household System Type (UL985)
	FM	D8004
	CSFM	see our website
	FDNY-CoA	#6174 UL 864 9th Edition
	NYC-MEA	12-92-E, Vol. 12
	NYC-MEA	12-92-E, Vol. XV

Technical specifications

Environmental Considerations

Environment:	Indoor, dry

Mechanical Properties

Cover	
Color:	Light gray
Dimensions:	8.8 in. x 4.7 in. x 3.0 in. (22.4 cm x 11.9 cm x 7.6 cm)
Material:	Cold-rolled steel, 18 gauge (1.2 mm)
Outlet Box	
Dimensions:	8.7 in. x 4.6 in. x 1.7 in. (22.1 cm x 11.7 cm x 4.3 cm)
Material:	Galvanized steel, 18 gauge (1.2 mm)

Power Requirements

Voltage (supply):	120 VAC

Ordering information

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

Represented by:

Americas:
Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
security.sales@us.bosch.com
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Bosch Security Systems B.V.
P.O. Box 80002
5617 BA Eindhoven, The Netherlands
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2739800075 | en, V4, 17. Jul 2014

Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

SpectrAlert® Advance audible visible notification products are rich with features guaranteed to cut installation times and maximize profits.

SPECTRAlert ADVANCE from System Sensor

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field-selectable candela settings on ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and three volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert devices
- Compatible with MDL3 sync module
- Listed for ceiling or wall mounting

The SpectrAlert Advance series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry. With white and red plastic housings, wall and ceiling mounting options, and plain and FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement.

Like the entire SpectrAlert Advance product line, ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation, SpectrAlert Advance utilizes a universal mounting plate so you can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with three volume selections.

Agency Listings

SIGNALING UL LISTED
S4011 (chimes, horn strobes, horns)
S5512 (strobes)

FM APPROVED
3023572

MEA approved
MEA452-05-E

7125-1653:0186 (indoor strobes)
7125-1653:0188 (horn strobes, chime strobes)
7135-1653:0189 (horns, chimes)

SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17⁄8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination

The horn strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 11⁄16 × 4 11⁄16 × 2 1⁄8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range (MDL3)	8.5 to 17.5V (12 V nominal) or 16.5 to 33 V (24V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Ceiling-Mount Dimensions (including lens)	6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)
Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCR, SBBCW)	6.9" diameter x 3.4" high (175 mm diameter x 86 mm high)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)					
		8–17.5 Volts		16–33 Volts	
	Candela	DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15–115 cd)									
	8–17.5 Volts		16–33 Volts						
DC Input	15	15/75	15	15/75	30	75	95	110	115
Temporal High	137	147	79	90	107	176	194	212	218
Temporal Medium	132	144	69	80	97	157	182	201	210
Temporal Low	132	143	66	77	93	154	179	198	207
Non-Temporal High	141	152	91	100	116	176	201	221	229
Non-Temporal Medium	133	145	75	85	102	163	187	207	216
Non-Temporal Low	131	144	68	79	96	156	182	201	210
FWR Input									
Temporal High	136	155	88	97	112	168	190	210	218
Temporal Medium	129	152	78	88	103	160	184	202	206
Temporal Low	129	151	76	86	101	160	184	194	201
Non-Temporal High	142	161	103	112	126	181	203	221	229
Non-Temporal Medium	134	155	85	95	110	166	189	208	216
Non-Temporal Low	132	154	80	90	105	161	184	202	211

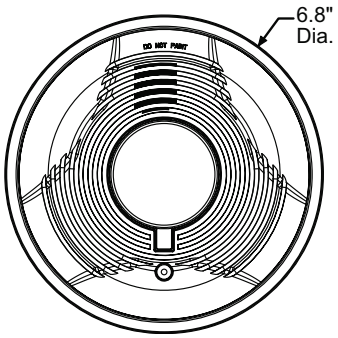
UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135–185 cd)									
	16–33 Volts					16–33 Volts			
DC Input	135	150	177	185	FWR Input	135	150	177	185
Temporal High	245	259	290	297	Temporal High	215	231	258	265
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256
Non-Temporal High	255	270	303	309	Non-Temporal High	233	248	275	281
Non-Temporal Medium	242	259	293	299	Non-Temporal Medium	219	232	262	267
Non-Temporal Low	238	254	291	295	Non-Temporal Low	214	229	256	262

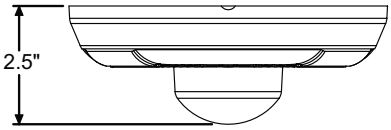
Horn Strobe Tones and Sound Output Data

Horn Strobe Output (dBA)										
			8–17.5 Volts		16–33 Volts		24-Volt Nominal			
							Reverberant		Anechoic	
Switch Position	Sound Pattern	dB	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

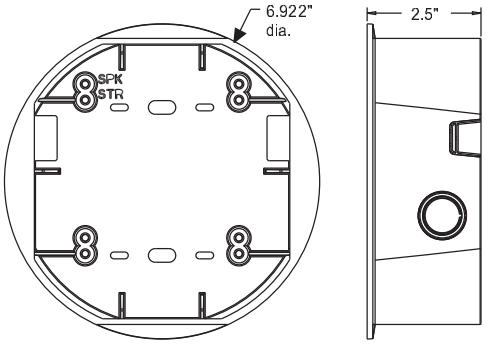
†Settings 7, 8, and 9 are not available on 2-wire horn strobes.

SpectrAlert Advance Dimensions





Ceiling-mount horn strobes



Ceiling back box surface mount back box

SpectrAlert Advance Ordering Information

Model	Description
Ceiling Horn Strobes	
PC2R	2-Wire Horn Strobe, Standard cd, Red
PC2R-P	2-Wire Horn Strobe, Standard cd, Red, Plain (no “FIRE”) marking
PC2RH	2-Wire Horn Strobe, High cd, Red
PC2W	2-Wire Horn Strobe, Standard cd, White
PC2W-P	2-Wire Horn Strobe, Standard cd, White, Plain (no “FIRE”) marking
PC2W-SP	2-Wire Horn Strobe, Standard cd, White, “Fuego” marking
PC2WH	2-Wire Horn Strobe, High cd, White
PC2WH-P	2-Wire Horn Strobe, High cd, White, Plain (no “FIRE”) marking
PC2WH-SP	2-Wire Horn Strobe, High cd, White, “Fuego”
PC4R	4-Wire Horn Strobe, Standard cd, Red
PC4RH	4-Wire Horn Strobe, High cd, Red
PC4W	4-Wire Horn Strobe, Standard cd, White

Model	Description
Ceiling Strobes	
SCR	Strobe, Standard cd, Red
SCRH	Strobe, High cd, Red
SCW	Strobe, Standard cd, White
SCW-P	Strobe, Standard cd, White, Plain (no “Fire”) marking
SCWH	Strobe, High cd, White
Accessories	
SBBCR	Surface Mount Back Box, Ceiling, Red
SBBCW	Surface Mount Back Box, Ceiling, White

Notes:

All -P models have a plain housing (no “FIRE” marking on cover)

All -SP models have “FUEGO” marking on cover

“Standard cd” refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. “High cd” refers to strobes that include 135, 150, 177, and 185 candela settings.

SYSTEM SENSOR®

3825 Ohio Avenue • St. Charles, IL 60174
Phone: 800-SENSOR2 • Fax: 630-377-6495

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Product specifications subject to change without notice. Visit systemsensor.com for current product information, including the latest version of this data sheet.
AVDS10102 • 03/15

Outdoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

SPECTRAlert ADVANCE from System Sensor

SpectrAlert® Advance outdoor audible visible products are rich with features that cut installation times and maximize profits.

Features

- Weatherproof per NEMA 4X, IP56
- Listed to UL 1638 (strobe) and UL 464 (horn)
- Compatible with System Sensor synchronization protocol and legacy SpectrAlert products
- Field-selectable candela settings: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Rotary switch for horn tone and three volume selections
- Horn rated at 88+ dBA at 16 volts
- Rated from –40°F to 151°F
- Universal mounting plate with an onboard shorting spring that tests wiring continuity before devices are installed
- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Listed for ceiling or wall mounting

Agency Listings

SIGNALING UL LISTED
S4011 (chimes, horn strobes, horns)
S3593 (outdoor and alert strobes)

FM APPROVED
3023572

MEA approved
MEA452-05-E

7300-1653:187 (outdoor strobes)
7125-1653:188 (horn strobes, chime strobes)
7135-1653:189 (horns, chimes)

SpectrAlert Advance offers the broadest line of outdoor horns, strobes, and horn strobes in the industry. With white or red plastic housings, wall or ceiling mounting options, and plain or FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement, including indoor, outdoor, wet, and dry applications in temperatures from –40°F to 151°F.

Like the entire SpectrAlert Advance line, outdoor horns, strobes, and horn strobes for wall applications include a variety of features that increase application flexibility and simplify installation. First, field-selectable settings, including candela, automatic selection of 12- or 24-volt operation, horn tones, and three volume options enable installers to easily adapt devices to meet requirements.

Next, SpectrAlert Advance devices use a universal mounting plate for both wall and ceiling applications. This mounting plate includes an onboard shorting spring that ensures wiring continuity before devices are installed, so installers can verify proper wiring without mounting the devices and exposing them to potential construction damage. Once the plates are mounted, all SpectrAlert Advance devices utilize a plug-in design with a single captured screw to speed installation and virtually eliminate costly ground faults.

Outdoor devices ship with weatherproof plastic back boxes (metal back boxes are available separately) that accommodate in-and-out wiring for daisy chaining devices. Plastic back boxes feature removable side flanges and improved resistance to saltwater corrosion. Knock-outs located on the back eliminate the need to drill holes for screw-in mounting. Plastic and metal weatherproof back boxes come with ¾-inch top and bottom conduit entries and ¾-inch knock-outs at the back. A screw-in NPT plug with an O-ring gasket for a watertight seal is included with each back box.

SpectrAlert Advance Outdoor Horn, Strobe, and Horn Strobe Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance outdoor horns, strobes, and horn strobes shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 17 and 33 volts. Outdoor SpectrAlert Advance products shall operate between –40 and 151 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The strobe shall be suitable for use in wet environments.

Horn Strobe Combination

The horn strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options shall be set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn or horn strobe models shall operate on a coded or non-coded power supply. The horn strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The horn strobe shall be suitable for use in wet environments.

Physical/Electrical Specifications

Operating Temperature	–40°F to 151°F (–40°C to 66°C)
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6″L × 4.7″W × 2.5″D (142 mm L × 119 mm W × 64 mm D)
Horn Dimensions	5.6″L × 4.7″W × 1.3″D (142 mm L × 119 mm W × 33 mm D)
Wall-Mount Weatherproof Back Box Dimensions (SA-WBB)	5.7″L × 5.1″W × 2.0″D (145 mm L × 130 mm W × 51 mm D)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

		8–17.5 Volts		16–33 Volts	
	Candela	DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

UL Max. Horn Current Draw (mA RMS)

		8–17.5 Volts		16–33 Volts	
Sound Pattern	dB	DC	FWR	DC	FWR
Temporal	High	57	55	69	75
Temporal	Medium	44	49	58	69
Temporal	Low	38	44	44	48
Non-Temporal	High	57	56	69	75
Non-Temporal	Medium	42	50	60	69
Non-Temporal	Low	41	44	50	50
Coded	High	57	55	69	75
Coded	Medium	44	51	56	69
Coded	Low	40	46	52	50

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15–115 cd)

	8–17.5 Volts		16–33 Volts						
DC Input	15	15/75	15	15/75	30	75	95	110	115
Temporal High	137	147	79	90	107	176	194	212	218
Temporal Medium	132	144	69	80	97	157	182	201	210
Temporal Low	132	143	66	77	93	154	179	198	207
Non-Temporal High	141	152	91	100	116	176	201	221	229
Non-Temporal Medium	133	145	75	85	102	163	187	207	216
Non-Temporal Low	131	144	68	79	96	156	182	201	210
FWR Input									
Temporal High	136	155	88	97	112	168	190	210	218
Temporal Medium	129	152	78	88	103	160	184	202	206
Temporal Low	129	151	76	86	101	160	184	194	201
Non-Temporal High	142	161	103	112	126	181	203	221	229
Non-Temporal Medium	134	155	85	95	110	166	189	208	216
Non-Temporal Low	132	154	80	90	105	161	184	202	211

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135–185 cd)

	16–33 Volts					16–33 Volts			
DC Input	135	150	177	185	FWR Input	135	150	177	185
Temporal High	245	259	290	297	Temporal High	215	231	258	265
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256
Non-Temporal High	255	270	303	309	Non-Temporal High	233	248	275	281
Non-Temporal Medium	242	259	293	299	Non-Temporal Medium	219	232	262	267
Non-Temporal Low	238	254	291	295	Non-Temporal Low	214	229	256	262

Candela Derating

For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)	
Listed Candela	Candela rating at –40°F
15	Do not use below 32°F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

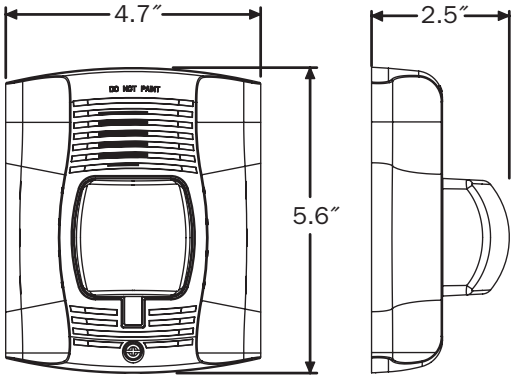
Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

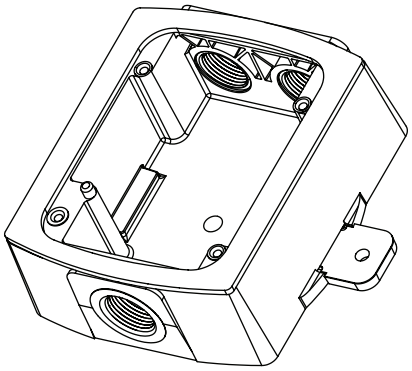
			8–17.5 Volts		16–33 Volts		24-Volt Nominal			
							Reverberant		Anechoic	
Switch Position	Sound Pattern	dB	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

†Settings 7, 8, and 9 are not available on 2-wire horn strobe.

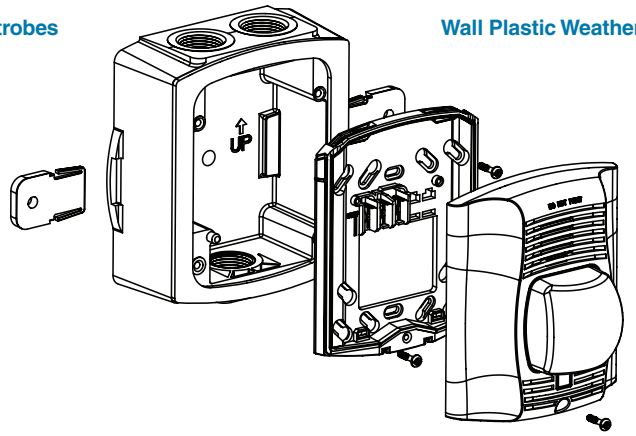
SpectrAlert Advance Diagrams



Wall-Mount Horn Strobes



Wall Plastic Weatherproof Back Box



Wall-Mount Horn Strobe with Plastic Weatherproof Back Box

SpectrAlert Advance Ordering Information

Model	Description
Wall Horn Strobes	
P2RK*†	2-Wire Horn Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
P2RHK*†	2-Wire Horn Strobe, High cd, Red, Outdoor (includes plastic weatherproof back box)
P2WK*†	2-Wire Horn Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
P2WHK*†	2-Wire Horn Strobe, High cd, White, Outdoor (includes plastic weatherproof back box)
P4RK†	4-Wire Horn Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
P4WK	4-Wire Horn Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
P2RHK-120	2-Wire Horn Strobe, High cd, Red, Outdoor, 120 V (includes plastic weatherproof back box)
Wall Strobes	
SRK*†	Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
SRHK*†	Strobe, High cd, Red, Outdoor (includes plastic weatherproof back box)
SWK*†	Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
SWHK*†	Strobe, High cd, White, Outdoor (includes plastic weatherproof back box)
Horns	
HRK†	Horn, Red, Outdoor (includes plastic weatherproof back box)
Accessories	
SA-WBB	Red, Metal Weatherproof Back Box
SA-WBBW	White, Metal Weatherproof Back Box

Notes:

* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2RK-P.

† Add "-R" to model number for weatherproof replacement device (no back box included), only for use with weatherproof outdoor flush mounting plate, WTP and WTPW. "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. **When replacing standard outdoor units both the device and back box must be replaced.**

SYSTEM SENSOR®

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AVDS01201 • 3/12

Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

System Sensor L-Series audible visible notification products are rich with features guaranteed to cut installation times and maximize profits with lower current draw and modern aesthetics.

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Listed for ceiling mounting only

The System Sensor L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, wall and ceiling mounting options, System Sensor L-Series can meet virtually any application requirement.

The entire L-Series product line of ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation, the L-Series utilizes a universal mounting plate so installers can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

Agency Listings

SIGNALING UL LISTED
S5512
S4011

FM APPROVED
FM approved except for ALERT models
3057383

7125-1653:0504
7135-1653:0503

L-Series Specifications

Architect/Engineer Specifications

General

L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17⁄8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Ceiling strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, and 177.

Strobe

The strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination

The horn strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize L-Series strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 11⁄16 × 4 11⁄16 × 2 1⁄8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 VDC or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range (MDL3)	8.5 to 17.5V (12 V nominal) or 16.5 to 33 V (24V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Ceiling-Mount Dimensions (including lens)	6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)
Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCRL, SBBCWL)	6.9" diameter x 3.4" high (175 mm diameter x 86 mm high)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
	Candela	DC	DC	FWR
Candela Range	15	87	41	60
	30	153	63	86
	75	N/A	111	142
	95	N/A	134	164
	115	N/A	158	191
	150	N/A	189	228
	177	N/A	226	264

UL Max. Horn Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
Sound Pattern	dB	DC	DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

UL Max. Current Draw (mA RMS), Ceiling Horn Strobe, Candela Range (15–177 cd)

	8–17.5 Volts		16–33 Volts						
DC Input	15cd	30cd	15cd	30cd	75cd	95cd	115cd	150cd	177cd
Temporal High	103	167	71	90	143	165	187	217	254
Temporal Low	96	165	54	71	137	161	185	211	249
Non-Temporal High	106	173	71	90	141	165	187	230	273
Non-Temportal Low	95	166	54	71	124	161	170	216	258
3.1K Temporal High	111	164	69	94	147	163	184	229	257
3.1K Temporal Low	103	163	54	88	143	155	185	212	252
3.1K Non-Temporal High	111	172	69	94	144	164	202	229	271
3.1K Non-Temporal Low	103	169	54	88	131	155	187	217	259

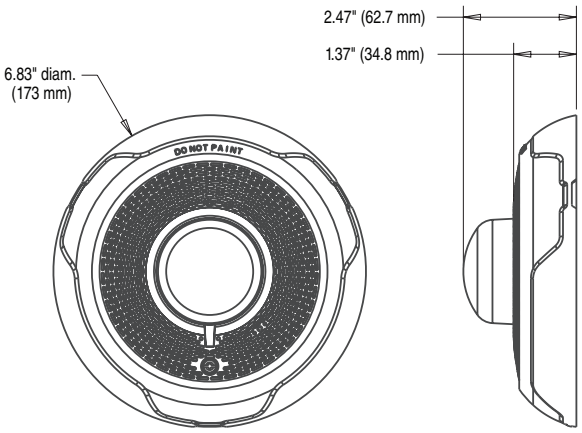
	16–33 Volts						
FWR Input	15cd	30cd	75cd	95cd	115cd	150cd	177cd
Temporal High	107	135	179	198	223	254	286
Temporal Low	78	101	151	172	199	229	262
Non-Temporal High	107	135	179	198	223	254	286
Non-Temportal Low	78	101	151	172	199	229	262
3.1K Temporal High	108	135	179	200	225	255	289
3.1K Temporal Low	79	101	150	171	196	229	260
3.1K Non-Temporal High	108	135	179	200	225	255	289
3.1K Non-Temporal Low	79	101	150	171	196	229	260

Horn Strobe Tones and Sound Output Data

Horn Strobe Output (dBA)

			8–17.5 Volts	16–33 Volts	
Switch Position	Sound Pattern	dB	DC	DC	FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
8	3.1 KHz Non-Temporal	Low	77	83	83

L-Series Dimensions



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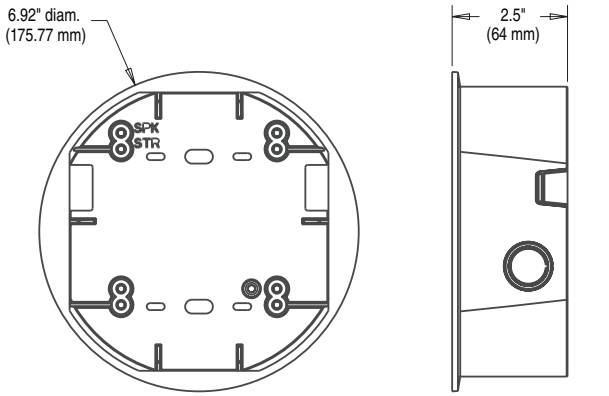
Ceiling-Mount Horn Strobes



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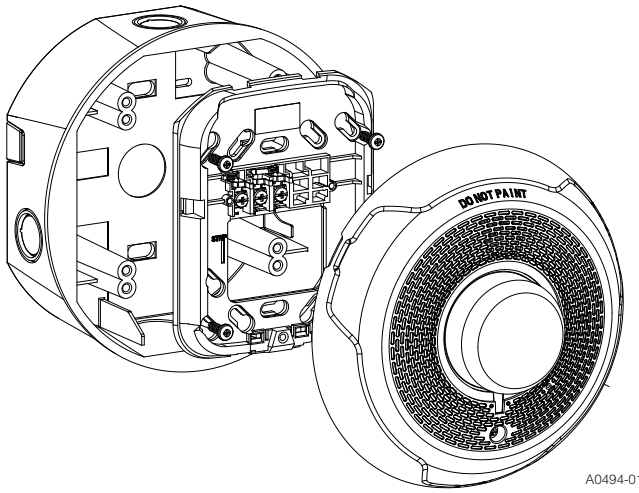
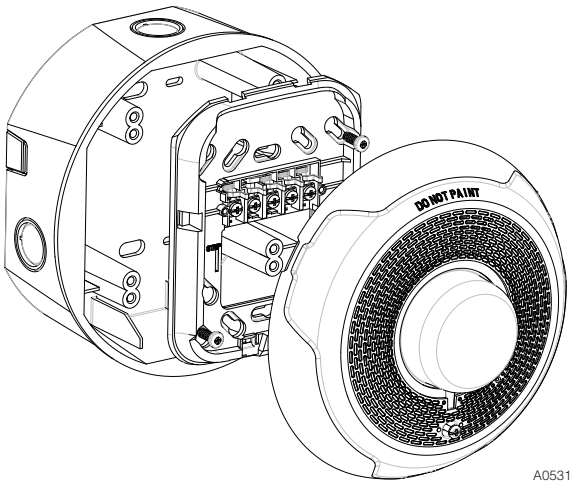
Ceiling Surface Mount Back Box



A0494-01

2-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box



A0531-01

4-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box

L-Series Ordering Information

Model	Description
Ceiling Horn Strobes	
PC2RL	2-Wire, Horn Strobe, Red
PC2WL	2-Wire, Horn Strobe, White
PC4RL	4-Wire, Horn Strobe, Red
PC4WL	4-Wire, Horn Strobe, White

Model	Description
Ceiling Strobes	
SCRL	Strobe, Red
SCWL	Strobe, White
SCWL-CLR-ALERT	Strobe, White, ALERT
Accessories	
TRC-2	Universal Ceiling Trim Ring Red
TRC-2W	Universal Ceiling Trim Ring White
SBBCRL	Ceiling Surface Mount Back Box, Red
SBBCWL	Ceiling Surface Mount Back Box, White

For a ceiling-listed horn-only device, see AVDS865 “Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications”.

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