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PG8WLSHW8 and PG9WLSHW8 IQ Hardwire PowerG Wired to Wireless Converter Installation Manual

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Safety instructions

Read the safety information before you install the equipment.

Important: This equipment must be installed by a skilled person only. A skilled person is an installer with appropriate technical training. The installer must be aware of potential hazards during installation and measures available to minimize risks to the installer and other people.

- Before you install this equipment, disconnect all power sources (for example mains, battery, and telephone line) connected to the alarm panel.
- Install the equipment indoors in a non-hazardous environment where the following conditions are met:
  - Pollution degree - Maximum 2
  - Over voltages - Category II
- Internal wiring must be routed to prevent strain on wire and terminal connections, loose terminal connections, and damage to conductor insulation.
- Instruct the user that there are no user serviceable parts in this equipment. All equipment must be serviced by a skilled person.
- Skilled persons are persons who have training or experience in the equipment technology, particularly the various energies and energy magnitudes used in the equipment. Skilled persons are expected to use their training and experience to recognize energy sources capable of causing pain or injury and to take action for protection from injury. Skilled persons are persons who have training or experience in the equipment technology, particularly the various energies and energy magnitudes used in the equipment. Skilled persons are expected to use their training and experience to recognize energy sources capable of causing pain or injury and to take action for protection from injury.

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Introduction

The IQ Hardwire PowerG Wired to Wireless Converter converts existing hardwired zones to PowerG wireless zones.

There are two models, the PG8WLSHW8 and PG9WLSHW8, and each provide eight hardwired zones and four programmable outputs. This document describes how to mount the enclosure, wire zones, connect the battery, enroll devices, and troubleshoot.

ⓘ **Note:** Only PG9WLSHW8 is UL and ULC listed. For UL and ULC installations, use this device only in conjunction with compatible wireless receiver and control panel combinations, model Qolsys IQPanel2 and IQPanel4.

Before you begin, make sure that the kit contains the following items:

- The plastic enclosure containing the IQ Hardwire PowerG Wired to Wireless Converter
- The transformer
- The hardware pack

The following table outlines panel compatibility

Table 1: Panel compatibility

Module	Supported by
v1.0	IQ2 plus panel v2.5.3
v1.1	IQ2 plus panel v2.6.0
v1.2	IQ2 plus panel v2.7.0/IQ4 v4.1

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Technical Specifications

The following table outlines the electrical ratings of the components of the IQ Hardwire PowerG Wired to Wireless Converter.

Table 2: Technical specifications

Type	Description
DC input voltage and current	Use the provided external power adapter with the following ratings. Input for UL and ULC applications: 120 VAC, 60 Hz, 1.2A Input for EN50131 applications: 240 VAC (+10%, -15%), 50 Hz, 1.2 A Output: 18 VDC, 2.22 A Manufacturer: ShenZhen SOY Technology Co. Ltd. UL and ULC Model: SOY-1800222US DSC UL and ULC part number: PGWLSH40A, HS40WPSA & HS40WPSNA EN model: SOY-1800222-EU DSC EN part number: PGWLSH40C
Battery type	Sealed, rechargeable lead acid
Battery charging voltage and current	13.7 VDC, 360 mA
Low battery threshold	11.4 VDC
Battery cutoff level	9.6 VDC ± 2%
PCB assembly current consumption	70 mA
Standby battery	Only use the battery rated 12 VDC/ 7 Ah The energy level of the battery when it is charged is 100% 24-hour standby time and 5-minute alarm time for UL and ULC residential fire applications and ULC Security Level II applications. ⓘ **Note:** The AUX current must not exceed 180 mA. 24-hour standby time and 5-minute alarm time for UL and ULC residential fire applications and 12-hour CO alarm. ⓘ **Note:** The AUX current must not exceed 110 mA. 4-hour standby time and 5-minute alarm time for UL and ULC residential burglary applications. ⓘ **Note:** The AUX current must not exceed 700 mA. 4-hour standby time and 15-minute alarm time for UL commerical burglary applications. ⓘ **Note:** The AUX current must not exceed 700 mA. ⓘ **Note:** For EN50131 Grade 2 applications, the devices provide 12 hours of standby time and recharge in 72 hours. The AUX current load must not exceed 430 mA.

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Table 2: Technical specifications

Type	Description
Bell circuit voltage and current	11.3 VDC to 12.5 VDC, maximum current 700 mA continuous. For EN50131 Grade 2 applications, the voltage rating is 9.6 VDC to 13.75 VDC. ⓘ **Note:** The bell output supports continuous burglary alarms, T3 fire alarms, and T4 CO alarms. Alarms sound in the following priority: fire alarm, CO alarm, burglary alarm, and other alarms.
Auxiliary power voltage and current. ⓘ **Note:** AUX1 is used only for burglary alarm initiating devices. AUX2 is used only for fire alarm initiating devices such as smoke, heat, and CO detectors.	11.3 VDC to 12.5 VDC, maximum current 700 mA shared between the AUX1 and AUX2, CORBUS RED and BLK terminals and PGM outputs. Ripple: 50 mVpp. ⓘ **Note:** For EN50131 Grade 2 applications, the voltage rating is 9.6 VDC to 13.75 VDC and the maximum current load is 430 mA.
PGM 1, 3, and 4 voltage and current	11.3 VDC to 12.5 VDC, 50 mA
PGM 2 voltage and current	11.3 VDC to 12.5 VDC, 300 mA
PG9WLSHW8	Frequency band: 912.75 MHz to 919.106 MHz Maximum power: 0.0447 W
RED, BLK, YEL, GRN	Corbus terminals, used to provide power and communication between the converter and connected compatible modules. Each compatible module (keyapd, expander, power supply) has four Corbus terminals that must be connected to the Corbus. 11.3 VDC to 12.5 VDC, maximum current 700 mA shared between the AUX1 and AUX2 and PGM outputs. Ripple: 50 mVpp.
Operating temperature	-10°C to 55°C (14°F to 131°F) ⓘ **Note:** UL and ULC only verified operation for the range 0°C to 49°C (32°F to 120°F). ⓘ **Note:** The Converter and power supply are suitable for use only inside the supervised premises.
Humidity	5% to 93% RH non-condensing. ⓘ **Note:** UL and ULC only verified operation for a maximum of 93% RH.
Dimension	304mm x 396mm x 92mm (11.9" x 15.6" x 3.6")
Weight	2.85 kg (6.28 lb) including the battery

ⓘ **Note:** The PGM outputs are shared with the CORBUS RED and BLK terminals and the AUX terminals.

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Installing the equipment

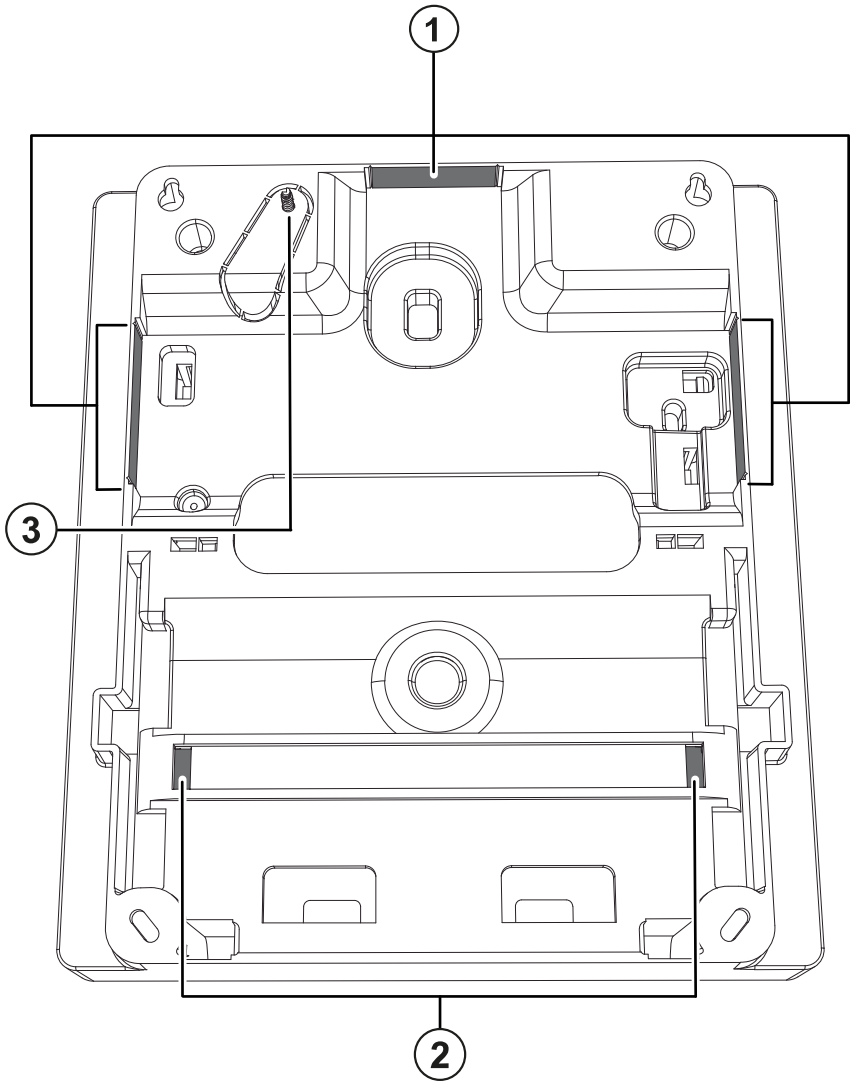
This section describes how to mount the enclosure, install the battery, and wire the system.

The enclosure has three breakaway tabs that you can use for wiring access during installation. There are also two slots for the battery strap to pass through. For more information, see the highlighted areas in Figure 1.

Note: Remove the breakaway tabs only if required.

Note: Install the equipment in the protected area of the protected premises. The wiring methods shall be in accordance with ULC-S302, NFPA72, the National Electrical Code, ANSI/NFPA 70, the Standard for Installation and Classification of Burglar and Holdup Alarm Systems, UL 681, and the Standard for Central Station Alarm Services, UL 827. This equipment should be installed in accordance with Chapter 29 of the National Fire Alarm and Signaling Code, ANSI/NFPA 72, (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269).

Figure 1: Breakaway tabs and battery strap slots



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Callout	Description
1	Breakaway tabs
2	Slots for the battery strap ⓘ **Note:** Securing the battery in the enclosure with the battery strap is optional. The battery strap is sold separately.
3	Wall tamper screw

Mounting the module

This section describes how to mount the enclosure and the external power adapter.

Mounting the enclosure

To mount the PG8WLSHW8 and PG9WLSHW8 enclosure, complete the following steps:

1. Use the four ST 6X1/2 type 25 Phil screws provided to secure the enclosure to the wall. For more information, see the highlighted areas in.

   ⓘ **Note:** Screws are provided only for the model PG9WLSHW8.

2. To enable the wall tamper, secure the tamper screw to the wall. For more information, see Figure 2.

Mounting the power adapter

You must mount the power adapter outside the PGXWLSHW8 enclosure. To mount the power adapter, complete the following step:

- Use two screws to secure the power adapter to the wall. For more information, see Callout 5 in Figure 2.

  ⓘ **Note:** Mount the power adapter close to an AC power outlet so there is no strain on the power cable. Do not connect the power adapter to a receptacle controlled by a switch.

  Example:

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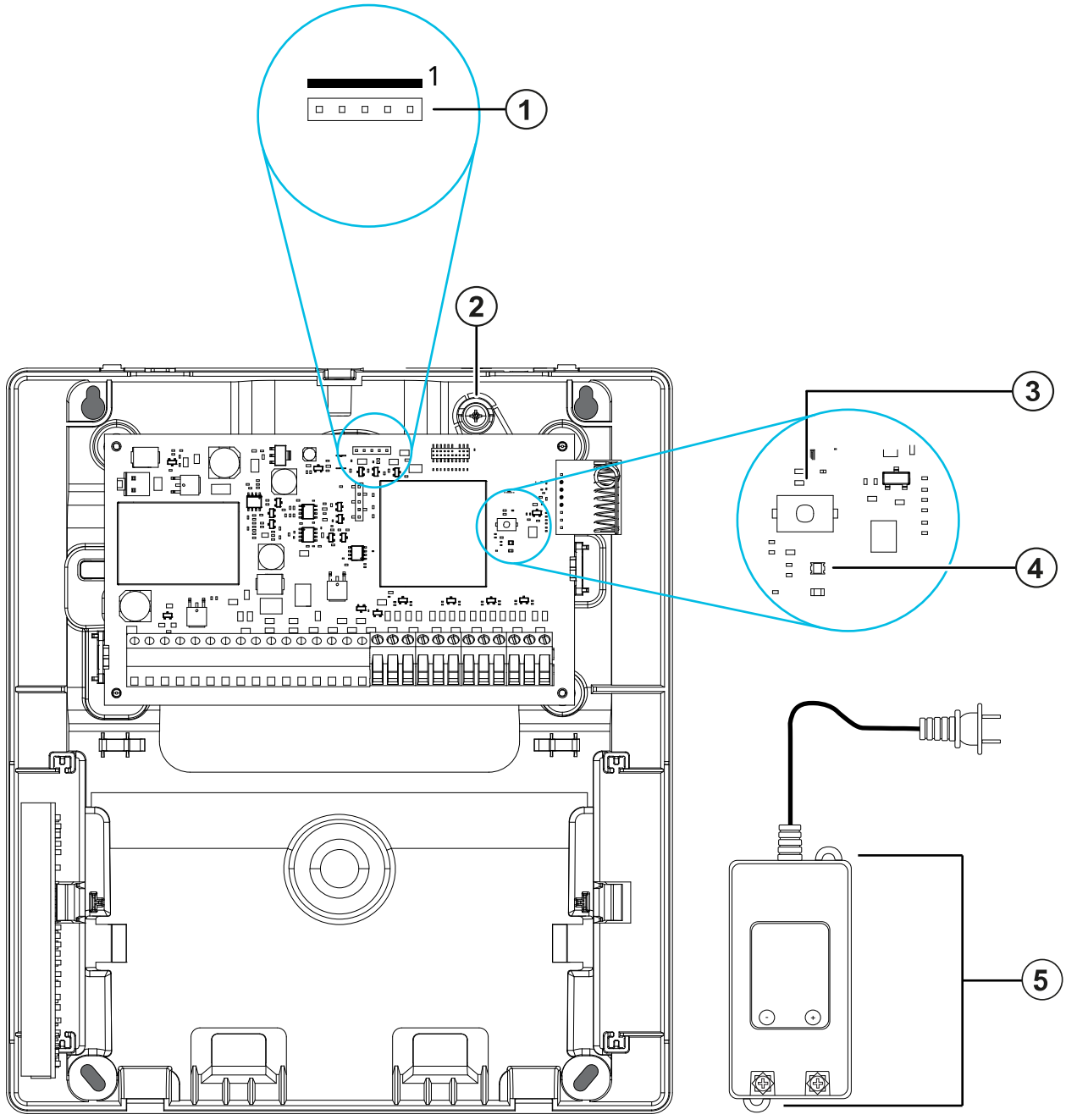
Figure 2: Mounting locations



Callout	Description
1	PC Link connection. **Note:** Pin one is on the right. When you connect to the PC Link, make sure that the PCB side of the PC Link connector aligns with the white line on the module PCB, and use only the four pins on the right.
2	Wall tamper screw
3	Enrollment button

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Callout	Description
4	Status LED
5	Power adapter mounting tabs. Alternate adapter is plug-in style (HS40WPSA).

Use the following table to determine the distance and gauge for the secondary wiring.

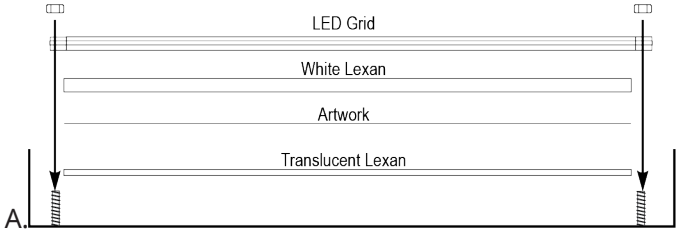
Table 3: Wiring distance and gauge

Distance (m/ ft)	Gauge (AWG)
2/ 6.5	22
3/ 10	20
4/ 13	18

For UL and ULC installations, use a primary input with ratings of 120 VAC, 60 Hz, and 1.2 A.

For CE and EN50131 Grade 2 installations, use a primary input with ratings 230 VAC (+10%, -15%), 50 Hz, and 1.2 A.

For all installations, the output rating of the power adapter is 18 VDC and 2.22



Wiring the zones

You can wire zones to supervise normally open devices, for example smoke detectors or heat detectors, or normally closed devices, for example door contacts. You can program the PG8WLSHW8 or PG9WLSHW8 for single end-of-line (SEOL) resistors, or double end-of-line (DEOL) resistors.

ⓘ **Note:** For UL and ULC installations, use only UL and ULC listed initiating devices that are compatible with the auxiliary output power range provided by the converter.

⚠ **CAUTION:** Ensure the alarm controller is turned off before you wire the equipment.

When you wire zones, observe the following guidelines:

- For UL and ULC listed installations, only use SEOL or DEOL connections.
- Use a minimum wire size of 22 AWG and a maximum wire size of 18 AWG.
- Do not use shielded wires.
- Do not exceed a wire resistance of 100 Ω. For more information, see the following table.

Table 4: Wiring chart

Wire gauge (AWG)	Maximum distance to EOL resistor (m/ ft)
22	914/ 3000
20	1493/ 4900
19	1889/ 6200
18	2377/ 7800

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Note: Distances are based on a maximum wiring resistance of 100 Ω.

Normally open and normally closed wiring

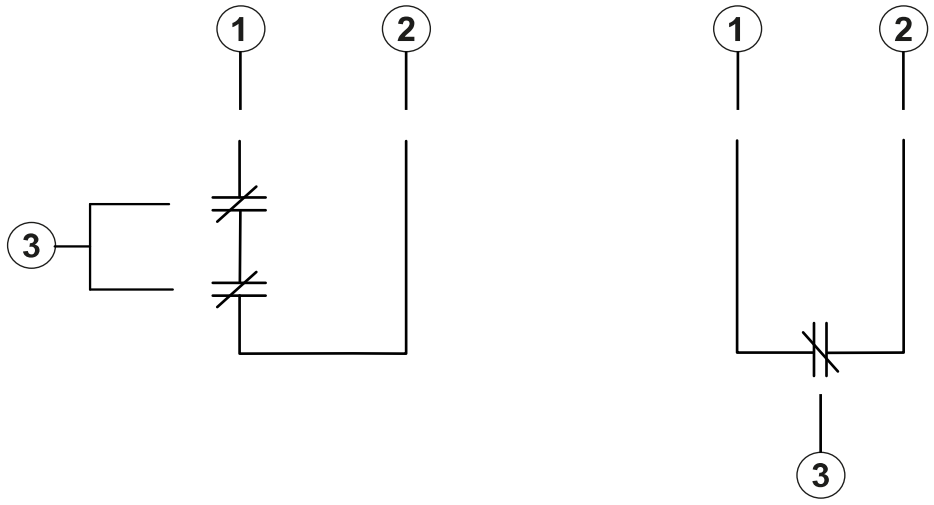
Wire normally closed devices in series and normally open devices in parallel. To wire hardwired devices, complete the following steps:

1. Wire the device to any Zone terminal.
2. Wire the device to any COM terminal.

Note: For UL and ULC installations, do not use normally open or normally closed loops.

The following figure shows you how to wire normally closed loops. The image on the left shows two normally closed contacts with no end-of-line resistor, and the image on the right shows one normally closed contact with no end-of-line resistor.

Figure 3: Normally closed loops



Callout	Description
1	Zone terminal
2	COM terminal
3	Normally closed contact

Note: Do not exceed a wire resistance of 100 Ω. For more information, see Table 4.

The following table shows the zone status for a given resistance value.

Table 5: Normally closed zone status

Resistance	Description	Zone status
0 Ω	Shorted wire, loop shorted	Secure
Infinite	Broken wire, loop open	Alarm

Single end-of-line resistors

You can use SEOL resistors to detect if a circuit is secure, open, or shorted. Use this option if you use either normally closed or normally open devices.

You can configure SEOL supervision through zone programming on the control panel.

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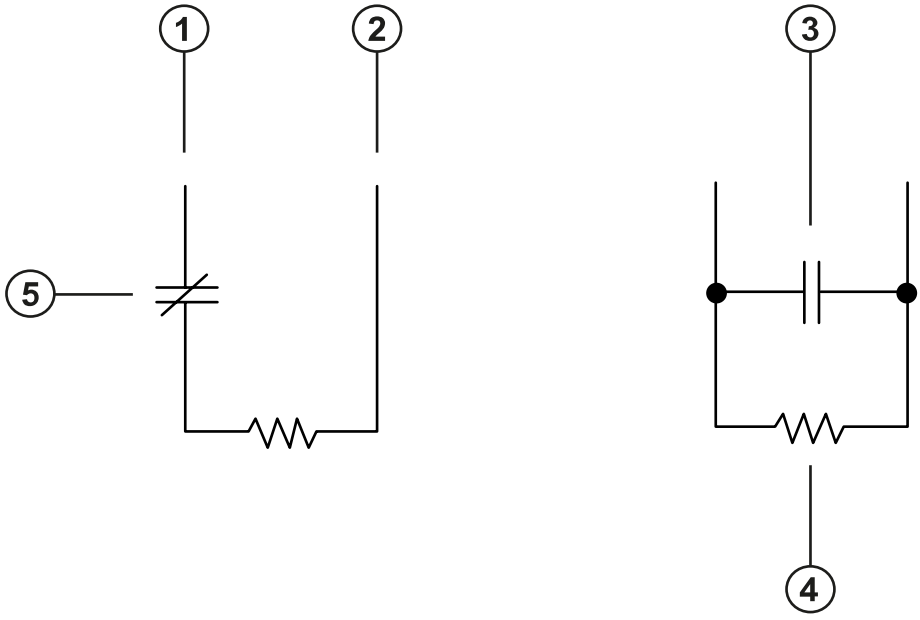
The following figure shows the different wiring configurations for SEOL resistors. The image on the left shows one normally closed contact with an SEOL resistor, and the image on the right shows one normally open contact with an SEOL resistor.

ⓘ **Note:** SEOL resistors can have a resistance between 1 kΩ and 10 kΩ. You must install the SEOL resistor at the end of the loop. UL and ULC verified functionality only with a 5.6 kΩ SEOL resistor.

For ULC Security Level I burglary installations, use the wiring configurations in Figure 4.

For fire detection installations that use smoke detectors, powered or non-powered heat detectors, or CO detectors, use the wiring configuration on the right hand side of Figure 4. These devices use separate AUX2 output for power. Make sure that the voltage range of the AUX2 output is compatible with the input voltage range of the detector you are using.

Figure 4: SEOL wiring



Callout	Description
1	Zone terminal
2	COM terminal
3	Normally open contact
4	End-of-line resistor
5	Normally closed contact

ⓘ **Note:** Do not exceed a wire resistance of 100 Ω. For more information, see Table 4.

The following table shows the zone status for a given resistance value.

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Table 6: SEOL zone status

Resistance	Description	Status
0 Ω	Shorted wire, loop shorted	Alarm
1 kΩ to 10 kΩ	Contact closed	Secure
Infinite	Broken wire, loop open	Alarm for burglary zones and Trouble for fire zones

Double end-of-line resistors

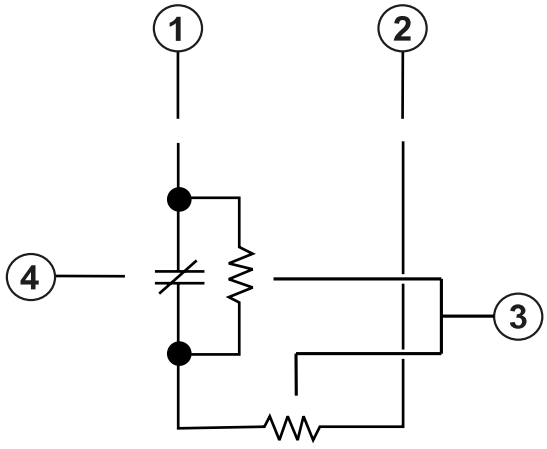
If you use DEOL resistors at the end of a zone loop, the second resistor detects if a zone is in alarm, tampered, or faulted. You can select DEOL supervision only if you are using normally closed devices or contacts. You can use only one normally closed contact in each zone.

ⓘ **Note:** Any zone programmed for fire or 24 hour supervisory must be wired with a SEOL resistor regardless of the type of zone wiring supervision selected for the panel. If you change the zone supervision from DEOL to SEOL, or from NC to DEOL, turn off the system completely and then turn on the system for correct operation.

You can configure DEOL supervision through zone programming on the control panel.

For ULC Security Level II installations, use the wiring configuration in the following figure.

Figure 5: DEOL wiring



Callout	Description
1	Zone terminal
2	COM terminal
3	5600 Ω end-of-line resistor
4	Normally closed contact

ⓘ **Note:** Do not exceed a wire resistance of 100 Ω. For more information, see Table 4.

ⓘ **Note:** DEOL wiring is only for burglary use.

The following table shows the zone status for a given resistance value:

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Table 7: DEOL zone status

Resistance	Description	Status
0 Ω	Shorted wire, loop shorted	Trouble
5600 Ω	Contact closed	Secure
Infinite	Broken wire, loop open	Tamper
11200 Ω	Contact open	Alarm

Wiring programmable outputs

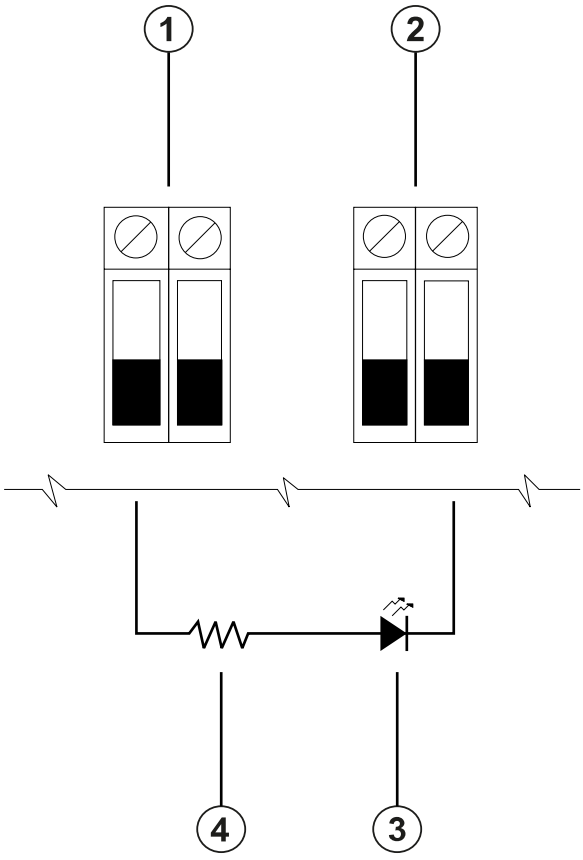
You can use the programmable (PGM) outputs to activate devices such as LEDs and buzzers. To wire an output to the PGM, complete the following steps:

1. Connect the positive wire from the device to the AUX+ terminal.
2. Connect the negative wire from the device to the PGM terminal.

Note: If the device requires a current greater than the rated value of the PGM output, a relay and an approved power supply are required.

To wire the LED indicator, see Figure 6.

Figure 6: LED indicator wiring



Callout	Description
1	AUX terminals
2	PGM terminals

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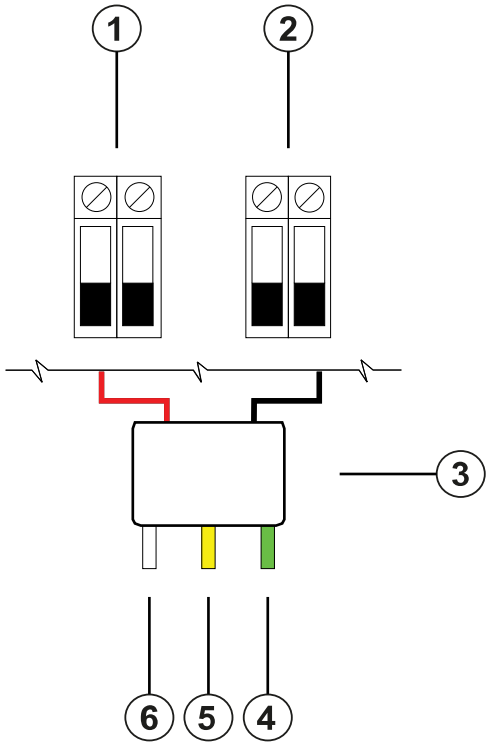
Callout	Description
3	LED indicator
4	680 Ω resistor (typical value)

To wire the relay output, see Figure 7.

Figure 7: Relay output wiring



Callout	Description
1	AUX terminals
2	PGM terminals
3	Relay (RM-1 and RM-2)
4	To normally open connection
5	To normally closed connection
6	To COM terminal

Wiring a fire zone to the PGM2 configured as a 2-wire loop

When you wire a 2-wire smoke detector, observe the following guidelines:

- You must connect 2-wire smoke detectors in parallel.
- You can wire a maximum of 18 smoke detectors on a 2-wire loop.
- Do not exceed a wire resistance of 24 Ω across the entire loop.
- Do not use smoke detectors from different manufacturers on the same circuit as their operation may be impaired. Refer to the smoke detector installation sheet when you position detectors.

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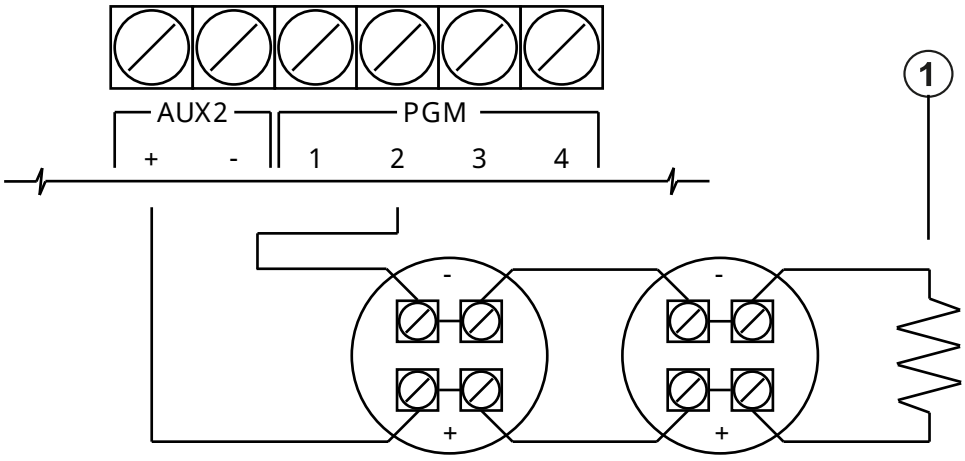
- For UL and ULC residential fire applications, use only the AUX2 output to provide power to smoke and CO detectors.

If you program PGM2 for use with a 2-wire smoke detector, you must wire it according to the following figure:

Figure 8: 2-wire smoke detector wiring



Callout	Description
1	2200 Ω end-of-line resistor

The following table lists compatible 2-wire smoke detectors:

Table 8: 2-wire smoke detectors

Detector name			
FSA-210X	FSA-210XLST	FSA-210XRST	C2WTA-BA (ULC)
FSA-210XT	FSA-210XR	FSA-210XLRST	2W-B (UL)
FSA-210XS	FSA-210XRT	C2W-BA (ULC)	2WT-B (UL)
FSA-210XST	FSA-210XRS	C2WT-BA (ULC)	2WTA-B (UL)

ⓘ **Note:** For the DSC FS210 series, X in the detector name represents A for ULC and B for UL listed models.

ⓘ **Note:** If you use System Sensor detectors on a 2-wire loop, do not combine UL and ULC detectors. For more information, refer to the System Sensor installation manual.

ⓘ **Note:** Do not connect accessories, such as a PRM-2W or any other polarity reversal module, to 2-wire smoke detectors.

The UL compatibility ID for the FSA-210B series is FS200, and for the System Sensor models is A.

ⓘ **Note:** For ULC listed installations, use FSA-210A series detectors or FSA-410A series detectors.

ⓘ **Note:** You must calculate and test the current draw.

Table 9: 2-wire smoke detector initiation circuit

Item	Specification
Class, supervised, power limited	Class B IDC. 2-wire smoke detector interface
Compatibility identifier	PG9WLSHW8-1

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Table 9: 2-wire smoke detector initiation circuit

Item	Specification
DC output voltage	10.0 VDC to 13.8 VDC
Detector load	2 mA maximum
SEOL	2200 Ω
Maximum capacitance	10 µF
Maximum number of detectors per loop	18 without sounders
Maximum ripple	45 mV
Resting voltage and time	0.2 VDC/ 5 seconds
Loop resistance	24 Ω maximum
Minimum standby impedance	1250 Ω nominal
Maximum alarm impedance	707 Ω maximum
Alarm current	102 mA maximum

Wiring a 4-wire smoke, heat, or CO detector

The following table lists the maximum current rating at 12 VDC of the hardwired CO detectors that are compatible with the PG9WLSHW8 converter.

Table 10: CO detector ratings

Device	Manufacturer	UL file number	Rating
CO-12/24	Potter	E321434	40 mA
12-24SIR	Quantum	E186246	75 mA

ⓘ **Note:** If you wire multiple CO detectors on the same loop, you must break the leads between each CO detector. You must power the supervision relay from the last detector in the loop.

If you use a non-powered heat detector, such as a fixed temperature or rate of rise type, no supervision relay is required and you should not wire the detector to AUX2 or PGM2.

To wire a 4-wire smoke, heat, or CO detector, see the following figures:

ⓘ **Note:** Do not exceed a wire resistance of 100 Ω. For more information, see Table 4.

Figure 9: CO detector wiring

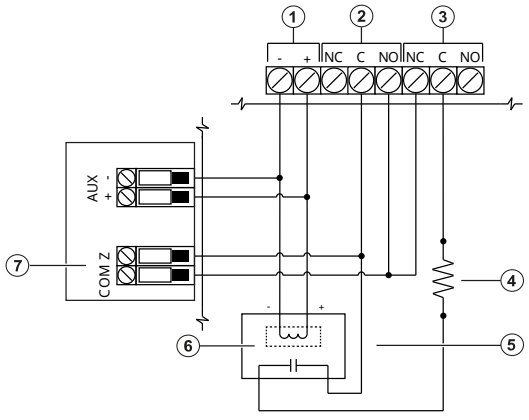
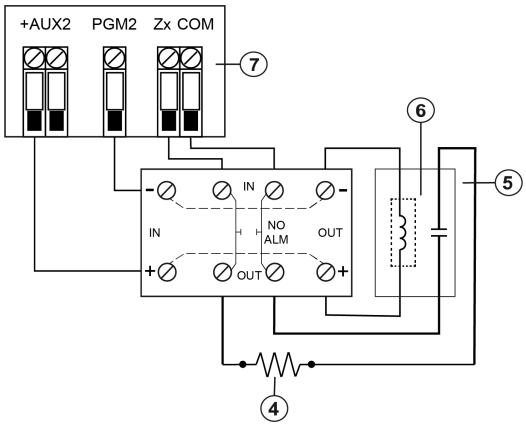


Figure 10: 4-wire smoke and heat detector wiring



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Callout	Description
1	4-wire smoke, heat, or CO detector power terminals
2	4-wire smoke, heat, or CO detector alarm terminals
3	4-wire smoke, heat, or CO trouble terminals, if provided
4	5600 Ω single end-of-line resistor
5	100 Ω alarm initiating loop
6	RM-1 or RM-2 power loop supervisory relay, 12 VDC, 35 mA.
7	Module zone input

ⓘ **Note:** You can manually configure PGM2 as a 2-wire smoke loop in panel programming. If you configure any zone input as a fire zone, PGM2 is automatically set as a 4-wire smoke detector, and acts as a power reset. You cannot combine 2-wire detectors and 4-wire smoke or heat detectors at the same time on the converter.

Wiring auxiliary power

You can use the auxiliary power terminals to power devices such as motion detectors and glass break detectors. The AUX1 and AUX2 terminals provide a combined current of 700 mA.

ⓘ **Note:** For UL and ULC combination fire and CO and burglary applications, the fire and CO initiating devices, such as smoke detectors, heat detectors, and CO detectors, must be powered from a separate output (AUX2) than the burglary initiating devices (AUX1).

ⓘ **Note:** For UL and ULC installations that require 24-hour backup capacity, the maximum AUX power load cannot exceed a current of 180 mA when using a 7 Ah battery.

Wiring the bell output

You can use the BELL terminals to power a bell, siren, or other device which requires a steady output voltage when the system is in alarm. The panel provides a current of up to 700 mA.

ⓘ **Note:** A 1 kΩ resistor is required across the BELL+ and BELL- terminals, or the system detects a trouble condition.

Installing the battery

To install the 12 VDC/ 7 Ah battery in the enclosure, complete the following steps:

ⓘ **Note:** The battery is sold separately.

1. Place the battery on the two plasic supports on the bottom of the enclosure. For more information, see Figure 11.
2. Clip the battery in place.
3. **Optional:** The battery can also be secured in place using a battery strap. To secure the battery using the battery strap, complete the following steps:

   ⓘ **Note:** The battery strap is sold separately.

   a. Place the battery on the two plasic supports on the bottom of the enclosure.
   b. Insert the battery strap through one of the slots.
   c. Wrap the strap around the front of the battery.
   d. Insert the strap through the second slot.

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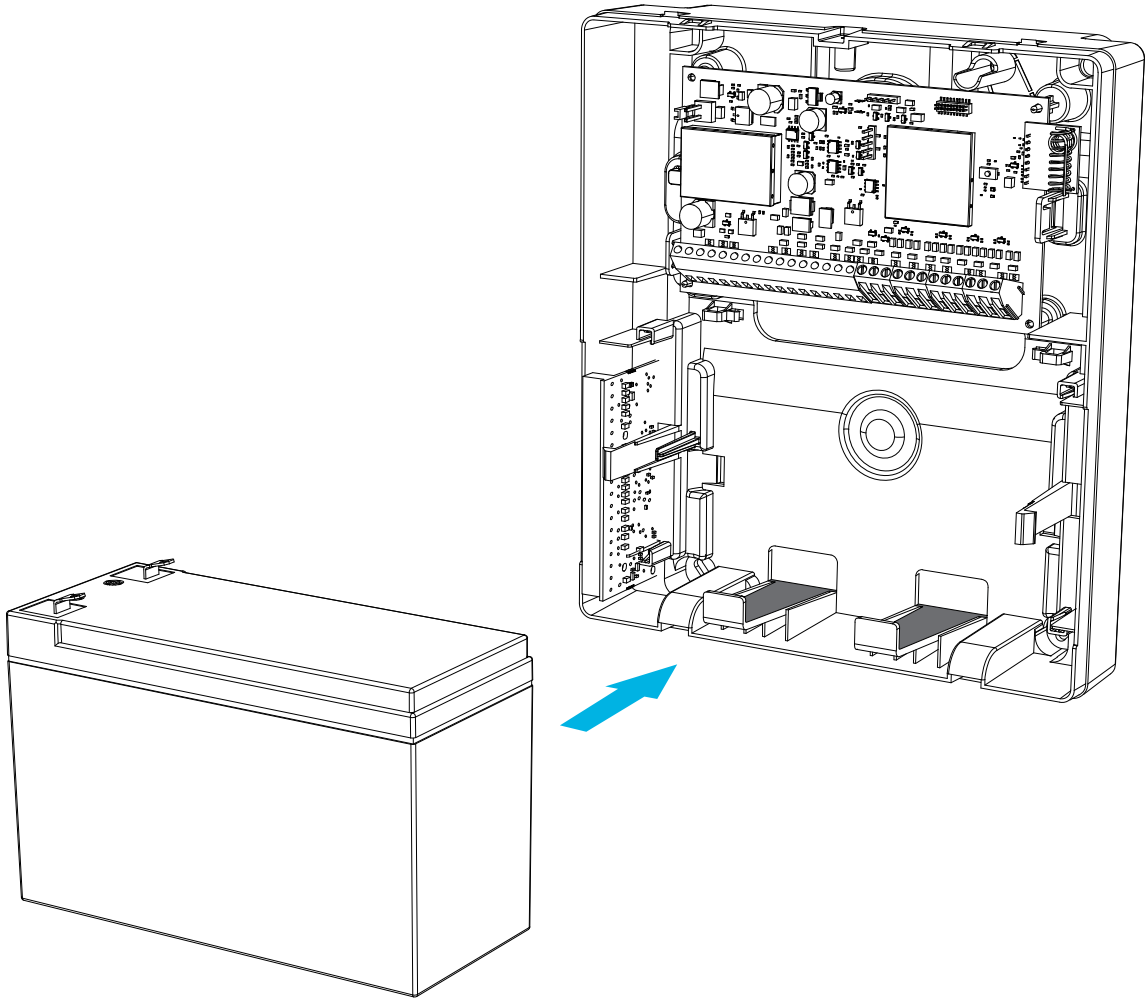
Figure 11: Installing the battery



Wiring the module

This section describes how to wire the external power supply and battery. For more information, see Figure 12.

Wiring the power supply

To wire the external power supply, complete the follow steps:

1. On the power supply, secure the wires to the terminals.
2. Insert the cable through the back of the enclosure.
3. Connect the wires to the 18 VDC terminals on the PCB.

Wiring the battery

To wire the battery, complete the following steps:

1. Connect the red battery lead to the positive terminals on the PCB and the battery.
2. Connect the black battery lead to the negative terminals on the PCB and the battery.

   Example:

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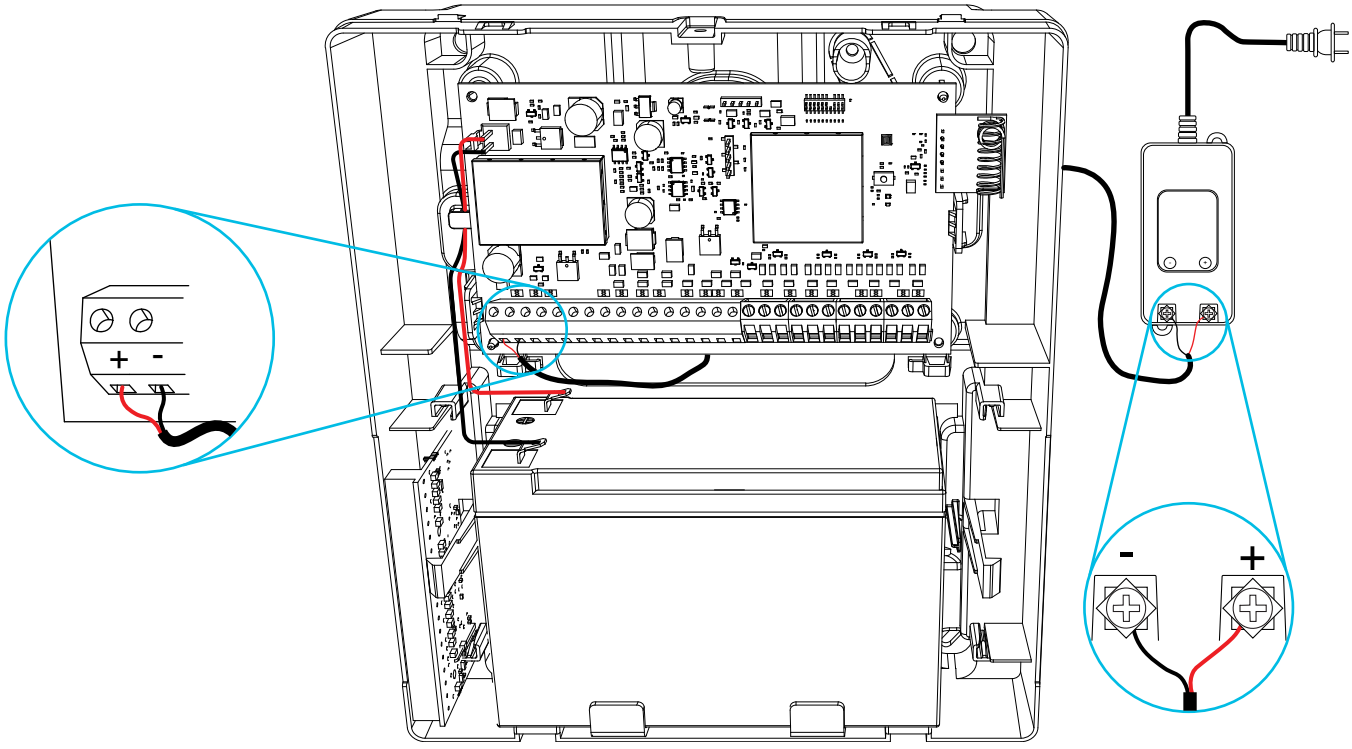
Figure 12: Wiring the battery



Important: You must maintain a minimum separation of 6.4 mm (0.25 in.) at all points between non-power limited battery wiring and all other power limited wiring connections. Do not route any wiring over circuit boards. You must maintain a minimum separation of 25.4 mm (1 in.) between all wiring and the PCB.

Wiring a keypad/HSM2108/HSM2300

For v1.20 and higher, you can wire a maximum of four keypads to the PG8WLSHW8 or PG9WLSHW8 and a maximum of four HSM2108 and one HSM2300. These modules should be connected to the Corbus.

Note: For UL and ULC compliant installations, make sure that the maximum current draw for the AUX outputs, CORBUS RED and BLK, and any PGM outputs do not exceed the limits in Table 2. The keypad is only for supplementary use in addition to the panel's user interface. For information on how to enroll a keypad, see Enrolling a keypad/zone expander/power supply. For information on how to use the keypad, refer to the keypad user manual.

Note: For UL residential fire applications, ensure that on each zone expanders AUX output or power supply AUX output fire and burglary devices are not mixed. Only burglary devices or only fire devices are allowed to be powered from the same AUX output on these modules.

The PG8WLSHW8 or PG9WLSHW8 support the following keypads and modules:

- HS2ICON
- HS2ICONP
- HS2LCD
- HS2LCDP
- HSM2108, HSM2300

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ⓘ **Note:** Starting with v1.20 Proximity tags are supported on the PG8WLSHW8 or PG9WLSHW8.

You can use the keypad to perform the following operations:

- To arm and disarm the system.
- To view zone status.
- To view partition status.
- To use the keypad function keys.
- The ***** menus support ***1** Bypass, ***2** Troubles, ***3** Alarm Memory, ***4** Chime, ***6** User Functions (keypad buzzer, contrast and brightness only), ***7** Command Outputs 1-4, ***9** No Entry Arm, and ***0** Quick Arm/Quick Exit.

  ⓘ **Note:** In v1.20 this is supported on up to 4x HSM2108 and 1 x HS2300.

For more information on how to install the keypad and Corbus modules, refer to the keypad's or modules' installation manual.

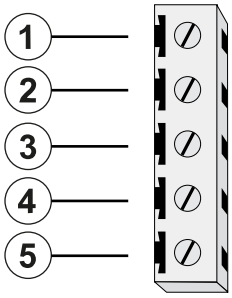
To wire a keypad to thePG8WLSHW8 or PG9WLSHW8, complete the following steps:

1. Remove the keypad backplate. For information on how to remove the keypad backplate, refer to the keypad installation manual.
2. Connect the R, B, Y, and G terminals to the Corbus terminals on the PG8WLSHW8 or PG9WLSHW8.

   ⓘ **Note:** The PG8WLSHW8 and PG9WLSHW8 do not support the keypad zone/PGM input terminal.

   ⓘ **Note:** The Corbus should be run with minimum 22 wire gauge quad. two pair twisted preferred. Devices can be home run to the panel, connected in series, or T-tapped. Devices cannot be more than 1000 ft (305 m) in wire length from the panel. Do not use shielded wire for Corbus wiring.

Figure 13: Keypad terminals



Callout	Description
1	R terminal
2	B terminal
3	Y terminal
4	G terminal
5	Not supported

Example:

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When you install multiple keypads and modules, wire keypads using the same partition on the same module to improve keypad performance. Keypads on partition one should be wired into module one, and keypads on partition two should be wired into module two.

Silencing fire alarm or CO alarm bells

This section describes how to silence Fire alarms or CO Alarms

Fire alarms or CO Alarms can be silenced by entering a valid access code. The message "Fire Alarm/ Bells Silenced" or "CO Alarm/Bells Silenced" will be displayed on the LCD keypad connected to the corbus. The message will not be cleared until all the fire zones zones have been restored on system.

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Enrolling the module

Before you enroll the module, ensure that all hardwired zones, PGM, AUX, and BELL are wired to the module.

To enroll the module, complete the following steps:

1. Enable enrollment through panel programming. For more information, refer to the *Qolsys IQPanel2 or Qolsys IQPanel4 Installation Manual.*
2. Press the **Enroll** button on the PCB and release when the LED lights solid orange.
3. Confirm the correct module ID in panel programming.

   ⓘ **Note:** The module ID is on the module label. It is a seven digit number that identifies the device being enrolled. It has the format 460-XXXX.

Testing the module placement

To test the signal strength between the module and the alarm panel, complete the following steps:

- Press the **Enroll** button on the module.

After the placement test is complete, the color of the LED indicates the signal strength. For more information, see Table 11.

Table 11: Device signal strength

LED color	Signal strength
Three red flashes	Poor
Three orange flashes	Medium
Three green flashes	Strong

ⓘ **Note:** For UL and ULC installations, only a strong signal strength is acceptable.

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Enrolling wired zones automatically

When you successfully enroll the module to the control panel, eight hardwired zones are added to the control panel. The zones display on the control panel with the same ID as the module and zone label as the corresponding hardwired input. Enable and configure each zone input and PGM using the zone configuration options on the control panel.

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Enrolling a keypad/zone expander/power supply

To enroll a keypad or device on to the module, complete the following steps:

1. Select **Settings** > **Advanced Settings** > **Installation** > **Devices** > **Security Sensors**.
   a. To automatically enroll all keypads and modules that are correctly wired to the module, select **Auto Learn**.
   b. To manually enroll a keypad that is correctly wired to the module, select **Add Sensor**. Enter the module serial number, 460-XXXX, then select **Corbus** from the Hardwired Input drop-down menu and enter the keypad or module serial number.

ⓘ **Note:** You must confirm and accept the keypad enrollment on the IQ Panel 2 or IQ Panel4.

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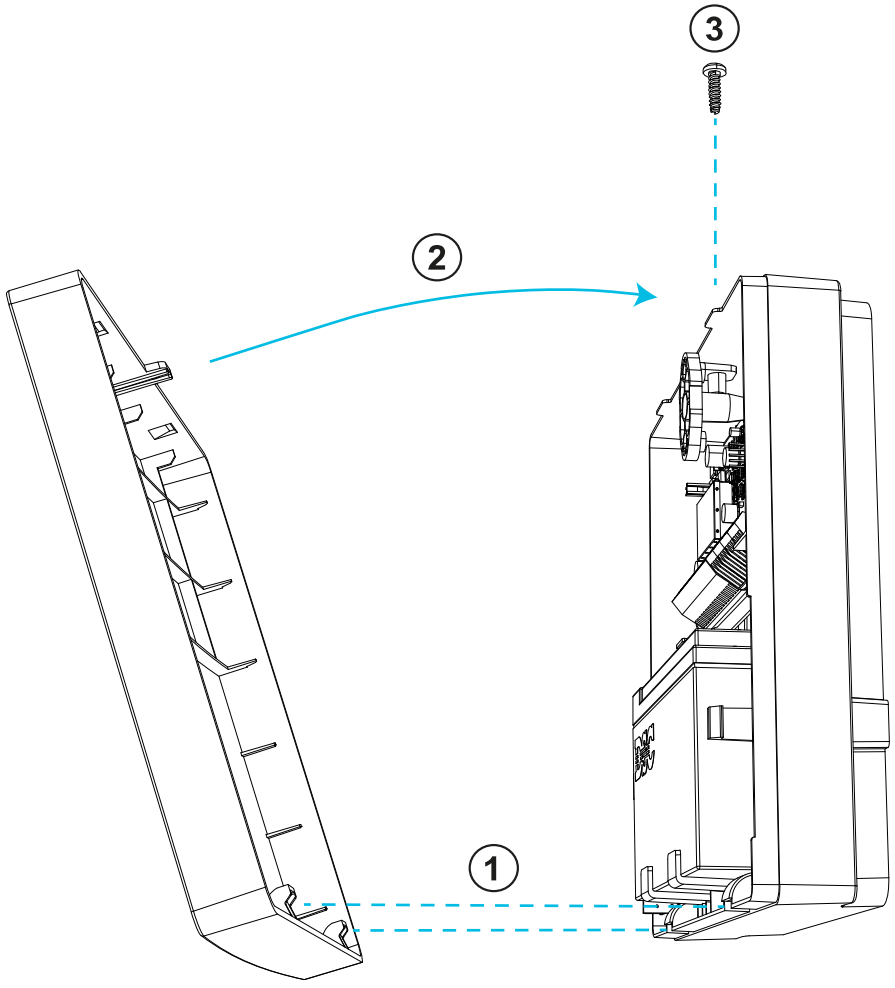
Attaching the cover

To attach the front cover to the enclosure, follow the numbered steps in Figure 14.

Example:

Figure 14: Attaching the cover



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Status LEDs

There is one multicolored LED on the module. The following table describes the status of the module based on the color of the LED.

Table 12: Status LEDs

Mode	Description
Turn on	The red LED is on while the module turns on.
Placement test	The color of the LED shows the signal strength of the enrolled device. For more information, see Table 11.
Firmware upgrade in progress	The red LED flashes every 800 ms while the system firmware updates.
Firmware upgrade failed	The red LED flashes every 120 ms if the firmware update fails.
Trouble	The orange LED flashes twice every 10 seconds if any troubles are detected, excluding a tamper trouble. ⓘ **Note:** For detailed information on device troubles, see the control panel.
Device enrollment	The orange LED turns on when the enrollment button is pressed.
Device defaulting	The red LED turns on if the enrollment button is pressed and held for 10 seconds. ⓘ **Note:** This defaults all module programming to factory settings.
Normal operation	The green LED flashes once every 10 seconds. The module is operating normally, with no troubles detected.

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Troubleshooting

To perform a local update of the firmware, use DLS 5 or higher.

The status LED indicates if a trouble condition is present. You can view the trouble conditions in detail on the alarm panel.

The following table describes the trouble states that the module can detect.

Table 13: Troubleshooting

Trouble	Description
Loss of AC	Ensure that there is power to the module, and that the voltage is within the 16 VDC to 20 VDC range at the transformer output.
Module tamper	Ensure that the back tamper plastic is in place and that the front cover of the enclosure is correctly secured.
Zone fault	Ensure that the zone is correctly wired and ensure that the zone EOL is correctly programmed.
Aux	**Short or overload:** There is a short or overload on the AUX terminals. **Low voltage:** The output voltage is below 9.8 VDC.
Low battery	The battery voltage is below the low battery threshold of 11.5 VDC.
No battery	There is no current detected on the battery terminals.
Fail to Enroll	Press and hold the **Enroll** push button for 10 seconds to default the module, then attempt to enroll again.
Bell circuit	The bell circuit is open. The load is less than 1 kΩ.

ⓘ **Note:** When you configure PGM2 for use with a 2-wire smoke detector, any troubles detected show on the panel as a fire trouble.

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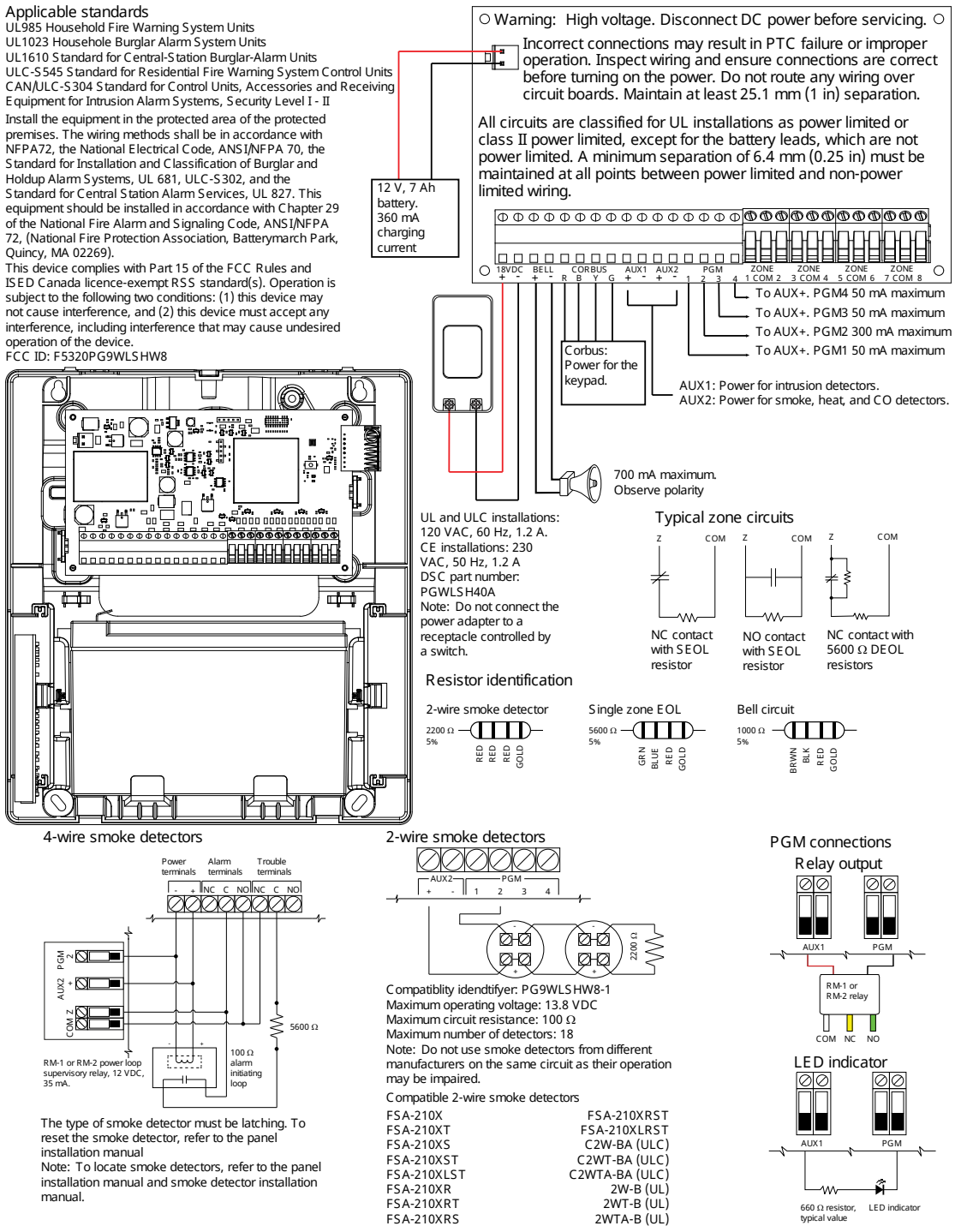
Wiring diagram

For an overview of how to wire the system, see the following figure.

Figure 15: Wiring diagram



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FCC and ISED Canada Information

This information applies to model PG9WLSHW8.

Modification statement

Tyco Safety Products Canada Ltd. has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

Tyco Safety Products Canada Ltd. n'approuve aucune modification apportée à l'appareil par l'utilisateur, quelle qu'en soit la nature. Tout changement ou modification peuvent annuler le droit d'utilisation de l'appareil par l'utilisateur.

Interference statement

This device complies with Part 15 of the FCC Rules and ISED Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'ISED Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Wireless notice

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. The antenna should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet appareil est conforme aux limites d'exposition aux rayonnements de la IC pour un environnement non contrôlé. L'antenne doit être installé de façon à garder une distance minimale de 20 centimètres entre la source de rayonnements et votre corps. L'émetteur ne doit pas être colocalisé ni fonctionner conjointement avec à autre antenne ou autre émetteur.

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FCC class B digital device notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003du Canada.

⚠ **WARNING:** To satisfy FCC RF exposure requirements for transmitting devices, a separation distance of 20cm or more must be maintained between the antenna of this device and persons during device operation.

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UL and ULC notes

The model PG9WLSHW8 has been listed by UL and ULC for commercial burglary and residential fire/burglary applications in accordance with the requirements in the Standards UL1610/UL1023/ UL985 and ULC-S304/ULC-S545. For UL/ULC installations, use this device only in conjunction with compatible wireless receivers/control panels combination, model Qolsys IQPanel2 and IQPanel4.

Test the system weekly. Replace the standby battery every three to five years.

UL commercial and residential installation requirements and considerations

UL commercial, UL household, and ULC security level I and II burglar alarm unit

- Power supply model SOY-1800222-NA (PGWLSHW40A) or HS40WPSNA or HS40WPSA shall be employed.
- One optional UL or ULC listed audible device rated to operate over the voltage range of 11.3 VDC to 12.5 VDC and rated 85 dB minimum.
- One compatible Qolsys IQPanel2 with PowerG modem card.
- All input zones shall be programmed as end of line supervised. For ULC Level II use DEOL supervision.
- Burglary initiating devices rated to operate over the voltage range of 11.3 VDC to 12.5 VDC.
- All intrusion zones shall be programmed as audible.
- The battery shall be used to provide a minimum back up power of four hours as per specific application requirements

UL and ULC household fire warning system

- Power supply model SOY-1800222-NA (PGWLSHW40A) or HS40WPSNA or HS40WPSA shall be employed.
- 24 hour standby shall be provided.
- At least one UL or ULC listed 4-wire latching type smoke detector rated to operate over the voltage range 11.3 VDC to 12.5 VDC. A maximum smoke detector alarm load of 102 mA may be employed on the 2-wire smoke detector circuit.
- One DSC model RM-1 or RM-2 end of line supervision relay module.
- One optional UL or ULC listed audible device, rated to operate over the voltage range 11.3 VDC to 12.5 VDC, with a maximum current rating of 700 mA and rated 85 dB minimum as required for this application. The required bell cutoff time shall be a minimum of four minutes for UL and five minutes for ULC. The local audible devices shall be programmed to sound in a Temporal 3 pattern.
- Model EOLR-2, for 4-wire smoke detectors, heat detectors, and CO detectors, and EOLR-3, for 2-wire smoke interface, end of line resistors shall be used.
- For UL and ULC household fire warning systems, the fire alarm and CO detection devices shall not be powered from the same AUX output as burglary alarm initiating devices.

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European CE Compliance and CERTALARM Certification

This information applies to model PG8WLSHW8.

According to EN50131-1,this equipment can be applied in installed systems up to and including Security Grade 2, Environmental Class II.

UK: The PG8WLSHW8 is suitable for use in systems installed to conform to PD6662:2017 at Grade 2 and environmental class II. BS8243:2010 + A1:2014.

The PowerG peripheral devices have two-way communication functionality, providing additional benefits as described in the technical brochure. This functionality has not been tested to comply with the respective technical requirements and should therefore be considered outside the scope of the product's certification.

The Model PG8WLSHW8 Wired to Wireless Converter has been certified by Telefication according to EN50131-1:2006+ A1:2009 + A2: 2017 + A3:2020, EN50131-3:2009, EN50131-5-3:2017, and EN50131-6:2017 + A1: 2021 Type A for Grade2, Class II.

Note: Low residual energy signal is removed within 15 seconds by re-application of the EPS.

Simplified EU declaration of conformity

Hereby, Tyco Safety Products Canada Ltd declares that the radio equipment type is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internetaddress: www.dsc.com

868 MHz model: http://dsc.com/pdf/2001001

Frequency band (MHz)	Maximum power (dBm/ mW)
868.0 to 868.6	12/ 15
868.7 to 869.2	12/ 15

European single point of contact: Tyco Safety Products, Voltaweg 20,6101 XK Echt, Netherlands.

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Digital Security Controls warrants the original purchaser that for a period of twelve months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use. During the warranty period, Digital Security Controls shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original purchaser must promptly notify Digital Security Controls in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period. There is absolutely no warranty on software and all software products are sold as a user license under the terms of the software license agreement included with the product. The Customer assumes all responsibility for the proper selection, installation, operation and maintenance of any products purchased from DSC. Custom products are only warranted to the extent that they do not function upon delivery. In such cases, DSC can replace or credit at its option.

International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, with the exception that Digital Security Controls shall not be responsible for any customs fees, taxes, or VAT that may be due.

Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to Digital Security Controls must first obtain an authorization number. Digital Security Controls will not accept any shipment whatsoever for which prior authorization has not been obtained.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of Digital Security Controls such as excessive voltage, mechanical shock or water damage;
- damage caused by unauthorized attachment, alterations, modifications or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by Digital Security Controls);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance;
- damage arising out of any other abuse, mishandling or improper application of the products.

Items Not Covered by Warranty

In addition to the items which void the Warranty, the following items shall not be covered by Warranty: (i) freight cost to the repair centre; (ii) products which are not identified with DSC's

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product label and lot number or serial number; (iii) products disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection or testing to verify any warranty claim. Access cards or tags returned for replacement under warranty will be credited or replaced at DSC's option. Products not covered by this warranty, or otherwise out of warranty due to age, misuse, or damage shall be evaluated, and a repair estimate shall be provided. No repair work will be performed until a valid purchase order is received from the Customer and a Return Merchandise Authorisation number (RMA) is issued by DSC's Customer Service. Digital Security Controls' liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty. Under no circumstances shall Digital Security Controls be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property. The laws of some jurisdictions limit or do not allow the disclaimer of consequential damages. If the laws of such a jurisdiction apply to any claim by or against DSC, the limitations and disclaimers contained here shall be to the greatest extent permitted by law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so that the above may not apply to you.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) and of all other obligations or liabilities on the part of Digital Security Controls Digital Security Controls neither assumes responsibility for nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product. This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

⚠ **WARNING:** Digital Security Controls recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

Out of Warranty Repairs

Digital Security Controls will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to Digital Security Controls must first obtain an authorization number. Digital Security Controls will not accept any shipment whatsoever for which prior authorization has not been obtained.

Products which Digital Security Controls determines to be repairable will be repaired and returned. A set fee which Digital Security Controls has predetermined and which may be revised from time to time, will be charged for each unit repaired.

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Technical support : 1-800-387-3630 (Canada and EUA), or 1-905-760-3000 (International)

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Documentazione tecnica

Documentazione originale del produttore, messa a disposizione da CTS Tecnologie.

Sei un installatore o un’azienda?

Registrati all’area clienti per vedere i prezzi, ordinare online e scaricare cataloghi e listini dei marchi che distribuiamo.

www.ctstecnologie.it/registrazione

Contatti

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