iconnect 2

Two-Way Wireless

2-Way Wireless I/O Expander
Installation Guide

For more detailed information please refer to the **iConnect** 2
Installer Manual provided on our website: www.electronics-line.com

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1.   Introduction

Electronics Line's 2-Way Wireless I/O Expander Module (EL-4770) is an extension module enabling wired devices to be connected to the iConnect 2-Way Control System (SW versions 305 and above).

The iConnect 2-Way Control System supports up-to two 2-Way Wireless I/O Expander Modules. Each 2-Way Wireless I/O Module supports 8 hardwired zone inputs, 2 auxiliary outputs and has the capability to control up to 2 PGM devices.

Each output or PGM device can be operated in a response to a wide variety of system events. For detailed information regarding the programming options of the Wireless I/O Expander Module refer to the iConnect 2-Way Control System Full Installation Manual.

The 2- Way Wireless I/O Expander Module is installed outside the Control System in its own dedicated plastic unit equipped with case open and wall removal tamper protection. The Wireless I/O Module is also provided with its own power supply and backup battery.

2.   Main Features

- Bi-directional wireless communication
- 2 auxiliary parallel outputs
- 8 zone inputs (NO, NC, EOL, DEOL)
- Fully supervised
- Dual tamper protection (Box & Wall)
- PGM connection for up to 2 PGM devices

3. 2-Way Wireless I/O Expander Module Main Components
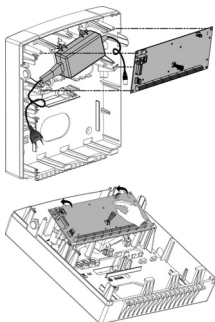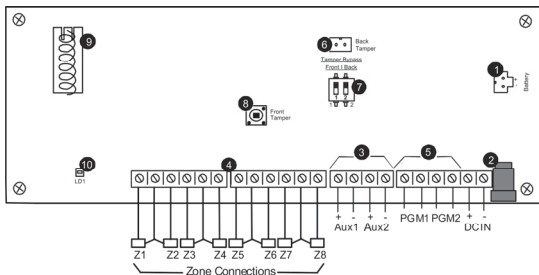
❶ Backup battery connector

❷ Power input jack (by external AC/DC adaptor)

❸ Auxiliary parallel outputs (Aux1-2) for powering detection devices

❹ Zone inputs (loop type configurable in programming)

❺ Programmable outputs (PGM): dry contact

❻ Back tamper switch connector

❼ Tamper bypass dip switch

❽ Front case tamper switch

❾ Antenna (868 or 433)

❿ LED indicator

Figure 3-1: 2-Way Wireless I/O Expander Module circuit board and plastic unit

3.1. LED Indication

LED	State	Description
Red	On	AC and batteries OK
	Flashing	AC trouble
	Off	Power not present
Orange	Flashing	Low battery
Green/Red (tamper open)	Flashing	Green – Signal reception
		Red – Signal transmission

3.2. Box & Wall Tamper

Box and wall tamper switches provides extra protection. If the plastic unit is opened the front tamper switch is released and an alarm is generated. In the event that the plastic unit is removed from the wall, the screw causes the perforated section of the plastic and attached tamper mechanism metal plate to break and remain attached to the wall. As a result, the back tamper switch is released and an alarm is generated.

The front tamper switch is located on the front of the circuit board and is depressed via a spring when the front plastic cover is closed. The back tamper switch is located on the rear side of the back panel and is constantly depressed.

Attach the tamper hole to the wall during mounting and attach the tamper connector and lead to the main panel as shown in Figure 3-1.

Set the Tamper dipswitch SW1 according to your tamper protection preferences, see Tamper Bypass section, below.

3.2.1. Tamper Bypass

The circuit board provides an option to bypass the front and back tamper, as shown in the following table:

Dipswitch SWI	Setting	Description
	ON	Tamper bypass is in effect. Use this setting during programming and if no back tamper has been connected.
	OFF	(Default): No tamper bypass is in effect. Use this option when back tamper is connected to the system.

4. Choosing the Mounting Location

Before you mount the 2-Way Wireless I/O Expander Module plastic unit, study the premises carefully for the best possible coverage and yet easily accessible to devices and accessories. Consider the following before mounting the 2-Way Wireless I/O Expander Module plastic unit:

- Centrality of location among all the detection devices and transmitters
- Proximity to an uninterrupted AC power supply
- Distance from sources of interference, such as direct heat sources, electrical noise such as computers, televisions etc., large metal objects, which may shield the transmission antenna
- Dryness

5. Mounting the 2-Way Wireless I/O Expander Module

The 2-Way Wireless I/O Expander module unit consists of back and front panels and features plastic click-mounting for all internal components.

1. Separate the sub-assemblies by pressing the circular locking plastic brackets on either side to release the front cover, see Figure 5-1 below.
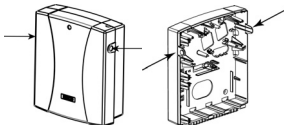
Figure 5-1: Box clip release

2. Remove the circuit board (Figure 3-1) and if required open knock outs for the entry of input and power wires.

3. Hold the mounting bracket against the wall as a template and mark the locations for the mounting holes, as per Figure 5-2 (4 mounting holes and an additional optional hole for securing the tamper protection bracket item).

Figure 5-2: Mounting screw template

4. Drill the desired mounting holes and place the screw anchors.

Note:

Do not permanently mount the plastic unit at this point of the installation.

6. Wiring the 2-Way Wireless I/O Expander Module

6.1. AC Adaptor and Circuit Board

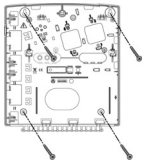The 2-Way Wireless I/O Expander Module is powered by an AC/DC Adaptor 100-240V, 50/60Hz/14.4V,1.5A. Connection to AC power supply must be permanent and connect through the mains-fuse terminal block (see Figure 6-1, below).

> **Caution:**
>
> AC wiring should be done by a certified electrician.

1. Connect the AC adapter to the main fuse terminal block as shown in Figure 6-1.
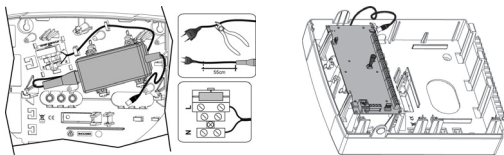

Figure 6-1: AC adapter and circuit board placement

2. Reinstall the circuit board and connect the power source plug to the power input jack on the circuit board, see Figure 3-1 and Figure 6-1.

> **Caution:**
>
> Do not connect to main AC power at this point of the installation.

3. Wire all input and output peripherals as described in the following sections.

6.2. Zone Input Wiring

The 2-Way Wireless I/O Expander Module supports 8 hardwired zones (defined in the iConnect 2-Way Control System) that can be defined as Normally Open, Normally Closed, End of Line or Double End of Line resistor zones. Zone connection configuration must be defined accordingly at each zone's programming parameters – please refer to the iConnect 2-Way Control System's installation manual.

6.3. Auxiliary Output (AUX) Wiring

The 2-Way Wireless I/O Expander Module includes 2 auxiliary outputs (12±2VDC 1000mA). Use the auxiliary output terminals (see Figure 3-1) to power PIRs, glass-break detectors, smoke detectors, audio switches, photoelectric systems and/or any device that requires a 9VDC power supply.

Note:

The total power from the AUX terminals should not exceed 1000 mA.

6.4. Programmable Output (PGM) Wiring

The 2-Way Wireless I/O Expander Module enables the iConnect 2-Way Control System to control PGM devices. The PGM is a programmable output that is triggered according to specific system status condition.

Connect a PGM device to the PGM output (see Figure 3-1). PGM control configuration must be defined accordingly at each PGM's programming parameters – please refer to the iConnect 2-Way Control System's installation manual.

6.5. Backup Battery Connection

Insert the backup battery into its place and connect the lead connector to the backup battery jack on the circuit board, see Figure 3-1.

Caution:

• The circuit board is designed to work with all approved 12VDC,7Ah sealed lead batteries as a backup for the primary power supply in time of main power failure.

• The circuit board is designed with reverse polarity protection on the battery charging circuit. However, prolonged improper connection of the battery to the circuit board will result in damage.

• The battery is not supplied with the 2-Way Wireless I/O Expander Module.

• The rechargeable battery should be charged for at least 72 hours.

• Battery presence is checked every 10 seconds.

• There is a risk of explosion if a battery is replaced with an incorrect type.

• Dispose of used batteries according to the proper instructions.

• Battery in product shall be replaced every 3-5 years. No maintenance is needed.

• The power should remain disconnected until all connections have been made and checked for accuracy.

6.6. Completing the Installation

To complete the installation:

1. Mount the 2-Way Wireless I/O Expander Module back panel to the wall using affixing screws, see Figure 5-2.

2. Connect the 2-Way Wireless I/O Expander Module to the AC mains power, see Figure 6-1.

   Caution:

   • When the circuit board is powered on, mains voltage is present on the main PCB.

   • To prevent risk of electric shock, disconnect all power (AC transformer and battery) before servicing.

   • Under no circumstances should mains power be connected to the PCB other than through the main terminal block.

   • A readily accessible disconnection device shall be incorporated in the building installation wiring.

   • For continued protection against risk of fire, replace fuses only with fuses of the same type and rating.

3. Before closing the front cover and securing the locking screw, proceed to Registering the 2-Way Wireless I/O Expander Module, below.

7. Registering the 2-Way Wireless I/O Expander Module

The 2-Way Wireless I/O Expander Module must identify itself to the iConnect 2-Way Control System as follows:

1. Set the control system to registration mode.
   - Go to the main menu and select [9]>[1]>[6] (Programming > Devices > Zone Expanders)
   - Select a 2-Way Wireless I/O Expander Module from the list (1-2) and press '√'.
2. With the plastic unit cover open send a transmission by pressing and releasing the tamper switch of the Wireless I/O Expander Module.
   The 2-Way Wireless I/O Expander Module will send a transmission to the control system. If the transmission is successfully received by the control system it will play a confirmation sound.
3. As soon as 'Save?' appears press '√'.
4. Close the 2-Way Wireless I/O Expander Module front cover and secure the locking screw.

8. Deleting a 2-Way Wireless I/O Expander Module

To delete a 2-Way Wireless I/O Expander Module from the system:

1. Set the system to Delete mode.

    - Go to the main menu and select [9]>[1]>[6] (Programming > Devices > Zone Expanders).
    - Select a 2-Way Wireless I/O Expander Module from the list (1-2) and press '√'.

2. Press >3, and then press '√'. Upon the 'OK' confirmation request, press '√'

3. Open the plastic unit (see Figure 5-1 and Figure 6-1) and disconnect the main AC power.

4. Press the tamper switch. While the tamper switch is being pressed connect the power. Within five seconds open the tamper and close it again.

9.   Technical Specification

Frequency:	868*MHz or 433MHz
Power Input:	AC/DC Adaptor 100-240V,50/60Hz/14.4VDC,1.5A
Current Consumption:	Typical:40 mA;65mA maximum
Rechargeable Standby Battery:	12VDC±2VDC up to 7Ah, typical
Auxiliary Power Outputs:	12VDC@1000mA, maximum (from all AUX terminals)
PGM Relay Output Dry Contact Rating:	Dry contact – 1A@30VDC,0.5A@25VDC
Number of Zones:	8
Zone Loop Type:	N.C. / N.O. / E.O.L.(Programmed at the Control System)
Tamper Protection:	Front cover and back tamper (N.C.)
RF immunity:	According to EN50130-4
Operating temperature	-10℃ to 40℃ (14°F to 104°F)
Storage temperature	-20℃ to 50℃ (-4°F to 122°F)
Usage:	Indoor
Dimensions (Plastic Case):	290 x 254 x 97 mm (11.2 x 9.7 x 3.6 inch)

*EN 50131-3 Grade 2 Class II

Electronics Line Limited Warranty

EL and its subsidiaries and affiliates ("Seller") warrants its products to be free from defects in materials and workmanship under normal use for 24 months from the date of production. Because Seller does not install or connect the product and because the product may be used in conjunction with products not manufactured by the Seller, Seller cannot guarantee the performance of the security system which uses this product. Sellers' obligation and liability under this warranty is expressly limited to repairing and replacing, at Sellers option, within a reasonable time after the date of delivery, any product not meeting the specifications. Seller makes no other warranty, expressed or implied, and makes no warranty of merchantability or of fitness for any particular purpose. In no case shall seller be liable for any consequential or incidental damages for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever. Sellers obligation under this warranty shall not include any transportation charges or costs of installation or any liability for direct, indirect, or not be compromised or circumvented; that the product will prevent any persona; injury or property loss by intruder, robbery, fire or otherwise; or that the product will in all cases provide adequate warning or protection. Buyer understands that a properly installed and maintained alarm may only reduce the risk of intruder, robbery or fire without warning, but is not insurance or a guaranty that such will not occur or that there will be no personal injury or property loss as a result. Consequently seller shall have no liability for any personal injury, property damage or loss based on a claim that the product fails to give warning. However, if seller is held liable, whether directly or indirectly, for any loss or damage arising from under this limited warranty or otherwise, regardless of cause or origin, sellers maximum liability shall not exceed the purchase price of the product, which shall be complete and exclusive remedy against seller. No employee or representative of Seller is authorized to change this warranty in any way or grant any other warranty.

WARNING: This product should be tested at least once a week.

CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to local regulations.

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