ELAN®

Quick Install Guide

EL-IO-200

Control Extender

Important Safety Instructions:

1. Read, understand and follow ALL safety and installation instructions included in this manual. Failure to follow the included documentation may damage the product and will void manufacturer's warranty.
2. Follow ALL installation guidelines included with the product. Installation of the product in high humidity environments, in close proximity to heat sources and /or non-recommended locations will impede, interfere and/or damage the intended operation of the product.
3. Only use attachments and accessories which have been specified for use by the manufacturer.
4. The use of abrasive, liquid or solvent based cleaning fluids will damage the product. Please refer and follow all Product Care instructions included with the product.
5. Product Servicing may only be completed by authorized or certified service centers & personnel. For a complete list of product servicing options, please follow instructions included in the product documentation and /or contact original manufacturer for details.

FCC and IC Information:

This Class B digital apparatus complies with Part 15 of the FCC rules and with Canadian ICES-003 and RSS-247. RESTRICTIONS IN THE 5 GHZ BAND: Within the 5.15 to 5.25 GHz band, UNII devices will be restricted to indoor operations.

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.

Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-247.

RESTRICTIONS DANS LA BANDE DE 5 GHZ: Dans la bande de 5,15 à 5,25 GHz, les appareils UNII serontrestreints aux opérations.

Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Warning:

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC and IC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the exemption from the routine evaluation limits in section 2.5 of RSS 102.

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters from user and bystanders.

Warning:

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102, and users can obtain Canadian information on RF exposure and compliance from the Canadian Representative Product Solutions Group at Tel: (519) 763-4538.

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT:

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.

La puissance de sortie émise par l'appareil de sans fil est inférieure à la limite 'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal. Ce périphérique a également été évalué et démontré conforme aux limites d'exposition aux RF d'IC dans des conditions d'exposition à des appareils mobiles (antennes sont supérieures à 20 cm à partir du corps d'une personne).

FCC and IC Registrations
FCC ID: EF400210
IC: 1078A-00210

Contents

The EL-IO-200 Control Extender may be used as an extender to any gSC OR SC controller (refer to the integration note for integration instructions and requirements). Please check the ELAN Training Guide for EL-IO-200 control capabilities.

The ELAN Training Guide contains valuable hardware and software reference documentation and is considered an important supplement to this document. Make sure you have the latest version by visiting the ELAN Dealer website at www.elancontrolsystems.com and follow the Dealer Resources link.

Included in the box:

- (1) EL-IO-200 Control Extender
- (1) 5V DC Power Supply
- (2) Male DB9 to female RJ45 adapter
- (1) Female DB9 to female RJ45 adapter
- (4) Phoenix style male connectors, (2) black for signal inputs, (2) green for relays

1. Rear Panel Connections

Relay Connections
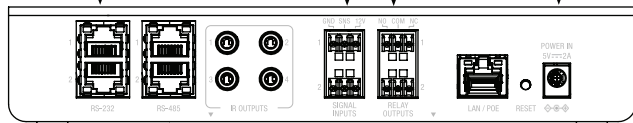2 relays
12VDC 24VAC @ 1A

Signal Inputs
2 signal input ports
Detect contact closure or
voltage input to trigger events
Detects 5 -24VDC / 24VAC Max

Serial Connections
2 bi-directional RS-232 ports
Null-modem configurable

Power Connector
DC power input
5V - 2A

Serial Connections
2 bi-directional RS-485 ports

IR Outputs
4 discreet IR ports (12V)
Compatible with Xantech
single and dual emitters

Reset
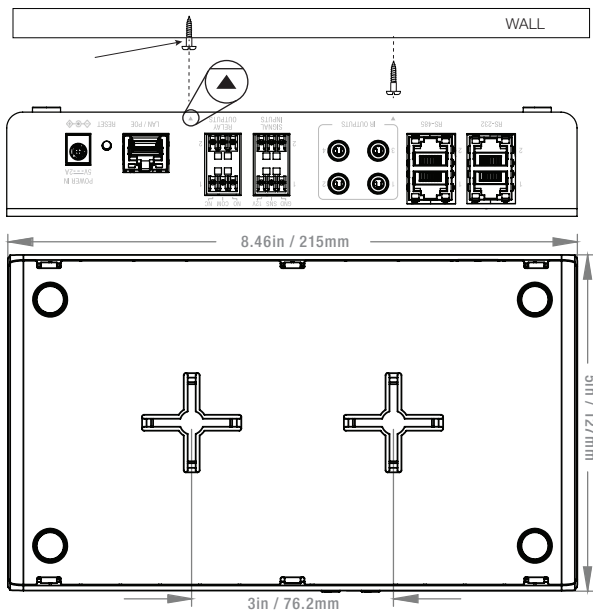Resets the IP
address to DHCP

Ethernet Connection
10/100 Mbps
PoE IEEE 802.3at/af
48VDC 600mA

2. Mounting

The EL-IO-200 is designed to mount to a wall, on a shelf, or mount in a structured wiring enclosure with optional mounting bracket.

Wall Mounting

The EL-IO-200 chassis has been designed to allow convenient wall mounting in any orientation. Arrows on the rear panel may be used to mark the location for the screws. Mark the screw locations, mount the screws leaving approx. 3/16" (5mm) of screw exposed and slide the chassis over the screws.

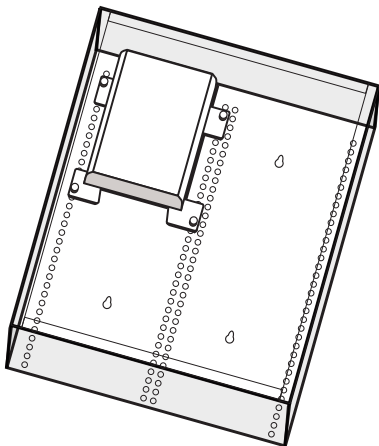**NOTE:** Mounting height < 2 meters. Weight < 1 kg.

Shelf Mounting

The EL-IO-200 has rubber feet to protect finished surfaces. Set the controller in a location that will allow you to properly manage connected wiring so that there is no tension on the connections.

Structured Wiring Cabinet Mounting

Mount the EL-IO-200 in a structured wiring cabinet using the optional structured wiring cabinet mount.

1. Attach mounting bracket to the wiring cabinet with snap rivets and washers.

2. Snap the controller to the 2 hooks on the mounting bracket.

3. RS-232 Serial Connections

Connect up to two RS-232 serial controlled devices using an included DB9 to RJ45 adapter to the RS232 port on the rear of the controller.

For null modem connections, the ports can be configured in ELAN Configurator. For more information, refer to the Integration Note for this device.

Wiring pin-out for the RJ45 connector.

RS-232 Connections

RS-232 Port Pin #	586A Color Code	586B Color Code	
1	White / Green	White / Orange	N/C
2	Green	Orange	DCD
3	White / Orange	White / Green	DTR
4	Blue	Blue	GND
5	White / Blue	White / Blue	RXD (receive)
6	Orange	Green	TXD (transmit)
7	White / Brown	White / Brown	CTS
8	Brown	Brown	RTS

The table shows the 568A and 568B color codes and the function of each conductor of the RS-232 ports. Please refer to the ELAN Integration Note for the specific device to determine the proper RJ45 to DB9 adapter to use.

CAUTION: Do not connect cables with PoE power on them to the RS-232 or RS-485 ports as it will damage the unit.

4. RS-485 Serial Connections

The two RS-485 ports allow connection to Full Duplex (Aprilaire thermostats, for example) and Half Duplex (Pentair Pool and Spa controllers, for example) RS-485 controlled devices without using adapters. The table below shows the T-568A and T-568B color codes and the function of each conductor of the RS-485 ports. Please refer to the Integration Notes for the device you are integrating for wiring and programming specifics.

CAUTION: Do not connect cables with PoE power on them to the RS-232 or RS-485 ports as it will damage the unit.
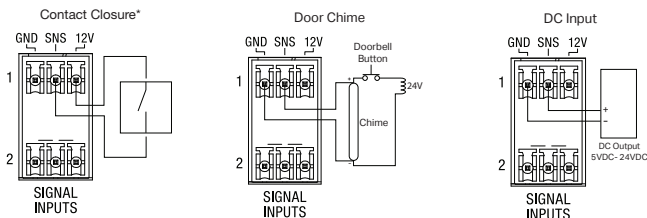
RS-232 Port Pin #	586A Color Code	586B Color Code	Naming Conventions		
1	White / Green	White / Orange	RxD +	RD (B)	B+
2	Green	Orange	RxD -	RD (A)	B-
3	White / Orange	White / Green	TxD +	TD (B)	A+
4	Blue	Blue	N/C		
5	White / Blue	White / Blue	N/C		
6	Orange	Green	TxD -	TD (A)	A-
7	White / Brown	White / Brown	GND	GND	GND
8	Brown	Brown	N/C		

5. IR Output Connections

Four discrete IR outputs are supplied to control third party devices. Each output is compatible with Xantech single and dual emitters. IR outputs are 12V.

6. Signal Input Connections

Two signal input ports provide a way to trigger events based on a contact closure or voltage input. Detects 5V to 12V DC / 24VAC Max.

*Please verify your device can accept 12V input for contact closure, as this could cause damage the device if not rated for 12V.

For example, use a contact closure on driveway sensors to trigger lights or push messages. Or use the voltage detector to sense when a standard doorbell chime is rung to trigger an ELAN doorbell chime through an audio system.

NOTE: DO NOT WIRE DIRECTLY TO THE DOORBELL BUTTON, THIS WILL DAMAGE THE EL-IO-200.

For detailed wiring instructions, please refer to the Integration Note.

7. Relay Connections

Two normally open relays are available for controlling third party devices - motorized lifts, window shades, and projection screens. The included removable connectors will accept up to 16ga bare copper leads. Be careful to verify that no portion of one wire touches the other wire. Prior to connection verify that the connected load does not exceed 24volts AC/DC or 1amp. If either parameter is exceeded, add a higher capacity relay to control the load and use the EL-IO-200 output to control that relay.

NOTE: The relays only control turning the external load on / off and do not supply any power.

For detailed wiring instructions, please refer to the Integration Note and documentation for the connected device.

8. LAN / PoE Connection

The EL-IO-200 can be powered over Ethernet (PoE). The minimum PoE requirement is IEEE 802.3at. 42.5 - 57 VDC, 600 mA maximum.

Note: The EL-IO-200 can be connected via WiFi, however a wired connection is preferred.

9. Reset Button

Press and hold the reset button for 3 to 5 seconds to reset the network settings. The IP address will be reset to DHCP if a static IP address has been assigned and if configured for WiFi, will reset to an Ethernet connection.

10. Power

Once all other connections have been completed, connect an Ethernet cable connected to a PoE switch or the 5 VDC, 2A power supply to the DC input.

11. LED Status Indicator

The LED communicates the status of the controller:

Blue
Power on / connected to network / connected to main controller

Flashing Blue
Power on / connected to network / NOT connected to main controller

Amber

Power on / not connected to network

12. Network Connection

The EL-IO-200 is factory set to use DHCP. Connect to a wired network and use the ELAN Configurator to connect to the IO-200 Extender. Once connected, use Configurator to set a static IP address or connect via WiFi.

13. Specifications

Connections

RS-232, Null modem configurable - (2) RJ-45 ports
RS-485 - (2) RJ-45 ports
IR Output, (Mono), - 12V DC - (4) 3.5mm ports
Signal Input - (2) Terminal Block Connectors 3-pin
Relay - (2) Terminal Block Connectors 3-pin
Ethernet / PoE IEEE 802.3af (802.3at Type 1) - (1) RJ-45 port
Power (1) Coaxial Type A, 2.5mm inside diameter. 5V 2A
2.4 / 5 GHz WiFi 802.11 b/g/n/ac

System

Software compatibility - Refer to the integration note for compatibility
Updates managed by ELAN Core Module software

General

Operating Temperature - 0° to 40° C
Operating Humidity - 90% Maximum (Non-Condensing)
Mounting - Free standing, Wall mount, Structured wiring cabinet
Product Dimensions 8.46in W x 1.63in H x 5in D / 215mm W x 41.5mm H x 127mm D)
Product Weight 0.8 lb / 0.36 Kg
Certifications - CE, FCC, C-Tick / RCM

Notes

Limited Warranty

Nortek Security & Control ('NSC') warrants the EL-IO-200 to be free from defects in materials and workmanship for the period of two years (2 years) from the date of purchase. If within the applicable warranty period above purchaser discovers that such item was not as warranted above and promptly notifies 'NSC' in writing, 'NSC' shall repair or replace the item at the company's option. This warranty shall not apply (a) to equipment not manufactured by 'NSC', (b) to equipment which shall have been installed by other than an 'NSC' authorized installer, (c) to installed equipment which is not installed to 'NSC's' specifications, (d) to equipment which shall have been repaired or altered by others than 'NSC', (e) to equipment which shall have been subjected to negligence, accident, or damage by circumstances beyond 'NSC's' control, including, but not limited to, lightning, flood, electrical surge, tornado, earthquake, or other catastrophic events beyond 'NSC's' control, or to improper operation, maintenance or storage, or to other than normal use of service. With respect to equipment sold by, but not manufactured by 'NSC', the warranty obligations of 'NSC' shall in all respects conform to the warranty actually extended to 'NSC' by its supplier. The foregoing warranties do not cover reimbursement for labor, transportation, removal, installation or other expenses which may be incurred in connection with repair or replacement. Except as may be expressly provided and authorized in writing by 'NSC', 'NSC' shall not be subject to any other obligations or liabilities whatsoever with respect to equipment manufactured by 'NSC' or services rendered by 'NSC'.

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Main: 800-472-5555 | International: 707-283-5900 Mon-Fri 6am - 4pm EST
Tech Support is closed every Tuesday between 1:20pm and 2:30pm PST for
team development.

5919 Sea Otter Place, Carlsbad, CA, 92010

For more information on Elan Control Systems, visit:

elancontrolsystems.com