

X1 SERIES ELEVATOR CONTROLLER INSTALLATION AND PROGRAMMING GUIDE



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X1 SERIES ELEVATOR CONTROLLER OVERVIEW

The X1 Series is a cloud-based access elevator controller that is fully programmed in Dealer Admin[™] and maintained in Virtual Keypad[™]. One X1 Elevator Controller can have up to 90 floors on a total of nine elevator control modules.

This guide will cover mounting and wiring the elevator controller, configuring network options, applying power, programming the elevator controller in Dealer Admin, and testing the elevator controller.

Elevator Controller Configurations

Elevator control for the X1 Series is offered in three different configurations depending on the application's needs.

Configuration	Part Number	Included Hardware	Description
X1 Elevator Controller	X1-ELEV	 Elevator Controller Elevator Control Module Enclosure 	This configuration includes all needed parts for up to 10 available floors in one enclosure. The X1-ELEV can expand the number of floors through the X1-ELEV-EXP and X1-ELEV-PCB configurations.
X1 Elevator Controller Expansion	X1-ELEV-EXP	 Elevator Control Module Enclosure 	This accessory to X1-ELEV Controller is for expanding from 10 to 20 floors in a second enclosure.
X1 Elevator Controller PCB Only	X1-ELEV-PCB	 Elevator Control Module 	This accessory to the X1-ELEV-EXP is for expanding from 20 to 30 floors in the second enclosure, with up to 90 floors on nine elevator control modules in total.

Elevator Controller Power

	Powered by:	Maximum Current Draw:
	Power Terminals	1.5 A
Elev	vator Controller Plug-In Terminals	1 Insert
Wirir the p	ng terminals on an X1 Series Elevator Controller is olug-in terminals.	done easily by using <u>3</u> Plug In
1.	Insert the wire into the slot.	A Beeg
2.	Tighten the screw.	2 Tighton
3.	Snap the plug-in terminal onto the board.	2 lighten

Elevator Controller PCB Components

Refer to the diagram below throughout the installation.



Elevator Control Module PCB Components

Refer to the diagram below throughout the installation.



PRE-INSTALLATION

Warning: The X1 Elevator Controller cannot be installed without being in contact with the elevator service company. This guide covers only what the elevator control installer will be able to do.

STEP 1: MOUNT THE ELEVATOR CONTROLLER



X1 Elevator Controller

The metal enclosure for the X1 Series Elevator Controller must be mounted directly to a wall, backboard, or other flat surface in a secure, dry place to protect the elevator controller from damage. It is not necessary to remove the PCBs when installing the enclosure. Address the rotary on the elevator control module to 1.

If not installing an expansion configuration of any kind, skip to Connect a Card Reader.

b Optional X1 Elevator Expansion

If not installing additional elevator modules, skip to Step 2 *Connect a Card Reader*.

Mount the Enclosure

The metal enclosure for the X1 Elevator Expansion Module must be mounted to a wall, backboard, or other flat surface within 3 feet of the first X1 Elevator Controller. It is not necessary to remove the PCB when installing the enclosure.



Set the Address

The X1 Elevator Control Module has a 1 through 9 addressable rotary dial that is factory defaulted to 1. Additional modules need to be addressed in sequence.



Wire the Expansion Module to the First Module

Use the included 4-position harness to connect the top connector on the second elevator control module to the bottom connector on the first elevator control module.



Optional X1 Elevator Controller PCB Only

If not installing additional elevator modules, skip to Step 2 *Connect a Card Reader*.

Mount the Module

С

The metal enclosure for the X1 Elevator Expansion Module (X1-ELEV-EXP) comes with mounting holes for two additional X1 Elevator Module PCBs (X1-ELEV-PCB). To mount the additional PCB, use the provided standoffs and screw the PCB onto the 3 mounting holes.



Set the Address

The X1 Elevator Control Module PCB has a 1 through 9 addressable rotary dial that is factory defaulted to 1. Additional elevator control modules need to be addressed in sequence.



Wire the X1 Elevator Control Module PCB to the Expansion Module

Use the included 4-position harness to connect the top connector on the third elevator control module to the bottom connector on the second elevator control module.



STEP 2: CONNECT A CARD READER

The X1 Elevator Controller provides connections for 2 readers. The first reader is designated for the In Reader and the second is designated for the Out Reader.

The X1 Elevator Controller also provides direct 12 VDC output to the reader on the RED terminal connection.

The elevator service company supplies traveling cable wires for the reader. Document which numbered conductors are connecting to which terminals on the elevator controller.

Terminal Name	Wiegand Function	OSDP Function
R1 & R2	12V+	DC +
W1 & W2	Data 1	B (485 +)
G1 & G2	Data O	A (485 -)
B1 & B2	12V- (ground)	DC -
LC	LED Control	N/A
BC	Wiegand Buzzer Control	N/A

Connect a Wiegand Card Reader

- 1. Connect the red wire (12 VDC) to terminal R1.
- 2. Connect the white wire (Data One) to W1.
- 3. Connect the green wire (Data Zero) to G1, black (ground) to B1.
- 4. Connect the orange or brown wire to LC.

Connect an OSDP Card Reader

- 1. For data transmission, connect the A wire (485 -) to the G1 terminal and the B wire (485 +) to the W1 terminal.
- 2. For reader power, connect the red wire (DC +) to the R1 terminal and the black wire (DC -) to the B1 terminal.
- **Note:** The wire colors may be different depending on the reader being installed. Refer to the literature provided with the reader for wire coding, wire distance, cable type (such as shielded), and other specifications. The figure above shows the DMP-recommended wiring.

Optional Second Card Reader

Typical elevator installations do not use a second reader.

For an Out Reader, connect the red, white, green, and black wires to the Reader 2 terminals: R2, W2, G2, and B2. Connect the orange/brown wire to LC.

If using only one reader, it must be connected to reader 1.



STEP 3: WIRE FOR FLOOR ACCESS

The X1 Series Elevator Control Module provides 10 Form C (SPDT) 1 Amp relays for controlling access to 10 floors. The three relay terminals are labeled for normally open (NO) and normally closed (NC) operation. The center terminal is the common. See figures. These allow you to connect the device wiring to the relay for floor access control.



Warning: Before wiring for floor access, check with elevator service company for their desired relay operation for controlling the floors.

1. Wire the number of controlled floors to the elevator control module. To wire for floor access control, use the 10 terminals on the elevator control module and label them carefully for the elevator service company.



3. Ensure the wires are in a logical location for the elevator service technician to find.



Top 4-Wire Connector to X1 Elevator Controller



NC 1 NO

Normally Open

Common Normally Closed

STEP 4: WIRE OPTIONAL INPUTS AND OUTPUTS

Onboard Inputs

Door Switch (DS)

This terminal is not typically used for elevator access.

Connect a door contact or door position switch to indicate the status of the elevator, whether it is open or closed.

This terminal is a Normally Closed input.

Request to Exit (RX)

This terminal is not typically used for elevator access.

Connect a motion sensing device or a mechanical switch to provide RX capability to the elevator controller. RX can be used to activate the elevator relay. When activated the RX activates the elevator relay based on the programmed time.

This terminal is a Normally Open input.

Custom Input (CI)

This input triggers a rule programmed in Virtual Keypad.

This terminal is a Normally Open input.

Ground (G)

This terminal is the ground for the inputs.

Onboard Outputs

Aux Output 1 & 2 (O1 & O2)

Attach the negative wire of the device here.

The relay contacts must be connected to devices located within 98.5 ft (30m) of the X1.

12V+ (12V)

Attach the positive wire of the device here.





STEP 5: DETERMINE COMMUNICATION

The options in this section are in the DMP-recommended installation order. If an option is not part of your application, move to the next option.

Ethernet Connection

Connect an Ethernet cable from the LAN/WAN connection to the X1 PCB Ethernet port.

Two LEDs are located on the Ethernet port.

- The green LED indicates data is being sent over the network.
- The yellow LED indicates the speed of the transmission. A solid yellow LED indicates the network is connected at 100BASE-T. A flashing yellow LED indicates the network is connected at 10BASE-T.

Cellular Connection (Optional)

If the network cable or Wi-Fi are not connected, cell will be the primary communication. If the network cable or Wi-Fi are connected, the cell will be the backup communication.

- 1. Plug the included standoff into the X1 Elevator Controller board.
- 2. Carefully insert the antenna connector of the new cell module through the top of the enclosure.
- 3. Plug the cell module onto the standoff.
- 4. Press the cell module onto the cell header.
- 5. Screw on the cell module antenna to the antenna connector with the washer on the outside of the enclosure.



Once connected, the communicator will automatically register with the cellular carrier upon power up.

Note: The cellular communicator comes pre-activated. There is no further action required to begin operation.

Wi-Fi Connection

A Wi-Fi connection or a static IP address must be established after power up. See Wi-Fi instructions later in this guide.



Note: You can connect via an Ethernet or a Wi-Fi connection, but not both at the same time.

Wi-Fi Antenna

The yellow Wi-Fi antenna connects to the right of the cell antenna on the enclosure.

If the cable has become detached from the X1, simply plug it back onto the Wi-Fi module and run the cable around the module.





STEP 6: APPLY POWER

Warning: Refer to your local state regulations before connecting to building power. Wiring methods shall be in accordance with NEC, NFPA #72, ANSI, and with all Authority Having Jurisdiction

Wire the Input Power

Connect the transformer wires or external power to terminals 1 and 2 on the X1 PCB. Use no more than 70 ft. of 16 gauge or 40 ft. of 18 gauge wire between the transformer and the X1 PCB.

Wire the Battery

DMP recommends using a 9 Ah battery. Connect the red battery lead to the battery positive terminal. Connect the black battery lead to the negative battery terminal. Observe polarity when connecting the battery.

Wiring Example

The diagram here shows the transformer and the battery wiring.





STEP 7: MANAGE CONNECTION SETTINGS

During the fifteen minutes after power up, the X1 broadcasts an SSID of **DMPX1** followed by the door controller's serial number.

Depending on the connection type, follow the steps in either the Wi-Fi, Network, or Cell sections below.

Configure Wi-Fi Settings

1. Connect to the X1's SSID using a cell phone, tablet, or laptop. If using a phone, use only Wi-Fi and disable mobile data. Some phones may try to use the mobile data connection.

- 2. Enter **192.168.1.1** into the URL field.
- 3.[•] In the **Wi-Fi** options, enter the customer's Wi-Fi network information.
- 4. Select **Apply**, and the X1 will reset.

Once the X1 has reset, it will automatically connect to the customer's network with the updated settings.

Configure Network Settings

- 1. Connect to the X1's SSID using a cell phone, tablet, or laptop. If using a phone, use only Wi-Fi and disable mobile data. Some phones may try to use the mobile data connection.
- 2. Enter 192.168.1.1 into the URL field.
- In the DHCP options, make edits to the desired fields.
 - DHCP: This option is turned on by default.
 - Static IP: Turn off DHCP and enter the information in the required fields.
- 4. Select **Apply**, and the X1 will reset.

Connection S	settings					Cancel	Apply T
wi-fi 3			DHCP	Cell			
W-FI SSID			DHCP		Cell APN		
Wi-Fi Password			Address				
Wi-Fi Security Type	Туре	~	Gabeway				
			Subnet Mask				
			DNS Server				

2 Connection S	Settings				Cancel	Apply 4
Wilei		лиск 3		Cell		
W-FI SSID	Enter SSID	DHCP	\bigcirc	Cell APN	Enter APN	
Wi-Fi Password		Address				
Wi-Fi Security Type	Type 🗸 🗸	Gateway				
		Subnet Mask				
		DNS Server				

Once the X1 has reset, it will automatically connect to the customer's network with the updated settings.

Configure Cell Settings

On power up, if using cell, the X1 automatically connects and programming in Dealer Admin can begin.

Troubleshoot SSID Broadcast

If more than fifteen minutes have passed since power up or if the X1 does not broadcast an SSID:

- 5. Short the L terminals for 3 seconds and then place the jumper back on one pin of the L terminal. This will give an additional fifteen minutes of broadcasting.
- 6. Configure the desired connections settings.



STEP 8: PROGRAM IN DEALER ADMIN

After you've installed the X1 Series Elevator Controller and configured basic communication settings, follow the steps in each of the following sections to program an elevator controller in Dealer Admin:

- 1. Sign In to Dealer Admin
- 2. Add a Customer
- 3. Add the X1 Elevator Controller to the Customer
- 4. Program the X1 Elevator Controller and Floors
- 5. Add Additional Floors
- 6. Add Card Formats
- 7. Enable Video Services
- 8. Add an App User
- 9. Log in as Customer

If you are adding an X1 Elevator Controller to an already existing X1 Door Controller site, skip to *Program the X1 Elevator Controller and Floors*.



Sign In to Dealer Admin

Go to the Dealer Admin login page. Enter your Email and Password, then press Sign In.

Add a Customer

- 1. At **Customers**, press the Add icon +.
- 2. Enter the customer's name and email.
- 3. Enter the customer's contact information if desired.
- 4. Press Save.

Add the X1 Elevator Controller to the Customer

- 1. Go to **Customers**.
- 2. Select a customer to open the **Customer Summary**.
- 3. In **Systems**, press the Add icon 🛨.
- 4. Enter a name for the elevator controller.
- 5. In System Type, select X1.
- 6. Configure billing address and time options as needed.
- 7. Enter the elevator controller's serial number.
- 8. Press Save.

Program the X1 Elevator Controller and Floors

- 1. Go to **System Information**.
- 2. Under Elevators, select the Add icon 🕂.
- 3. Enter the serial number of the elevator controller.
- 4. Enter a descriptive name for the elevator controller.
- 5. In **Floor Activation Time**, enter the number of seconds that the elevator controller relays remain active after access granted. This is provided by the elevator service company and varies by manufacturer.
- 6. In **Reader Protocol**, choose a protocol for the elevator controller readers: Wiegand or OSDP. For OSDP readers, configure buzzer and LED options.
- 7. If using the onboard outputs, enter descriptive names in **Onboard Output 1 Name** and **Onboard Output 2 Name**. If not using the onboard outputs, leave the name fields blank.
- 8. Turn on other options as needed:

Additional Elevator Options:

- Buzzer (OSDP) allows the reader to beep when a card is read.
- LED (OSDP) allows the reader LED to turn on and operate the same as a Wiegand reader LED, lighting green when the module relay activates. If disabled, the reader LED is turned off and does not operate in any condition.
- Include in Lockdown allows the elevator to be included when a lockdown is initiated.
- Request To Exit (REX) not typically used for elevator access.
- 9. When the first elevator control module populates, enter the name and address of the elevator control module. The address is the number that the address rotary dial is set to.
- 10. Name up to 10 floor relays. If additional elevator control modules are being used, follow the steps in *Add Additional Floors*.
- 11. Press Save.



Add Additional Floors

If additional elevator control modules are being used, follow the steps below. Otherwise skip to Add Card Formats.

- 1. Under **Floors**, select the Add icon 🛨.
- 2. Enter the name and address of the elevator control module.
- 3. Name up to 10 floor relays.
- 4. Press Save.



Add Card Formats

The first card format for any reader is defaulted to DMP. Refer to *Card Format Options* below when programming card formats.

- 1. In **Card Formats**, press the Add icon \oplus .
- 2. Give the card format a name.
- 3. Select a card format and configure format settings.

Card Format Options.

- DMP (card format) use cards with DMP's format with a 26 45 bit data string.
- **Custom** (card format) use cards with a custom bit length and configuration.
- Any (card format) use any valid card read.
- Wiegand Length is the total number of bits to be received in Wiegand code including parity bits.
- Site Code Position is the site code start position in the data string.
- Site Code Length is the site code length.
- User Code Position defines the user code start bit position.
- User Code Length defines the credential user code length.
- User Code Digits defines the user code length.
- Require Site Code restricts the elevator so it only activates when the card's site code matches one programmed in Site Code.
- 4. Press Save.



Enable Video Services

- 1. In Video Services, press the Add icon 🕂.
- 2. Select the types of cameras or NVRs that you want to enable on the elevator controller.
- 3. Select any third-party applications that you want to enable on the elevator controller. This allows users to sign in to their services from Virtual Keypad.
- 4. Press Save.
- 5. Back on the **System Information** page, select the number of cameras and storage space you require or choose the number of doorbells that you want to add to the elevator controller.



Add an App User

Adding an app user to an the X1 Elevator Controller automatically adds them as a user in Virtual Keypad.

- 1. Go to **Customers**.
- 2. Select a customer to open the Customer Summary.
- 3. In the App Users section, press the Add icon 🕂.
- 4. For a user that doesn't have a Virtual Keypad account, select **New**. For a user that already has an account, select **Existing**.
- 5. For a new user, enter their email address. For an existing user, start typing to search for their email and select it from the list.
- 6. Set the user's authority level to either **Administrator** to manage multiple elevator controllers or **Standard** to manage a single elevator controller.
- 7. For a new user, enter their first and last name. If you don't want to generate a random password for the user, clear **Create Random Password** then manually enter one.
- 8. If you want to email the user video clips, select **Email Video Clips**.
- 9. Select systems and permissions for the user.
- 10. Press Save.

Note: If you receive a message that states the email is already in use, the user already has a Virtual Keypad account. Select **Existing** below the user's email address.



Log In as a Customer

To log in to Virtual Keypad and view the elevator controller like a customer would, press **Login as Customer**. This adds you to the X1 Elevator Controller as a temporary app user with admin privileges without the capability to view video. Your temporary app user expires and is automatically removed from the elevator controller after 1 hour.

STEP 9: TEST THE ELEVATOR CONTROLLER

Make sure that the Reader LEDs are on and the elevator controller's power LED is on. If connected to Wi-Fi, the Wi-Fi LED is on solid. If connected to network, the Network Port light is blinking. For cell and all communication methods, check that the elevator controller is communicating with Dealer Admin and Virtual Keypad after Dealer Admin programming is completed.

The elevator control modules each have ten onboard LEDs per floor relay. For visual confirmation of the relay operation, the LEDs are on when the relay is on and off when the relay is off.

ADDITIONAL INFORMATION

LEDs

LED	Meaning
PWR/BOOT	On when board is powered and operating
READER 1	Turns on for one second to indicate receipt of a valid input from the In Reader determined by card format programming
READER 2	Turns on for one second to indicate receipt of a valid input from the Out Reader determined by card format programming
RELAY	On when elevator relay is active
DATA	Not used on X1
FIRE	This is not typically used for elevator access.
LOCKDOWN	This is not typically used for elevator access.

Cell Module Removal

- 1. Unscrew the washer on top of the enclosure and remove the cell module antenna.
- 2. Unplug the cell module from the cell header.
- 3. Pinch the tab of the standoff to release the cell module from the elevator controller.

X1 Elevator Controller Initialization

- Warning: This process clears all Dealer Admin programming and defaults the elevator controller back to factory settings.
- 1. Place a jumper over the L header of the elevator controller.
- 2. Within 15 seconds, place a jumper on the center two pins of the 4-wire connector (short the green and yellow together). Reader 1, Reader 2, Fire, and Lockdown operation LEDs turn on.
- 3. Within 15 seconds, remove both jumpers. The above LEDs will turn off. The Power LED will turn on steady to indicate the factory default is complete.





FCC INFORMATION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1 This device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation. 2.

The antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm (7.874 in.) from all persons. It must not be located or operated in conjunction with any other antenna or transmitter.

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



Note: 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:

- 1 Reorient or relocate the receiving antenna.
- 2. Increase the separation between the equipment and receiver.
- 3. 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. 4.

INDUSTRY CANADA INFORMATION

This device complies with Industry Canada Licence-exempt RSS standards. 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.

This system has been evaluated for RF Exposure per RSS-102 and is in compliance with the limits specified by Health Canada Safety Code 6. The system must be installed at a minimum separation distance from the antenna to a general bystander of 7.87 inches (20 cm) to maintain compliance with the General Population limits

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- l'appareil ne doit pas produire de brouillage, et 1.
- 2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

L'exposition aux radiofréquences de ce système a été évaluée selon la norme RSS-102 et est jugée conforme aux limites établies par le Code de sécurité 6 de Santé Canada. Le système doit être installé à une distance minimale de 7.87 pouces (20 cm) séparant l'antenne d'une personne présente en conformité avec les limites permises d'exposition du grand public.

X1 SERIES ELEVATOR CONTROLLER



X1 Controller Specifications

Power

Input Current Draw

Batterv Power Output Max* 01, 02 Max

12 V - 24 V AC/DC 2A 96 mA at 12 V DC 51 mA at 24 V DC 9 Ah (recommended) 1.5 A; PoE 750 mA 50 mA

263LTE-A-X1, 263LTE-V-X1

17 cm W x 33 cm H x 8.9 cm D

2.4 GHz b/g/n

0 ° C to 49 ° C

32 ° F to 120 ° F

5% to 85% RHNC

6 lbs

Communication Options 10/100 Ethernet

Wi-Fi Cellular

Mechanical Enclosure Dimensions 6.7" W x 13" H x 3.5" D

Weight

Environmental Temperature

Humidity



Designed, engineered, and manufactured in Springfield, Missouri

X1 Elevator Module Specifications

Module Current Draw 20 mA

Relays	Form C, 1 A at 30 V DC
Current Draw	
When Active	16 mA

Compatibility

263L1E-A-X1	AI&I Cell Module
263LTE-V-X1	Verizon Cell Module
X1-POE	PoE Module
X1-ELEV-EXP	Elevator Module Expansion
X1-ELEV-PCB	PCB Replacement

Certifications**

ANSI/UL 294 Access Control System Units Level I Destructive Attack and Line Security Level IV Endurance and Standby Power

Manufacturer's Limited Warranty

3 year warranty against defects in materials and workmanship. Visit DMP.com for full details.

*Max Power output is a board's total available power for all attached equipment

**Applicable to X1 Controller PCB only

INTRUSION • FIRE • ACCESS • NETWORKS

2500 North Partnership Boulevard Springfield, Missouri 65803-8877

800.641.4282 | dmp.com