



Ins-60006-GD-US

Expansion Controller Installation Guide



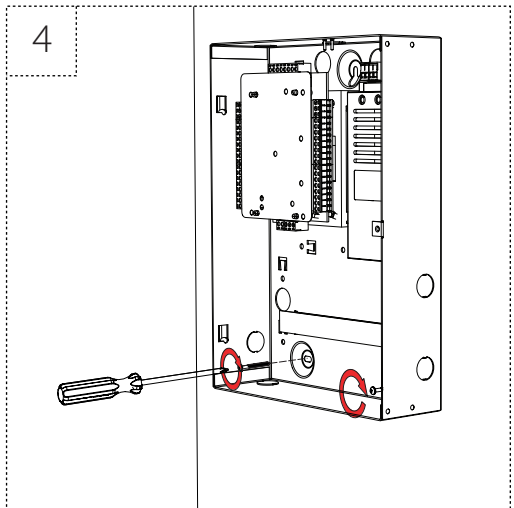
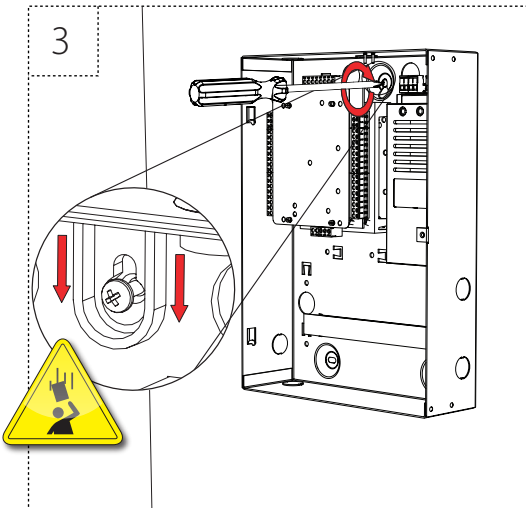
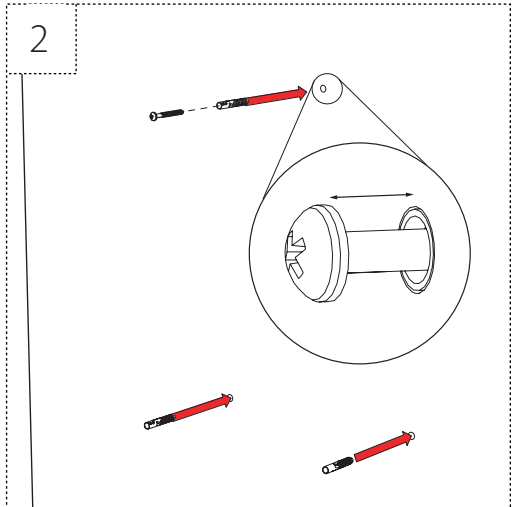
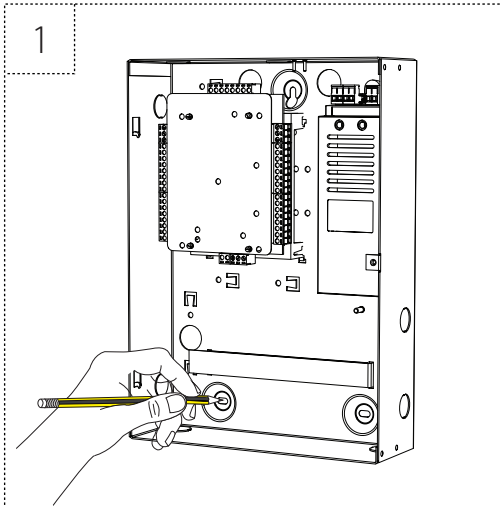
The following warnings and instructions **MUST** be adhered to. Read the instructions before installing and powering the equipment. Keep the instructions in a safe place for future reference.

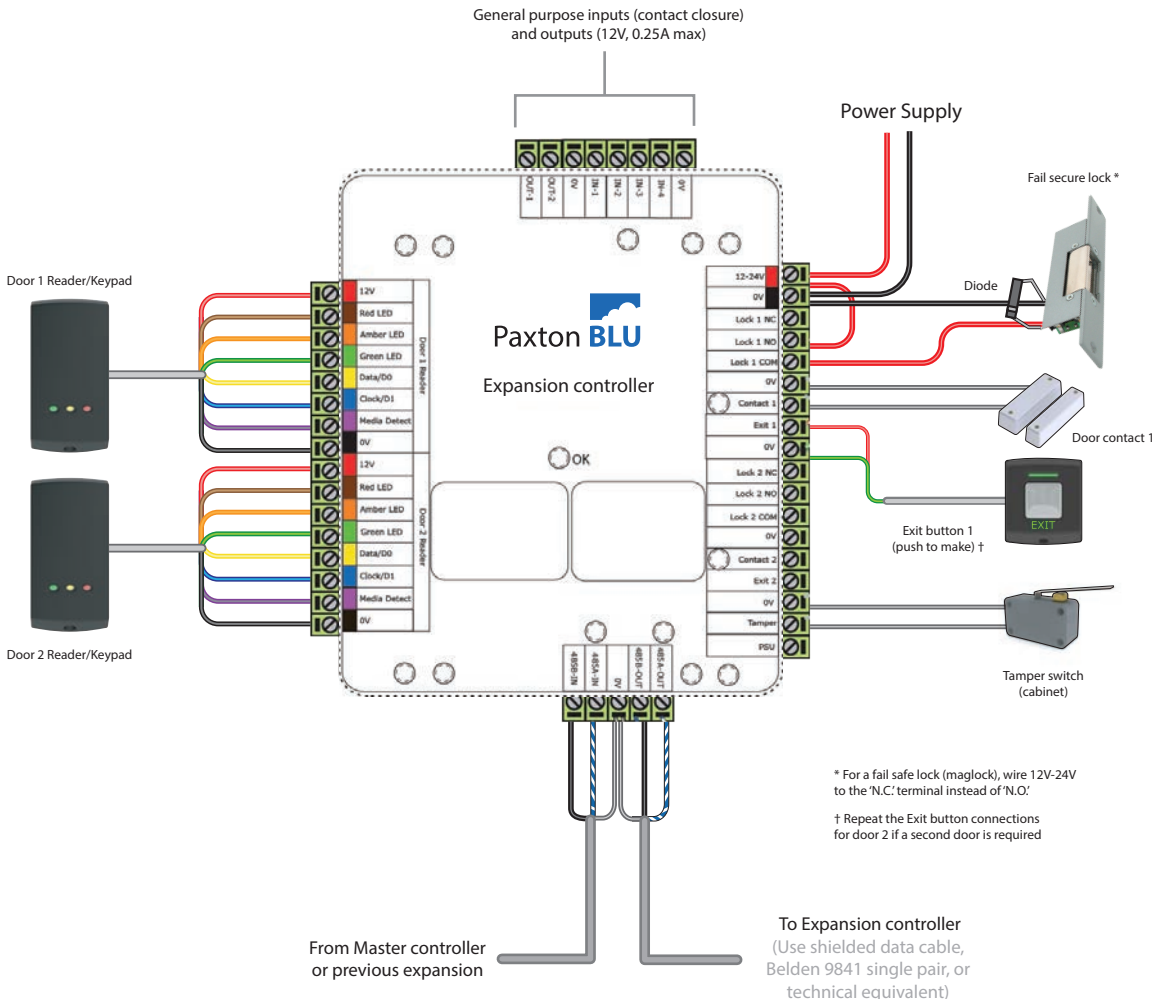
RECEIVING INSPECTION - Remove any traces of packing material from the unit as such debris may create a fire or shock hazard. Unpack the unit with care and inspect for transit damage. If damage is suspected, the unit must not be used or tested, but you should immediately contact Paxton technical support to assist in troubleshooting or to provide return authorization.

INSTALLATION - Only qualified and trained personnel, familiar with this type of product and who fully understand these instructions should install, connect or test this equipment.

Mounting

This housing should be fixed to the surface with suitable fasteners; screws and wall plugs are provided for this in the fitting kit. Also provided are cable ties to secure the cabling and a smaller securing screw for the lid.





LED diagnostics

• Contact 1	(Orange)	Door 1 contact closed
• Contact 2	(Orange)	Door 2 contact closed
• RS485-IN	(Orange)	On to indicate RS485 connected
• RS485-OUT	(Orange)	Flashes to indicate last unit
• OK	(Green)	Flashing on and off to indicate trying to connect (0.5 secs)
• OK	(Green)	Flashing to indicate unit is connected(fast flash once per second)
• OK	(Green)	On for 3 secs then flashing, see diagnostics below.
• IN-1 to IN-4	(Orange)	Activity on inputs IN-1 to IN-4

LED diagnostics - OK LED on for 3 seconds then 0.5 second flash indicates -

• Ok - 1 Flash	Error 1	Internal controller fault (reset failed) contact Paxton Inc
• Ok - 2 flashes	Error 2	Not currently used
• Ok - 3 flashes	Error 3	485-IN not connected (upstream Expansion or Expansion)
• Ok - 4 flashes	Error 4	Not currently used
• Ok - 5 flashes	Error 5	Not currently used
• Ok - 6 flashes	Error 6	Not currently used

Overview

The Paxton BLU Expansion Controller (this unit) must connect to a Master Controller which provides a connection to the cloud based server through a TCP/IP Ethernet port or through the optional GSM/GPRS modem.

These connect via the self-terminating RS485 bus connection, no additional terminations are required. Larger sites are accommodated by using multiple master units that can be logically grouped in the software.

Connecting the Paxton BLU Expansion Controller

Wire the components to the Paxton BLU Expansion Controller as shown on page 4. Power up the unit and wait for the OK LED heartbeat. If there is a fault with the installation or the unit then the diagnostic LEDs (see above) may well show the fault type enabling you to report or rectify the problem before proceeding.

To confirm relay activation for the locking hardware press the exit button or, in the absence of an exit button, place a test jumper between the 0v and exit terminals. Once the exit button is pressed or the jumper temporarily placed, the lock should release.

When using Paxton readers, the reader's default indication has all the LEDs on once connected to the software and configured. Access granted is denoted with a single flashing Green LED. Access Denied is a single flashing Red LED. The green reader LED should flash when the exit button is pressed.

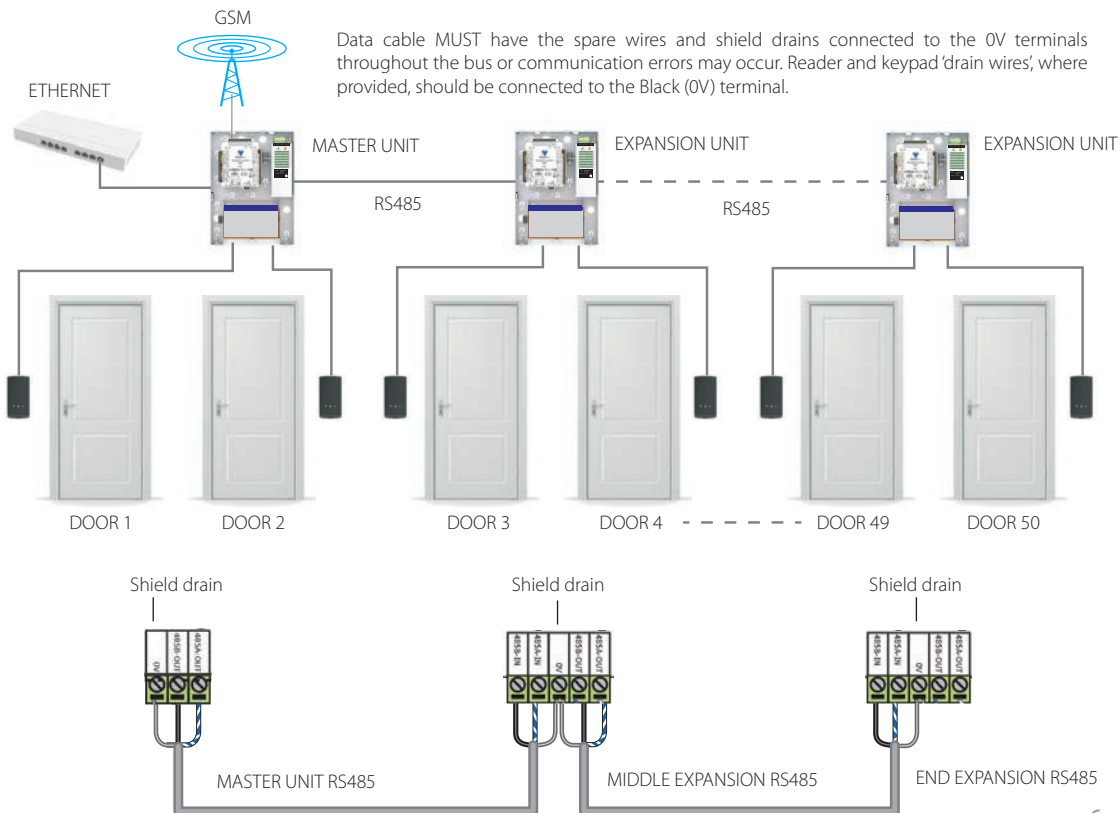
Connecting to Paxton BLU Expansion Controllers via RS485 Data Connection

You can connect up to a maximum of 24 Paxton BLU Expansion units to one Master unit (for a total of 50 doors). The Master unit handles all communication with the outside world. Multiple Master units can be installed on a single site. These can be logically grouped in the software to appear as a single site.

The Master unit connects to Expansion units through a dedicated RS485 connection. Each cable section, between Master and Expansion and between Expansion and Expansion has its own section of cable carrying the half-duplex RS485 communication between units. Termination of the 485 data bus is done automatically by each Master and Expansion controller, eliminating the need for field installed bus termination resistors.

Reader and Data Cable – Shield Drain Connections

Data cable MUST have the spare wires and shield drains connected to the 0V terminals throughout the bus or communication errors may occur. Reader and keypad 'drain wires', where provided, should be connected to the Black (0V) terminal.



Configuring the Paxton BLU Expansion Controller

The Paxton BLU Expansion Controller requires configuration and initialization before use. To do this will require a Windows PC or laptop with USB ports and internet access, or having the proper installer tool previously installed.

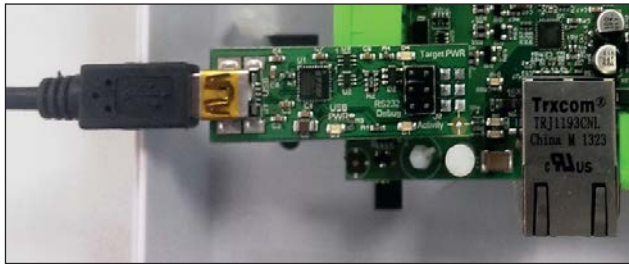
Install the Installer Tool software. This is available to download from the Help page of your installer login to Paxton BLU. You may wish to create a desktop shortcut for this application.

Tip: Always ensure you have downloaded the latest version of the Installer tool to ensure you have the most recent version of firmware. The latest version is bundled with the Installer Tool application.

Remove the power from the unit.

If your expansion controller is housed in a metal enclosure, you will need to remove the PCB from the plastic mounting bracket in order to attach the interface adapter. Please do so carefully and be sure that the PCB is fully secured to the bracket upon completion of the firmware update process.

CAUTION : Make sure the adapter is plugged into both rows of the header on the PCB before you proceed (see image below for proper placement and connection)



Power up the controller with the installer tool adapter installed. Note your PC or laptop may need to download a device driver for this device so allow this to complete first. Now run the Installer Tool by double clicking the Installer Tool application.

Click on settings and select the COM port that your PC or laptop has assigned to this application. The drop down box lists all available COM ports.

Tip: You can confirm the COM port assigned by your computer by navigating to the Windows 'Device Manager' and then selecting 'Ports (COM & LPT)'

Now click on 'View Device Details' and then on the 'Get Details' button. Follow the instruction by power cycling the expansion unit so that it goes into its bootloader and provides the required details.

Tip: You can power cycle the expansion unit by removing and replacing the two pin power plug at the top left of the power supply (row of four two pin plugs) marked 12V-24V and 0V.

You will not need to do anything with this information at this point. Make a note of how this information is obtained as it will be needed should the wiring label be lost or misplaced. This information may be required by Paxton technical support for diagnostics and troubleshooting.



Firmware Update

NOTE: It is important to update the firmware to the latest available version before proceeding further.

Select the 'Update Firmware' button. Power cycle the Master unit as described above to start the firmware update. If you receive an 'access to the port XX is denied' error message from Windows, click the OK button and power cycle the unit again to attempt to re-start the firmware update.

The firmware update will take a minute, once the green bar has progressed to fill the space, the update is complete. You can check the version of firmware installed using the 'View Device Detail' option described in the previous section.

Tip: It is useful to know which version of firmware is installed whenever you contact Technical Support.

Tip: Remember to always download the latest version of the installer tool to ensure you have the most recent version of firmware to download.

Please store the adapter in a safe place. You will need this for future updates to this expansion unit along with any updates to the master controller. If you are updating firmware on a unit already in use you may need to re-instate this controller in the software following the firmware update to ensure all settings are up to date.

You have now completed the initial configuration of the expansion controller, power cycle the unit and log into your Paxton BLU account (my.paxton-blu.com), go to Help and select Quick Start Guide to assist you in setting up the controller in your customer and site.

Specifications

<u>Electrical</u>	Min		Max
Voltage	11V DC		24V DC (+20%)
PCB Current (depending on activity)			200mA
Relay switchable voltage			24V DC (+20%)
Relay switchable current			4A
General purpose outputs OUT-1, OUT-2			0.25A@12V DC
Combined reader port output current			500mA
<u>Environment</u>			
Operating temperature - Battery limits	0°C - 32 °F		55°C - 131°F
Weatherproof		No	
<u>Communication</u>			
RS485 network speed			115.2 kbits/sec
RS485 Dataline			3280.84 ft (100m) between controllers
<u>Features</u>			
Number of Cards			100,000
Number of PINs			100,000
Access levels (per customer)			1000
Time zones			512
Door open time	1 sec		99,999 sec
Data lines per system			unlimited
Doors per controller			2
Reader ports per controller			2
Readers/ Keypads per port			2
Controller per data line			25 (50 doors)
Data retention after total power loss			7 days

Events stored in controller with no server connection			200,000
<u>Dimensions</u>			
Controller	4 1/64 inch (W)	4 3/4 inch (H)	1 inch (D)
Cabinet	9 1/4 inch (W)	12 1/2 inch (H)	3 1/8 inch (D)



Made in the UK



Ins-60006-GD-US
Managed access controller
Expansion 837-520-US/838-621-US