



# Ins-60005-GD-US

## Master Controller Installation Guide

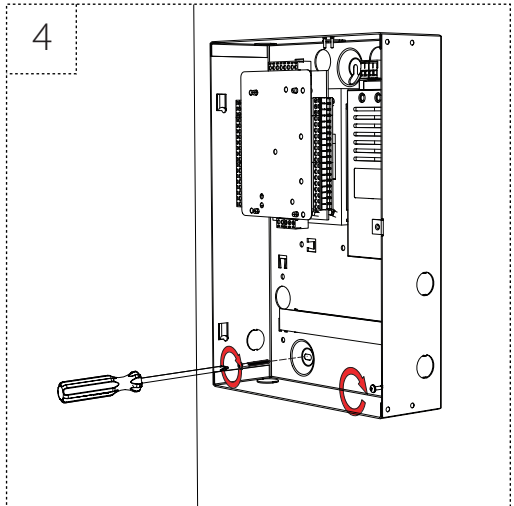
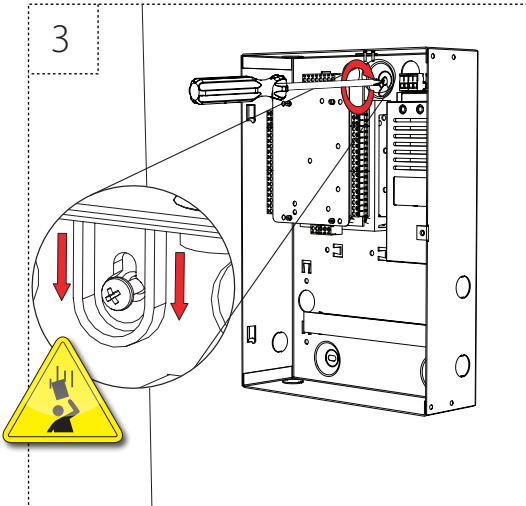
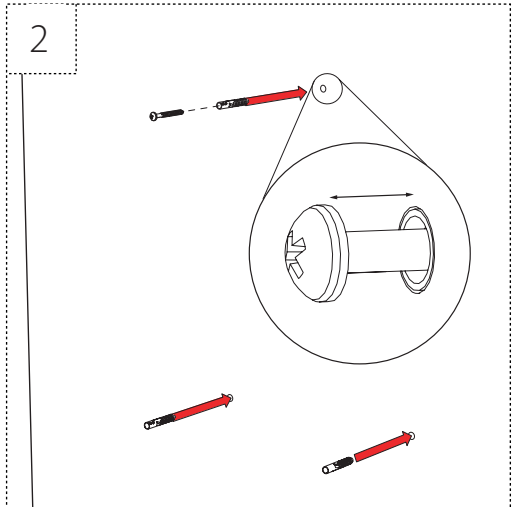
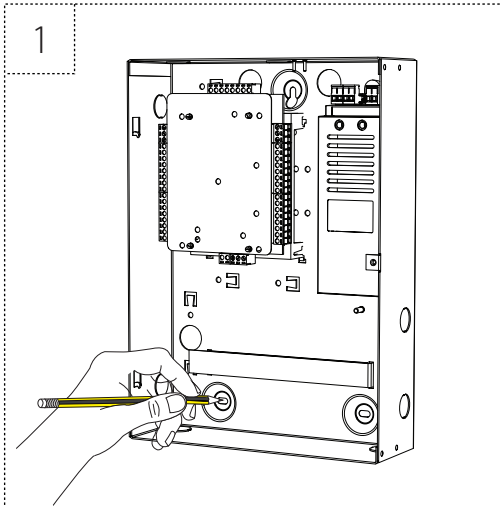


The following warnings and instructions **MUST** be adhered to. Read the instructions before installing and powering the equipment. Keep the instructions in a safe place for future reference.

**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.



GSM/GPRS modem connection

General purpose inputs (contact closure)  
and outputs (12V, 0.25A max)

Power Supply

Fail secure lock \*

Diode

Door contact 1

Exit button 1  
(push to make) †

Tamper switch  
(cabinet)

Door 1 Reader/Keypad

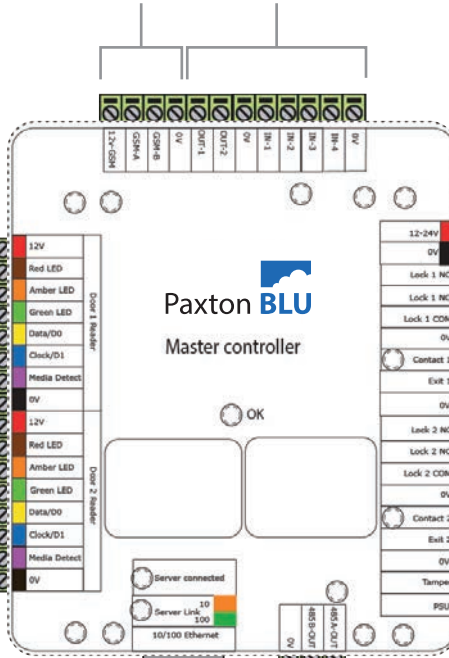
Door 2 Reader/Keypad

TCP/IP Ethernet connection  
(Use Cat5 or Cat6 cable)

To Expansion controller  
(Use shielded data cable,  
Belden 9841 single pair, or  
technical equivalent)

\* For a fail safe lock (maglock), wire 12V-24V  
to the 'N.C.' terminal instead of 'N.O.'

† Repeat the Exit button connections  
for door 2 if a second door is required



## LED diagnostics

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• Contact 1	(Orange)	Door 1 contact closed
• Contact 2	(Orange)	Door 2 contact closed
• RS485-OUT	(Orange)	Unit receiving data
• 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.
• Server connected	(Orange)	The TCP/IP interface is connected
• Server link	(Green/Orange)	10/100 Mbits/sec
• 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	Not currently used
• Ok - 4 flashes	Error 4	GSM service connection cannot be found
• Ok - 5 flashes	Error 5	GSM modem not connected
• Ok - 6 flashes	Error 6	Not currently used

## Overview

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The Paxton BLU Master Controller connects to the cloud based server through a TCP/IP Ethernet port or through the optional GSM/GPRS modem. If you are running a DHCP server on your network then you do not need to configure the communication settings as a static IP address is not required. The section below (Configuring the Paxton BLU Control Master unit) explains how to configure the unit if you do not have a DHCP server. The GSM/GPRS modem does not require any user configuration.

To add additional doors to the site, up to a maximum of 50, you should purchase the Paxton BLU Expansion Controllers. These connect via the self-terminating RS485 bus connection, no additional termination is required. Larger sites are accommodated by using multiple master units that can be logically grouped in the software.

**Please be aware that if you dont have an Ethernet connection then by default the unit will attempt to connect through the GSM network. This would require the purchase of a Paxton BLU Modem and activation license.**

## Connecting the Paxton BLU Master Controller

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Wire the components to the Paxton BLU Master Controller as shown, using the diagram 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. 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.

## Configuring the Paxton BLU Master Controller

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Before starting the configuration process, be sure that you have purchased the Master Controller License (838-540-US) and had the master controller activated. To purchase this, please contact Paxton at 877.438.7298, option #7, note that you will need the serial number and activation code listed on the front of the master controller.

The Paxton BLU Control Master unit 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.

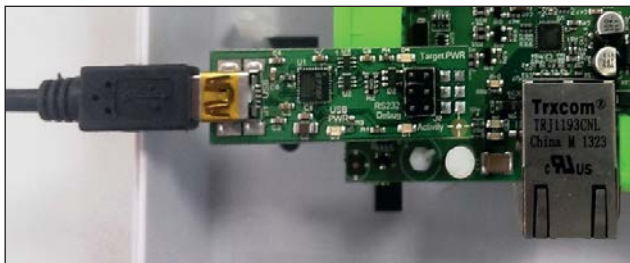
Install the Installer Tool software. This is available to download from the Help page of your installer login to Paxton BLU. You may wish to create a desktop shortcut for this application.

**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 master 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 on right for proper placement and connection).



Power up the controller with the installer tool adapter connected. 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 device. 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 Master unit so that it goes into its bootloader and provides the required details.

**Tip:** You can power cycle the Master unit by removing and replacing the two pin power plug at the top right of the controller (a two pin plug) 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

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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.

**Please store the adapter in a safe place. You will need this for your expansion controllers along with any future upgrades to this master controller.**

**If you are updating firmware on a unit already in use you will need to re-instate this controller in the software following the firmware update.**

## Communication Settings

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The 'Communication Settings' button displays a number of settings with default values (see below). You can query the existing settings and edit those if you wish.

You may select the Default Communication Method from the drop down list.

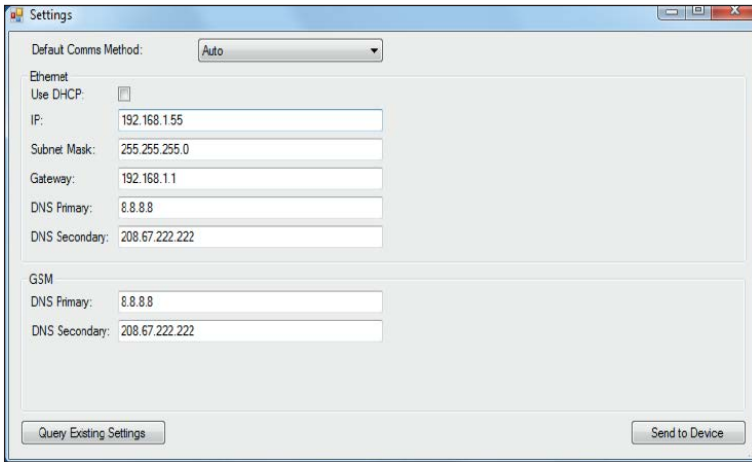
The default setting is 'Auto' meaning that the controller will attempt to use the TCP/IP Ethernet connection as long as one is available. If the Ethernet connection is not present, or fails configuration, the controller will automatically use the GSM/GPRS modem.

Note that cellular charges may apply and use of this will require the purchase of the Paxton BLU Modem and license. You may also choose to set the communication method to GSM or Ethernet only, depending on the customer and site requirements.

You may manually configure your Ethernet connection on a static IP address should you not have a DHCP server available.

Please note that the Master controller does not require a fixed or static IP address to communicate and can utilize DHCP addressing. If you have DHCP you do not need to set any of the Ethernet settings. Should you not have a DHCP server you will need to contact the site IT Manager to obtain an IP address and other connection information.





Once you have completed the setup then press 'Send to Device' and follow the power cycle instruction. You should now close this application, turn off the power to the Master unit and remove the adapter and USB cable.

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

You have now completed the initial configuration of the master controller, power cycle the unit and log into your Paxton BLU account ([my.paxton-blu.com](http://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

	Min	Max
<b>Electrical</b>		
Voltage	11V DC	24V DC (+20%)
PCB Current (depending on activity)		200 mA
Relay switchable voltage		24V DC (+20%)
Relay switchable current		4A
General purpose outputs OUT-1, OUT-2		0.25 A @ 12V DC
Combined reader port output current		500 mA

<b>Environment</b>	<b>Min</b>		<b>Max</b>
Operating temperature - Battery limits	0°C - 32 °F		55°C -131 °F
Weatherproof		No	
<b>Communication</b>			
Ethernet network speed	10 Mbits/sec		100 Mbits/sec
Ethernet bandwidth requirement			200 kbits/sec
DHCP support		Yes	
RS485 network speed			115.2 kbits/sec
RS845 Dataline			3280.84 ft (100m) between controllers
<b>Features</b>			
Number of Cards			100,000
Number of PINs			100,000
Access levels (per customer)			1000
Time zones	1 sec		512
Door open time			99,999 sec
Data lines per system			Unlimited
Doors per controller			2
Reader ports per controller			2
Readers/ Keypads per port			2
Controllers per data line			25 (50 doors)
Data retention after total power loss			7 days
Events stored in controller with no server connection			200,000
<b>Dimensions</b>			
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-60005-GD-US  
Managed access controller  
Master 838-501-US/838-601-US