

Technical Support



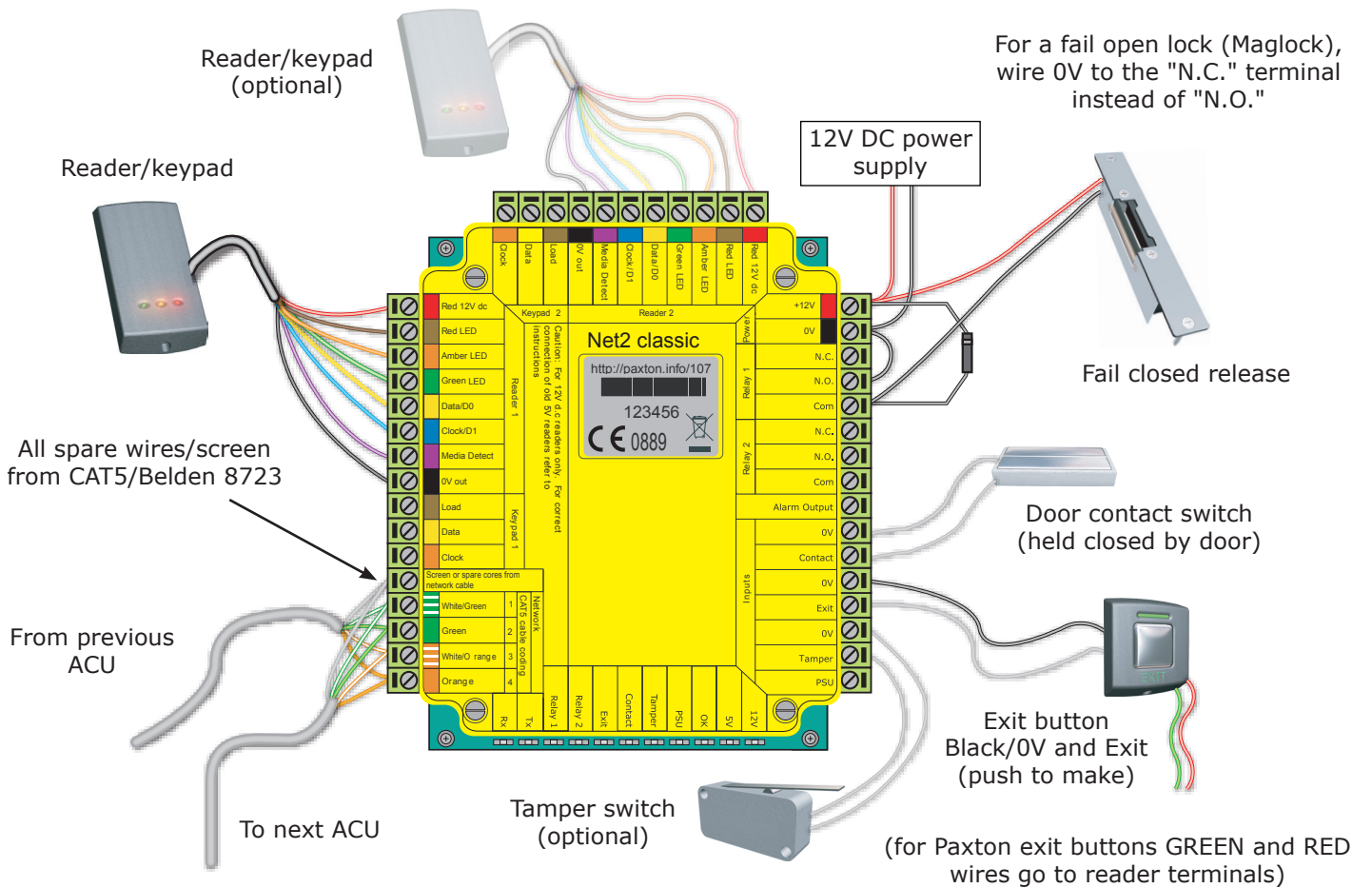
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Technical help is available: Monday - Friday from 07:00 - 19:00 (GMT)
Saturday from 09:00 - 13:00 (GMT)

Documentation on all Paxton products can be found on our website - <http://www.paxton.co.uk/>



This ACU has 2 reader ports and 2 output relays, but can control just one door. The configuration of one control unit per door greatly simplifies installation and is ultimately highly cost effective.

BEFORE CONNECTING THE READER

Keypad 1 & 2 inputs are only used for 5V keypads. All other keypads are wired to the Reader ports.

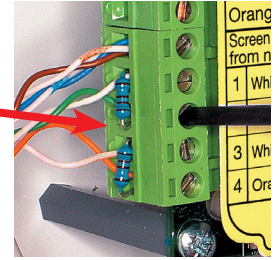
To change a reader port voltage to 5V, move the red jumper(s) located beneath the wiring label to the 5V setting.

RS485 data line

90% of installation faults are caused by wiring errors on the RS485 data line. Special attention to getting this right first time saves a lot of time and effort.

End of Line Termination

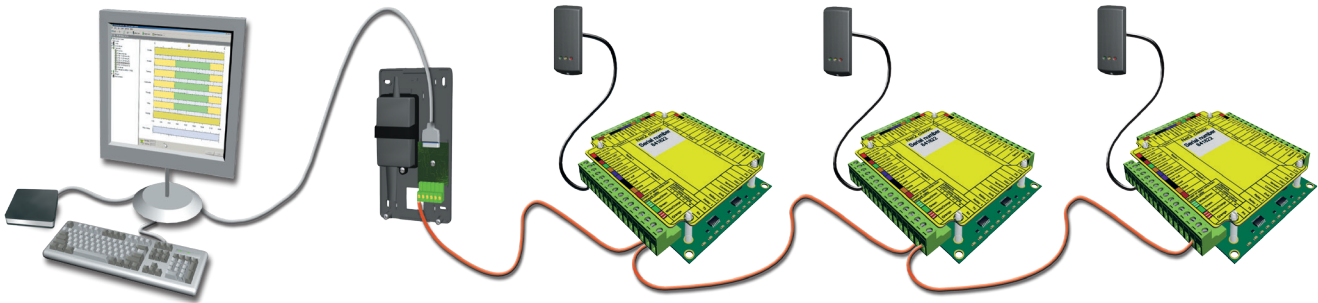
120 ohm resistors must be linked across each data pair at the beginning AND end of the data line. This can be done on many units with a switch or jumpers. If not, free resistors are provided with the converter. If the data converter is located at a point along the data line, termination will then be required in the two ACU's at each end of the line.



Reader & Data Cable Screens

- Data cable screens and spare cores **MUST** be connected throughout.
- Reader and keypad screens where provided, should be connected to the Black 0V terminal.

The data line must be wired in a single daisy chain. The data converter may be located anywhere along the data line. 120 ohm terminating resistors must be linked across each data pair at the beginning AND end of the line. This can be done on many units with a switch or jumpers. If not, free resistors are provided with the converter. The example below requires terminating at the RS485 converter and also the 3rd ACU at the end.



RS485 data line resistance checks

Power down all TCP/IP, USB and RS232 converters (individual and Net2 plus).

- ✓ Check the resistance across each data pair is 60-80 ohms.
- ✓ Check that there are no data line to screen shorts.
- ✓ Check the screen of the data cable is continuous - this provides the 0V DC system reference.

Control unit installation

Wire the components to the Access Control Unit (ACU) as shown on the first page. This will include:

- Reader/Keypad
- Electric Lock
- Power supply
- Any other optional components

Press the exit button or in the absence of an exit button, short the 0V and exit terminals together. The lock relay LED will come on and the lock should release.

The reader's default indication has all the LED's on. Access granted is denoted with a single flashing Green LED. Access Denied is a single flashing Red LED.

PC Installation

The current specification for compatible PC hardware, network and operating systems is available on our website at the following link: <http://paxton.info/720>

Here is the list of topics about this product that receive the most technical support enquiries.
We list them here to help you speed up the installation and trouble shooting process.

1 - Cannot detect ACU via a Serial Port comms converter.

- 1 - Confirm the comms converter is connected to the correct serial port and powered. A USB to Serial converter or PCMCIA card should not be used.
- 2 - Restart Net2 Server.
- 3 - Check the Net2 data line for resistance readings, screen continuity, and screen shorts.
- 4 - In the Configuration Utility, manually select the serial port and then restart the server.
- 5 - Test serial port.

2 - Cannot detect ACU via TCP/IP.

- 1 - Ensure the TCP/IP interface has been detected in the Net2 Server Configuration Utility, and responds to a PING from the utility. A static IP address must be used for the interface.
- 2 - Restart the Net2 server.
- 3 - Make sure that the PC firewall allows the Net2 TCP/IP ports through. (See TCP/IP documentation)
- 4 - If the interface is responding, try a loopback test (See TCP/IP documentation)
- 5 - The Net2 data line should be checked for resistance readings, screen continuity, and screen shorts.

3 - ACU not responding or fails to be detected (Data line resistance check).

First power down the converter (RS232 or TCP/IP) and disconnect any ACU's that do not have a flashing OK LED. Using a Multimeter, measure the resistance across the White/Green and Green pair at one end of the network. A resistance of between 60 and 80 ohms is required. Repeat the test for the White/Orange and Orange pair. This is vital for a stable and trouble free installation.

4 - Readers/keypads not working.

- Software settings - Confirm that the settings of the reader or keypad are correct.
- Connections - Check the wiring of the connectors. Where possible, test this reader on the other port.
- Extended Cable - Belden 9540 should be used. (100 m maximum) Twisted pair alarm cable should not be used. To confirm that an extended cable is not at fault, wire the reader direct into the reader port.
- Supply voltage - Confirm that the voltage is within specification. (see table)
- User token - Confirm that the user token used for testing is OK by presenting it to a known working reader.
- Interference - Confirm whether the reader works when tested 'in hand' and not mounted on the wall. Ensure that readers are not mounted back to back or there is no interference from other local RF devices.

5 - Moving a V4 database to a new PC.

Ensure the new PC meets the minimum specification. All of the files containing the site-specific information in a Net2 system are stored in a single folder. The default location for this information is C:\Net2 Access Control.

- **On the old PC.** Using the Net2 Server Configuration Utility, go to the Database tab and click the Create Copy button. This creates a copy of this existing database into a Zip file.
- **On the new PC.** Load the Net2 software onto the new PC. The version must be the same on both machines. Copy the Net2Database.zip file into C:\Net2 Access Control. Using the Net2 Server Configuration Utility, go to the Database tab and click Import Copy, browse to the Net2Database.zip in the C:\Net2 Access Control folder and click OK. Once completed, run the Net2 application to confirm all details have been transferred correctly. Disconnect the Net2 data line from the old PC and connect it to the new PC.
- **Custom Settings.** The settings held in the Configuration Utility are not transferred with the database. Details of any TCP/IP nodes, custom Wiegand configuration, etc. will need to be input manually on the new PC.

6 - Net2 - Upgrading software.

Net2 software upgrades are available free of charge, either supplied on CD or from the Extranet. Net2 can be upgraded within the same revision or to the next full version (Note: It is not possible to upgrade directly from version v2 to v4 - you must first upgrade to v3.)

Upgrades can be run directly over the current installation; there is no need to uninstall the previous version. It is recommended that an end user advise their installer before carrying out an upgrade. Ensure the PC specification meets any new requirements.

7 - Fire alarm integration - Net2 Professional software must be used.

A voltage free normally closed contact from the fire alarm system should be wired across an ACU input (Contact/PSU/Tamper/Exit). The software for that ACU is then configured via the Fire Alarm Tab in the doors screen to select all the doors that this trigger signal will open.

Fail open locks will be required on fire doors. Break glasses should be installed to drop the lock power manually.

The doors must be closed from the PC software - Resetting the Fire panel will have no effect on the system. The Net2 Server MUST be running at all times for this method to work.

8 - Net2 Workstations.

Net2 Workstation software allows more than one Net2 operator to connect into the same Net2 system at any one time. Connections can be established over most TCP/IP networks, including VPN through the Internet. Net2 Workstation software is included on the Net2 CD and is an option during installation. No addition license is required. Net2 Workstation software must be the same version as that running on the Net2 server.

Software installation

Door name: Name the ACU.
Door open time: Set the door open time.
Unlock the Door during: Permanently unlocks the door while this timezone is active. - Should be set to 'At No Time' for normal user operation.

Reader 1: Settings for Reader 1 and Keypad 1 on the ACU.
Reader 2: Settings for Reader 2 and Keypad 2 on the ACU.
Alarm: Contains settings for the different types of alarm.
Codes: Valid codes can be viewed, added and removed. (Can only be viewed when a keypad is active).
Events: Shows the events for the control unit selected.

Name: Each reader can be named individually if required.
Reader type: Set the reader type, if applicable.
Keypad type: Set the keypad type, if applicable.
Token data format: Select the data type being used on the system. (New formats can be created).

Reader operating mode: Set the operating mode.
Timed operating modes: A different operating mode can be configured within a time window.

Reader action: Set the action required when access is granted.

Specifications			
Electrical	Min	Max	
Voltage	11V DC	15V DC	
PCB Current (depending on activity)	110 mA	350 mA	
Relay switchable voltage		24V DC	
Relay switchable current		4 A	
Alarm output current		1 A	
Combined reader port output current		500 mA	
Environment	Min	Max	
Operating temperature - Battery limits	0 °C	+ 55 °C	
Waterproof		No	
Features	Min	Max	
ACU per data line		200	
Data lines per PC		200	
Readers per port		2	
Keypads per port		2	
Reader ports per ACU		2	
Doors per ACU		1	
Maximum door open time	1 sec	999,999 sec	
Number of Cards		10,000	
Number of PIN's		10,000	
Number of Codes		50	
Access Levels		250	
Time Zones		64	
Events stored in ACU with no server connection		2,454	
Data retention after total power loss		9 hours	
Dimensions	Width	Height	Depth
	103 mm	118 mm	23 mm

