

## Installing an I/O board

I/O boards can be used for any number of applications in conjunction with Net2 Triggers and Actions. For further information on Triggers and Actions see:

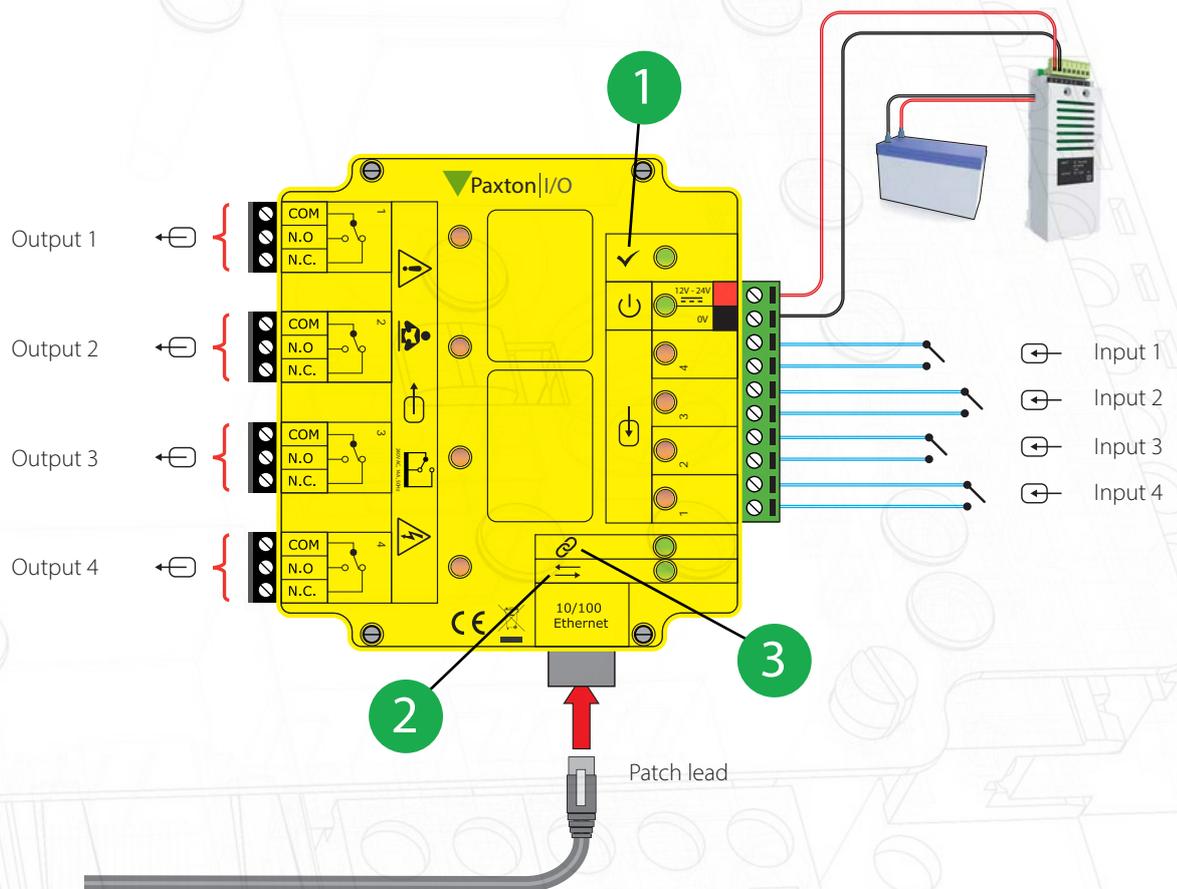
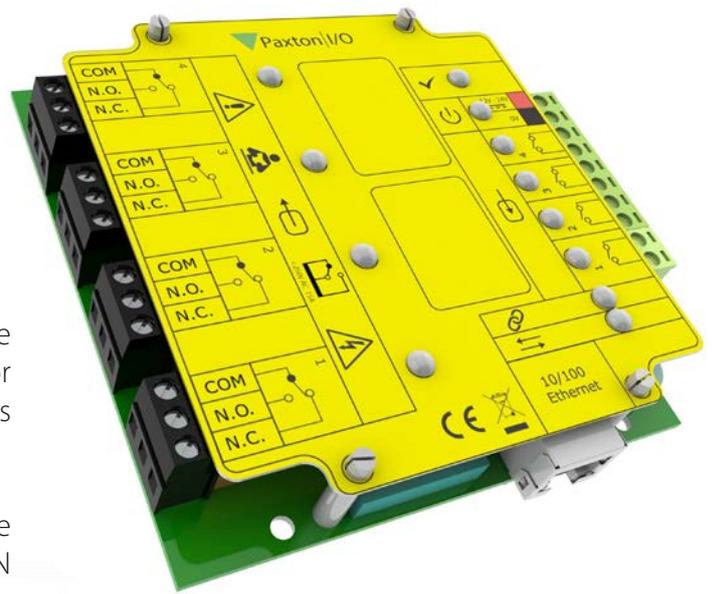
[APN-1067 - Using triggers and actions.](#)

< <http://paxton.info/507> >

### Installing the hardware

There are 4 inputs and 4 outputs on the I/O board. The input pair must be wired across clean contacts (switch or relay). The outputs are 13A / 240V AC voltage-free relays and can be used for any purpose.

Once the I/O board has been installed, ensure that the network connection is in place and connected to the LAN before the unit is powered up.



**1** OK LED, the OK LED will pulse on and off once the board is configured in the Net2 software.

**2** Server link LED

**3** Server connected LED

**Important**

For the I/O boards to operate correctly there needs to be permanent communication between the Net2 Server and the boards.

The IP address should be reserved by the IT administrator and fixed in the server.

**Software configuration**

If you detect the MAC address but the device now shows 'Not Responding', check the IP address to make sure it is still in range with the PC or network. If it is not, you should either change the PC's IP address or the Ethernet interface's IP address so they are both again in the same range. Our Technical team can talk you through this if you need help.

If the MAC address does not appear when you click 'Detect' then you will need to check that the following ports are open:-

6480	TCP
6481	UDP
6482	UDP
6483	UDP

Detect - This will automatically detect all I/O boards on the local network.

Identify - Identifies an I/O board by sounding its on-board sounder.

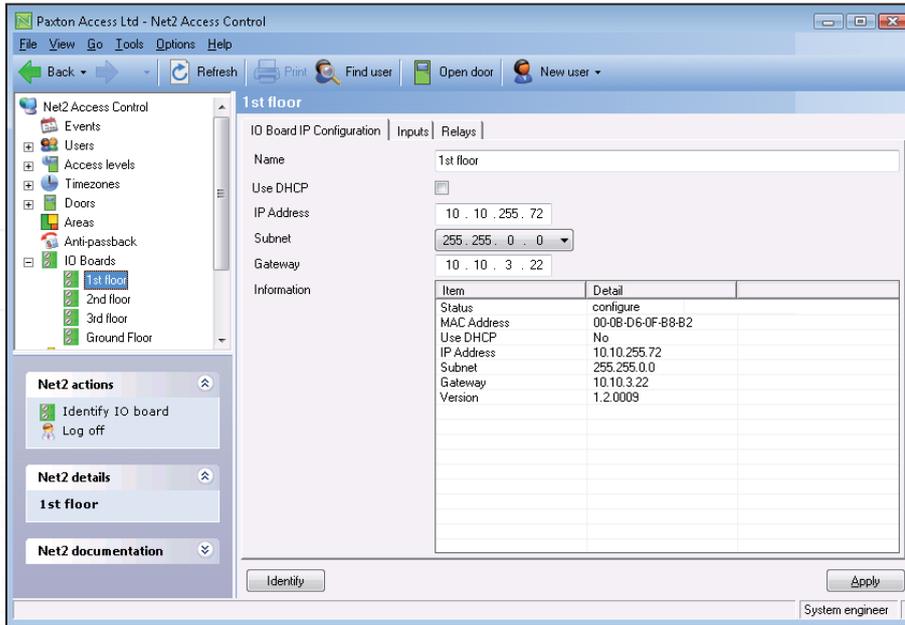
Remove - Deletes an I/O board.

The main display lists I/O boards on the network, displaying a green tick if communicating with it, the name of each board, the MAC address and IP address. Place a check in the box of the I/O boards that you wish to communicate with and Apply. Double clicking on a board will display its settings. The boards name can be amended, and any changes need to be applied to save.

A reservation should be made in the DHCP server, to ensure that the same IP address is issued each time, should the unit be reset. (Fixed IP) Consult your network administrator on detail of how to reserve IP addresses.

Each I/O board has four inputs and outputs; these can be edited in the relevant Inputs and Outputs tabs. By double clicking on the name this will allow you to change the name to give it meaning. e.g. Window contact.

The current settings of the I/O board are displayed in the table.

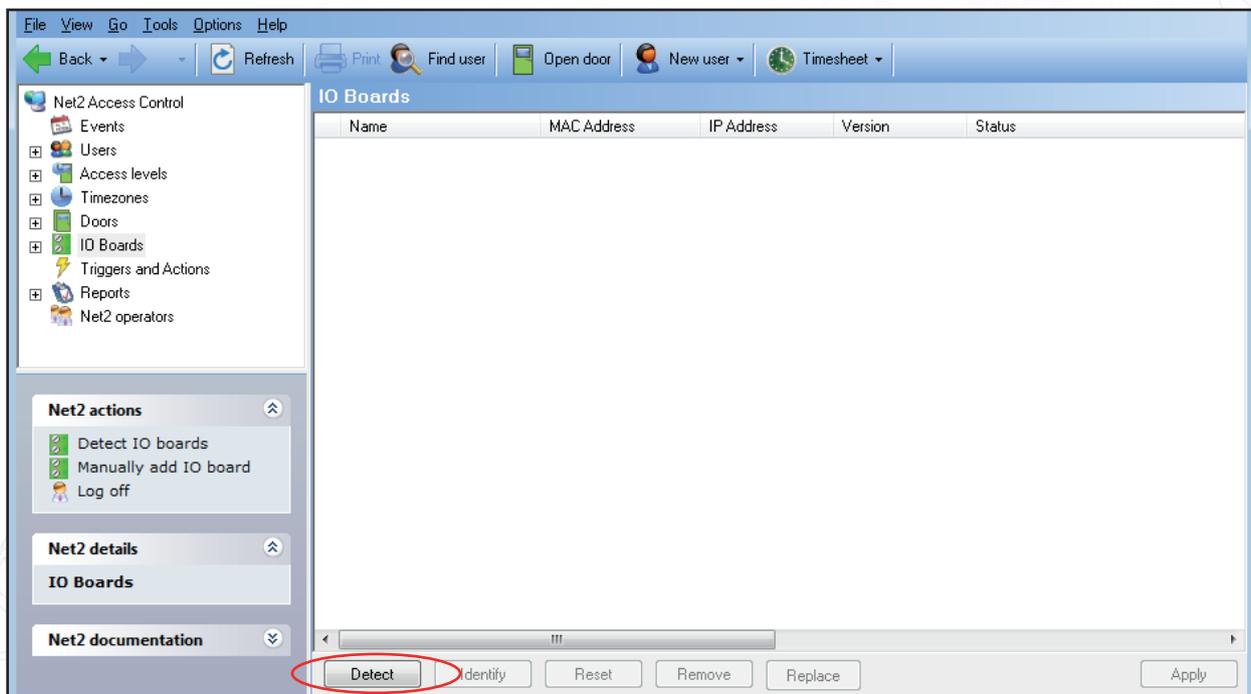


If you wish to connect to an I/O board which is located on the far side of a router it will not automatically be detected, you will need to enter the IP settings manually.

Add the board by clicking Manually add I/O board in the Net2 actions menu. Enter the MAC address printed on the board, followed by the IP address, Subnet and Gateway.

## Detection of the I/O boards

Select 'I/O boards' in the left hand tree diagram.



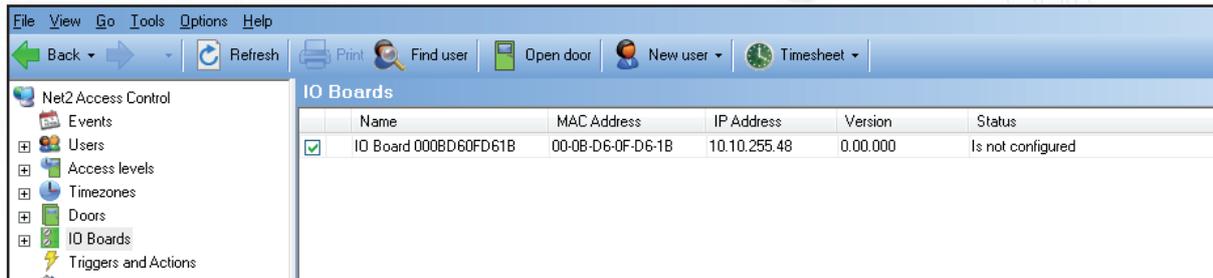
Detect - Clicking on this button will detect all I/O boards on the local network.

Identify - Clicking this button will cause the on-board sounder to 'beep' helping to locate this I/O board.

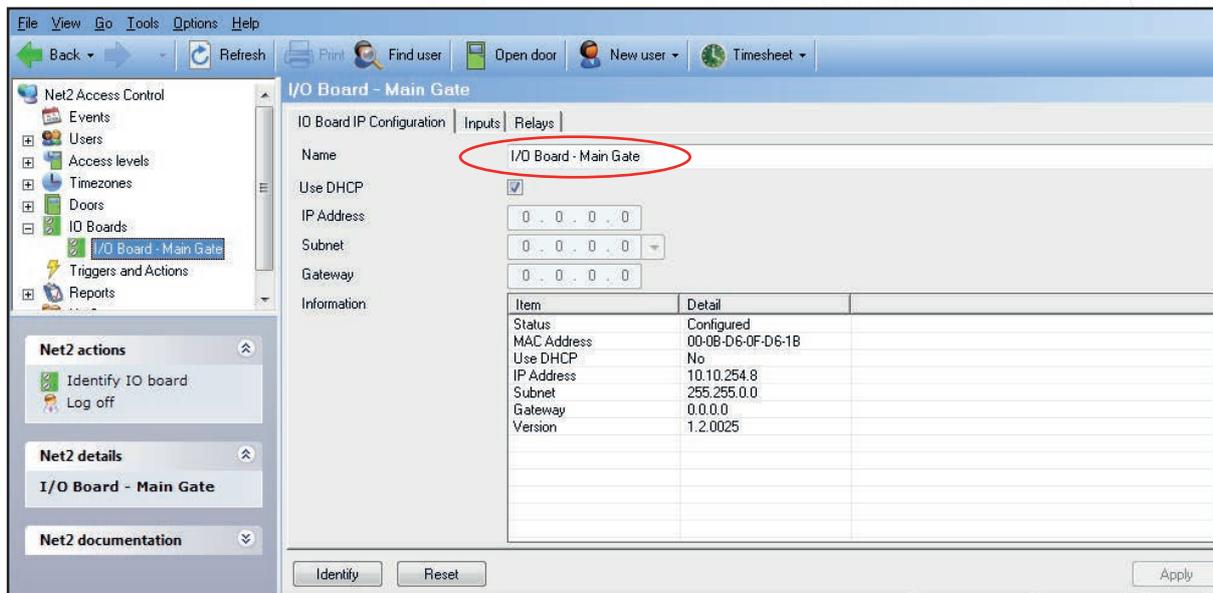
Reset - Clicking on this button will return the user settings to the factory default values.

Remove - Deletes an I/O board from the list.

Replace - This feature will enable an I/O board to be easily replaced. Once the new I/O board is online, a wizard will copy all the settings from the old unit into the new I/O board.



I/O boards that have been detected will be displayed with their MAC address.

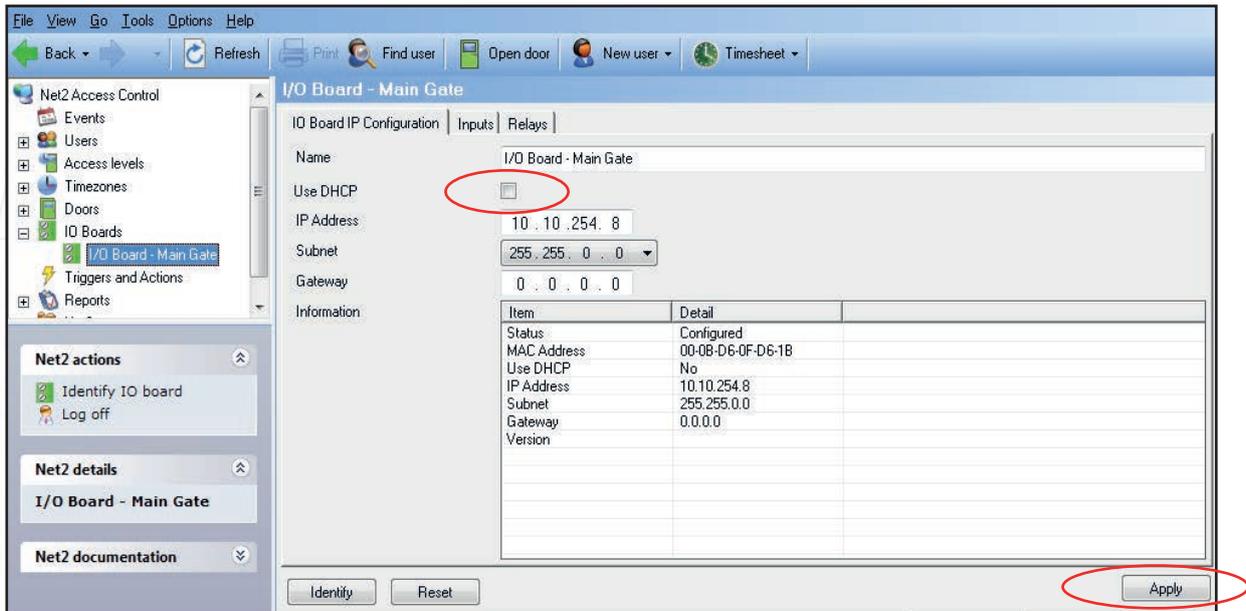


Double click on an entry and it will bring up its configuration screen. The name can be changed as required and then click Apply.

To ensure that the I/O board always has the same IP address, it is recommended that you obtain a fixed/reserved IP address from the network administrator.

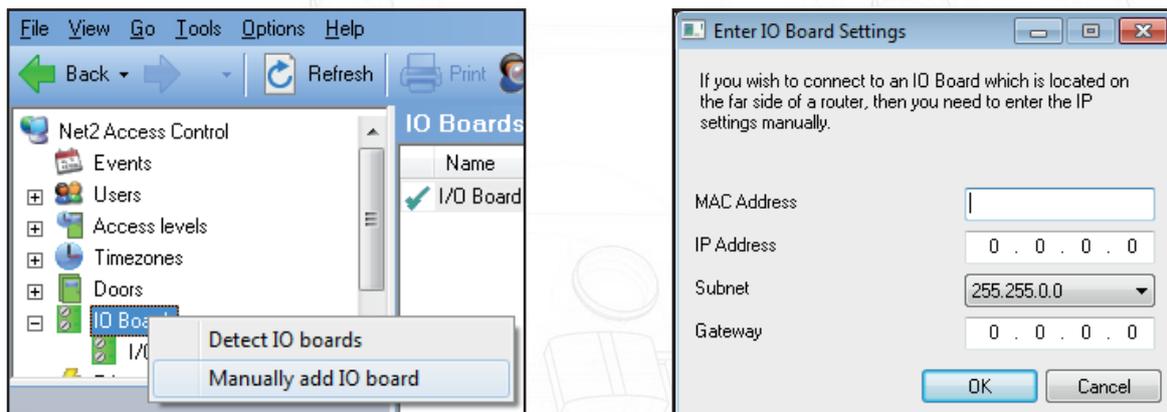
Uncheck the DHCP option and enter the IP address in the text boxes using the '.' to move between fields.

Click Apply. The I/O board will store and use this new fixed address.



If the I/O board is connected to a different IP range to the PC, it will not be detected. You must therefore make a manual entry in the I/O table so that it can be registered.

Right mouse click the I/O Boards icon in the tree view and then select Manually add I/O board.



Fill in the fields and click OK to create an entry in the I/O table. The MAC is entered as 12 characters with no spaces.

Click on Detect and the unit should display a tick to show it is responding.

If you detect the MAC address but the device now shows 'Not Responding', you must check the IP address, to make sure it is still in range with the PC or network. If it is not, you should either change the PC's IP address or the I/O board's IP address so they are both again in the same range. Our Technical team can talk you through this if you need help.

If the MAC address does not appear when you click Detect, ensure that the following ports are open on all devices between this unit and the Net2 PC:-

6480	TCP	6482	UDP
6481	UDP	6483	UDP

If you need to clear the IP address information and return the unit to DHCP mode, please contact Technical Support for a reset procedure.

## Firmware download

Once the I/O board has been detected by Net2 the firmware version will be checked and upgraded if necessary. This may take several minutes and its progress will be seen in the Status column.

IP Address: 0 . 0 . 0 . 0  
 Subnet: 0 . 0 . 0 . 0  
 Gateway: 0 . 0 . 0 . 0

**Information**

Item	Detail
Status	Updating firmware (-1% c...
MAC Address	00-0B-D6-12-1B-08
Use DHCP	Yes
IP Address	10.10.26.50
Subnet	255.255.0.0
Gateway	10.10.3.22
Version	0.00.000

**IO board requires configuration.**  
Ensure the network settings are correct and click apply.

Events					
Date/time	User	Token number	Where	Event	
16/08/2012 16:25:34			I/O Board - Main Gate	IO board online	
16/08/2012 16:25:28			I/O Board - Main Gate	IO board not responding	

The system will verify that the download was successful and then bring the I/O board online again.

## Inputs and Outputs

**I/O Board - Main Gate**

IO Board IP Configuration | Inputs | Relays

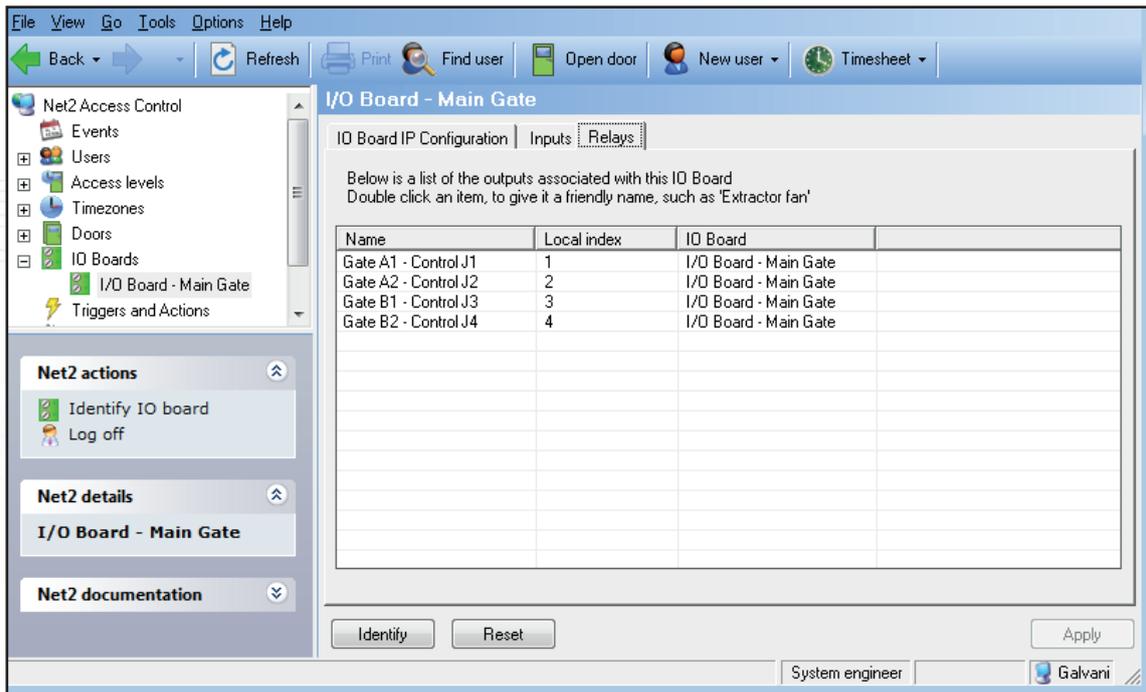
Below is a list of the inputs associated with this IO Board  
Double click an item, to give it a friendly name, such as 'Kitchen window contact'

Name	Local index	I/O Board	Toggle output
Gate A1 - Open	1	I/O Board - Main Gate	Relay 1
Gate A2 - Open	2	I/O Board - Main Gate	Relay 1
Gate B1 - Open	3	I/O Board - Main Gate	Relay 1
Gate B2 - Open	4	I/O Board - Main Gate	Relay 1

Buttons: Identify, Reset, Apply

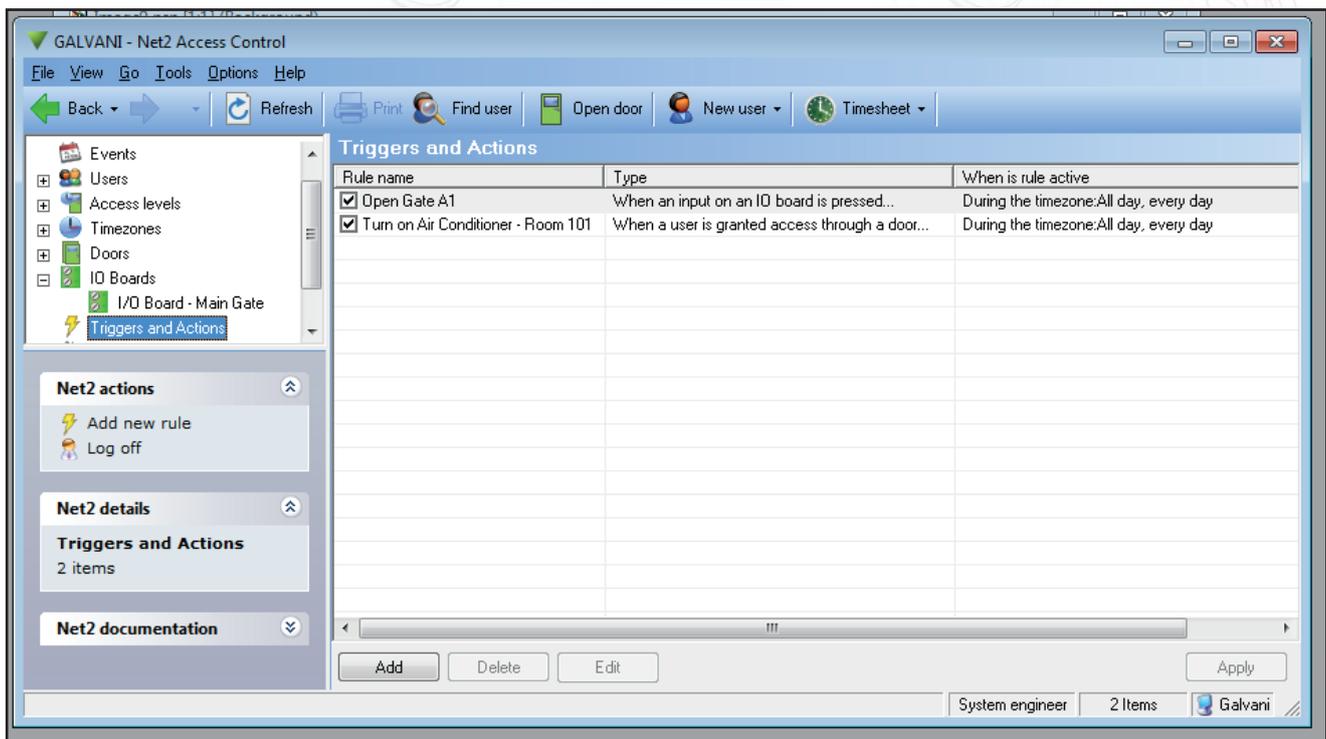
System engineer Galvani

Simply double click on an entry to rename the item and click Apply. These names will be used in any 'Triggers and Actions' menus so be as descriptive as possible.



The Relay names can be changed in the same way.

## Triggers and Actions



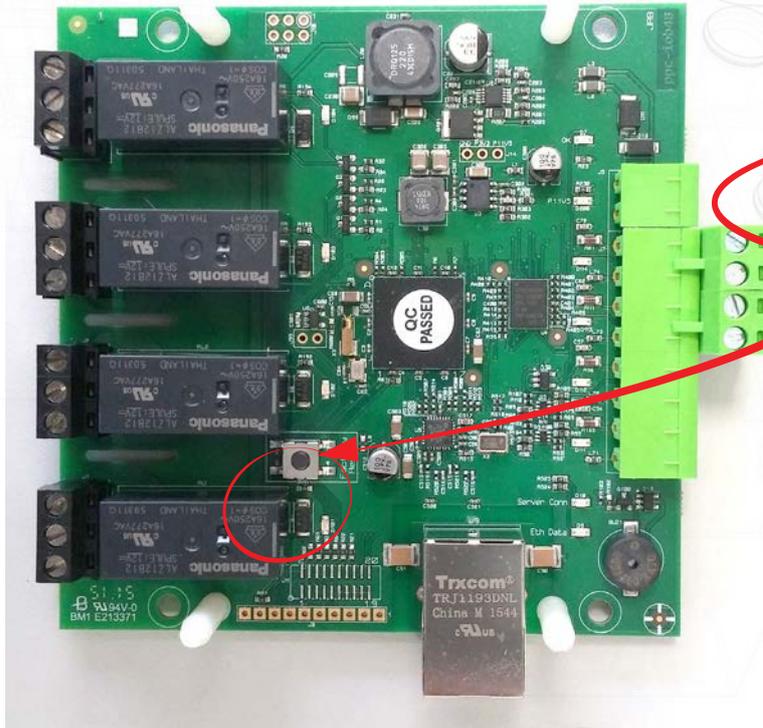
The basic control of an I/O board is provided by 'Triggers and Actions'.

An air conditioner can be turned on remotely by the presentation of a user card to a reader.

For Triggers and Actions to function correctly, the server must be running and communicating with all control units and I/O boards. This can be confirmed by setting up a rule that sends an email or SMS to the System Engineer to investigate if the unit goes offline.

## Reset procedure

1. Remove yellow cover
2. Power down unit
3. Press and hold reset button while powering the unit back up
4. Wait for 3 bleeps
5. OK LED flashes briefly when the board is powered back up (**Note: The OK LED will remain off until the I/O board has been configured in the Net2 software.**)



Reset button