Integrating Net2 with an intruder alarm system

Overview

Net2 can monitor whether the intruder alarm is set or unset. If the alarm is set, Net2 will limit access to valid users who are also authorised to unset the alarm. All other users will be denied access, regardless of their normal access level.

Users can be prevented from gaining access through other selected doors (e.g. back door) by also connecting these ACU's to an alarm status pair.

While allowing the first access by an authorised user, Net2 will send a signal to unset the alarm automatically. If this is successful the door is unlocked and the system resumes normal operation using standard access levels for all users.

Configuring Net2 to allow alarm integration

To configure alarm partitions see: AN1123 - Integrating with Multi Zone Intruder / Texecom partitions < http://paxton.info/1790 >

Net2 software before v4.22 requires the Net2 alarm integration software check box to be ticked in the Features tab of the Net2 Server Configuration Utility.
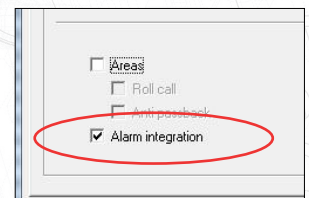
Unsetting the alarm

When an authorised user presents their token to the IN reader:

The reader will flash the Amber and Red LED's to indicate that the alarm is Set

The ACU will try to Unset the alarm via its Relay contacts

When the alarm is confirmed as Unset, the Green LED will flash and the door will unlock

The reader will now work as normal for all users until the alarm is Set again

Unauthorised users are refused entry while the alarm remains set.

Setting the Alarm

When an authorised user presents their token to the IN or OUT reader and provides button confirmation :

The ACU will try to Set the alarm via its Relay contacts

When the alarm is confirmed as Set, the reader will illuminate the Red LED for 30 seconds

The reader will display the Red, Amber and Green LED's

Configuring a door to control the intruder
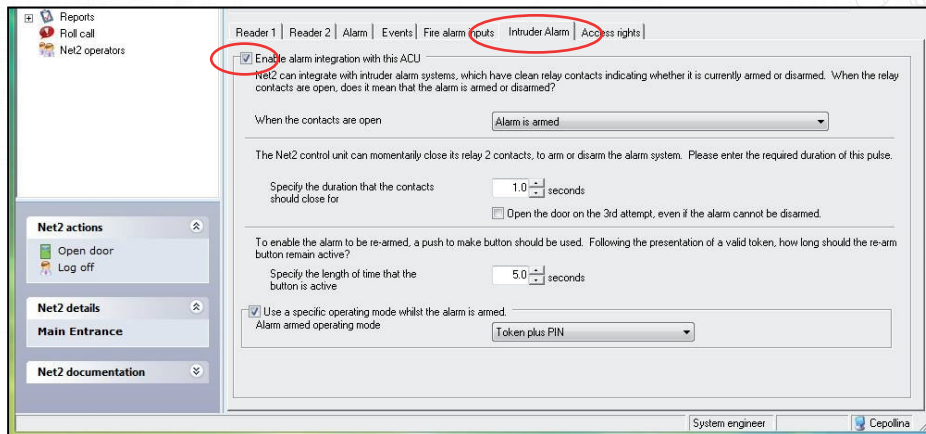
To enable alarm integration at a specific door, select the ACU, go to the intruder alarm tab and check the tick box. You must then define the following options:

Define if the set/unset indication from the intruder alarm is an open or closed pair

Specify the time period for which the Net2 relay contacts need to close to change the intruder alarm state (0.1 to 10 seconds)

Specify if the door should unlock on the third attempt even if the alarm is still set

Set the time period for the confirmation button - if fitted. (up to 120 secs)

Specify an alternative reader operating mode while the alarm is set - if required

ACU Connections - Net2 plus and Net2 classic

The diagrams in this document are drawn with reference to the Net2 plus ACU.

The wiring on the Net2 plus uses a dedicated Intruder alarm port. Inputs are provided to Sense the current alarm condition (Set/UnSet) and an Arm confirmation button. The intruder Set relay provides voltage free outputs (N.O/N.C.) to Arm the alarm when required.

Early versions of the Net2 plus ACU do not have an N.C. terminal on the Set relay. Contact Technical support for advice if required.

The Net2 classic has the inputs wired to the Keypad 2 terminals. The output is taken from Relay 2. A wiring reference table is included with each application.

User records

The following tick box appears in each user record. This must be ticked to give the user the authority to set/ unset the alarm

☑ This user can arm/disarm the intruder alarm system

Get picture | Delete picture | Bar user | Delet
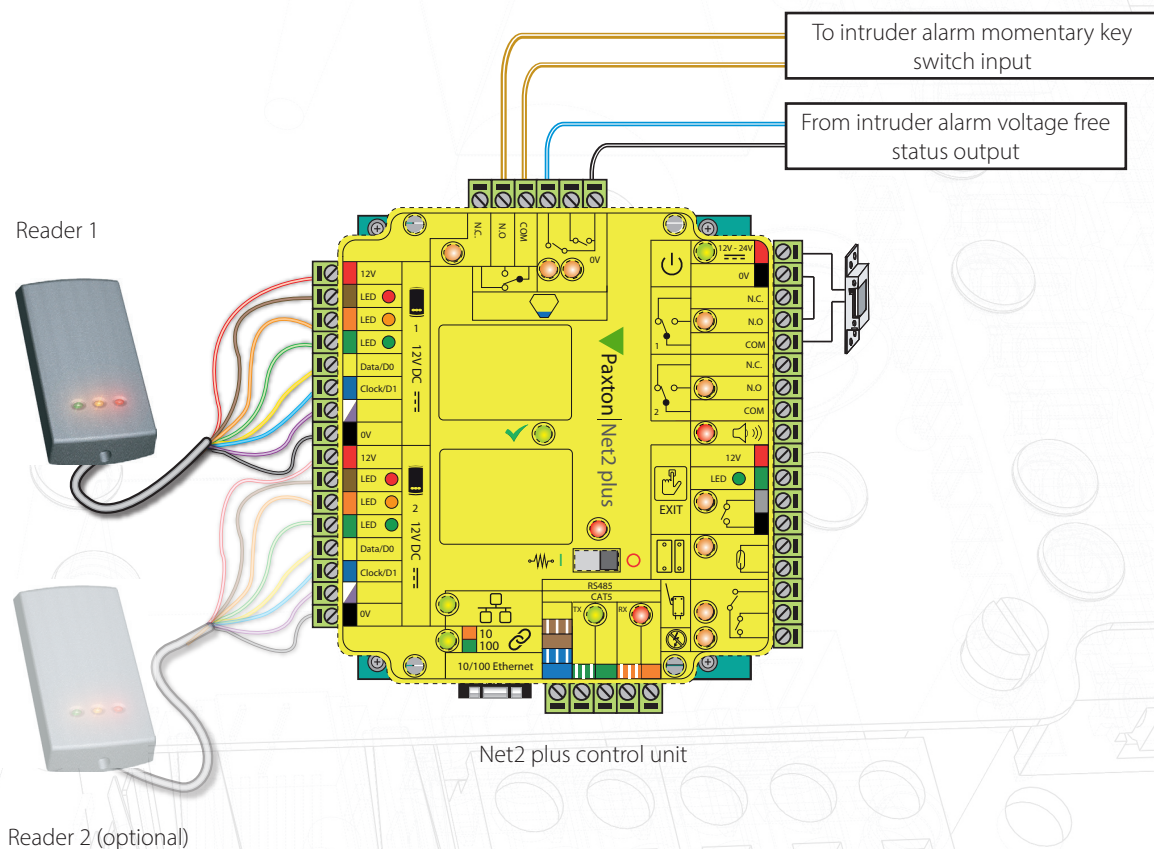
BS8243:2010 Compliance

For compliance with BS8243:2010 (formally DD243: 2004) if integrating an access control system with an intruder alarm it is recommended that a dedicated ACU is used to set the alarm in addition to the guidelines outlined within section 6 of the British Standards document.

Unsetting the alarm

The ACU that is used for normal building access also unsets the alarm. It requires a 'status' input from the alarm and also a 'key switch' (unset) connection to the alarm.

A valid token from an authorised user at the IN reader (Reader 1) will unset the alarm and then unlock the door in the normal way.

This ACU can use Read In and Out for normal access control if required (Reader 1 & Reader 2).

To intruder alarm momentary key switch input

From intruder alarm voltage free status output

Reader 1

Net2 plus control unit

Reader 2 (optional)

A Net2 classic can be used in this application. The equivalent wiring connections are shown as follows:

Wire	Net2 plus	Net2 classic
Black	0V	Black
Blue	Sense	Keypad 2 Yellow
Yellow	Set COM	Relay 2 COM
Yellow	Set N.O. or N.C.	Relay 2 N.O. or N.C.

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Setting the Alarm

A second ACU is dedicated to setting the alarm and has no lock connected to it. Connections are made, as with the first ACU to the alarm status and to the 'key switch' (set) input on the alarm panel. These may be wired in parallel with first ACU but you must ensure the same polarity is used for both.

The system needs a final confirmation signal to show that the user is outside the building before the alarm is set. This is normally provided by an external button.

Presenting a keyfob will activate the system creating the Arm request. The ACU will check the keyfob against its authorised user list. If it is, the ACU waits for the push button confirmation signal and then sets the alarm.

External confirmation button

To intruder alarm momentary key switch input

From intruder alarm voltage free status output

Reader 2

Net2 plus control unit

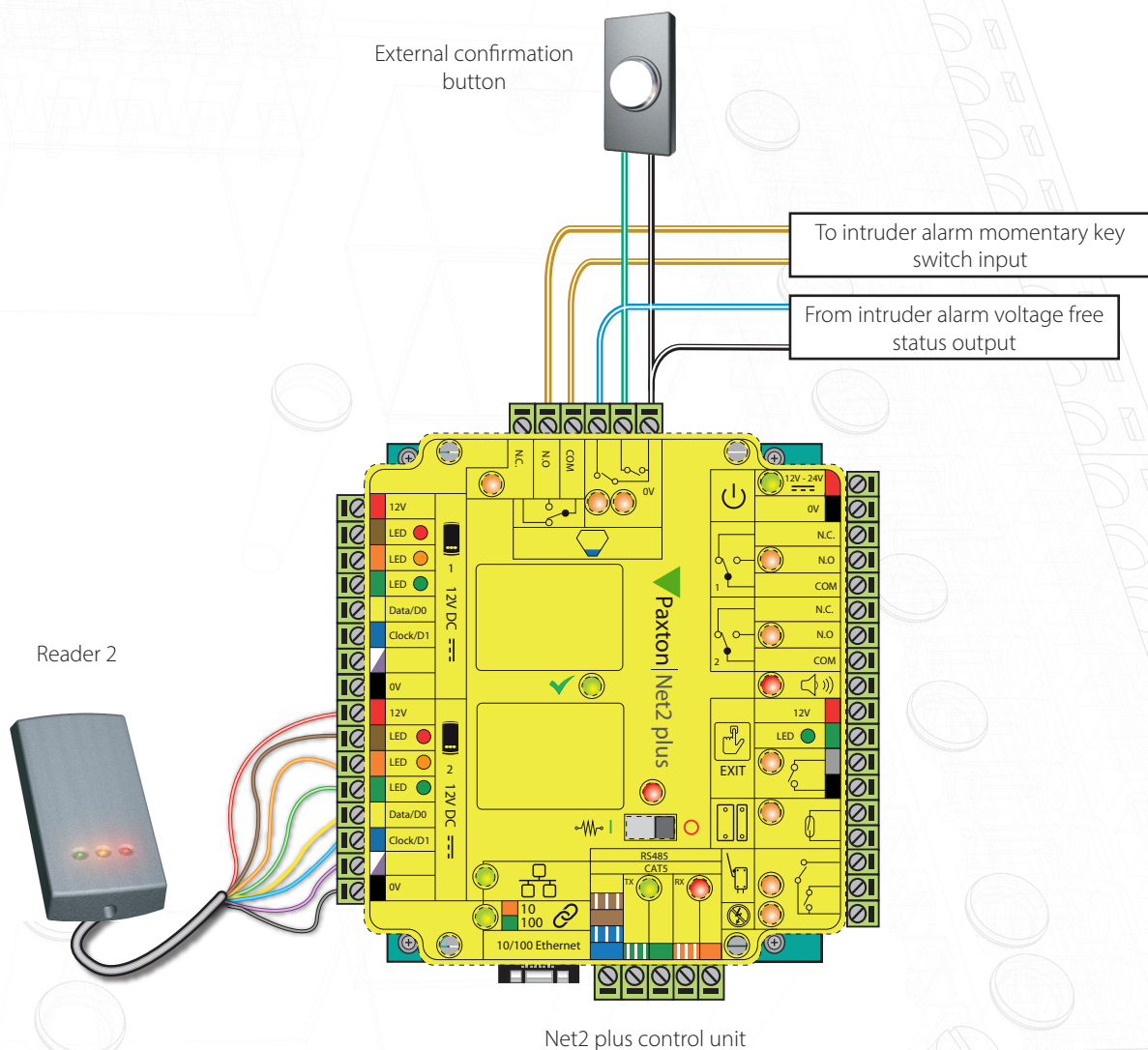A Net2 classic can be used in this application. The equivalent wiring connections are shown as follows:

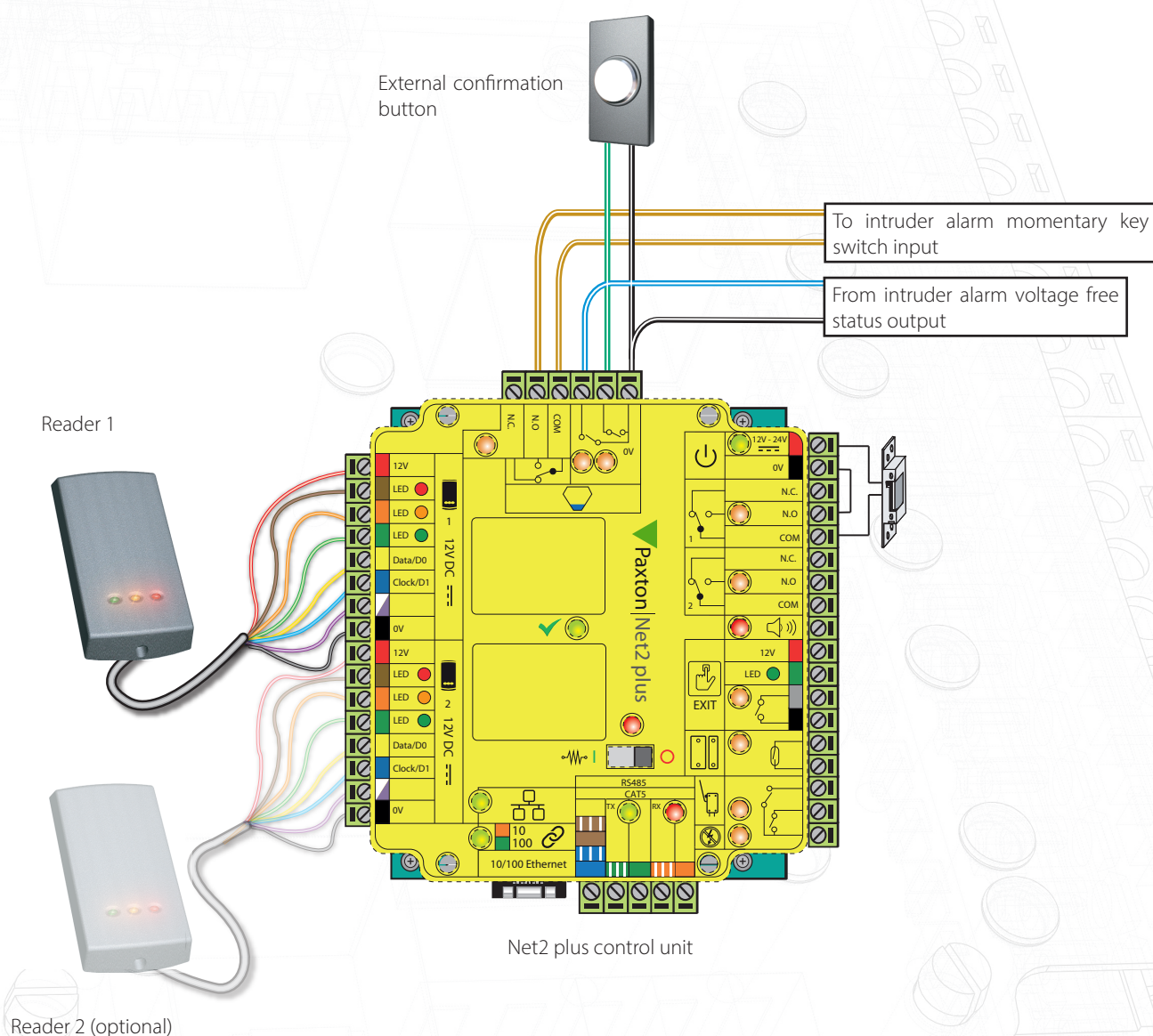| Wire	Net2 plus	Net2 classic
Black	0V	Black
Green	Arm	Keypad 2 Brown
Blue	Sense	Keypad 2 Yellow
Yellow	Set COM	Relay 2 COM
Yellow	Set N.O. or N.C.	Relay 2 N.O. or N.C.

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Standard access control (one ACU) with an arm confirmation button

The Net2 operates for all staff as normal while the alarm is unset. You can use two readers with this ACU for In/Out operation.

UNSET - A valid token from an authorised user at the IN reader (Reader 1) will unset the alarm and then unlock the door in the normal way.

SET - When an authorised user wants to set the alarm as they leave the building, they present their token to either reader as normal, unlocking the door. If they also press the confirmation button within the specified time period, the intruder alarm will set itself and the LED's will flash in confirmation for 30 seconds before returning to their normal display.

External confirmation button

To intruder alarm momentary key switch input

From intruder alarm voltage free status output

Reader 1

Reader 2 (optional)

Net2 plus control unit

A Net2 classic can be used in this application. The equivalent wiring connections are shown as follows:

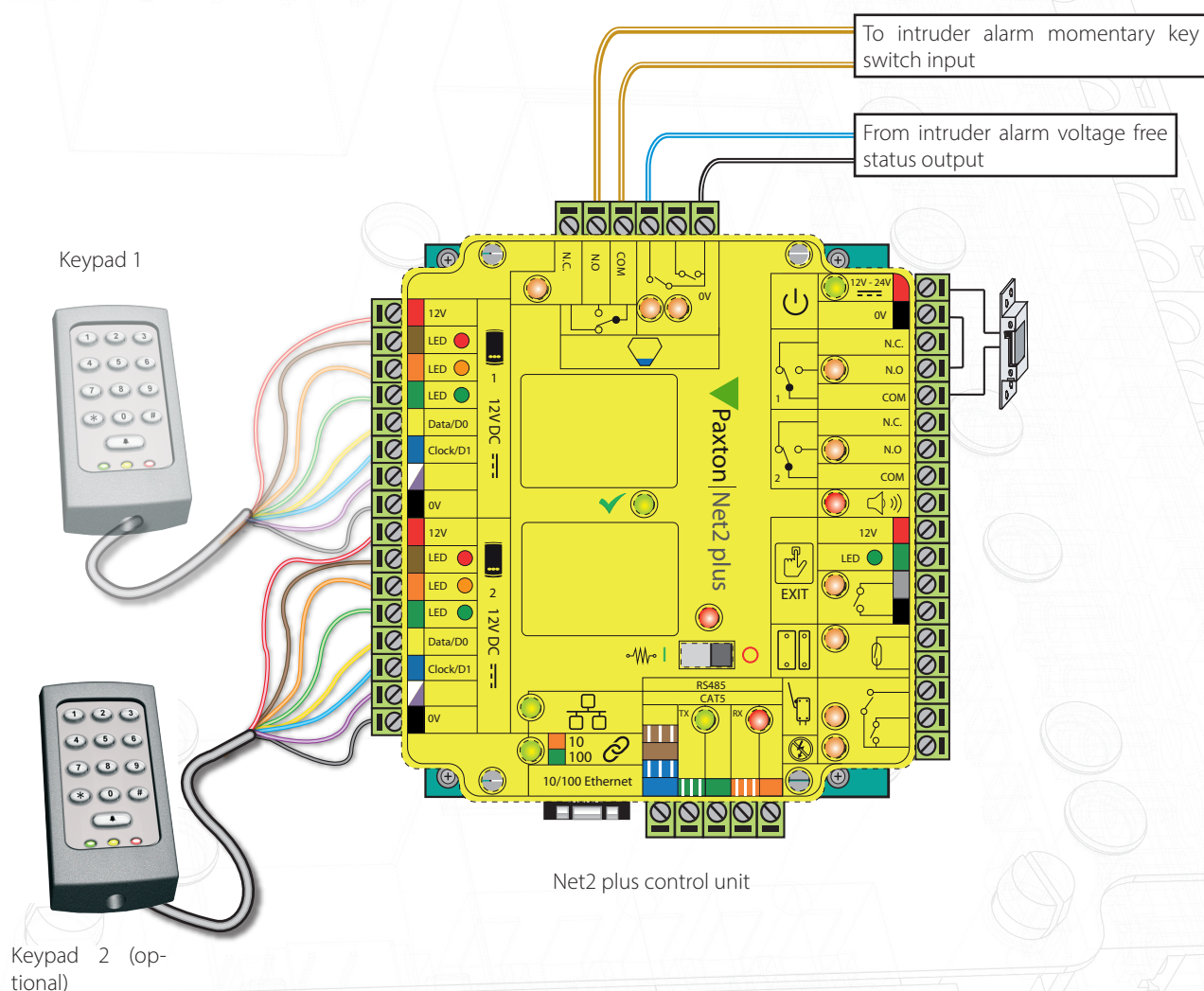| Wire	Net2 plus	Net2 classic
Black	0V	Black
Green	Arm	Keypad 2 Brown
Blue	Sense	Keypad 2 Yellow
Yellow	Set COM	Relay 2 COM
Yellow	Set N.O. or N.C.	Relay 2 N.O. or N.C.

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Standard access control (one ACU) with keypad(s)

The * key on a Paxton keypad can be used instead of fitting a confirmation push button.

The Net2 operates for all staff as normal while the alarm is unset. You can use two reader/keypads with this ACU for In/Out operation.

UNSET - A valid PIN from an authorised user at the IN keypad (Reader 1) will unset the alarm and then unlock the door in the normal way.

SET - When an authorised user wants to set the alarm as they leave the building, they first press the * key (Reader 1 or 2) and will then be given 7 seconds to enter their PIN. This unlocks the door as normal and then relocks the door and sets the alarm system. The LED's will flash in confirmation for 30 seconds before returning to their normal display.

If using Token + PIN, the user must still start the sequence with the * key before presenting their token and entering their PIN number.

Keypad 1

To intruder alarm momentary key switch input

From intruder alarm voltage free status output

Net2 plus control unit

Keypad 2 (optional)

A Net2 classic can be used in this application. The equivalent wiring connections are shown as follows:

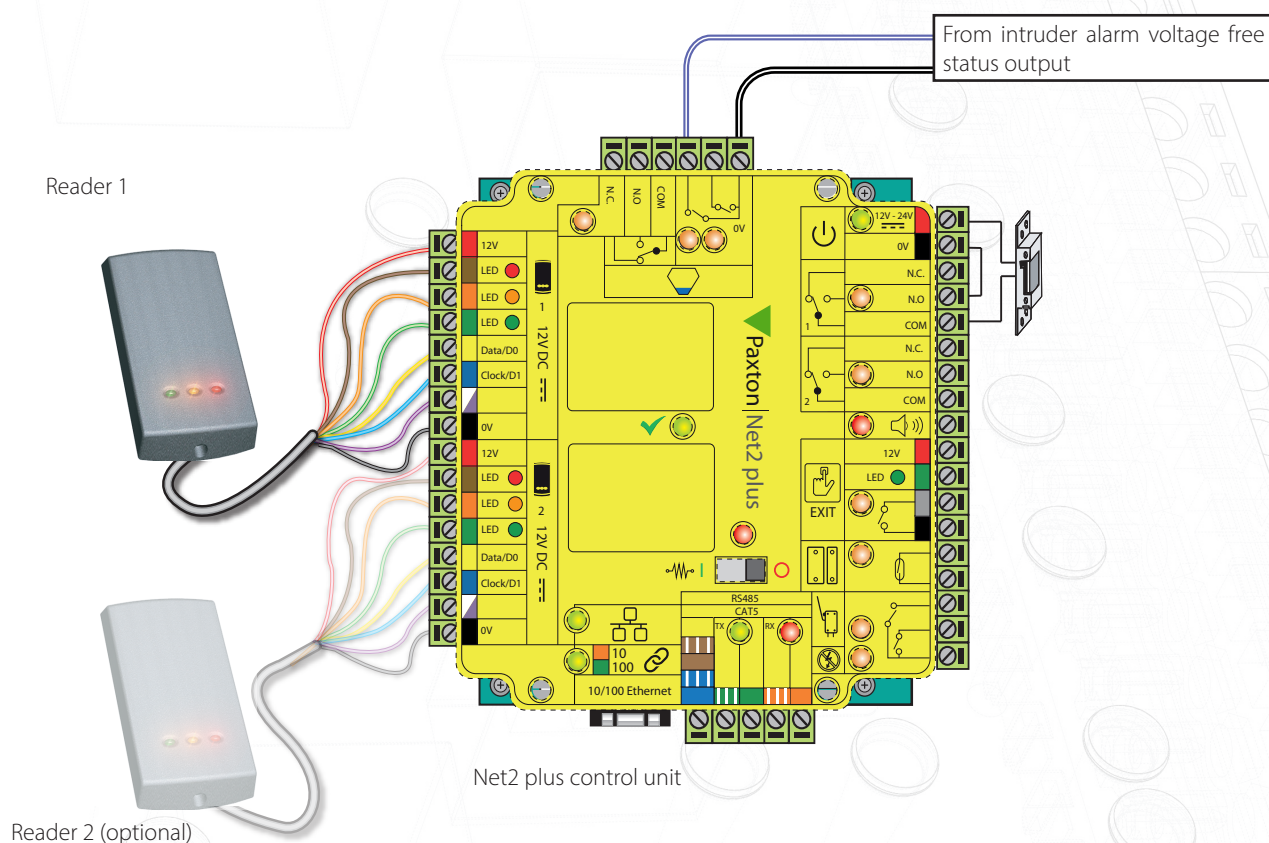| Wire	Net2 plus	Net2 classic
Black	0V	Black
Blue	Sense	Keypad 2 Yellow
Yellow	Set COM	Relay 2 COM
Yellow	Set N.O. or N.C.	Relay 2 N.O. or N.C.

Blocking other doors while the alarm is set

Users can be prevented from gaining access through other selected doors (e.g. back door) by also connecting these ACU's to an alarm status pair.

Alarm integration must be enabled on the ACU.

A set/unset connection to the alarm panel is not necessary as this ACU does not change the status of the alarm system.

If more than 1 ACU is wired to the same alarm status output, make sure that the polarity of these wires is the same on all ACU's or the system will not work correctly.

From intruder alarm voltage free status output

Reader 1

Net2 plus control unit

Reader 2 (optional)

A Net2 classic can be used in this application. The equivalent wiring connections are shown as follows:

Wire	Net2 plus	Net2 classic
Black	0V	Black
Blue	Sense	Keypad 2 Yellow

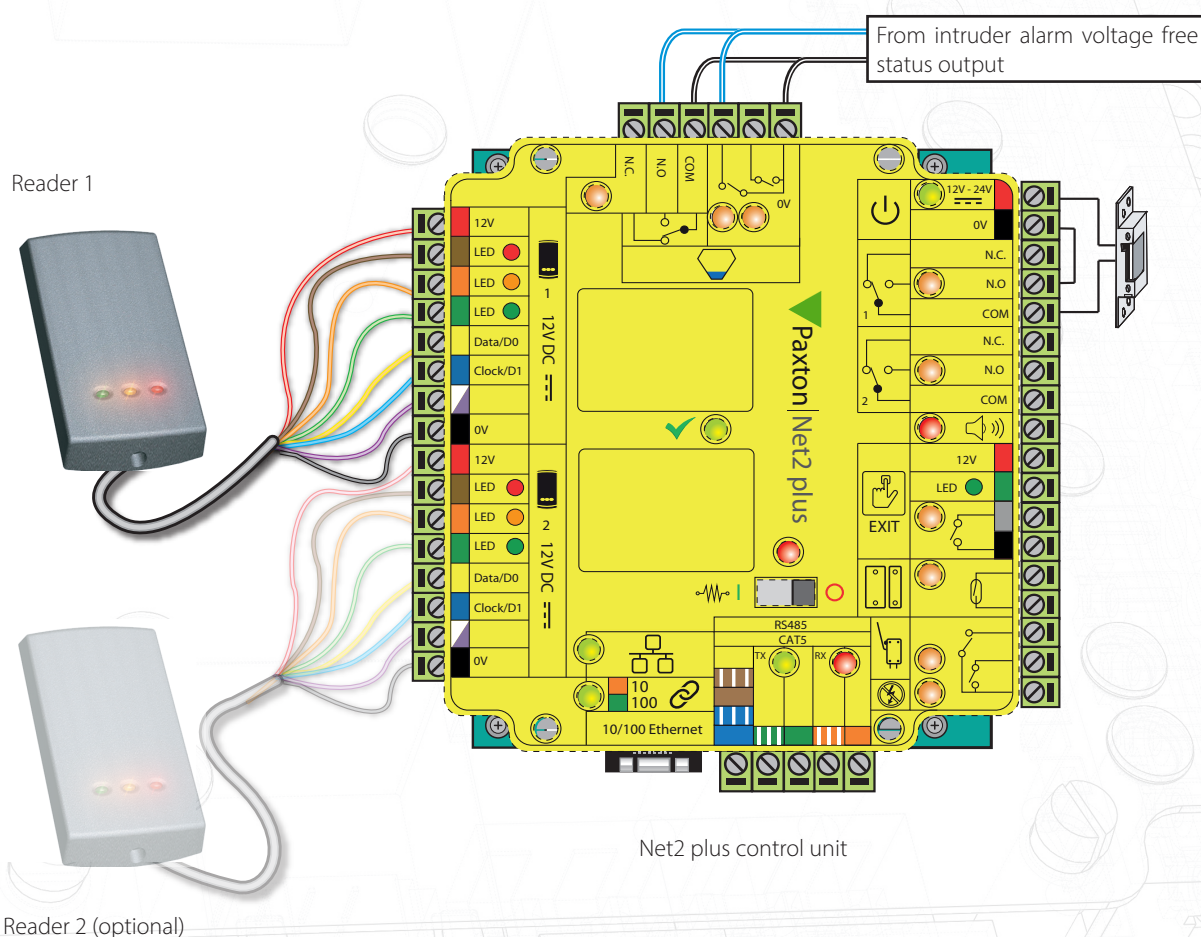# Manual alarm set/unset - Blocking unauthorised access

This is used where the alarm panel is inside the building and the owner still wants to use the panel to manually set/unset the alarm. This will not be DD243 compliant as a user is allowed into the building while the alarm is still set.

To allow an authorised user access to the building, we need to temporarily tell the ACU that the alarm status is 'unset'. This allows their token to unlock the outer door. This is done by creating an 'unset' status signal by means of the Set relay which will mimic the 'unset' signal. This gives the user access to the building to unset the alarm manually which then provides the 'true' unset signal for the ACU.

Net2 will show multiple set/unset events if the ACU relay returns before the alarm has been manually unset at the panel.
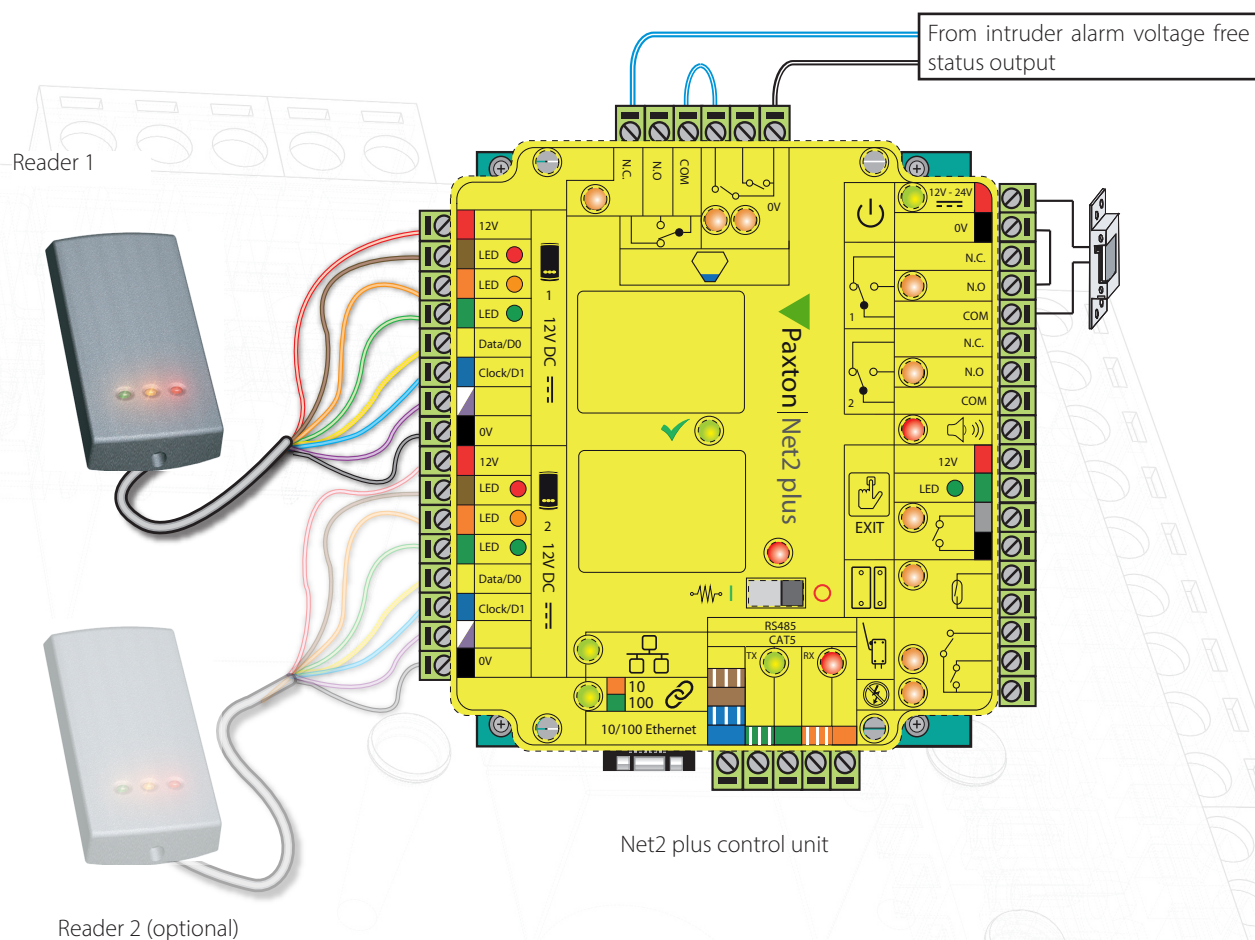
The wiring of the Set relay will depend on the type of status unset signal provided by the panel (open or closed circuit). The ACU relay must simulate the signal by making or breaking this status pair.

Use when closed pair indicates unset

Reader 1

From intruder alarm voltage free status output

Net2 plus control unit

Reader 2 (optional)

Use when open pair indicates unset

From intruder alarm voltage free status output

Reader 1

Net2 plus control unit

Reader 2 (optional)

A Net2 classic can be used in this application. The equivalent wiring connections are shown as follows:

Wire	Net2 plus	Net2 classic
Black	0V	Black
Blue	Sense	Keypad 2 Yellow
Blue	Set N.O. or N.C.	Relay 2 N.O. or N.C.
Blue	Set COM	Relay 2 COM

If the door on the ACU is normaly held open with a timezone, the ACU will not unlock the door until the intruder alarm has been unset.

The reader operating mode can be changed depending on the alarm condition (e.g Token + PIN when set and Token Only when unset) by setting the function on the Intruder Alarm screen.

The Net2 classic relay 2 is not available for door control and so the toggle option under Reader action is greyed out. Any ACU that is used for alarm integration and access control must have the lock wires connected to relay 1.