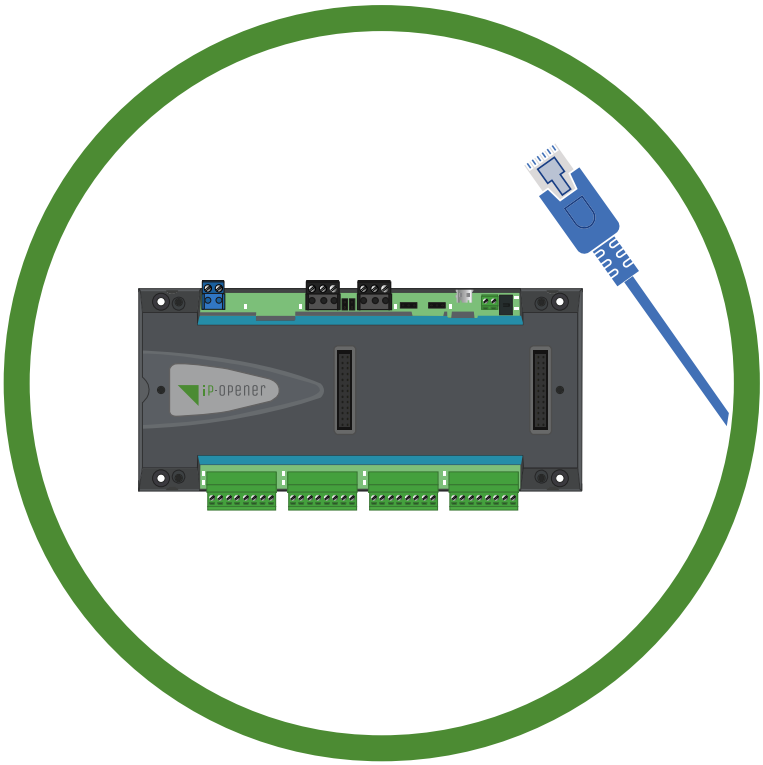
iP-OPENER

CONNECTION



INSTALLATION MANUAL

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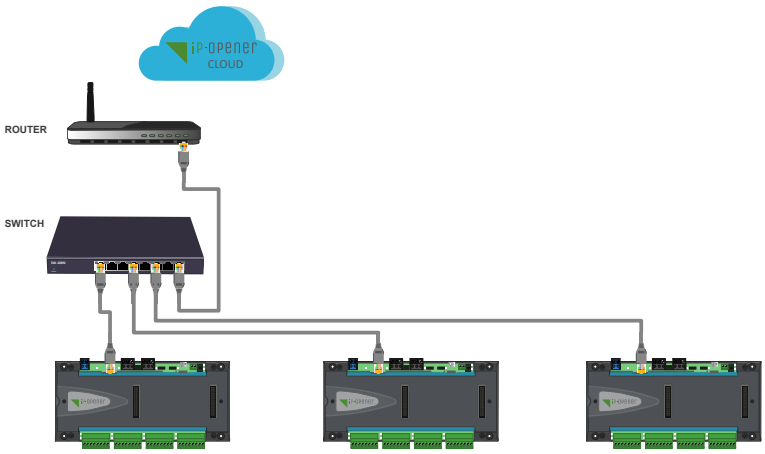
1. INTRODUCTION

This manual contains all relevant information regarding the connection of the iP Opener system.

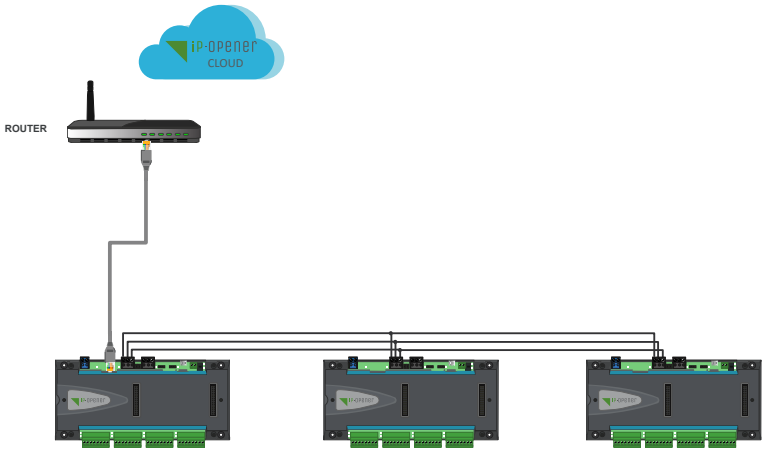
2. CONNECTION TOPOLOGIES

There are various connection topologies that can be used depending on the system requirements. These can be based on TCP/IP communication, RS485 bus, or a combination of both, thus allowing the infrastructure to be adapted to different environments and installation requirements.

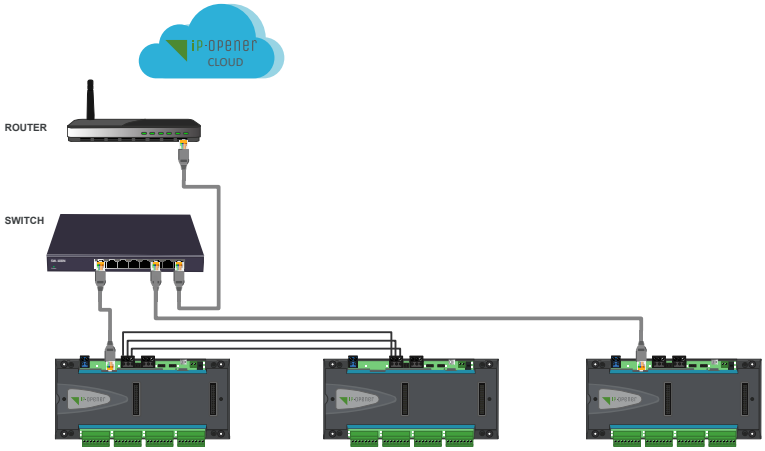
- UTP connection



- RS485 connection



- Mixed connection, UTP + RS485

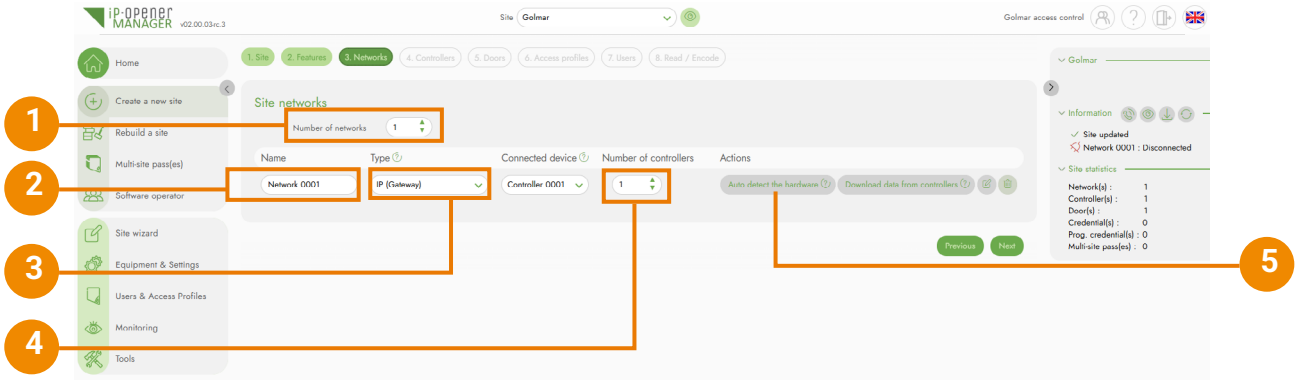


3. CONFIGURATION CONNECTION TOPOLOGIES IN IP-OPENER

This section details how to generate a network in iP-Opener Manager according to the connection topology and how to add the different devices. To learn how to configure an installation, see the manual "IM_ENG_REV0126_ CONFIGURATION." .

3.1 Networks

1. Indicate the number of networks required.
2. Assign a name to the network to be generated that you can identify.
3. Select the network topology.
4. Indicate the number of controllers you have connected in the installation.
5. Once you have defined all of the above, click "Detect.".



NOTE: More than one network will be required when the devices to be linked are located in different facilities (they do not share the same internet connection). In this case, increase the number of networks and repeat the procedure for each one. This option allows you to manage companies with multiple locations.

3.2 Device Search

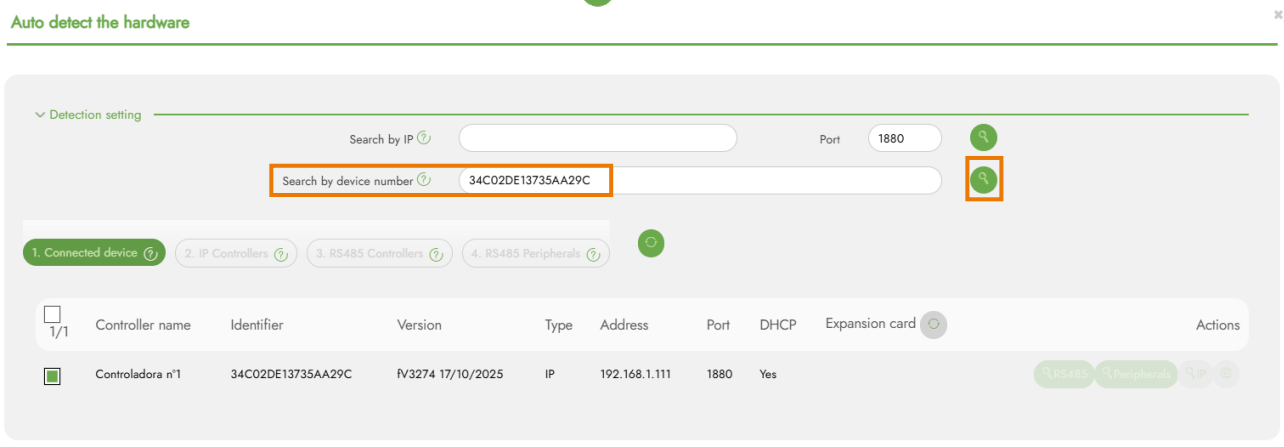
The device search consists of 4 phases:

- Phase 1, search for a first controller.
- Phase 2, search for other controllers on the network.
- Phase 3, search for controllers connected via RS485.
- Phase 4: search for connected RS485 peripherals.

Once the required devices have been detected and added in any of the phases, you can complete the process by clicking Close and continuing with the wizard.

Phase 1

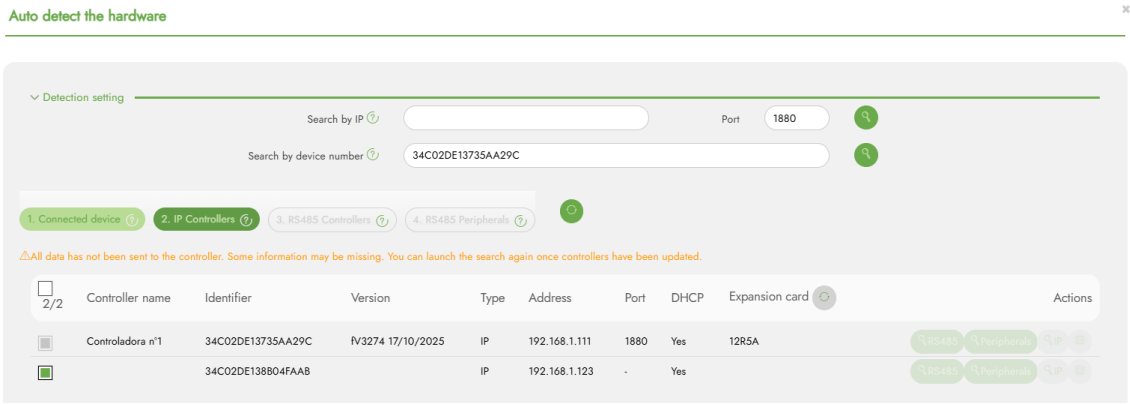
Enter the ID of a controller in "Search by login" and press so that iP-Opener Manager can proceed with detection.



Select the detected controller and press Next to add it to the installation.

Phase 2

In phase 2 of the device search, it will detect other IP controllers on the same network.



Phase 3

You will find controllers to add if the chosen connection topology is "RS485" or "UTP + RS485.".

Phase 4

In this last phase, you will detect "RS485 Peripherals" that may have been connected (output expander module GM-IPOP-10S-RS485 or input expander module GM-IPOP-10E-RS485).

3.3 Configuration of connected devices

1. Enter a name to identify each of the controllers. Example: controller no. 1.
2. Registered controller ID.
3. Controller model.

   B2F/IP V2 control panel: For controllers with 2SAFE bus and TCP/IP communication.

   Wiegand/IP V2 control panel: For controllers with Wiegand protocol and TCP/IP communication.
4. Expander connected to controller. If an expander is connected to the controller, specify the model type:

   12 relays 5A. Reference GM-IPOP-EXP12S.

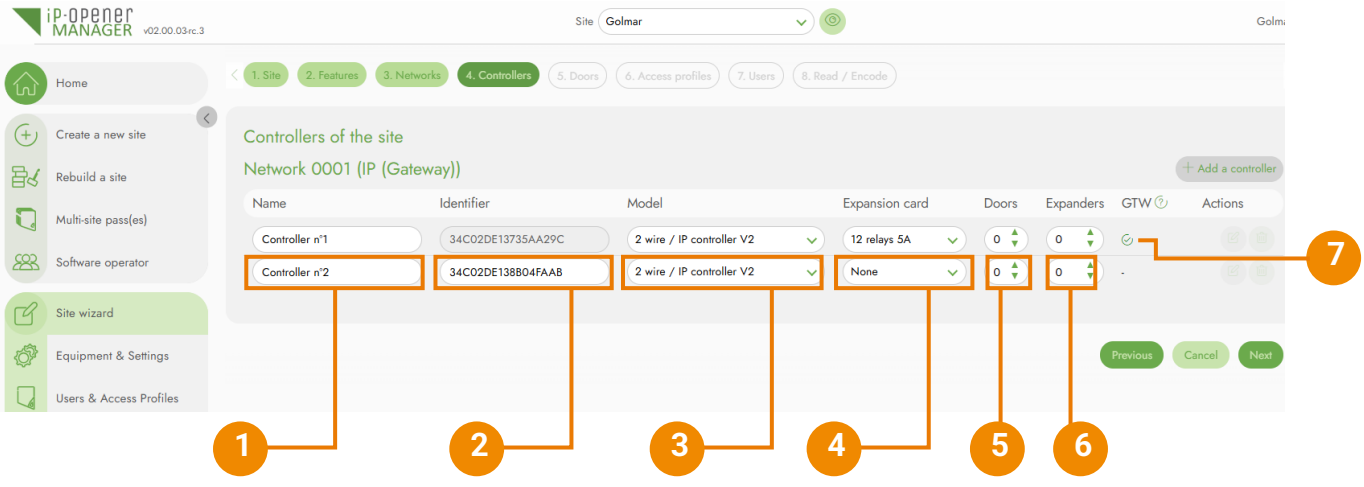
   12 analog inputs. Reference GM-IPOP-EXP12E.

   4 Wiegand ports. Reference GM-IPOP-EXP4PW.

   2 ports (b2f). Reference GM-IPOP-EXP2P.
5. Doors. Number of controller ports:

   GM-IPOP-1P. 1 Door.

   GM-IPOP-4P. 4 doors.
6. If there is an RS485 module connected and it has not been added during the device search, indicate the quantity in the "ES Cards" field and complete the details of the module to be added.
7. Tick indicating the controller that connects to the server.

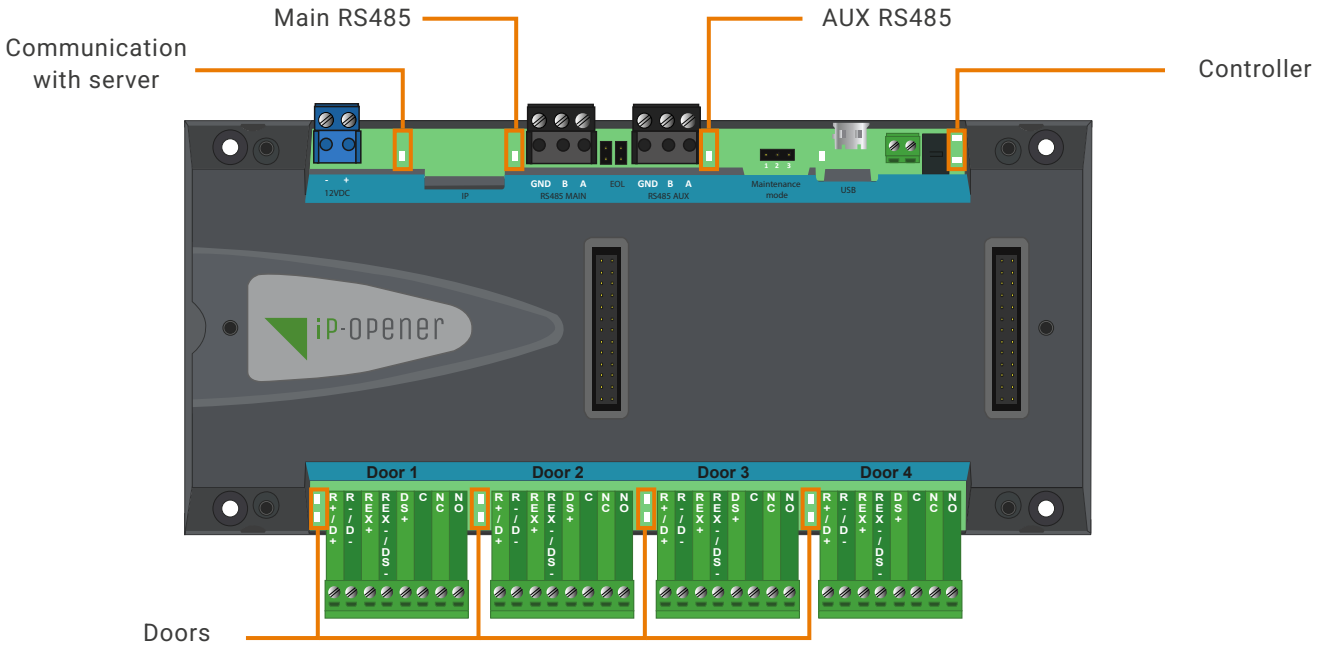


4. STATES

4.1 Status indicator LEDs

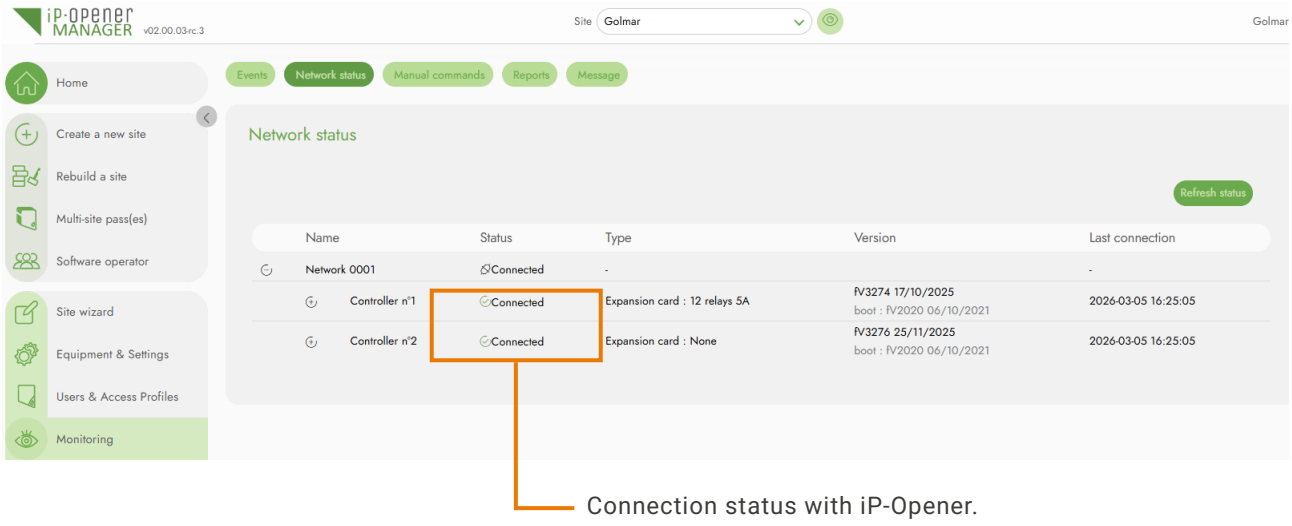
The different LEDs on the controller indicate the status of communication, power supply, etc.

General description of status LEDs



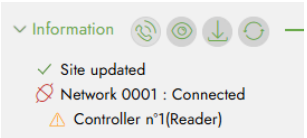
4.2 Communication with the server

Once the network has been generated and the controllers added, you can check whether iP-Opener is communicating with each of them. To do this, go to the "Monitoring" section and then click on the "Network Status" Network status option.

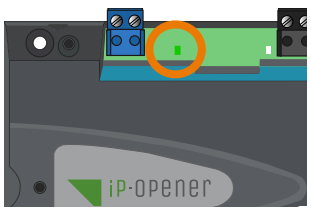


Connection status with iP-Opener.

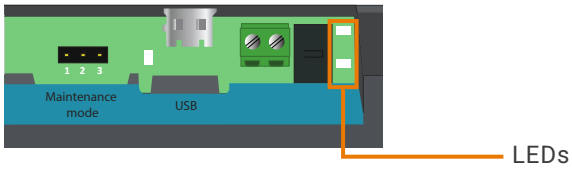
You can also access "network status" by clicking on the information block:



The controller that communicates with the iP-Opener server (master controller) must keep the LED located next to the power terminal block lit green.



4.3 Controller



Green LED

LED on: the power supply is correct.

LED off: check the power supply.

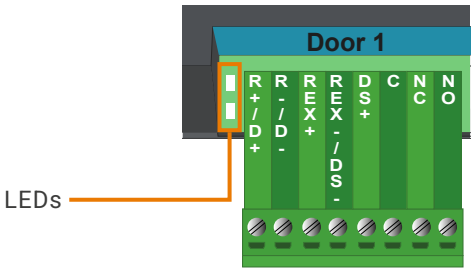
Red LED

LED off or on: the controller must be restarted; if after restarting the red LED remains off or on, the controller may be damaged and should be replaced.

LED flashing slowly: normal operation.

LED flashing quickly: indicates that the controller cannot communicate with the other controllers on site. Communication between controllers is not working.

4.4 Ports



Green LED

LED on: when the relay is activated.

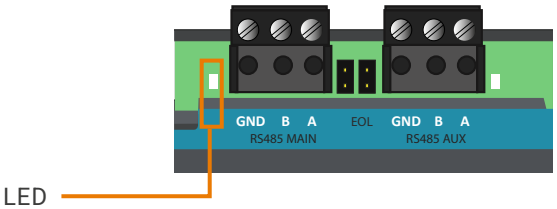
Red LED (on a 2SAFE controller)

LED flashing once every 3 seconds: communication with the reader is correct.

LED flashing 3 times per second: faulty communication (reader disconnected or tampered with).

4.5 RS485

Main RS485



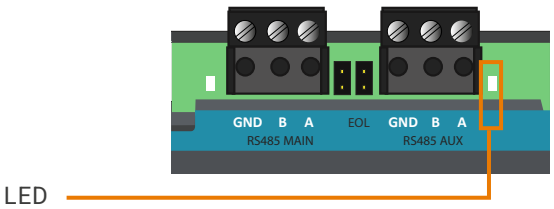
RS485 main bus (for controllers)

LED on: master controller operating correctly.

LED flashing once every 3 seconds: slave controller operating correctly.

LED off: no activity on the RSD485 bus (master or slave).

Aux RS485



RS485 auxiliary bus (for expanders)

LED on: the controller is communicating with the expander(s).

LED off: there is communication on this auxiliary bus.

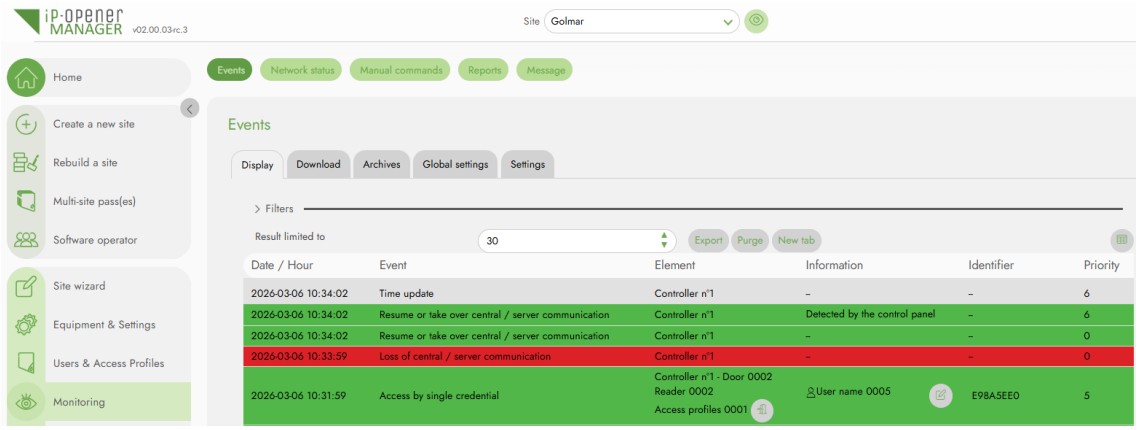
5. TROUBLESHOOTING

5.1 The installation is not running smoothly

1. Check that the cable used is suitable for the installation:

Connection type	Hardware type	Cable type and characteristics
Ethernet bus	Controllers, switch/router	UTP CAT 5 to CAT 7 (SFTP or FTP). Max. distance . 90m. Recommended to use UTP-CAT6ELH cable.
RS485 bus	Controllers, I/O expanders	STP. Recommended to use M-26CALH cable.
2SAFE bus	Peripherals, readers, 2SAFE receivers	FTP or SFTP. Recommended to use M-26CALH cable.
Wiegand	Readers	UTP/STP or SFTP up to 100m. Recommended to use M-26CALH cable.
12VDC power supply in box		2 wires x 1 mm diameter.

2. Check the "events" section of "monitoring" to see if iP-Opener reports any incidents:

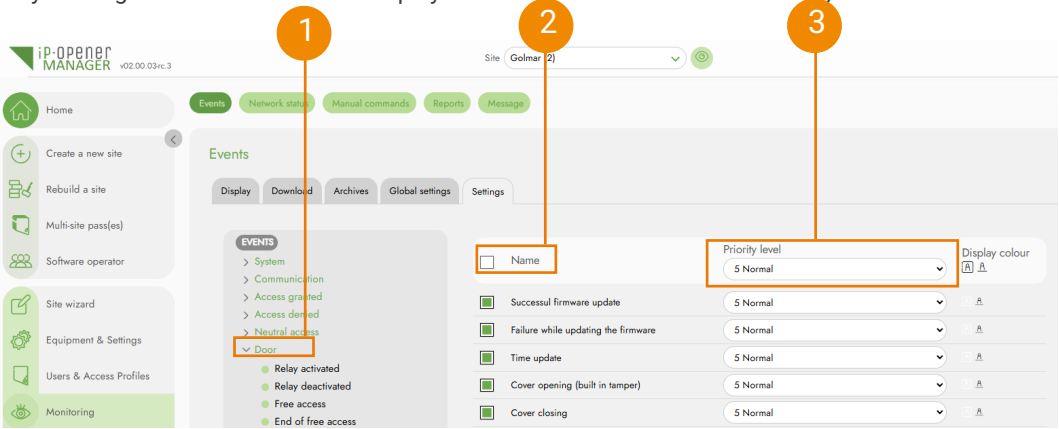


By default, iP-Opener displays alerts relating to the "system" and "communication." . If the incident is of another nature, you can display alerts from other categories as follows:

1 - Select the type of alert you want to monitor.

2 - Select the specific alert you want to receive or check "surname" to select all.

3 - Select priority 5 or higher so that the alert is displayed in the "view" tab of the monitoring screen.



This will allow you to locate the fault and see the indicated error.

5.2 iP-Opener does not detect the controller

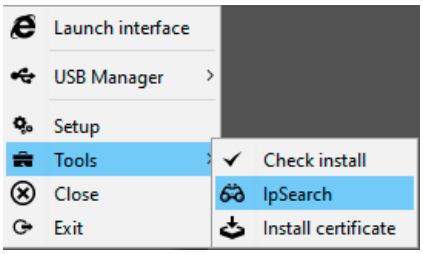
1) Check that the controller(s) are present on the network.

The default IP address for the controllers is 192.168.1.250 , but they come factory-set to DHCP. Therefore, if the network to which they are connected works with DHCP, the router will assign a different IP address to the controller. We can identify this IP address with iP-Opener's own search application: IP Search.

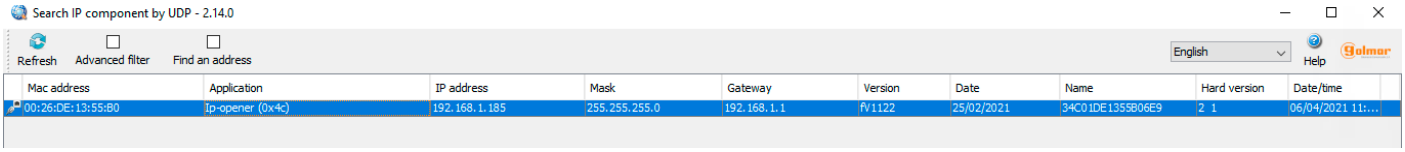
IP Search can be run in two ways:

- The "tools" folder in the program installation path. Example: C:\ip-opener_client\tools

- By running iP-Opener Client and opening the Tools>IP Search function.

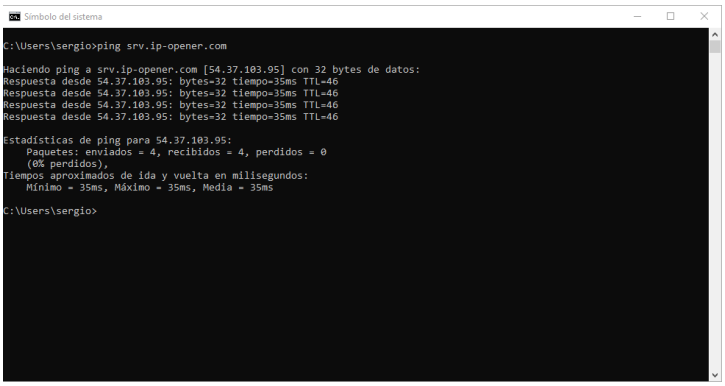


To detect controllers with IP Search, we must be connected to a PC on the same network and click on the "refresh" option. At this point, the controller(s) connected to the network should be displayed:



If the controller(s) in the installation are displayed, we can be sure that the problem is not in the local network (communication between the controller and the installation network).

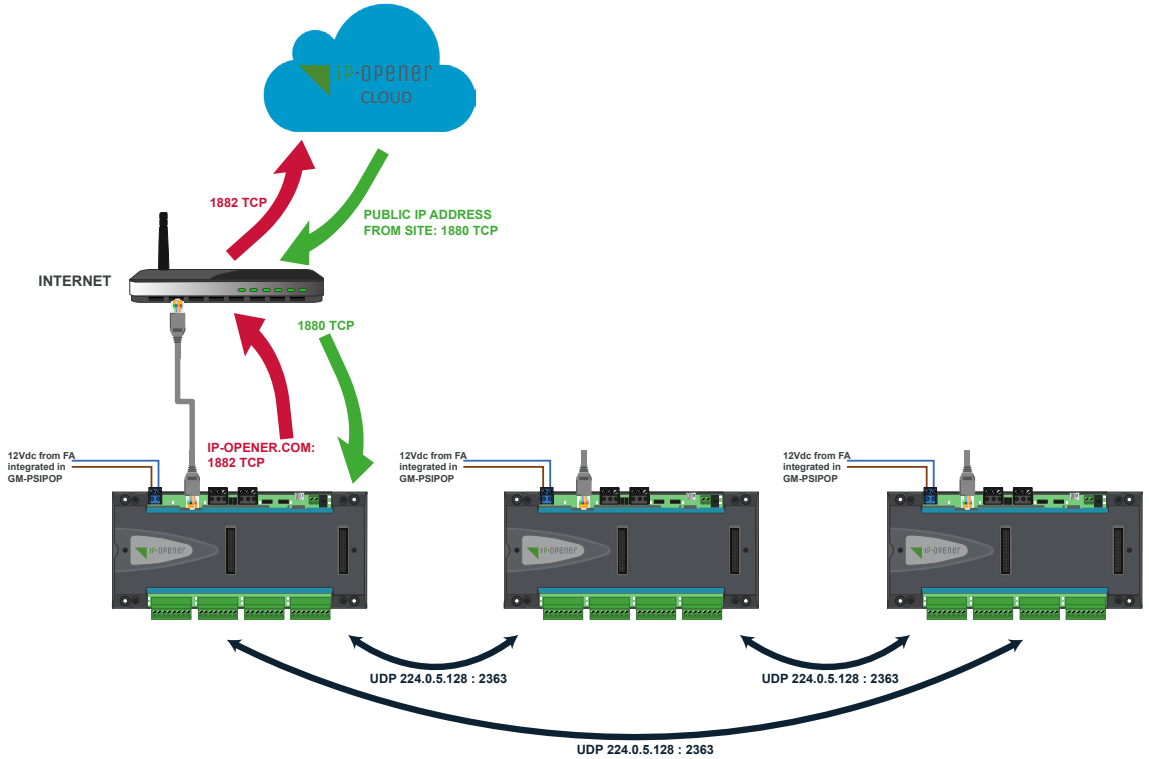
2) Check that the controller(s) communicate with iP-Opener.
Once you know that the controller(s) are connected to the network, the next step is to ping the iP-Opener DNS server: ping srv. ip-opener.com (from the Windows command console). If the 4 packets sent are shown as received. We will have confirmation that the network is communicating with iP-Opener.



3) Check the network configuration.
If the result of either of the two previous points is not satisfactory (controller is not on the network or does not connect to iP-Opener), pay special attention to the network configuration (router).

- In the iP-Opener system, it is the controller that opens communication with the server. By default, the controller attempts to connect to ip-opener.com through port 1882. This means that port 1882 must be open from Ethernet to the Internet.
- In most computer networks, only incoming ports are blocked by the firewall/router, but if the controller does not connect to the ip-opener.com server, this should be checked.
- Since it is the controller that initiates communication with the server, we do not need to create a NAT on the router or set an IP address. This can be DHCP.
- At least one controller per site will act as a gateway for the others, receiving information from iP-Opener through port 1880. Therefore, this incoming port must be open.
- These communication ports can be modified through iP-Opener manager or IP Search.
- The controllers communicate with each other via UDP 224.0.5.128 :2363.

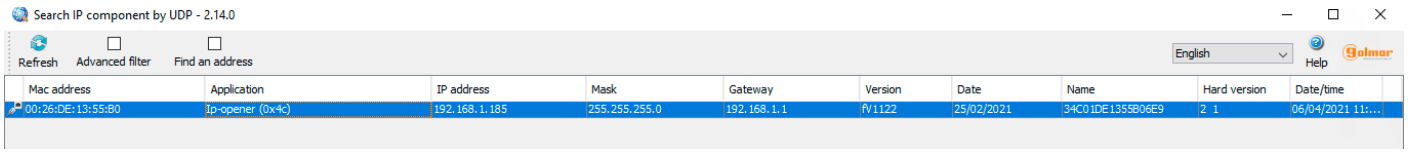
The following diagram shows how communications work:



4) Reset the controller to factory settings.

This guide describes what is needed to connect a controller or system to iP-Opener. If the controller to be connected has previously been operating in a local configuration or there is a problem with the controller, you can reset it to factory settings as follows:

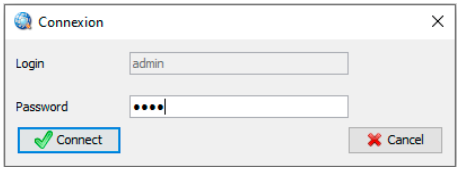
Go to IP Search (defined in step 1) and select the controller to be reset:



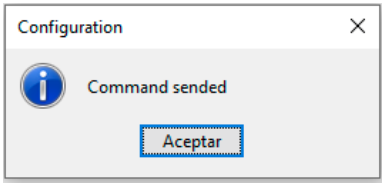
In the "Commands" tab, select "delete database" and then "Send":



A small pop-up window will appear, asking for a password. Enter 0000 and click "Connect.".



It will then indicate that the command has been sent. At this point, the controller will be reset to factory settings.

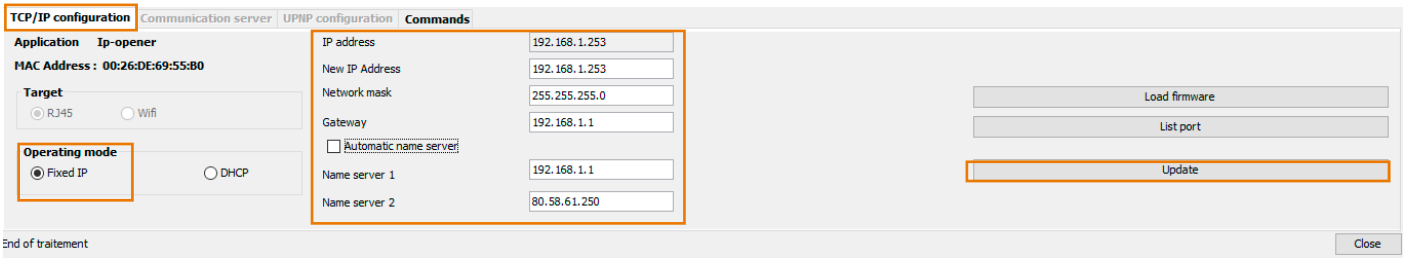


5.3 Fixed IP configuration

If the network to which the controller(s) is/are connected works exclusively with fixed IPs, you can change this from:

1) IP Search

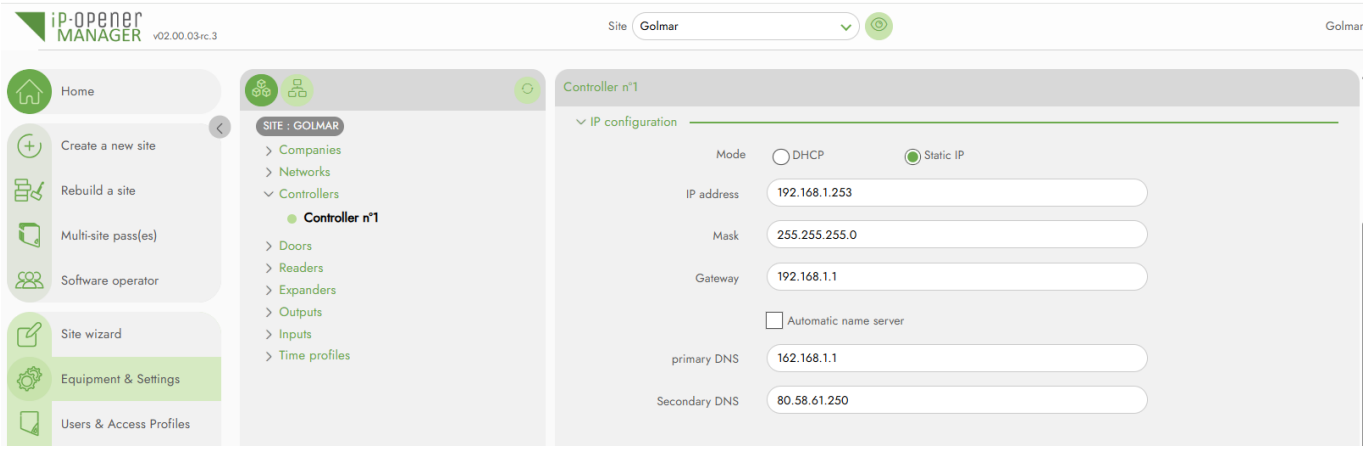
By selecting a controller in the "TCP/IP configuration" tab at the bottom of the screen, you can set the operating mode to "Fixed IP." . Then, enter the fixed IP to be set and your network parameters. If you do not know the server IPs to use, activate the "automatic name server" option. Once you have entered the data, confirm the changes by clicking "Update.".



2) IP-Opener manager

You can perform this same operation in iP-Opener manager by accessing the "Configuration" section. To do this, once inside this section, click on "Centrales" and then select the controller for which you want to change the connection type.

At this point, simply select "Fixed IP" in the "IP Configuration" section.



5.4 Hard reset

Resetting iPSearch deletes the database, but does not reset the controller's IP interface settings. If it is necessary to completely reset a controller, it is possible to perform a hard reset. The sequence to follow is shown below:

1- Turn off the controller.

2- Bridge maintenance terminals 1 and 2 (*).

3- Turn on the controller.

4- Within the first 2 seconds, release the bridge and reconnect terminals 1 and 2.

5- The red LED (normal behavior = 1/3 seconds) will flash for 3 seconds.

6- The controller will stop and restart.

7- Return the jumper to the factory position (PIN 2 and 3).

7- The restart is complete.

(*) To do this, remove the jumper and bridge the terminals with the same jumper or with a screwdriver.



6. CONNECTIONS

6.1 Before to begin

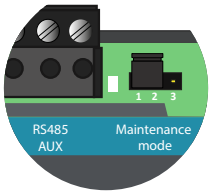
Use the voltage protectors supplied to protect the system from voltage spikes (see connection in the following diagrams). Please note that with 2SAFE technology, the protector is supplied with the readers, while with WIEGAND technology, the protectors are supplied with the controller.

If you configure extended opening times, purchase automatic door openers (with memory) such as the CV-24 and set the opening time to 1 second. Extended opening times of more than 15 seconds may damage the door opener.

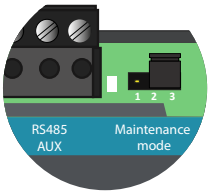
In cases where high-consumption devices (such as motorized gates) are connected, it will be necessary to add a SAR-12/24 relay. See diagram "Connection of devices to 230V.".

6.2 Maintenance mode

During the connection process, you can activate "maintenance mode" by changing the position of the maintenance jumper to positions 1 and 2. This will allow any key to open any door. This is ideal for avoiding being trapped in any room while the connection is being made and the system has not been configured.

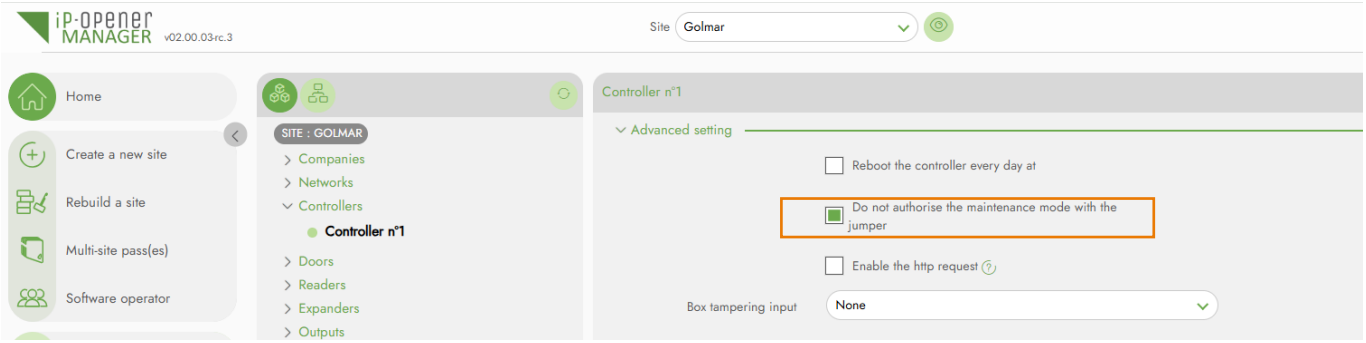


Positions 1 and 2:
any key opens any door.

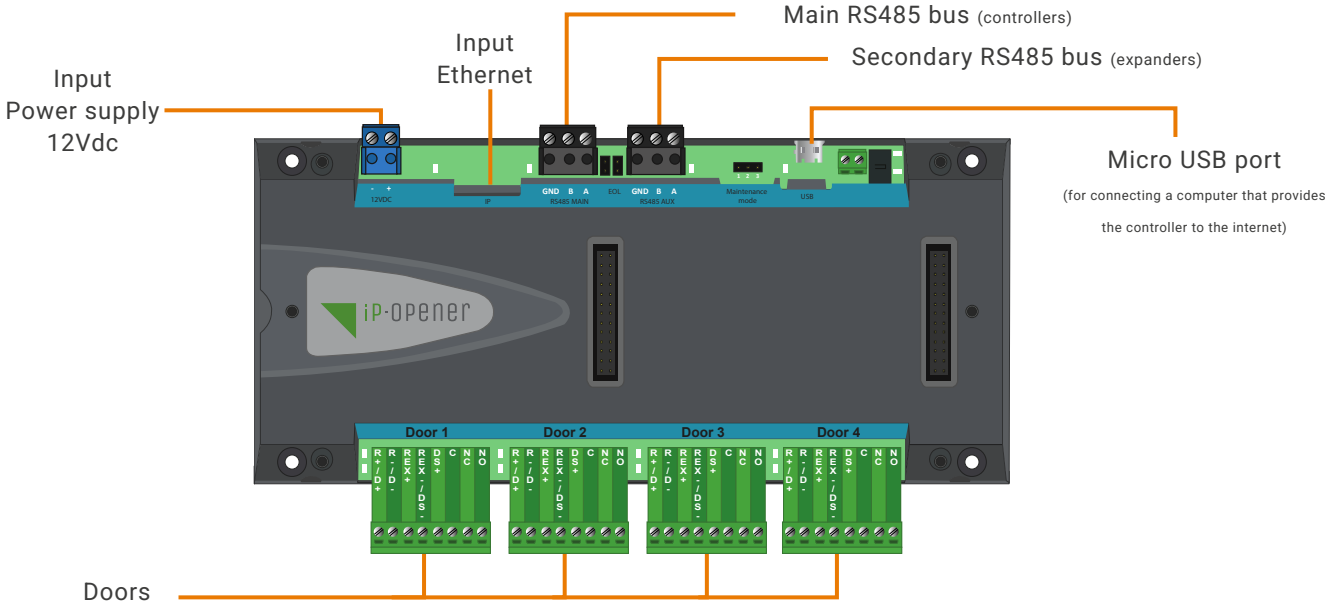


Positions 2 and 3: only authorized keys can open the door.

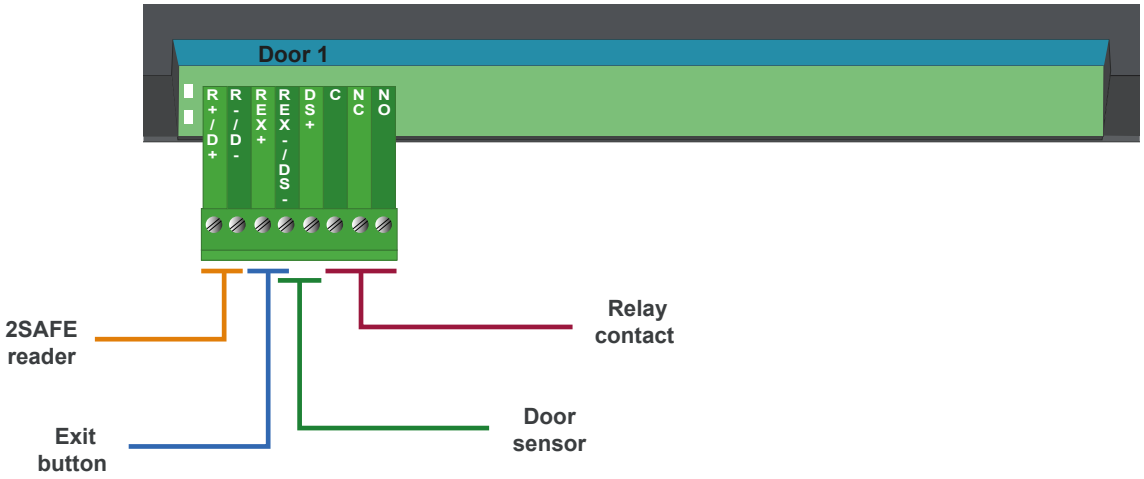
Once the connection is complete and the system is up and running, you can prevent entry into maintenance mode for greater security from the controller's "advanced settings":



6.3 Connections on the controller

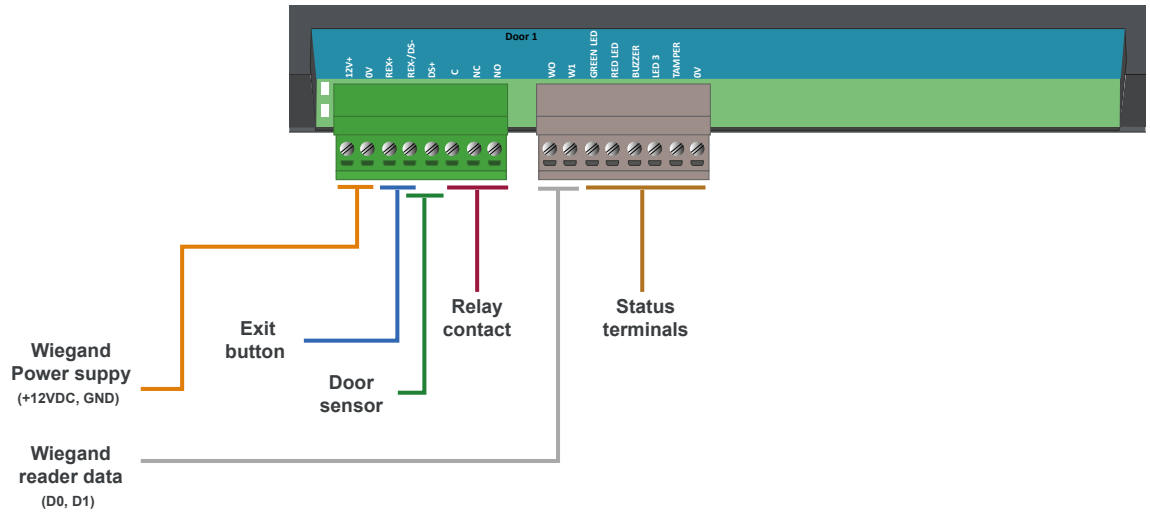


6.4 Connection to 2SAFE readers



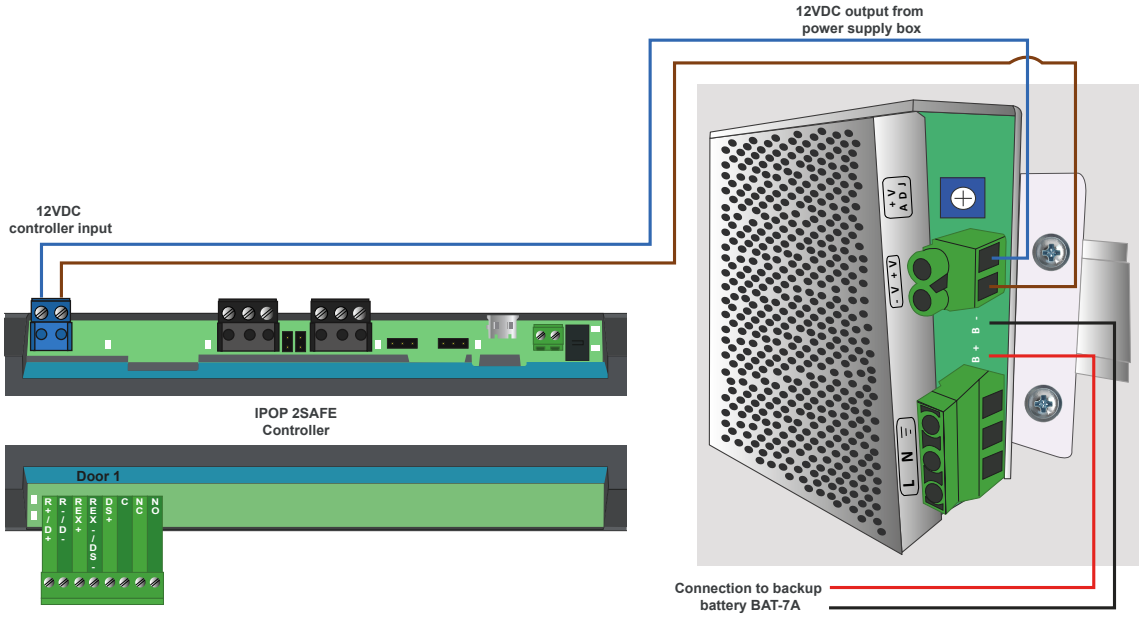
6.5 Connection to Wiegand readers

The controller to be used must be the GM-IPOP-2P-WIEG with Wiegand technology.



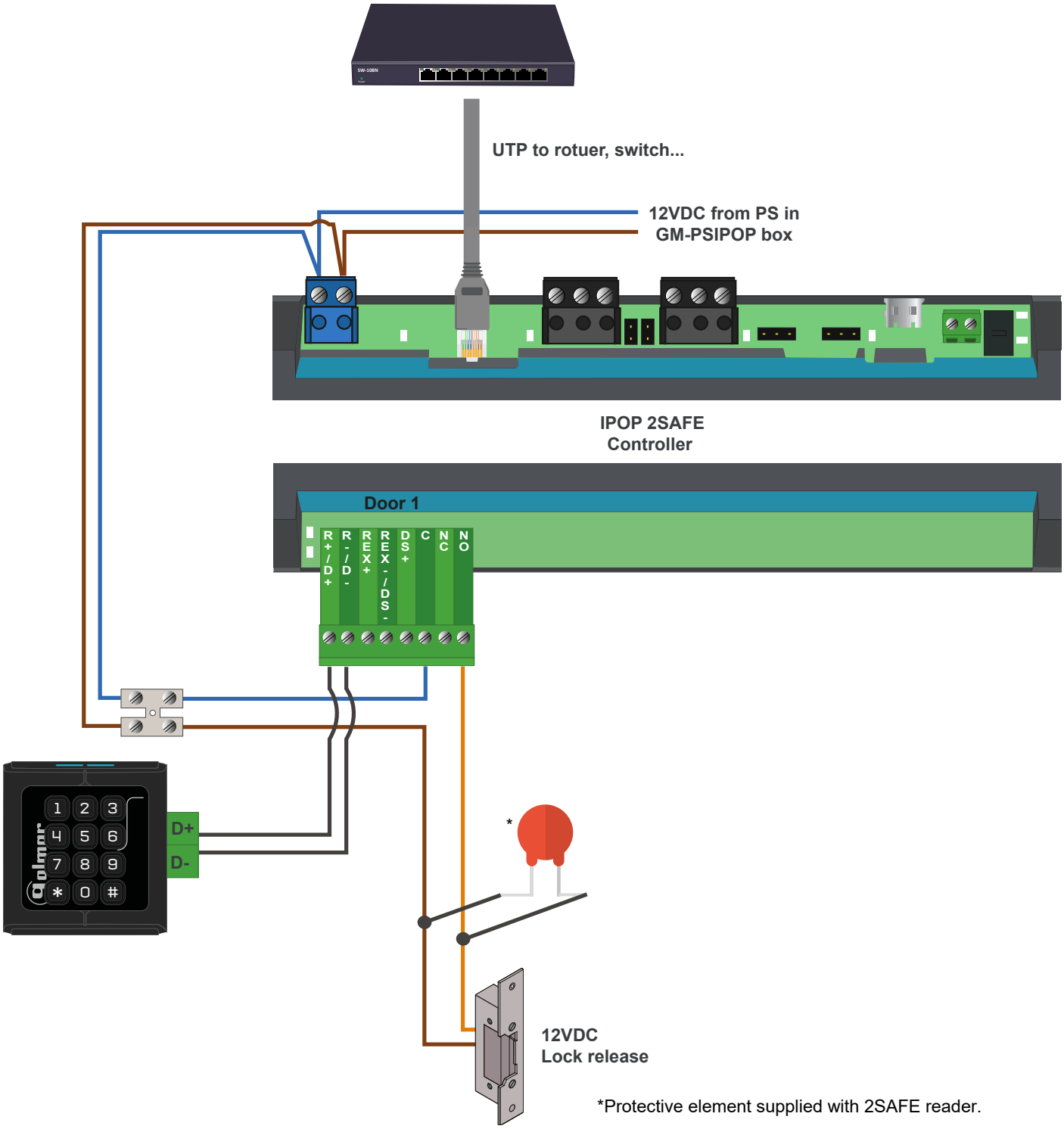
6.6 Power connection with controller

Connection of GM-PSIPOP box power supplies with controller.



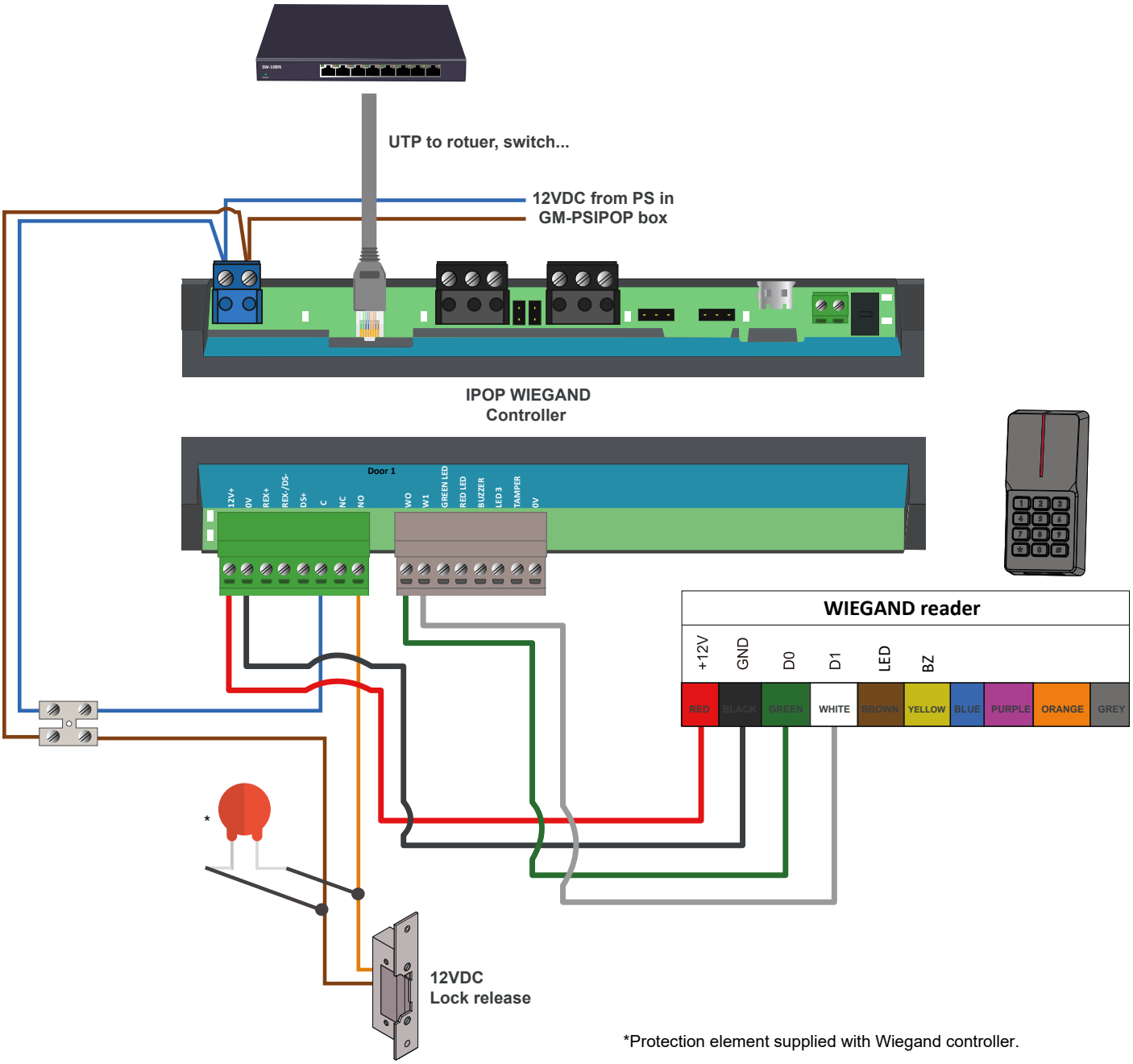
7. CONNECTION DIAGRAMS

7.1 2SAFE reader and DC door openers



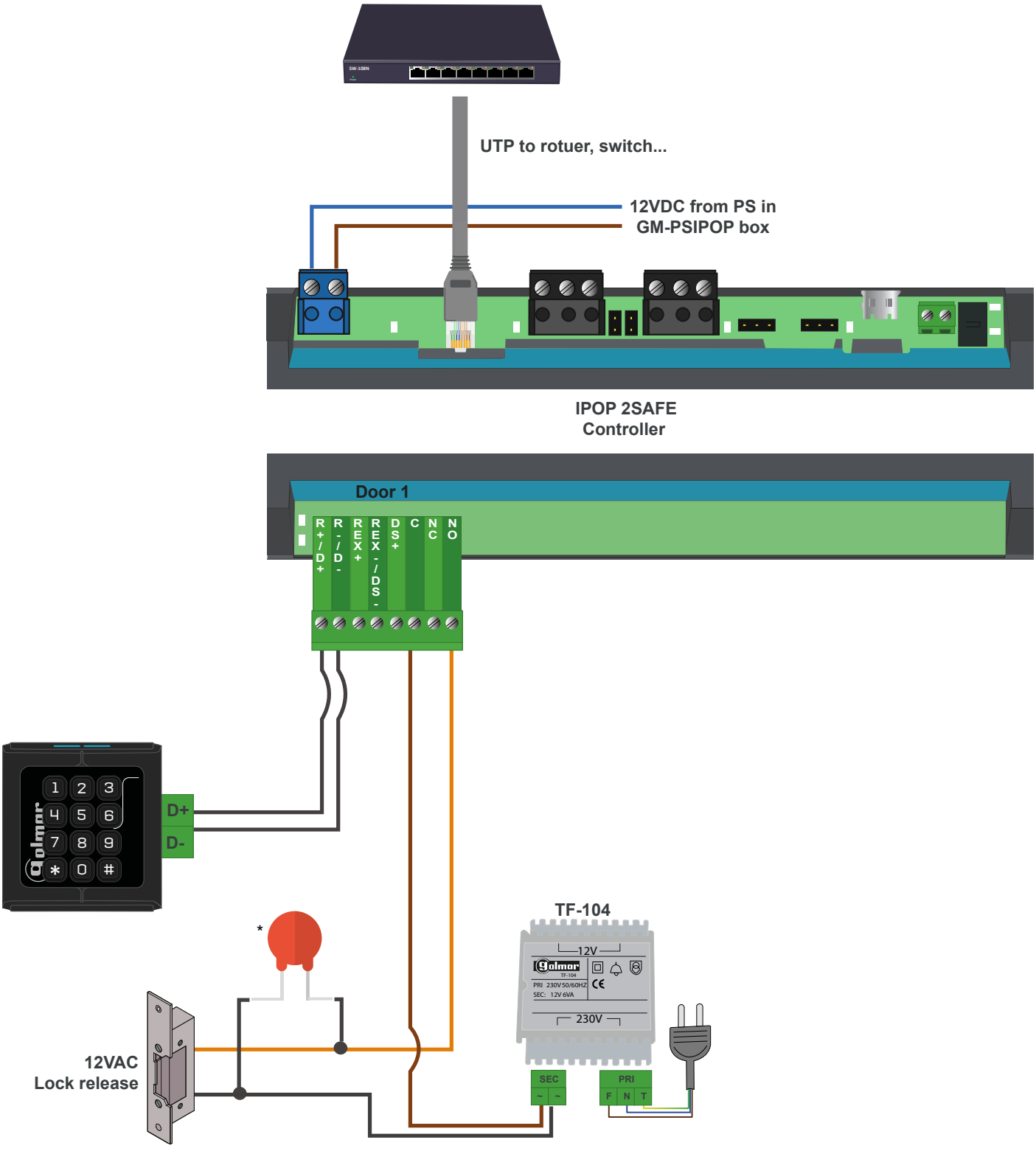
*Protective element supplied with 2SAFE reader.

7.2 Wiegand reader and DC door opener



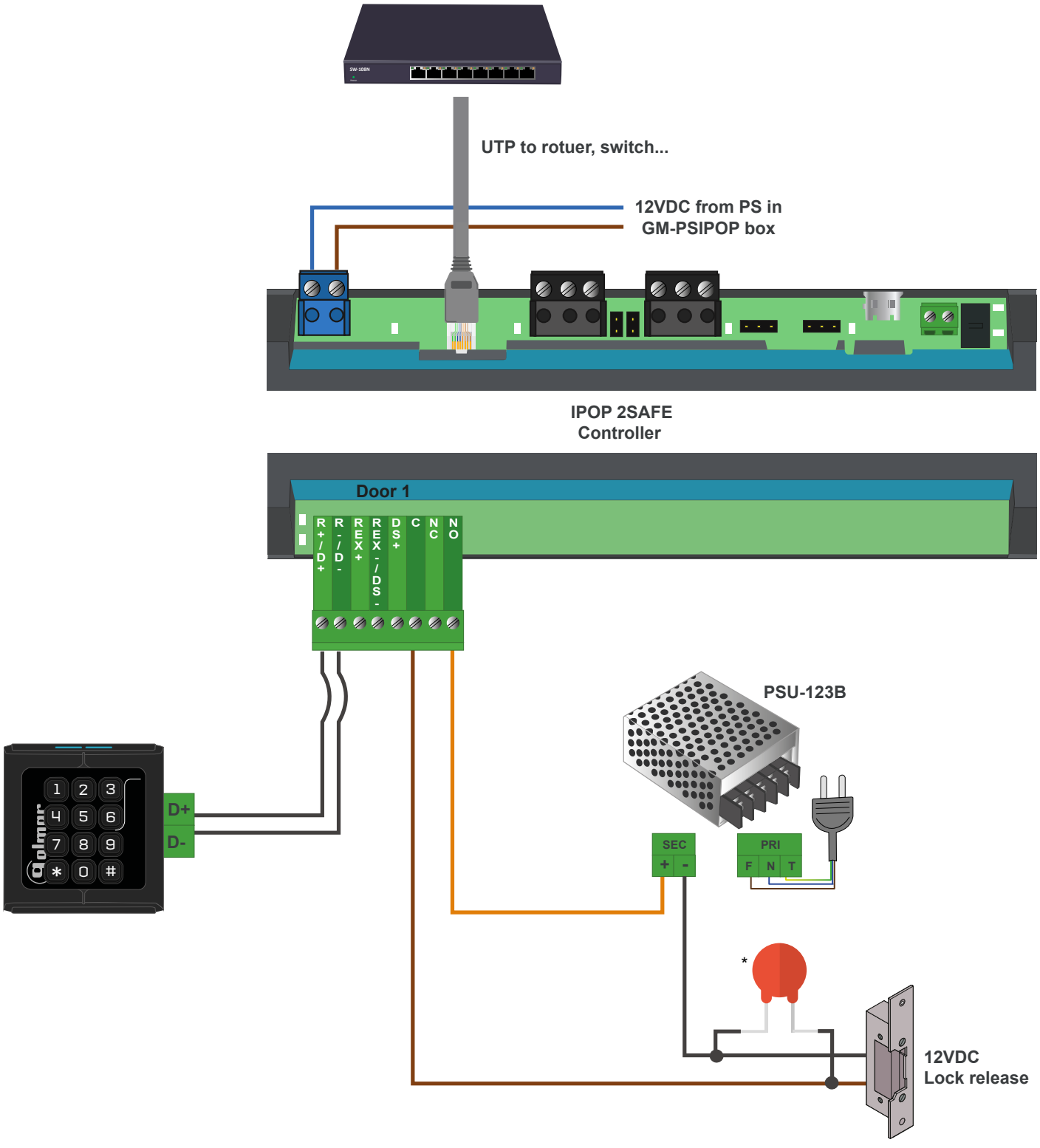
*Protection element supplied with Wiegand controller.

7.3 2SAFE reader and AC door opener



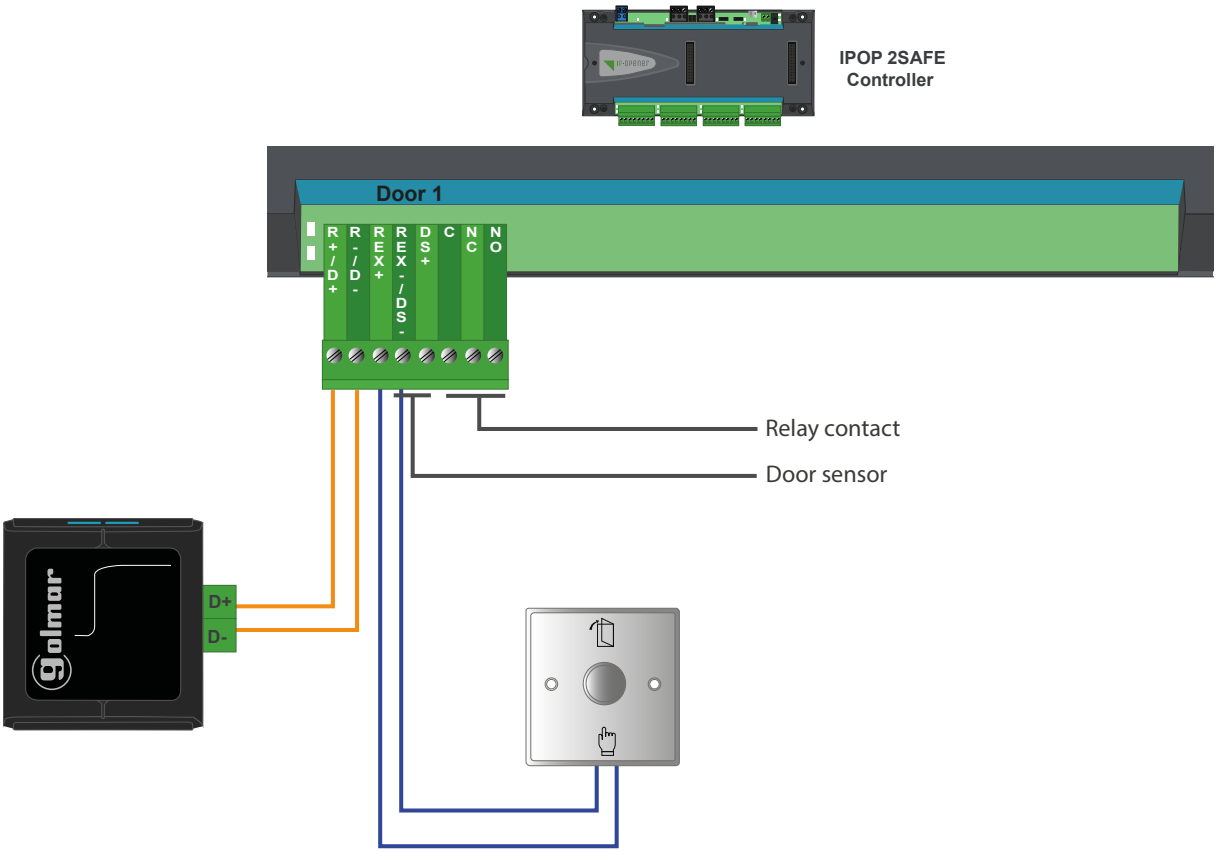
*Protective element supplied with 2SAFE reader.

7.4 2SAFE reader and DC door opener with independent power supply

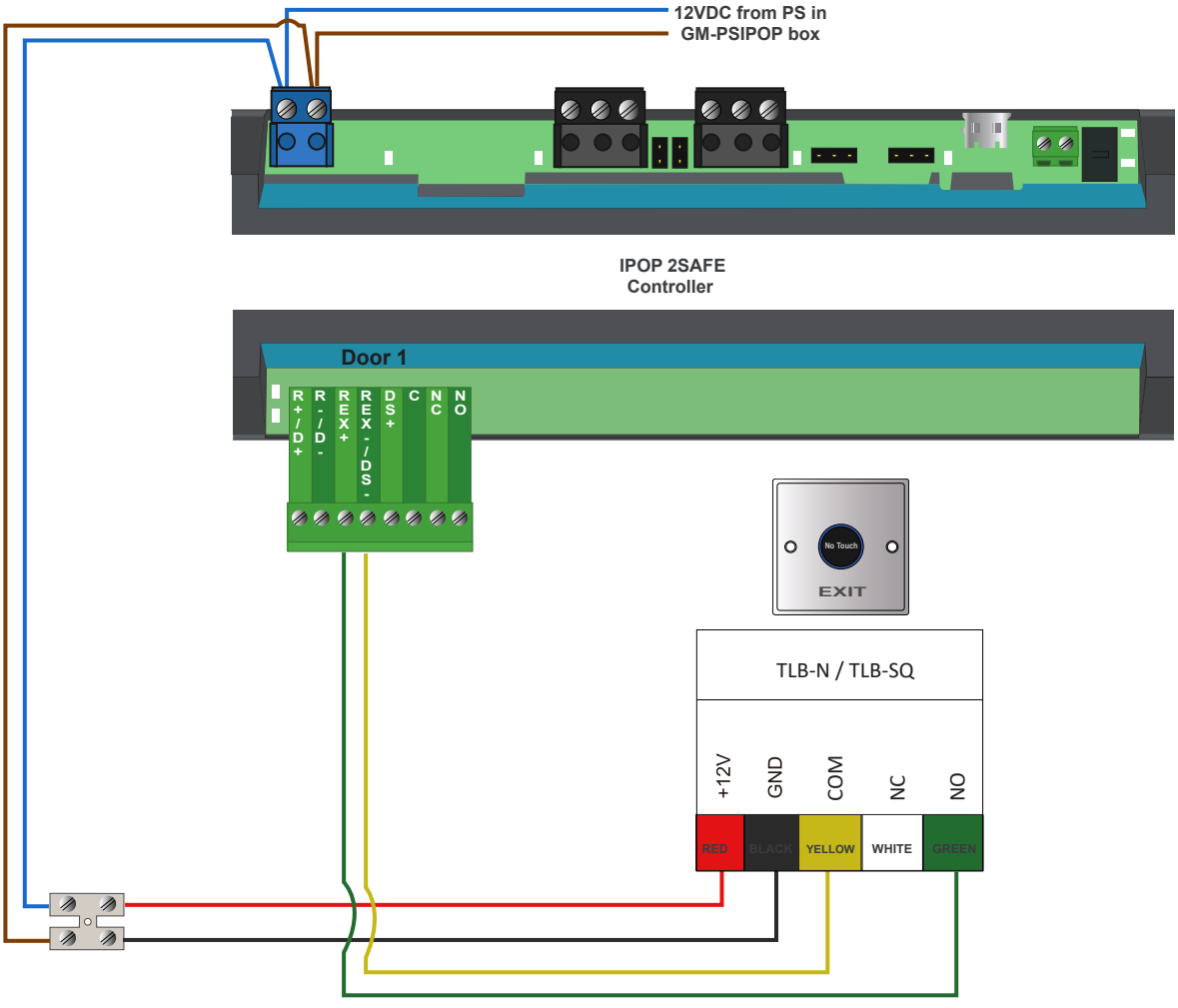


*Protective element supplied with 2SAFE reader.

7.5 Exit button



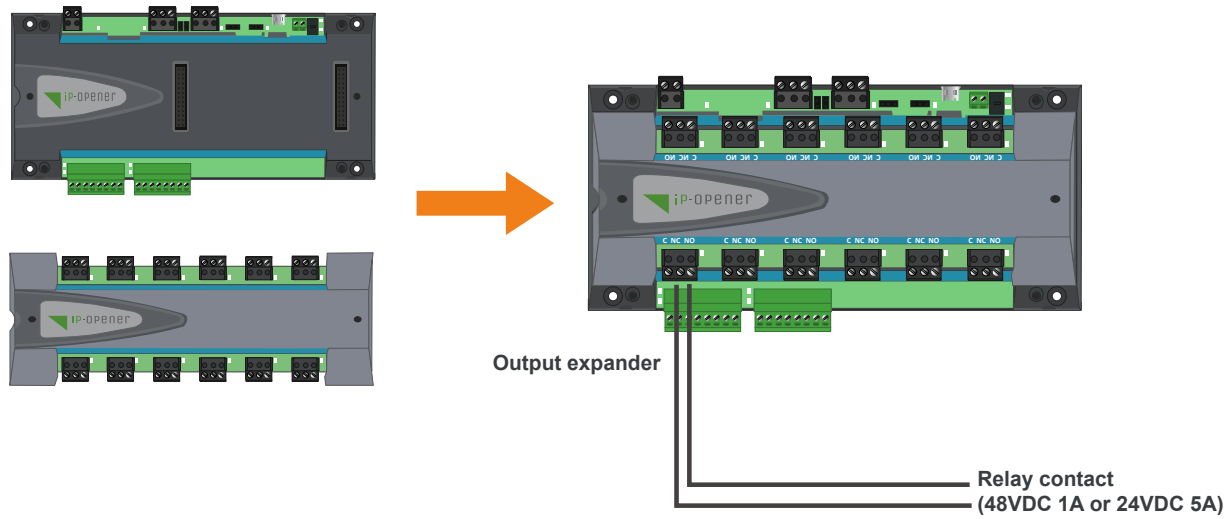
7.6 Proximity exit button



7.7 Expanders

To connect expanders, they must be attached to the controller. Below is an example of a connection with the GM-IPOP-EXP12S expander.

Coupling output expander GM-IPOP-EXP12S with IPOP controller:



7.8 High-consumption devices

To connect expanders, they must be attached to the controller. Below is an example of a connection with the GM-IPOP-EXP12S expander.

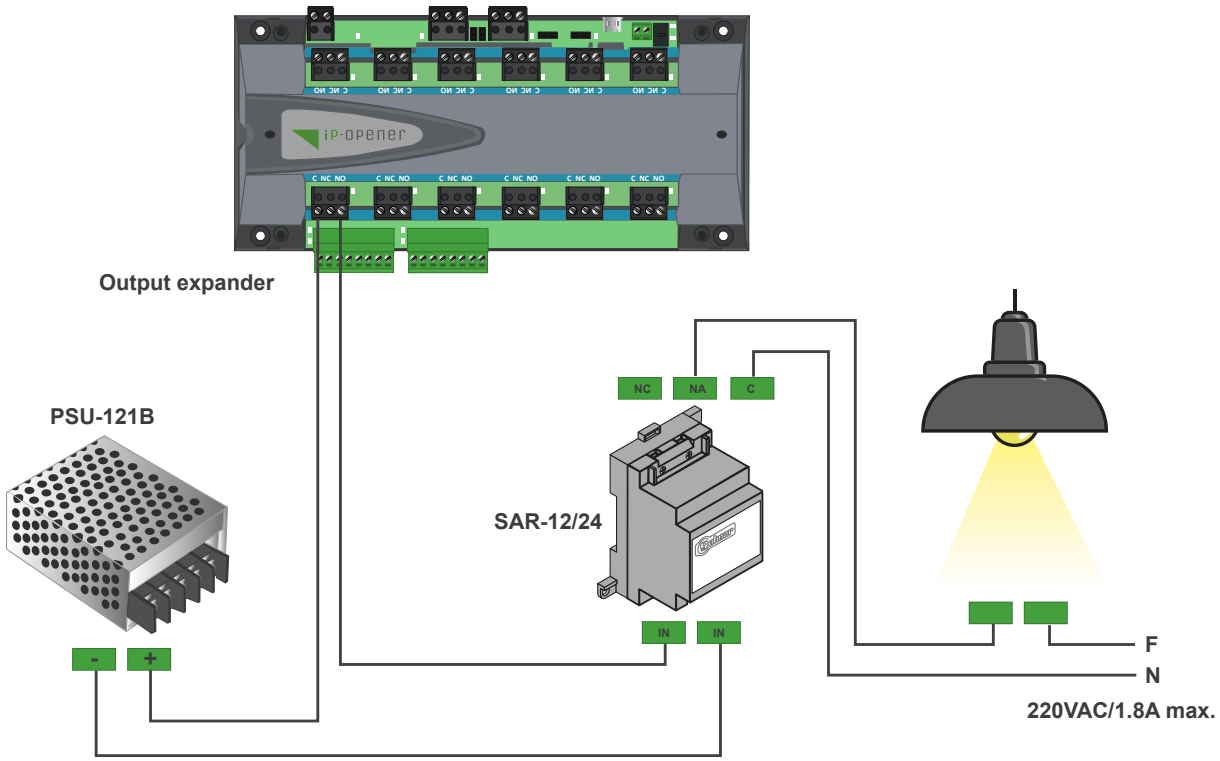
IMPORTANT

The outputs of the GM-IPOP-10S-RS485 module and the GM-IPOP-EXP12S expander support up to 5A:

- 5A with 24VDC power supply

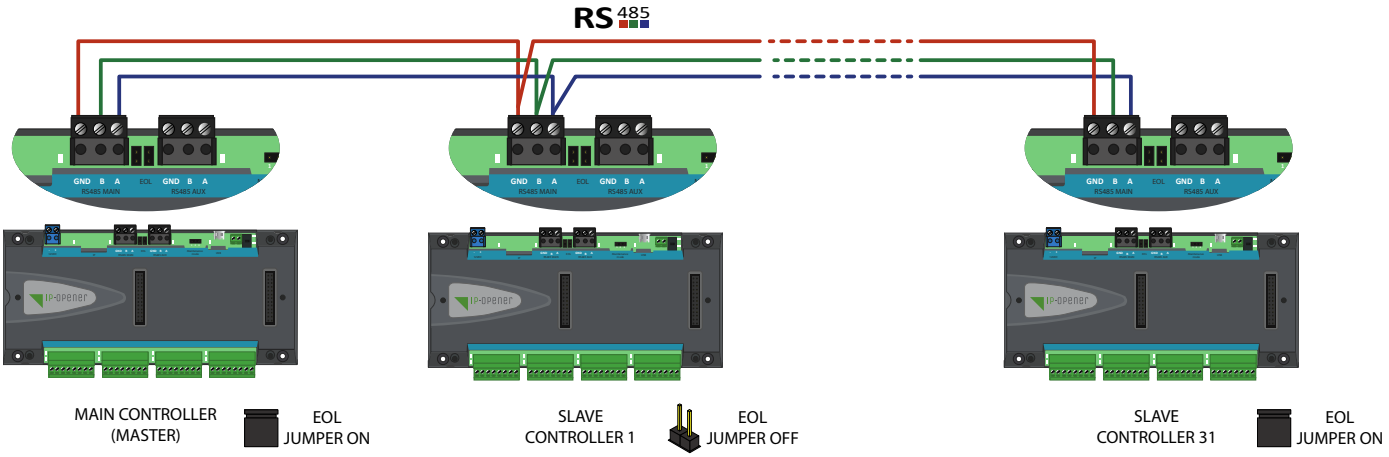
- 1A with 48Vac power supply

If higher consumption is required, a relay must be added to the output. See example diagram below:

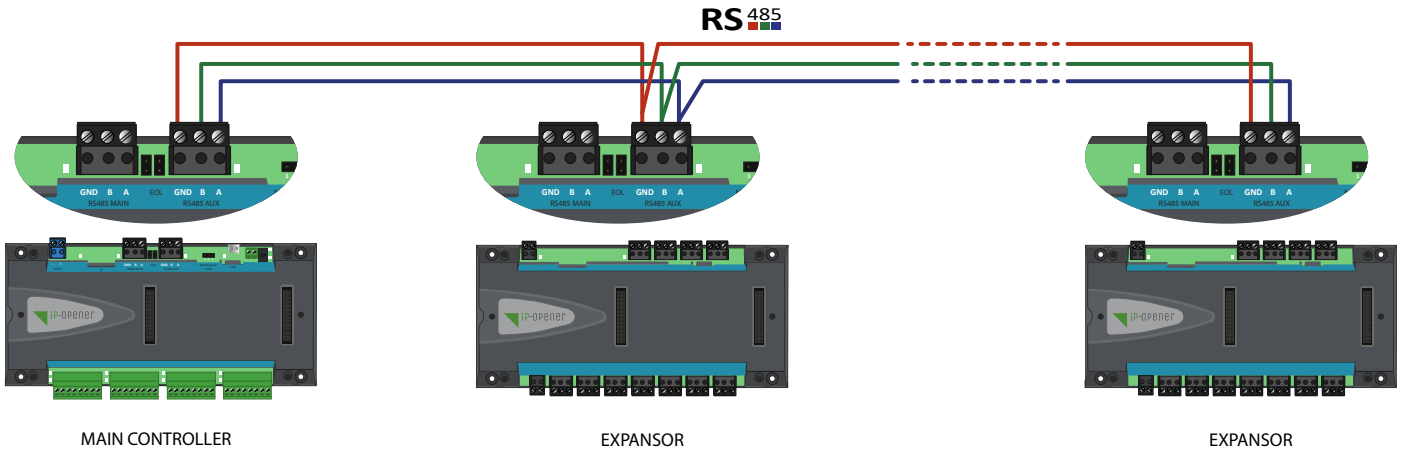


7.9 RS485

Connection of controllers via RS485 bus.



Connection of expanders via RS485 bus.



IMPORTANT

The RS485 bus supports up to a maximum of 32 controllers.

Each controller can support an RS485 bus of up to 10 modules (references: GM-IPOP-10S-RS485 or GM-IPOP-10E-RS485).

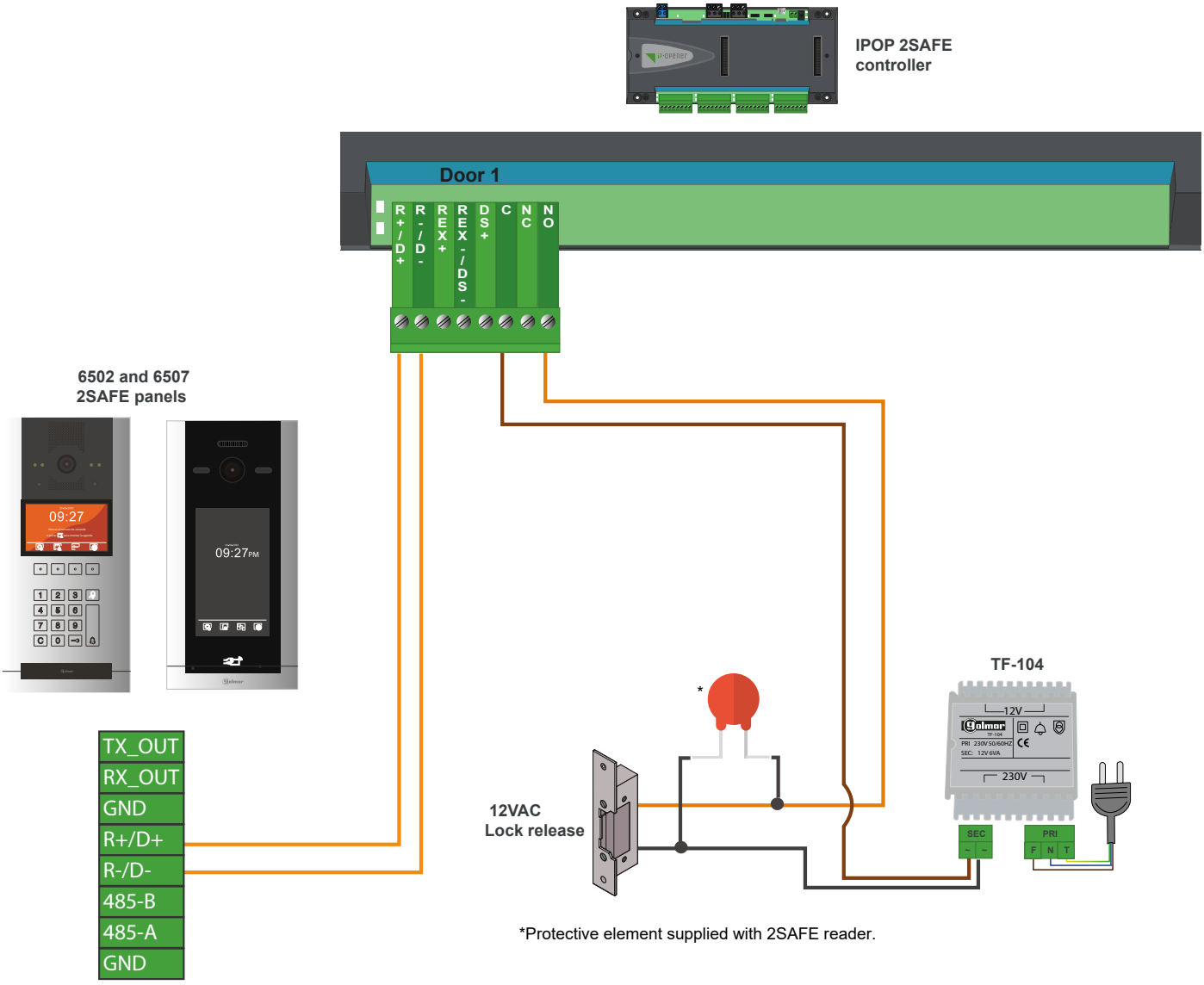
The RS485 bus is sensitive to interference and requires a twisted pair and shielded cable (FTP).

Signals A and B must be connected to the same cable pair.

The controllers include a jumper (EOL jumper near the RS485 terminal) which is an end-of-line resistor. This should only be placed on the devices located at each end of the bus.

7.10 6502 and 6507 2SAFE intercom panels

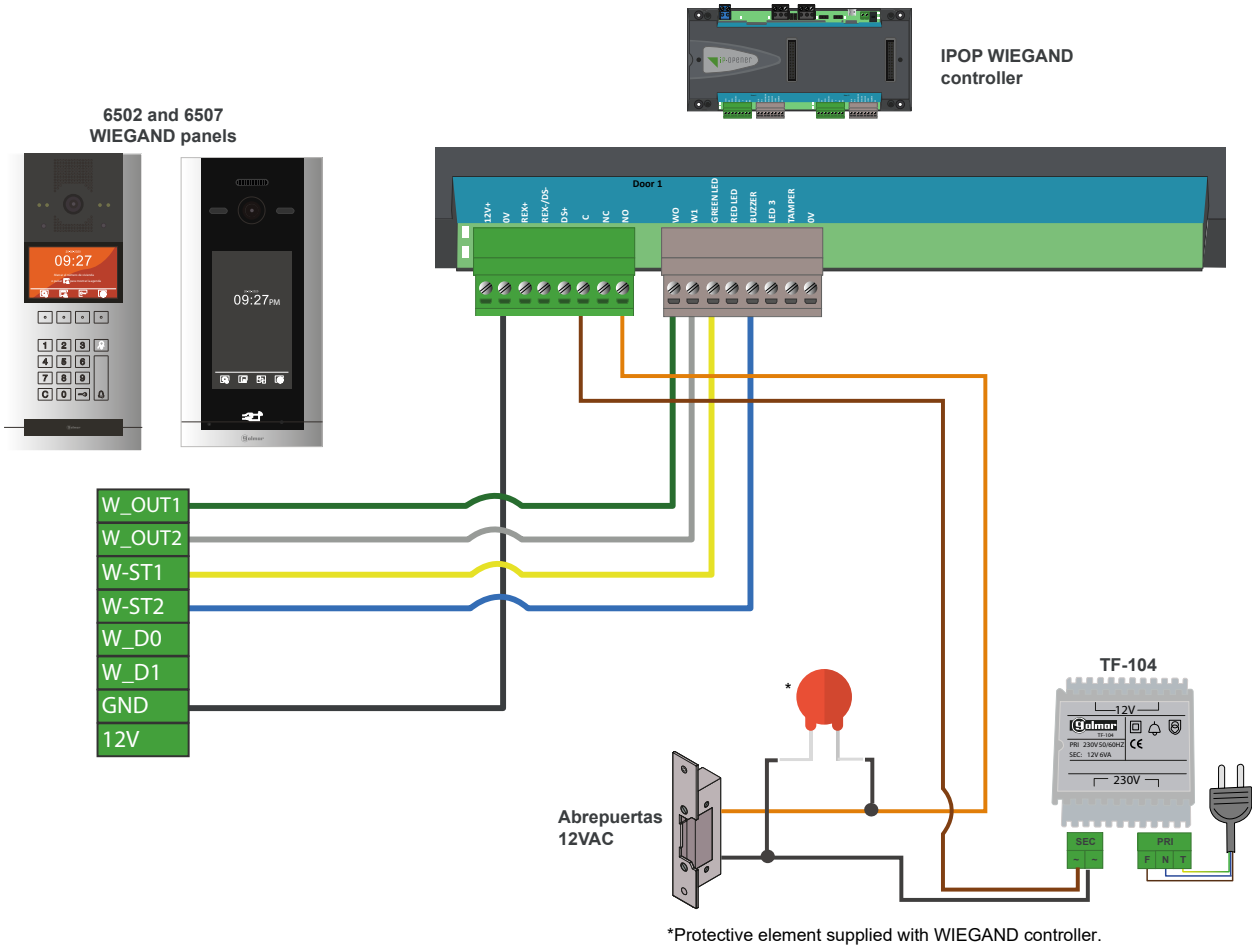
It allows the management of proximity identifications with 2SAFE technology in iP-Opener.



*Protective element supplied with 2SAFE reader.

7.11 6502 and 6507 Wiegand intercom panels

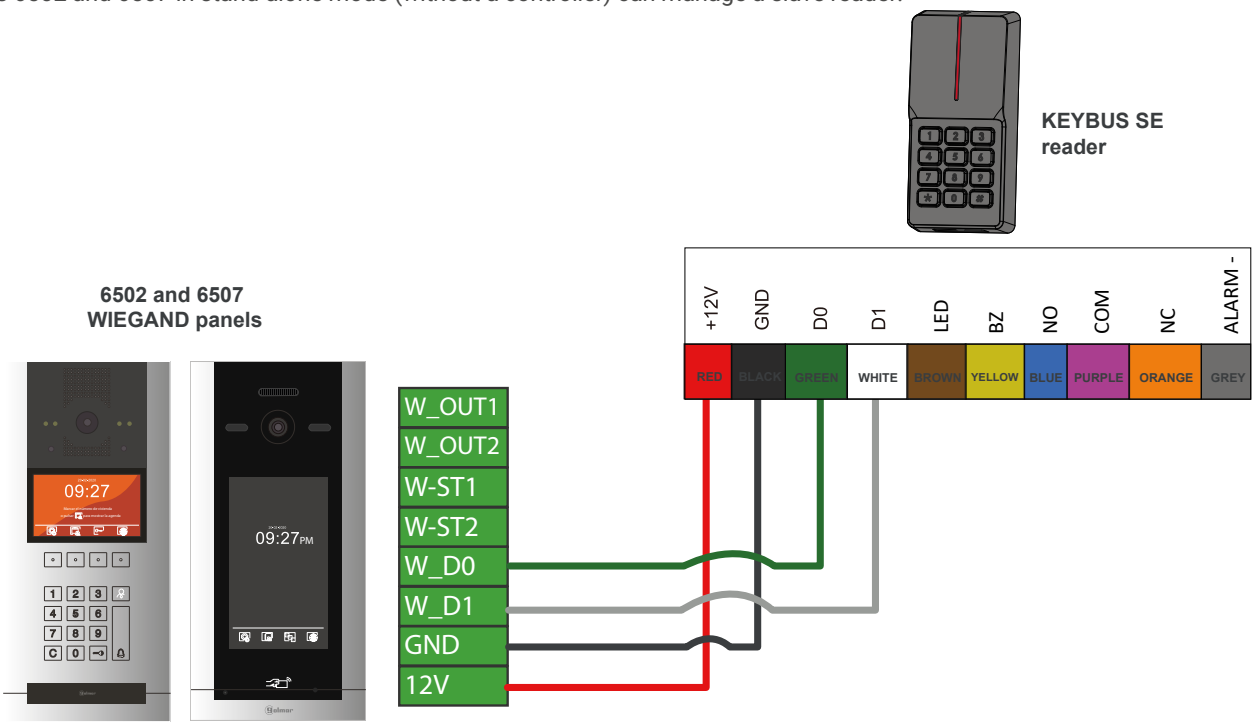
It allows the management of proximity cards and PIN codes identifications with Wiegand technology in iP-Opener.



*Protective element supplied with WIEGAND controller.

It is advisable to connect W-ST1 and W-ST2 so that the "door open" warning is aligned with Wiegand operation.

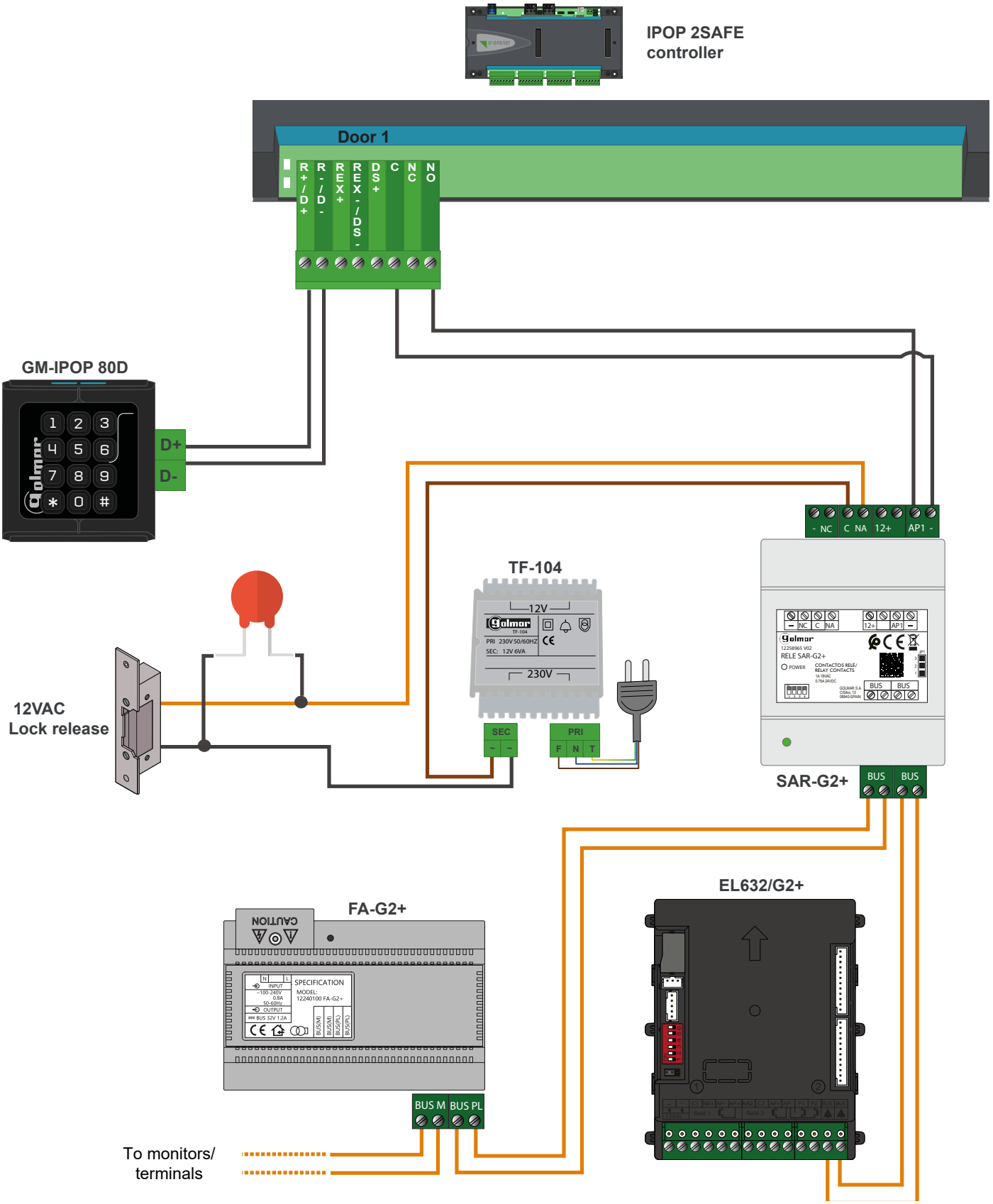
Panels 6502 and 6507 in stand-alone mode (without a controller) can manage a slave reader:



For more detailed information, see the video door phone panel manual.

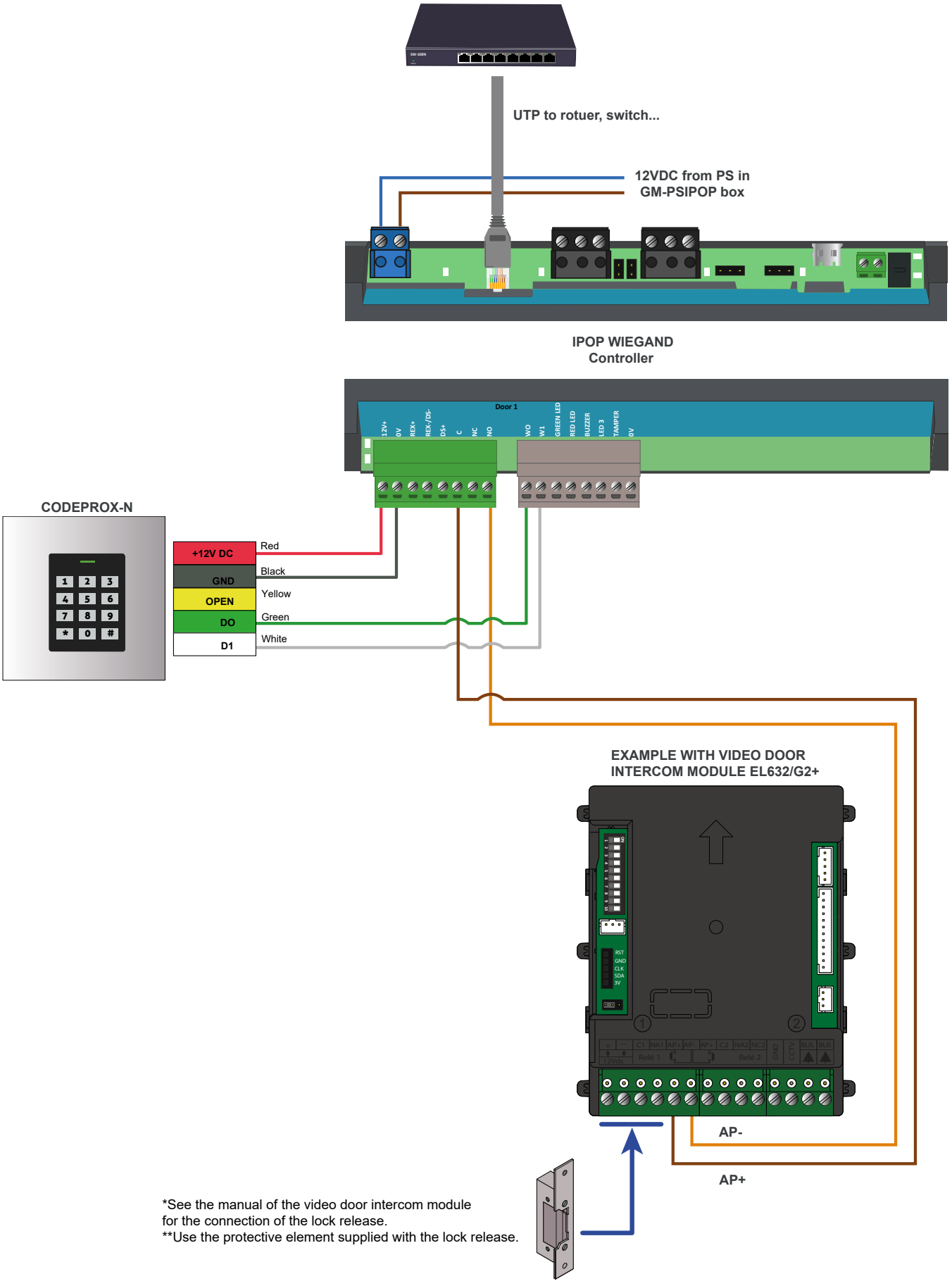
7.12 SAR-G2+ relay

The SAR-G2+ relay (as well as the SAR-G+) allows the lock to be activated remotely. This solution is interesting, among other things, because the element that performs the opening maneuver (SAR-G2+ or SAR-G+ relay) can be located in a different place from the video door entry panel, thus preventing any possible tampering and unwanted opening.



7.13 Interconnection of iP Opener Wiegand system with intercom system – Option A

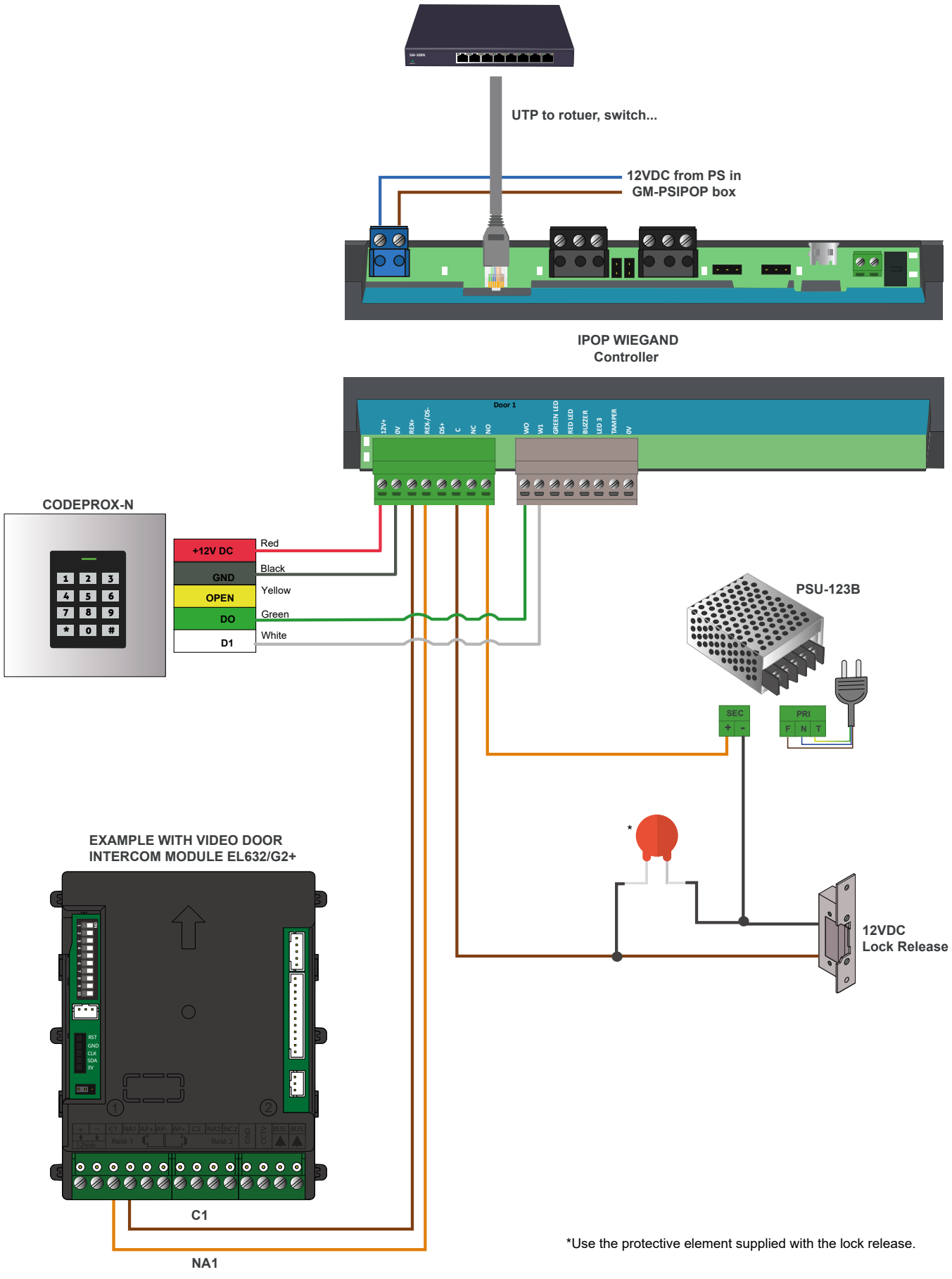
In this connection, the door opener is connected to the intercom control module, and any activation (either from a system monitor or access control reader) will emit the corresponding voice synthesis messages.



*See the manual of the video door intercom module for the connection of the lock release.
**Use the protective element supplied with the lock release.

7.14 Interconnection of iP Opener Wiegand system with intercom system – Option B

In this other connection option, the door opener is connected to the controller, so voice synthesis will occur when the door is opened via the intercom monitor, but not when the door is opened by validating credentials on the reader.



*Use the protective element supplied with the lock release.

NOTES

we take care of your home

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