DOMOTI CAM

Smart Home 2-wire video intercom systems**DMC series**

Installation manual

How to install video intercoms on two wires

What did you purchase

These two-wire video intercom systems are the ideal solution for 1 to 4 single homes independent interiors. They can manage up to 6 monitors/intercoms for each of the 4 extensions (families), and up to 4 general control keyboards. Monitors and control panels connect with just 2 wires, which they carry both data and power and this makes installation much simpler than to traditional video intercom systems.

These video intercoms are part of our Smart-Home range which includes many others devices intended for home automation. Simply connect one of the monitors to your WiFi network and then control your intercom with the Smart Life home automation app, even via the Internet. With the Smart Life app also controls our remote controls and our home automation cameras DM series that allow you to build your smart home.

This manual explains how to install the DMC Series 2-wire video intercoms from the point of view of the hardware installation. For configuration, refer to the configuration manual.

WARNING: CONNECT ONE DEVICE AT A TIME, NEVER ALL TOGETHER
Although they self-configure, these systems are an IP network where each element has its own network address. For this reason, upon first installation, IT IS NECESSARY TO PUT IN WORKS ONE COMPONENT AT A TIME so the system can assign the IP address of each element without creating conflicts.
It is good**initially connect a main monitor to the bus**that he will take on automatically: Plan 1 / Device ID 1,**then, one by one, all the other monitors**That they will automatically assume Plan 1 / Device ID 2..3 etc.. at a later time you will be able to assign monitors to other Plans (families) 2,3,4 in the monitor configuration menu.
Lastly, the pushbutton panels must be connected, one by one, starting with the one you want indicate as Port 1

System components

The DMC Series video intercom systems are made up of various elements that you can purchase in based on your needs

INTERNAL MONITORS

These are the devices to be installed inside the home to see who is ringing
intercom, speak hands-free and open the door. The system can manage up to 6 monitors per
each of the 4 extensions (floors/families). You can easily match a monitor to its right one
extension number (floor) using the on-screen buttons in the monitor settings.
If you want to be able to manage your intercom system via app, even via the Internet, you need to connect
one monitor for each extension to the WiFi network.

BUTTON PANELS

They are the devices that are installed outside the home, near the door that must
open. They are equipped with 1,2,3 or 4 buttons, depending on the number of extensions you want to manage, and
a camera. They also have audio devices for two-way dialogue between people
at the door and who answers from the internal monitor.
The system can manage up to 4 pushbutton panels and each pushbutton panel can control up to 2
locks (one powered by the pushbutton panel and one to be powered separately). The
keypads take on keypad numbers 1,2,3 and 4 automatically based on the order in
which the first connection to the system occurs. Furthermore, the buttons are always combined with the
internal (Floors/Families) 1,2,3,4 in sequence starting from the bottom.
Some entrance panels also have an IC badge reader to open connected locks
bringing the badge closer.

KEYBOARDS

They are external devices, like pushbutton panels, but equipped with a single call button,

linked to Floor 1, and a code keypad. Each keypad can control one lock

connected (powered by keyboard).

The keypads also have an IC badge reader to open the connected lock by approaching the

badges.

IC BADGE

5 door opener badge ICs are supplied with each keypad or pushbutton panel equipped with a badge reader.

Additional pieces can be purchased separately

Bus wiring

All the components of a DMC Series video intercom system are connected via a twisted pair, that is, just two cables, which conduct both data and power. The twisted pair constitutes the so-called BUS that connects all the devices together.

You can connect the devices either in cascade, or in series, or in star by making multiple branches. We will see the bus connection better later in the manual.

The cable to use to create the BUS depends on the length of the cable or rather on the distance of the component from the power supply.

2X0.55mm2 in pure copper up to 50 meters

2x0.75mm2 in pure copper up to 150 meters

The UTP network cable**CAT5 or CAT6**it is not the most recommended for creating the BUS, however it is possible use as long as it is made of pure copper and with a section for each conductor of at least 0.45 mm2. Yes it uses only one pair of UTP cable, among the 4 contained in the sheath, and can be covered in this the distance from the power supply is approximately 40 metres. To increase this distance is possible pair more pairs in order to increase the copper section.

To connect these devices you must not use thin cables, under 0.5 mm2 or non-thin cables pure copper, because they would introduce a high voltage drop and could not allow the connected equipment to function properly.

Bus power supply

All the devices of these video intercom systems are powered by 24VDC through the twisted pair connection (BUS).

All monitors are equipped with a 220VAC/24VDC 3A power supply which connects to the bus and it will provide power to all the elements of the system that they will not need in this way to be powered locally.

You can connect the power supply anywhere on the bus, but ideally, it would be convenient connect it in a more or less central position in order to minimize the distance between the power supply and the farthest component.

The power supply has two 24VDC (+/-) outputs, you can use them interchangeably, only one or both to start with two branches in two different directions, and you can also start two or more bus branches from the same exit.

CONNECTION OF SEVERAL POWER SUPPLIES

A single power supply is sufficient to power up to 4 control panels and 6 monitors. In a video intercom system, however, the elements that have by far the most absorption are the powered electric locks, possibly connected to the pushbutton panels (DOOR 2). If you connect a powered electric lock, a single power supply will be sufficient for maximum a couple of monitors. If you connect too many devices to one power supply, the symptom the more frequent the system will be restarted each time you operate the powered electric lock. When one power supply is not enough, no problem, you can install one second or even more, simply by connecting them to the bus in series with the main power supply. You can install power supplies next to each other, as in the example below, or in spots several of the bus.
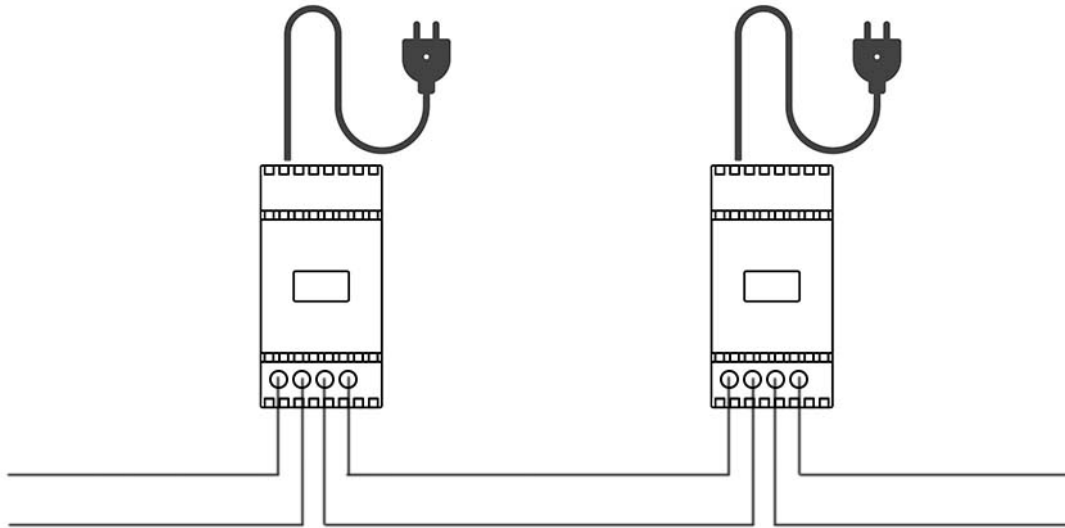
NO POLARITY

Although they are powered by 24VDC, the devices DO NOT require respecting the + and – polarity

where it is not necessary to distinguish between the + cable and the – cable of the bus. This makes it much easier

the creation of the wiring and prevents connection errors. The power supply terminals

are distinguished by the + sign and the - sign, but only to identify the two terminals to use for each

bus. You can actually reverse the wiring without any problems and you can even use two wires of the

same color to make the bus.

Bus connection

The twisted pair that unites all the elements of the system is commonly called a bus. You are free to make it as you want, depending on what is most convenient for you for the passage of cables. Look at this bus connection example.
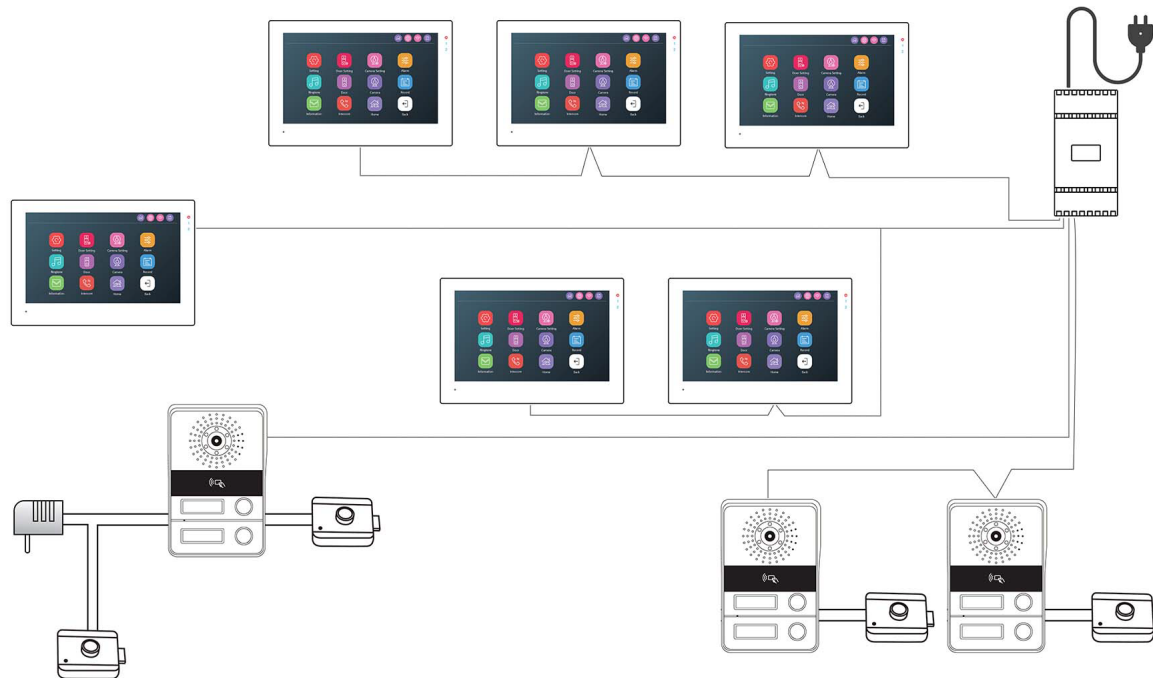
You can start from the power supply with a single twisted pair, or create several additional branches directions. In the example above, 4 twisted pairs were connected to the output of the power supply proceed in different directions.

SERIES CONNECTION-You can connect the system elements (monitors and keyboards) into series with each other, as in the case of the 3 monitors at the top in the figure. To make it easier for you series connection the monitors are equipped with two connectors for the bus (bus 0 and bus1) which you can use for entry and exit. You can use the two connectors, bus 0 and 1, either way they are connected to each other. The keypads have only one bus connector, but you can plug in the pushbutton panels are also series, creating an external connection. In the example, the two keyboards at the bottom they are connected in series.

STAR CONNECTION-The bus does not have to be a single branch that enters and comes out of all the elements of the system, but it can also be branched, creating star connections. As you see in the example, the first star connection is just in the feeder, from which 4 branches depart. Also look at the 3 monitors in the central part of the our example. The bus starts from the power supply and ends at the monitor on the left. Halfway a downward branch has been created to connect two monitors in series.

CONNECTION OF THE LOCKS–The door locks, which are obviously not from

our supply, are not connected to the bus, but to the pushbutton panels or keyboards, which normally are

they mount near the door. All keypads have a connector (LOCK2) for

control a 12VDC lock with 2 wires which can be powered directly. Furthermore

they have a second connector (LOCK1) for a possible second lock which will work though

powered by a local power supply, as seen in the third leftmost button panel of the

our example. LOCK2 are therefore two terminals to which the 12VDC voltage is applied

case of opening, LOCK 1 is only a contact, NO or NC.

Connecting devices

To connect the bus to the individual devices: monitors, pushbuttons and keyboards, a cable is used power supply that is supplied together with the devices. The cable has a red wire and a black wire, but the devices are constructed appropriately so that polarity does not need to be respected and you can connect the two cables randomly to the two bus wires.

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It is good**initially connect a main monitor to the bus**that he will take on automatically: Plan 1 / Device ID 1,**then, one by one, all the other monitors**That they will automatically assume Plan 1 / Device ID 2..3 etc.. at a later time you will be able to assign monitors to other Plans (families) 2,3,4 in the monitor configuration menu.

Lastly, the pushbutton panels must be connected, one by one, starting with the one you want indicate as Port 1

If you accidentally put all the elements together, it's probably your system it will not work well because IP conflicts may have arisen. It's better for you then carry out a factory reset in the monitor menu and a reset of the keypads with the reset button as explained later in the manual.Then you can again carry out a correct installation.
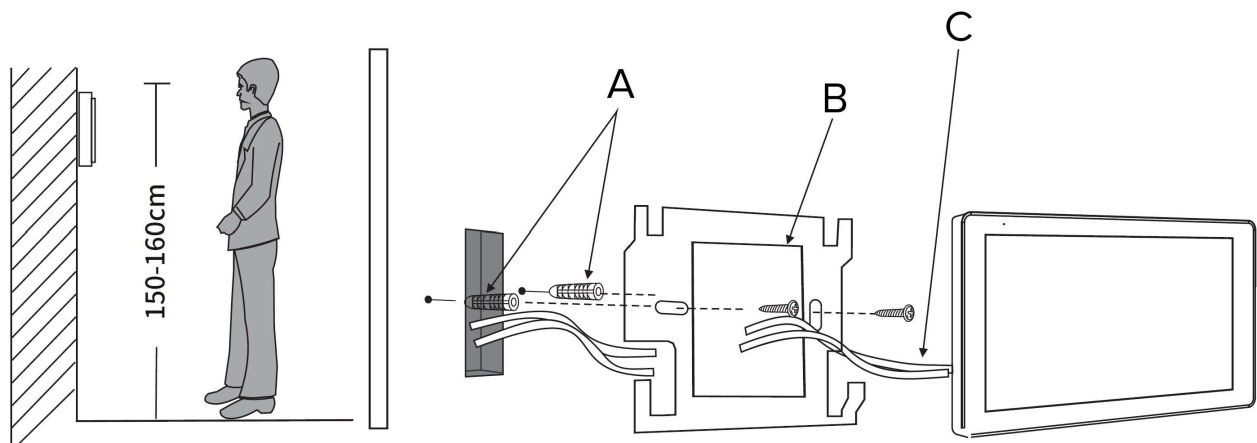
Connecting monitors

Each monitor has two bus connectors on the back (7)
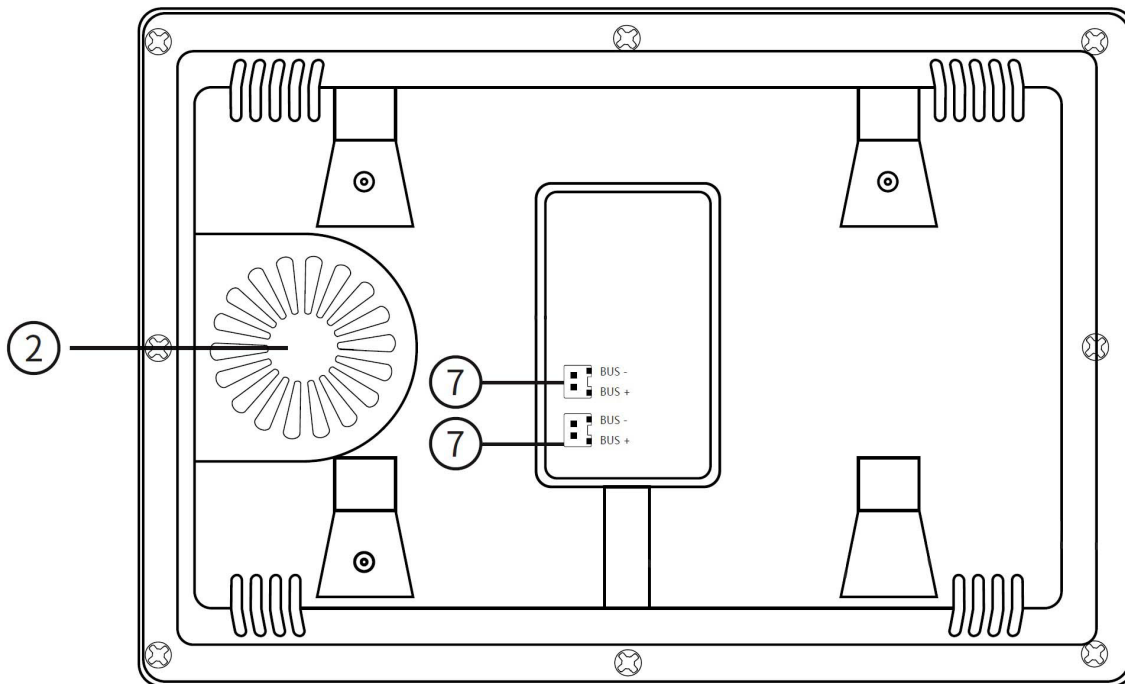
The two connectors are internally connected to each other, so there is no difference between use one or the other. There are 2 connectors to make connecting a second one easier downstream monitor, without having to prepare an external terminal.

The monitor is mounted on the wall, first fixing the mounting base B to the wall with the anchors A, then connecting the bus to monitor C which is finally hooked to the base.

WiFi connection to router

If you want to be able to control your video intercom from your mobile phone you must connect the main monitor

(Device ID 1) of each plan (household) to your Internet router. This link does

performed via WiFi, wirelessly.

Before deciding where to place the monitors on a floor (family), check that the monitor

main receives a good wifi signal from the router.

You can connect the main floor monitor to WiFi in the configuration menu, Network section,

as explained in the configuration manual. Once you have connected the monitor to wifi you will be able to

upload it to the Tuya SmartLife app as explained in the app manual.
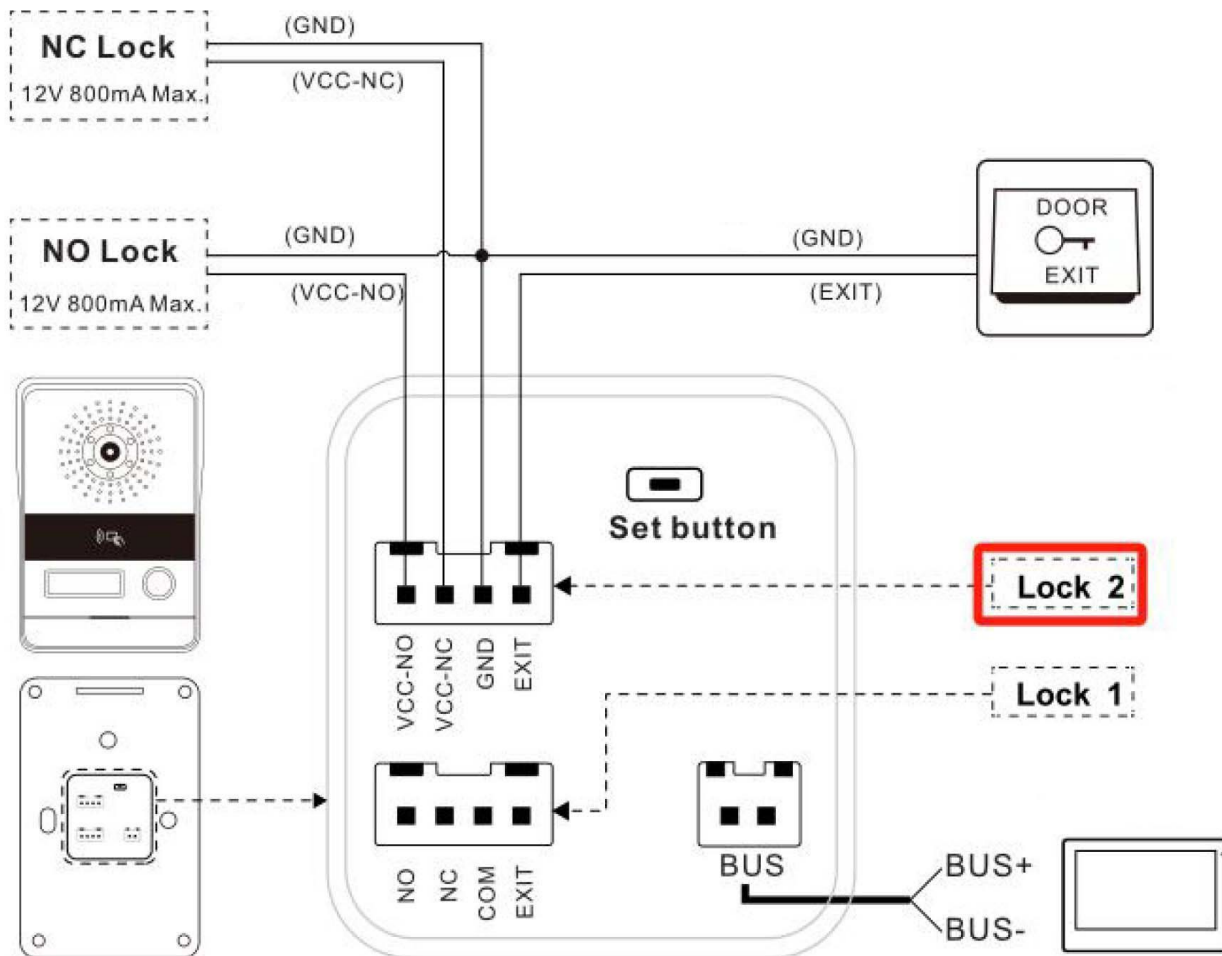
Connection of pushbutton panels

The control panel consists of 2 elements: the control panel and a mounting shell. We proceed first fix the shell to the wall and then connect the keyboard and hook it into the shell.

NOTE: Do not connect all keyboards together right away. You must initially feed them one at a time time so that they are addressed correctly.
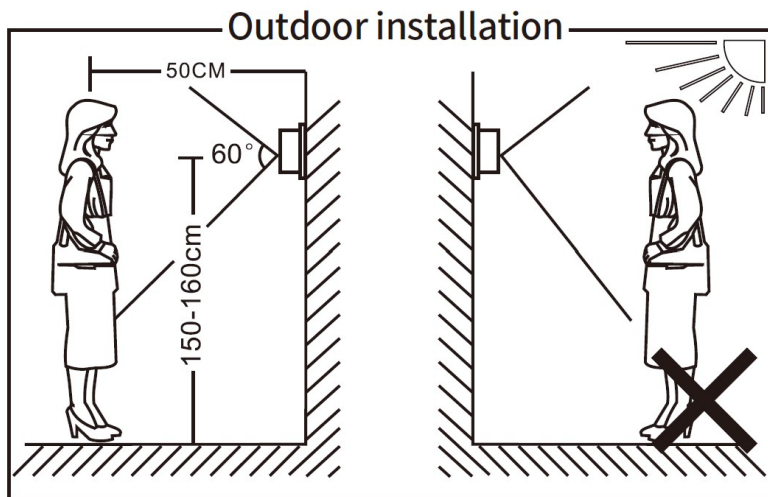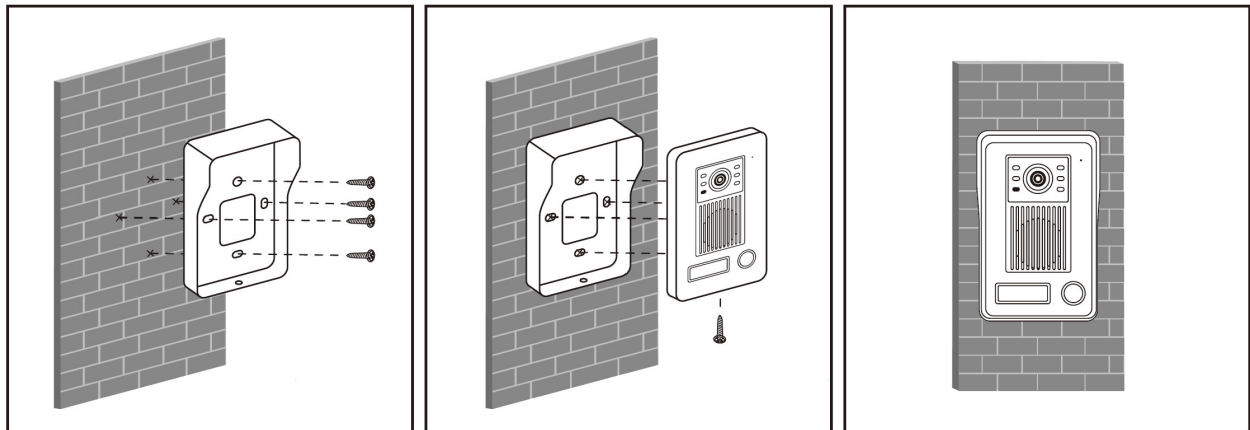
Each pushbutton panel has a two-place connector for the bus, which connects as just seen the monitors, and two 4-place connectors to control two electronic locks, one powered directly from the pushbutton panel (LOCK2) and one to be powered separately (LOCK1).

CONNECTION OF 12VDC LOCK POWERED BY THE PUSHBUTTON PANEL (LOCK2)

If your lock is powered by 12VDC you can connect it with two wires to the pushbutton panel and it will work

without the need for further connections because the control panel will provide them directly

the power required for opening. In this case you will use the LOCK2 connector

connecting it as shown in the figure. Normally electric locks work in NO mode

(normally open), then you will use the VCC-NO and GND terminals. VCC-NC terminals are used

(normally closed) and GND for magnetic locks, used in security doors, which

they always work powered and are de-powered upon opening.

A possible local door opener button is connected between the EXIT and GND terminals, as shown
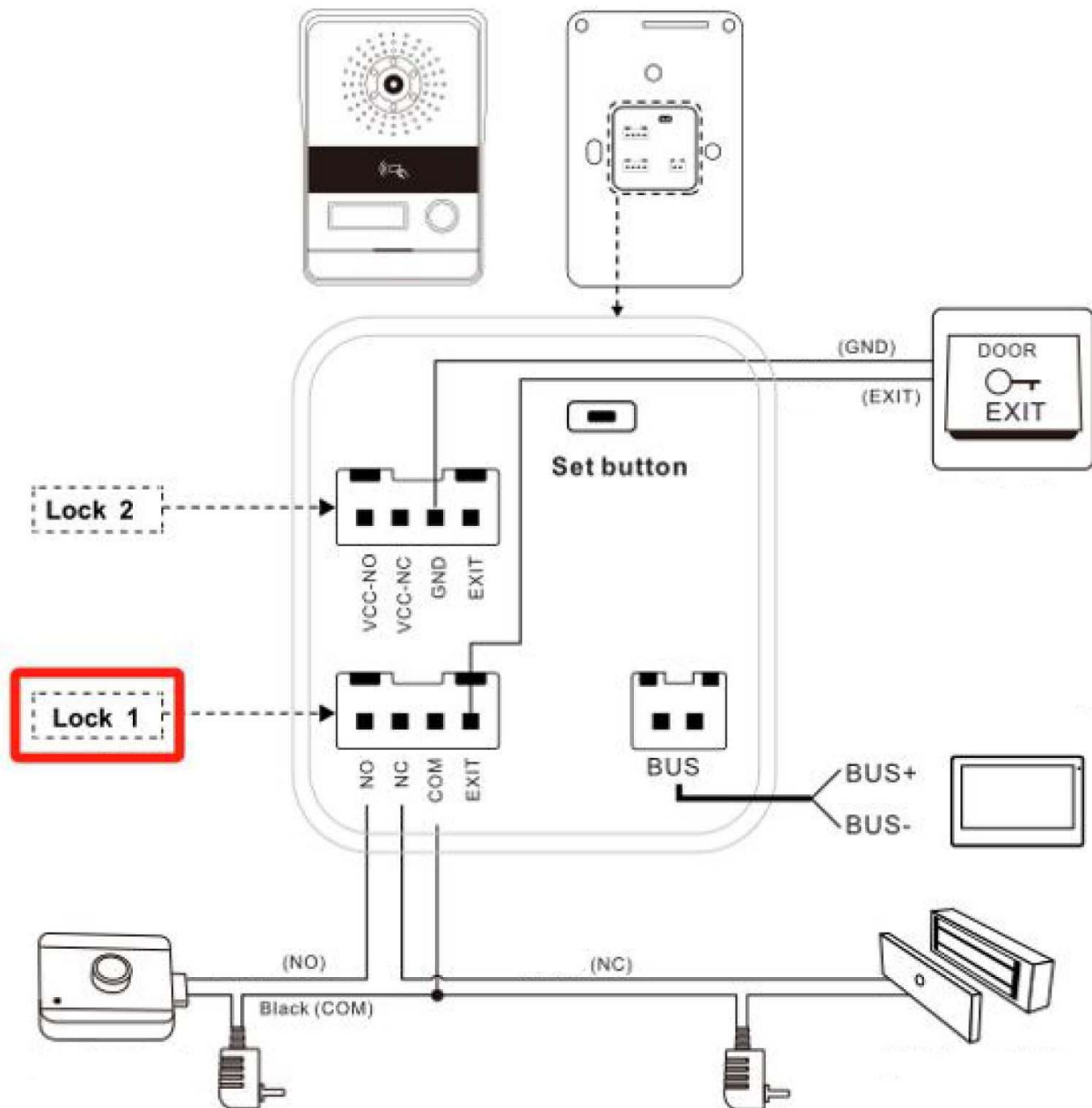
in the figure (DOOR EXIT)

**LOCK CONNECTION WITH EXTERNAL POWER (LOCK1)**

In addition to the powered lock, LOCK2, each pushbutton panel can control another lock, LOCK1, with separate power supply. You can use this other connection to command uan second door (from the monitor you can choose whether to open lock 1 or 2) or if you have to control a lock that is not powered by 12VDC. The LOCK1 connector does not work power supply, but only a clean contact to be connected between COM and NO (normally open) for normal electric locks and between COM and NC (normally closed) for locks magnetic. In both cases it is necessary to supply power to the lock by connecting a power supply as shown in the figure.

Any local door opener button is connected between the EXIT and GND terminals (in the connector LOCK2), as shown in the figure (DOOR EXIT)

KEYBOARD CONNECTION

The keypads connect just like the keypads just described above but they can control a single door. In fact, they have a bus connector and a single connector for a LOCK2 powered lock.
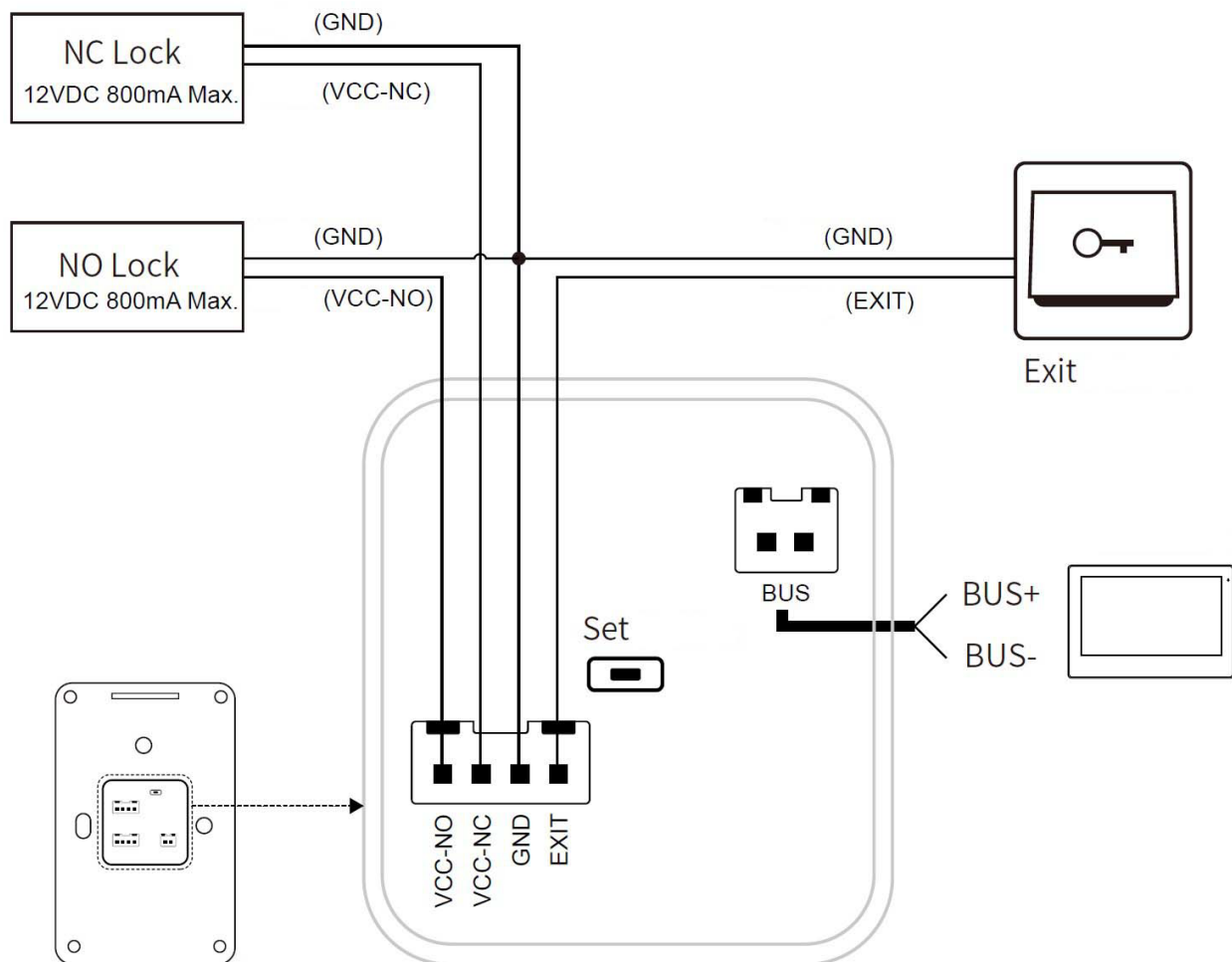
ATTENTION: INITIALLY CONNECT ONE PUSHBUTTON PANEL AT A TIME

The pushbutton panels and keyboards must be connected to the system for the first time one at a time, starting from the main one, which you want to name as Door 1. The pushbutton panels are automatically named by the system as Door 1,2,3,4 based on to the order in which they are first connected to the bus.

Insertion of labels on the keypad

To enter names in the entry panels, it is NOT necessary to remove the entry panel from behind. Simply remove the transparent plastic protection covering the label by prying it off gently at the point indicated in the figure with a small flat screwdriver.

Under the transparent protection there is a flexible support on which you can write directly or apply a small label

DSE

Badge storage on keypad

Several keypads and keypads have an IC badge reader that allows you to open the
LOCK2 lock only by bringing the badge close to the reader. Each button panel with badge reader
It features the reader symbol on the front and is supplied with 5 badges included. The badges supplied with
the keyboard are ALREADY CONFIGURED in the keypad so you normally don't need them
memorize them.
In this section we show how to combine a badge with a keyboard in case you have
purchased additional badges or if you wish to reconfigure them.

STORAGE OF BADGES ON BUTTON PANELS (WITHOUT KEYBOARD)

1 – Press the rear SET button for 1 second. The LED next to the button flashes.

2 - Pass the first badge in front of the sensor. A confirmation beep is heard

3 – Pass the other badges one after the other. Each reading produces a confirmation beep.

4 – Press the rear SET button for 1 second to exit programming mode
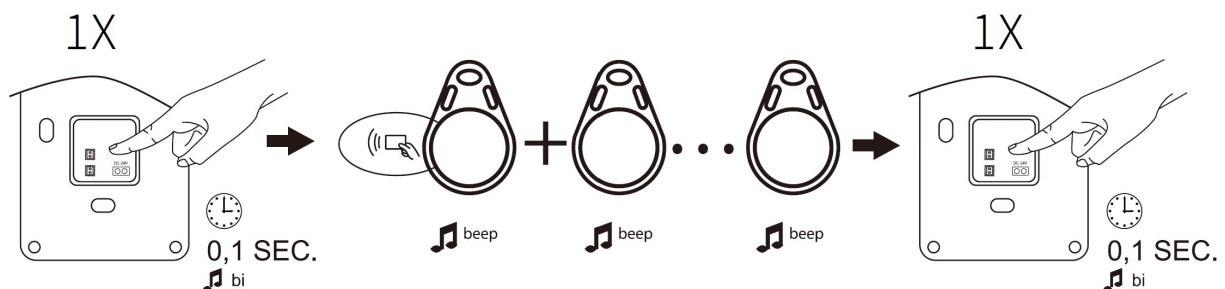
To delete all stored badges

1 - Press the SET button for 3 seconds - The LED next to the button flashes

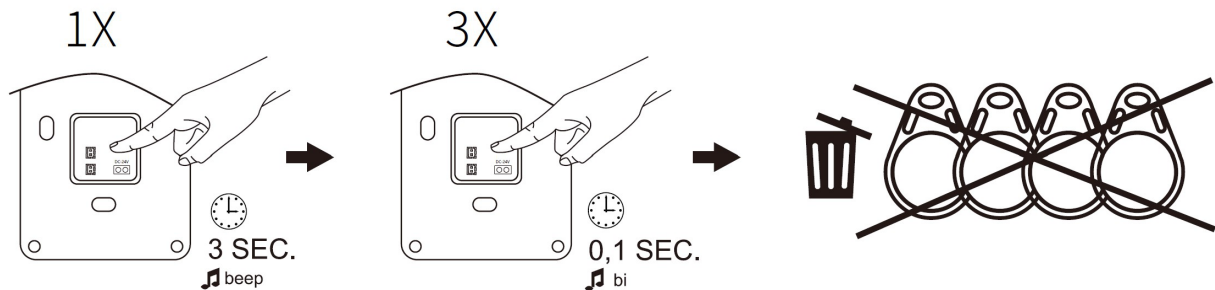2 – Briefly press the SET button twice. You will hear 3 confirmation beeps

3 – All previously stored badges have been deleted

In keyboards, memorizing badges is different and is part of the configuration

runs as shown below.

ATTENTION – Each entry panel equipped with a badge reader is supplied complete with 5 badges

door openers already configured. A badge can be PAIRED TO ONLY ONE BUTTON PANEL

of the plant. You cannot combine the same badge with more than one button/keyboard.

Keyboard configuration

The keypads have a single call button, always linked to floor 1, and a keyboard that can be configured by following these instructions.

ACCESS TO CONFIGURATION

1 – Enter the factory ADMIN code 123456

2 – Press #. You will hear a long double beep indicating access to programming

Once you get into programming you can perform these functions

SHORT GUIDE

Operation	Step 1	Step 2	Step 3
change Password administrator	0#	Type password xxxxxx #	
Add door opener password	1#	Enter location 1-199 Xxx #	Type password xxxxxx #
Clear door opener password	2#	Enter location 1-199 Xxx #	
Add badge	3#	Enter location 1-199 Xxx #	Bring badge closer
Delete badge	4#	Enter location 1-199 Xxx #	
Backlight	7#	00# always on 01# always off 02#turned on by touch	

CHANGE ADMIN PASSWORD

1 – Enter the factory ADMIN code 123456

2 – Press #. You will hear a long double beep indicating access to programming

3 –**Press 0**and then #. You will hear a single long beep

4 – Enter a new 6-digit code, then press #. You will hear a single long beep

5 – Press * to exit programming. You will hear a double beep.

ADD DOOR OPENER PASSWORD

1 – Enter the factory ADMIN code 123456

2 – Press #. You will hear a long double beep indicating access to programming

3 –**Press 1**and then #. You will hear a single long beep

4 – Enter the progressive 3-digit number that will identify this password, then press #. Yes

you will hear a long confirmation beep. Each password must have its own identification number

progressive from 001 to 199, you will presumably start from 001.

5 – Enter your 6-digit passcode, then press #. You will hear a single long beep. If the

3-digit progressive number is already occupied you will hear a double beep and you will need to repeat the operation.

6 – After hearing the long beep, you can enter other access passwords and confirm with

. You will hear a new long beep and the new password will be saved in the progressive number

following.

7 – Press * twice to exit programming. You will hear a short double beep.

NOTE: Enter the door opener code followed by the # key to open the door

DELETE DOOR OPENER PASSWORD

1 – Enter the factory ADMIN code 123456

2 – Press #. You will hear a long double beep indicating access to programming

3 –**Press 2**and then #. You will hear a single long beep

4 – Type the progressive number of the 3-digit password you want to delete, or enter

99 if you want to delete all passwords, then press #. You will hear a long confirmation beep (3 beeps

long if you have deleted all passwords).

5 – After hearing the long beep, you can delete other subsequent login passwords

by pressing #. You will hear a new long beep and the next password will be deleted.

6 – Press * twice to exit programming. You will hear a short double beep.

ADD IC BADGE

1 – Enter the factory ADMIN code 123456

2 – Press #. You will hear a long double beep indicating access to programming

3 –**Press 3**and then #. You will hear a single long beep

4 – – Enter the progressive 3-digit number that will identify this badge, then press #. Yes

you will hear a long confirmation beep. Each badge must have its own identification number

progressive from 001 to 199, you will presumably start from 001.

5 – Bring the badge closer to the reader. You will hear a single long beep. If the badge is already present

you will hear a double beep and you will need to repeat the operation.

6 – After hearing the long beep, you can register other badges. You will hear a new long beep

and the new badge will be saved in the next progressive number.

7 – Press * twice to exit programming. You will hear a short double beep.

ATTENTION – Each keypad equipped with a badge reader is supplied complete with 5 door opener badges already configured. A badge can be PAIRED TO ONLY ONE BUTTON PANEL of the system. Not you can combine the same badge with more than one button/keyboard.

DELETE IC BADGE

1 – Enter the factory ADMIN code 123456

2 – Press #. You will hear a long double beep indicating access to programming

3 –**Press 4**and then #. You will hear a single long beep

4 – – Enter the 3-digit progressive number of the badge to be deleted, if you want to delete all badge dial 99, then press #. You will hear a long confirmation beep. Each badge must have a its progressive identification number from 001 to 199.

5 – After hearing the long beep, you can delete other badges. You will hear a new long beep and the next badge will be eliminated.

6 – Press * twice to exit programming. You will hear a short double beep.

SET BACK LIGHTING

1 – Enter the factory ADMIN code 123456

2 – Press #. You will hear a long double beep indicating access to programming

3 –**Press 7**and then #. You will hear a single long beep

4 – Type:

      00 – Backlight always off

      01 – Backlight always on

      02 – Backlight off that turns on when touched

5 - Press #. You will hear a long beep

6 – Press * to exit programming. You will hear a short double beep.

Reset pushbuttons/keyboards

The pushbutton panels and keyboards must absolutely be connected to the bus initially ONCE AT A TIME and never all together. The entrance panels are automatically numbered Door 1,2,3,4 accordingly to the order in which they are first connected to the bus. If you are not satisfied with the numbering obtained, or you connected the cameras all together creating IP conflicts, you can do a factory reset of the pushbuttons/keyboards.

This reset deletes the IP address of the keyboard and allows it to be reconfigured in the system.

To reset, proceed as follows:

1 – Disconnect the push button panel from the bus. The keypad turns off

2 – Connect the pushbutton panel to the bus

3 - Press the call button within 20 seconds of turning it on and hold it down for 5 seconds until you hear a double beep, then release the button.

4 - The reset takes 30 seconds, at the end you will hear a single beep.

After the reset the pushbutton panel is deleted from the system, although it is connected to the bus. The IP address that was previously assigned to it has been deleted.

Disconnect and reconnect the control panel to the bus so that it self-configures again assuming the first available port number (1,2,3,4)

NOTE: The reset does not delete any badges associated with the pushbutton/keyboard, which remain stored and are deleted with the appropriate command in the configuration as seen in precedence.