

D45 SYSTEM

THE HIGH PERFORMANCE

AUDIO & VIDEO DOOR ENTRY SYSTEM



PROJECT AND
INSTALLATION
TECHNICAL GUIDE



TECHNICAL GUIDE



GENERAL FEATURES



GENERAL RULES FOR INSTALLATION



WIRING DIAGRAMS AND VARIANTS



CATALOGUE



TECHNICAL SHEETS

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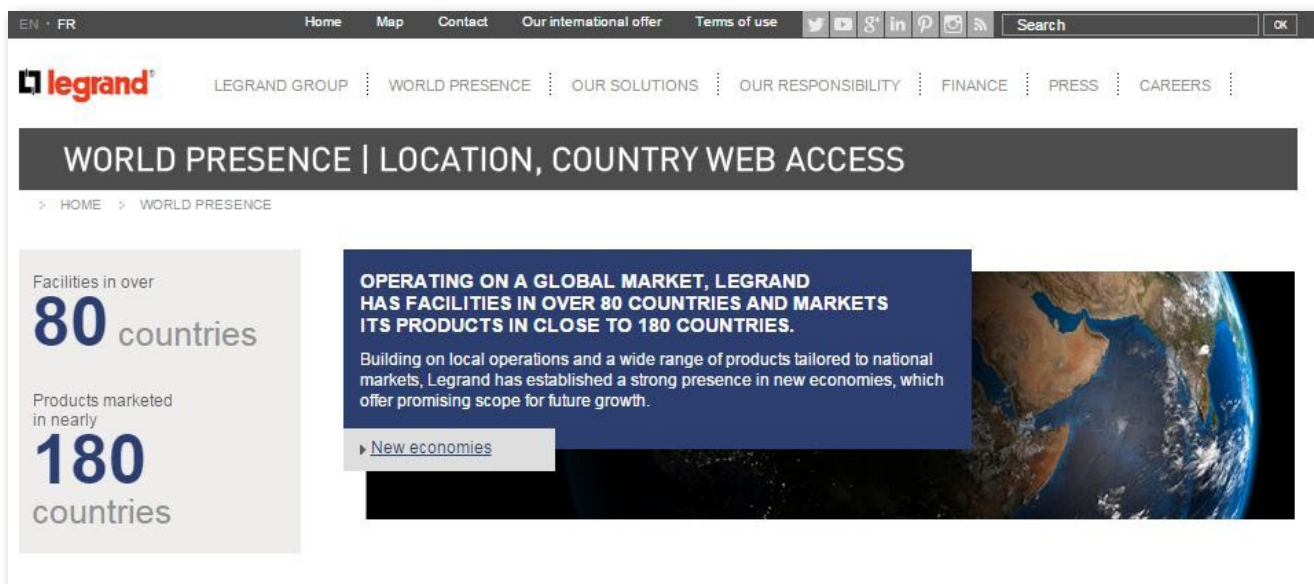
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GENERAL FEATURES

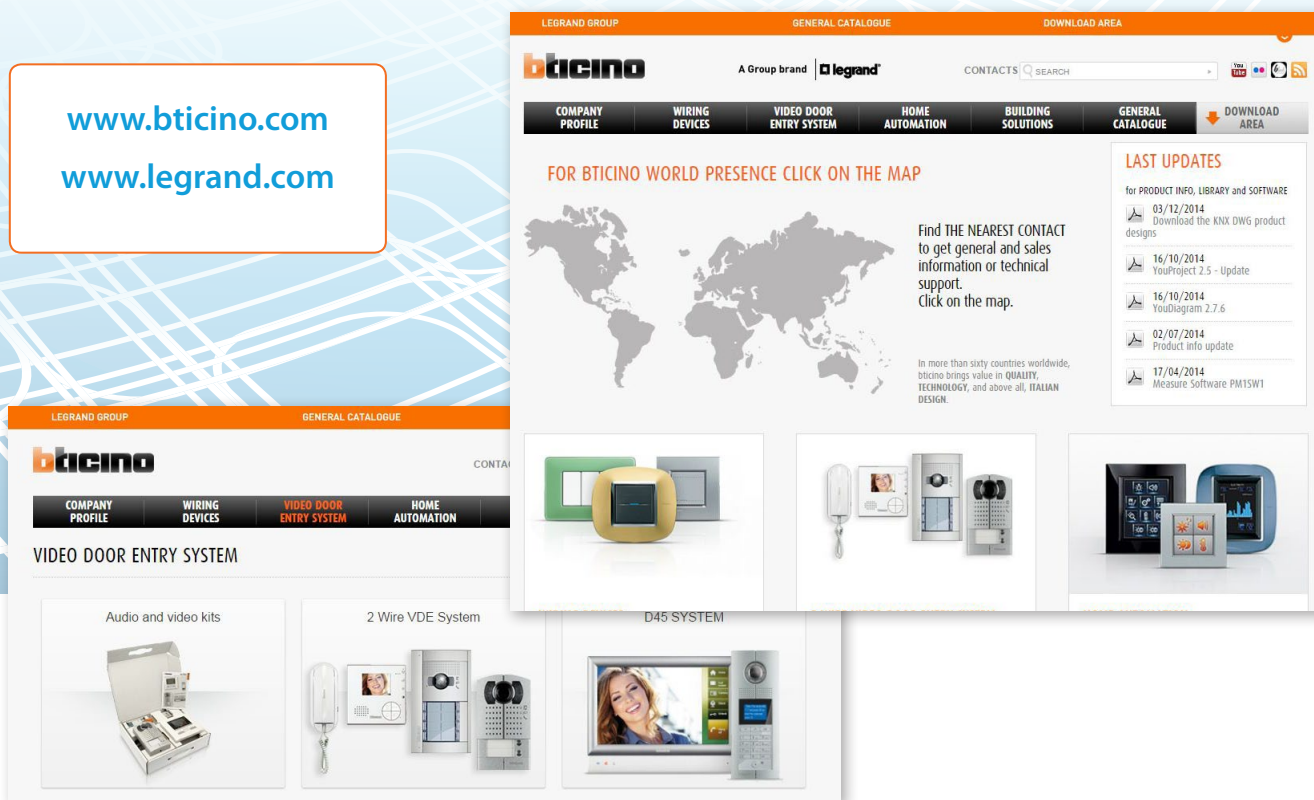
World presence & Technical assistance

World presence web sites in order to find your nearest subsidiaries:



For after sales technical assistance, please refer to the:

www.bticino.com
www.legrand.com



Software

SOFTWARE FOR QUOTATION AND DESIGN: YOU DIAGRAM

YouDiagram is the Bticino software for the quotation and the design of the entire catalog of digital 2-wire/ D45 and CCTV.

Allows you to draw the diagram of the system, the choice of the devices, the configuration of the equipment and the check of the absorptions.

You can make in a few moments intercom systems, video entry system and integrated communication solution using the product that best suits your needs.

The design of the system can be equipped with graphics and notes by the user and printed directly from the

program and a list of materials and their configuration.

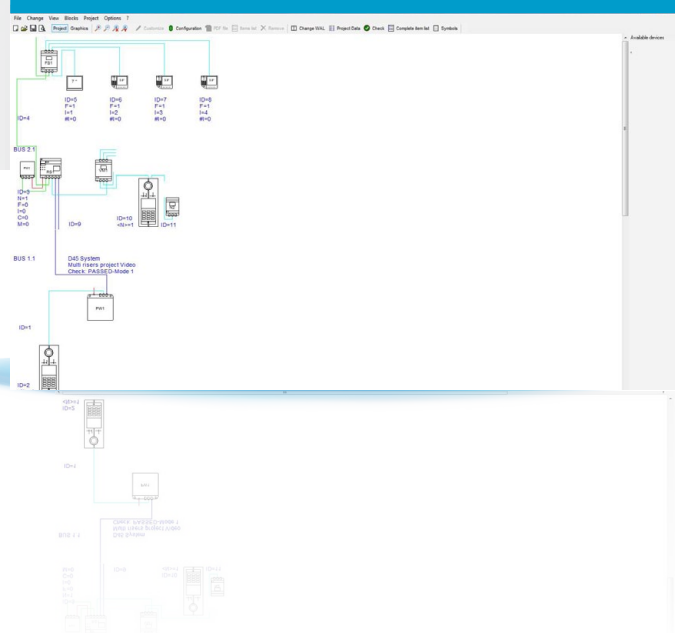
The print options of the Report provide integrated PDF.

The outline of the project can be exported in DXF format.



Free to download from the
www.bticino.com website

EXAMPLES OF YOU DIAGRAM SOFTWARE SCREENSHOTS



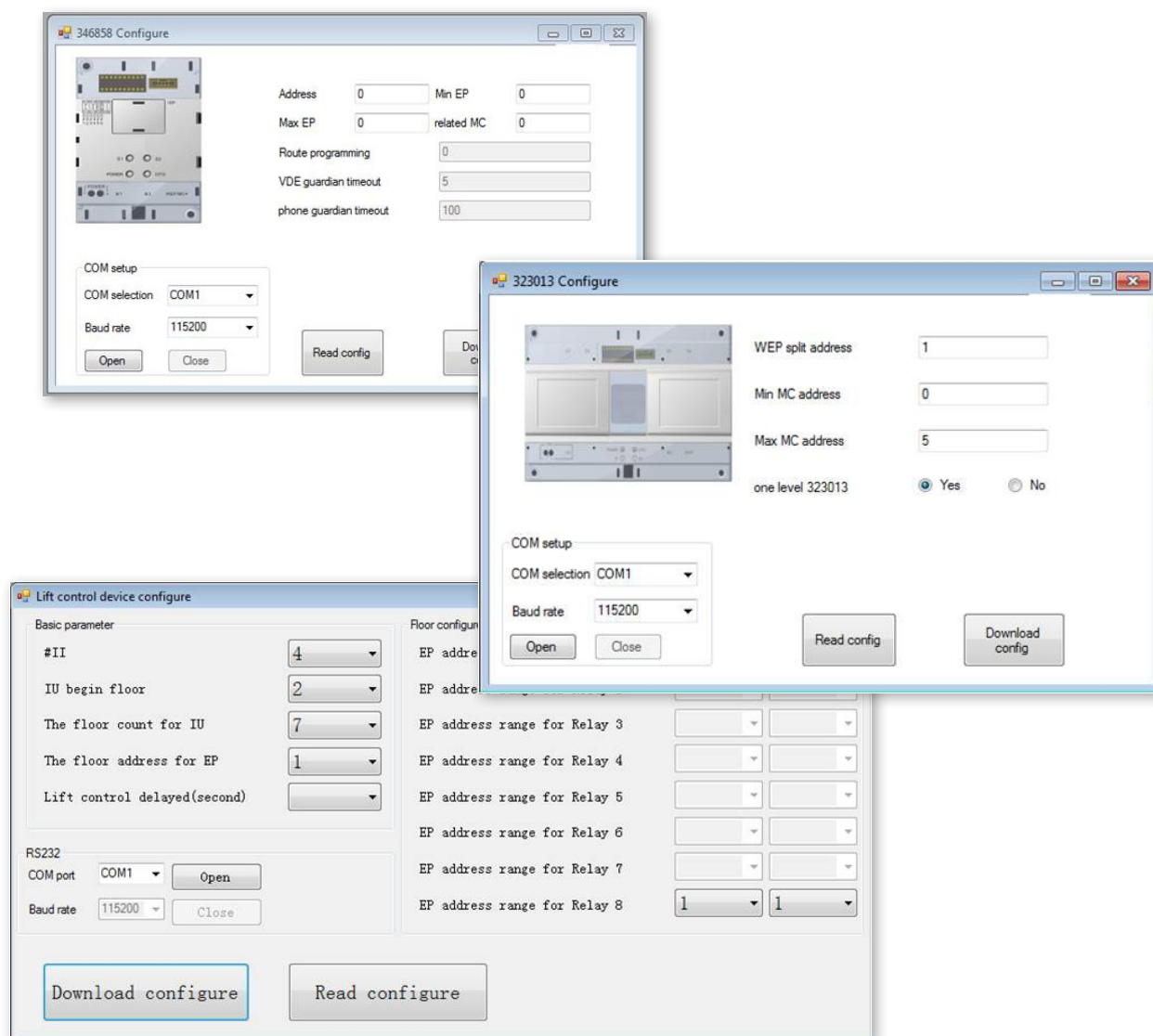
Software

SF2 CONFIGURATION SOFTWARE

SF2 is the dedicated software for the configuration and programming of D45 devices. The software is supplied within a configuration tool (323020).

This package consists of the Tool interface and the Configuration tool, used by technicians to download the configuration

information or update programs for the target devices (EP and interface, etc.) of the D45 system.



Glossary

ENTRANCE PANEL

Term used to indicate the device outside the building, from which the internal unit can be called.

INTERNAL UNIT

Individual video/audio or audio only device for the identification of the individual making the call from the entrance panel. Normally, in addition to communicating with the entrance panel, the internal unit also gives the possibility of performing other actions, such as the release of the door lock, intercom calls, automatic switching on, etc.

BACKBONE

It provides the connection between entrance panel and distributes the signal to.

RISER

It is the set of vertical wiring connecting the internal units with the power supply.

FLOOR SHUNT

Hub for the connection of video/audio and audio only internal units, apartment interfaces, and additional power supplies.

OUTSIDE THE DOOR

Set of audio and video devices that give the possibility of making a call to the internal unit/s and to identify the individual making the call. It is normally installed to make calls from areas inside the building (hall, secondary entrances, etc.).

AUTO-SWITCHING ON

Functions providing audio and video communication between internal unit and entrance panel, or internal unit and outside the door unit, without a call being received.

INTERCOM

Function that provides audio communication between two internal units.

MASTER

It is the video internal unit that turns on when a call is received.

SLAVE

It is the video internal unit connected in parallel to the master video internal unit, and which rings but does not turn on when a call is received (it only turns on when the call is answered).

IN / OUT

Connection of the devices where two clamps act as node between the IN twisted pair and the OUT twisted pair.

CAT 5E AND CAT 6 CABLE

Data transmission cables made up of four pairs arranged inside a sheath according to a specific layout, which is necessary to reduce attenuation and crosstalk problems. This layout consists of twisting the pairs of conductors individually. These pairs are identified using standard colours. Each of the pairs has a different pitch, and is in turn twisted differently inside the outer sheath. The conductor size permitted by the standards is between 22 and 26 AWG: 24 AWG is the most commonly used in all cases and corresponds to a diameter of 0.5 mm.

The acronym AWG (American Wire Gauge) corresponds to the unit of measurement used by the American standards to measure the cross-sections of cables.

As it is a ratio, the smallest cross-sections correspond to the largest AWG sizes. The appropriateness of using cables with different types of sheath must be assessed according to the area in which the wiring system is installed. The most commonly used cable sheath is PVC or LSZH (Low SmokeZero Halogen).

GENERAL FEATURES

D45 System introduction

D45 SYSTEM is the best solution on the market for large projects (high rise buildings, compounds of buildings and villas).

The D45 system can cover applications at a considerable distance from the entrance panel and internal unit (up to 1km) and with a large number of apartments (up to 4000).

The use of UTP cables and RJ45 connections for all the devices provides quick and easy installation for both backbone and riser devices. The system is suitable for the varied requirements of systems of different sizes on riser or TCP/IP networks, ensuring maximum cost saving. In term of function D45 guarantees all

the functionalities typically required in large applications and brings to the market some innovative security functions (e.g. SOS push button and integration with burglar and technical alarms) and comfort (lift control and intercom between apartment). Discover the main system features.

PERFORMANCE:

- Up to 4000 apartments.
- Long distance: 1km between entrance panel and internal unit (no limits with IP integration on backbone).
- Up to 16 security switchboards.
- 80 entrance panels per system.

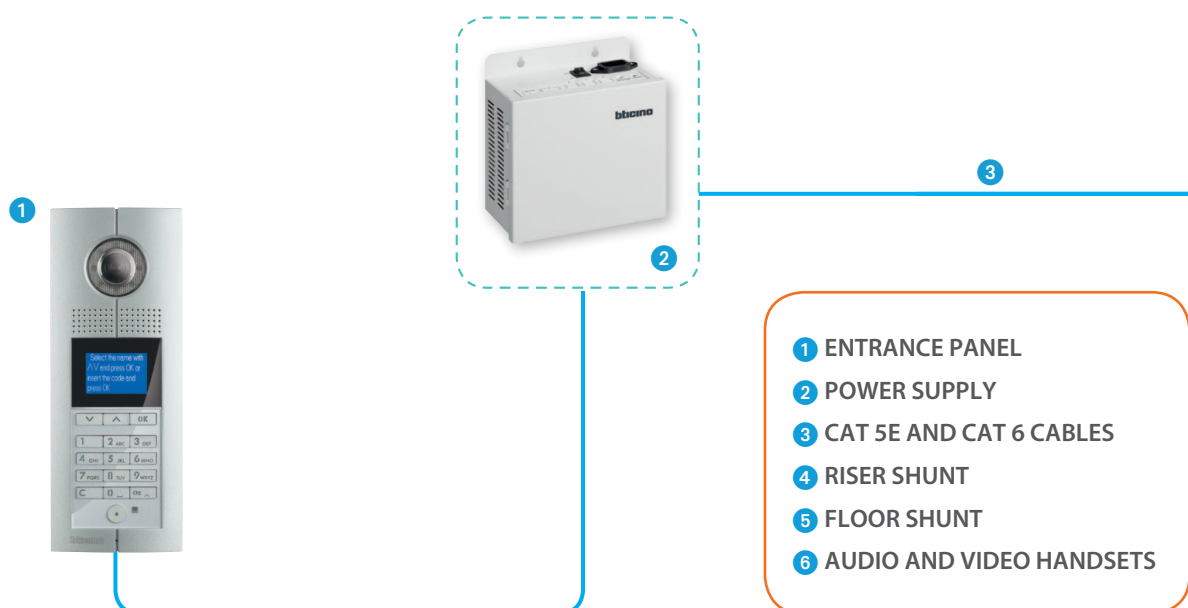
SIMPLICITY:

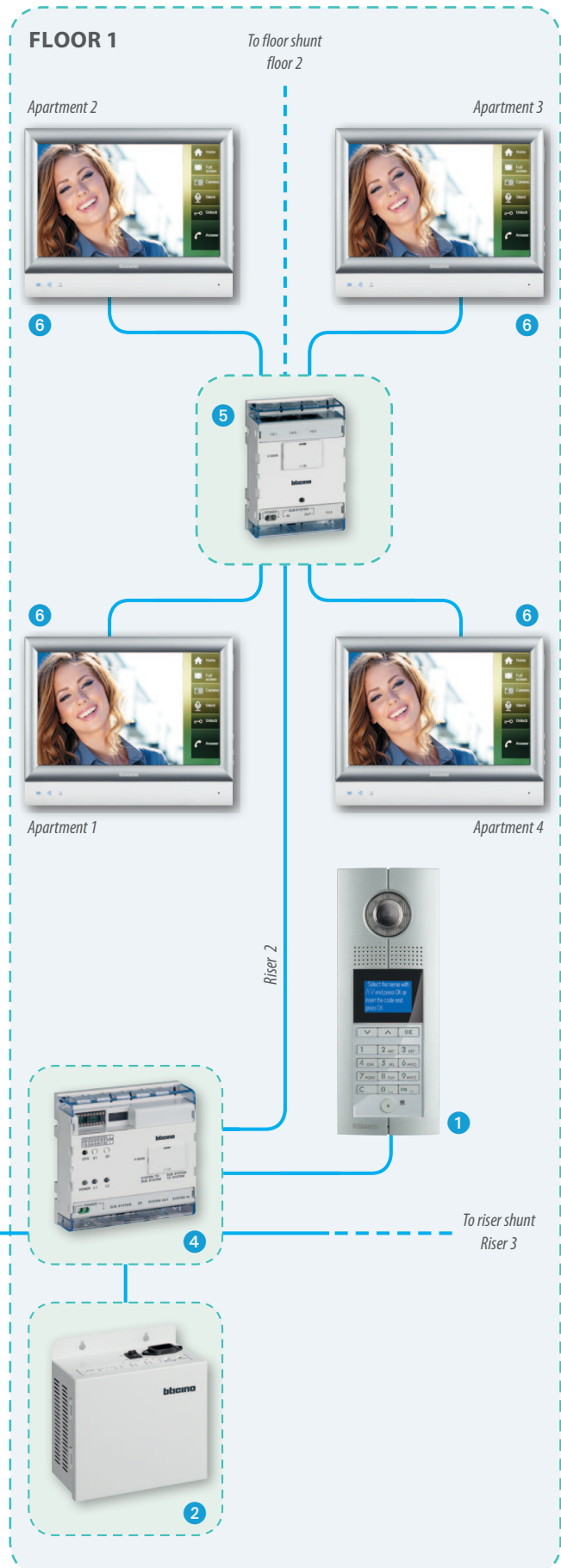
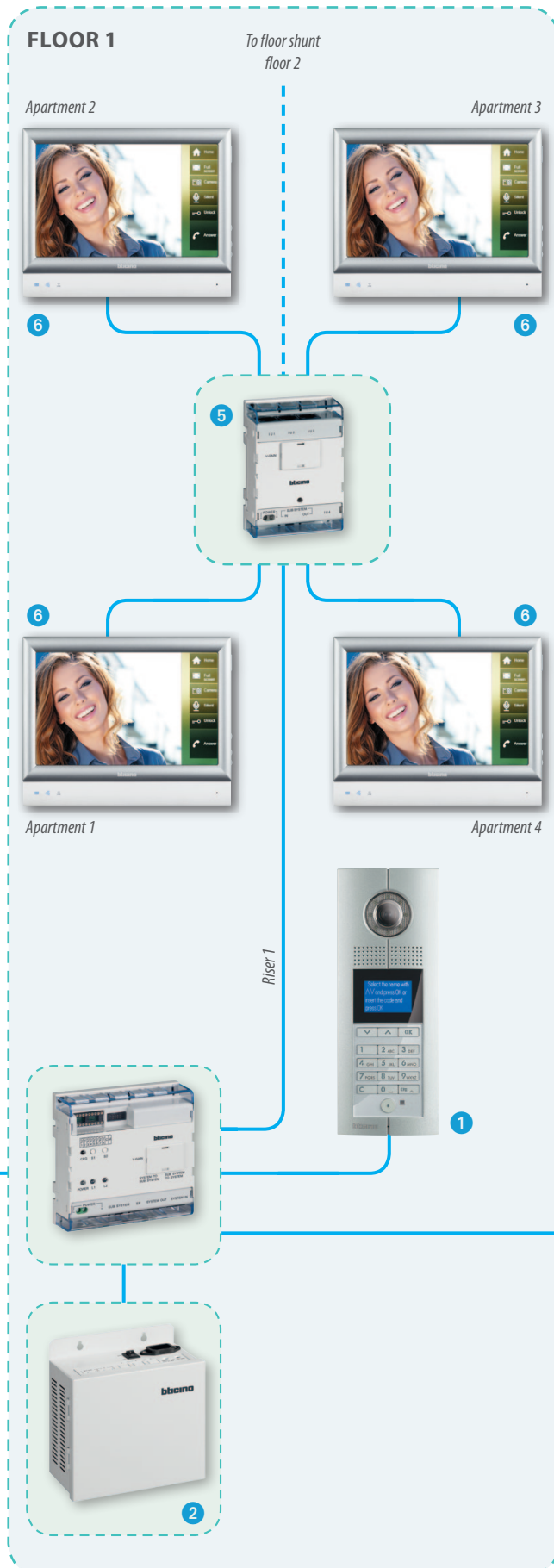
- Cable with RJ45 connector.
- Easy and intuitive configuration.

INNOVATIVE SECURITY FUNCTIONS:

- Alarm function integrated on the internal unit.
- SOS pushbutton on all the indoor devices.

- INTERCOM between all riser apartments with Switchboard installed on the backbone.
- LIFT control function.
- Anti-Tamper function on the indoor devices.
- Switchboard with the possibility of connecting an additional camera.



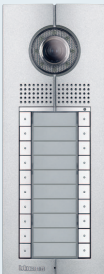


GENERAL FEATURES

The main devices

ENTRANCE PANEL

Outdoor video pushbutton panel with camera. It can be used to call the video handsets and to activate the associated door lock. Available in various look and installation models.

	DIGITAL COLOUR ENTRANCE PANEL	10 CALL PUSHBUTTONS ENTRANCE PANEL	20 CALL PUSHBUTTONS ENTRANCE PANEL	SMALL ENTRY PANEL COLOR	FLOOR CALL ENTRY PANEL
					
	322010 / 322011	322030	322031	322020	322021
Colour video					
Finishes / colours	Zamak	Zamak	Zamak	Aluminium	Plastic
Wall-mounted installation					
Flush-mounted installation				—	—
Pushbutton call	—				
Digital call		—	—	—	—
Door lock release with keypad		—	—	—	—
Power supply	30 Vdc	30 Vdc	30 Vdc	12 Vdc	12 Vdc
Camera horizontal resolution	540 TV lines	540 TV lines	540 TV lines	420 TV lines	600 TV lines
Protection index	IP54	IP54	IP54	IP54	IP33
Protection index against mechanical impact	IK07	IK07	IK07	IK07	IK07
Max. number of calls	4000	10 up to 100 with additional pushbutton module	20 up to 100 with additional pushbutton module	1	1

AUDIO AND VIDEO HANDSETS

Audio and video handsets for the audio and video reception of entrance panel calls. Using the available icons, the advanced devices can be used to manage the video door entry system functions and the home automation functions. Available in various look and installation models.

	7" / 10" TOUCH SCREEN INTERNAL UNIT	COLOUR HANDS FREE 7" ALARM	COLOUR HANDS FREE 3.5" ALARM	COLOUR HANDS FREE 7"	COLOUR HANDS FREE 3.5"	COLOUR HANDS FREE 4.3"
	321070 / 321071	322050	321011	322052	321060	321061
Colour video						
Handsfree						
Finishes / colours	White finish metal cover	White	White	White	White	White
Display	Touch screen 7" / 10.2" 800 x 480	7" 480 x 234	3.5" 320 x 240	7" 480 x 234	3.5" 320 x 240	4.3"
Memory function		—	—	—	—	—
SD CARD slot		—	—	—	—	—
Alarm management				—	—	
SOS function						
Door lock release						
Scrolling EP activation						
Intercom				—	—	—
Power supply	30 Vdc	30 Vdc	30 Vdc	30 Vdc	30 Vdc	30 Vdc
Type of installation	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted

GENERAL FEATURES

The main devices

PORTER SWITCHBOARD

This is a table-top device for multi-family systems, which provides access to the various apartment complex video door entry system functions: intercommunication among apartments, door lock management, light switching-on management, monitoring of cameras installed on common areas, and monitoring of apartment alarms.

It has a large 7" colour LCD display with icon menu, handset, and handsfree function. It includes the possibility of creating a handset, entrance panel, and switchboard address book.



FLOOR SHUNT

A floor shunt should be installed between floors. Using a signal cable, each apartment handset is connected to the BUS through 323002. One 323002 can be connected to 4 handsets. The device converts the BUS video signals to transfer mode and then distributes them to the connected handsets.



323002

POWER SUPPLY

System power supply unit able to supply power on the data communication cable and simultaneously provide impedance matching for the audio channel. Protected against short circuits: in case of DC output short circuit, the device will switch to protected mode.



323005

RISER SHUNT

The riser shunt is used to connect the riser BUS and system BUS in order to separate BUS, transfer signal and switch between video and audio channels. The device has five RJ45 connectors, which are for riser BUS input / output, system BUS input/ output. The last RJ45 and two other connectors are designed to connect the riser system to the main power supply.



323003

ENTRANCE PANELS VIDEO MIXER

The entrance panels video mixer enables connection of up to 5 entrance panels, providing management of the calls to the riser (the first entrance panel from which the call is made has priority).



323004

BASIC APARTEMENT INTERFACE APARTEMENT INTERFACE

Basic apartment interface should be installed between Floor shunt and handset. When one apartment has 2 or 3 handsets, please use this device to extend interfaces. Apartment interface is installed inside the house of the user and is used for expanding handsets and Small EP. One Apartment interface can connect 5 handsets and one Small EP, performing the necessary functions for calling the handsets and calling and monitoring Small EP.



323008

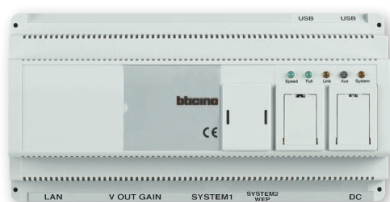
Basic apartment interface

323009

Apartment interface

D45/IP INTERFACE

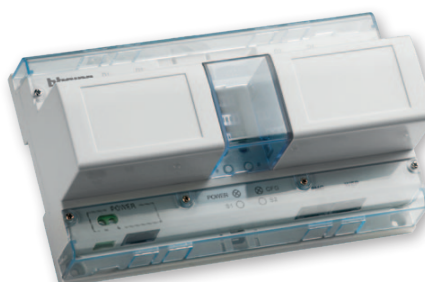
This interface permit to expand the distances limits of the backbone and it could be usefull in application with big distances between entrance panel and internal unit.



323011

DISTRICT GENERATOR

Is the district hub that can be connected with 4 district riser shunts, 1 wall EP connector, 1 Switchboard connector and 1 main system power connector. It's used to create large networks. Can be connected in cascade to extend to 16 district branches. The maximum level of cascade connection is 1. When installed as part of the system, the device controls and changes video channel, and provides amplifying compensation for video signal. The video gains of each Riser shunt district branch can be set separately.



323013

GENERAL FEATURES

Products list and main features

TYPE	MODEL NAME	CODE NUMBER	FIXING WAY	DIMENSIONS (MM)	CURRENT STANDBY	ABSORPTION WORK
ENTRANCE PANNELS	Digital colour entrance panel	322010	Embedded	325 x 125 x 60,5	30 V / 110 mA	30 V / 290 mA
	Entrance panel with call address list	322011	Embedded	325 x 125 x 44,5	30 V / 25 mA	30 V / 245 mA
	Small entry panel color	322020	Wall mount	141 x 108 x 31	0 Vdc / 0 mA	12 V / 250 mA
	Floor call entry panel	322021	Wall mount	125 x 104 x 25	0 Vdc / 0 mA	
	10 Call pushbuttons entrance panel	322030	Embedded	325 x 125 x 63	30 V / 14 mA	30 V / 230 mA
	20 Call pushbuttons entrance panel	322031	Embedded	325 x 125 x 63	30 V / 14 mA	30 V / 230 mA
HANDSETS	3.5" Handsfree internal unit	321011	Wall mount	139,5 x 193,5 x 29	30 V / 20 mA	30 V / 85 mA
	3.5" Handsfree internal unit	321060	Wall mount	158 x 165 x 29	30 V / 15 mA	30 V / 85 mA
	4,3" Handsfree internal unit	321061	Wall mount	120x179x22,5	30 V / 13 mA	30 V / 90 mA
	7" Touch screen internal unit	321070	Wall mount	157 x 198 x 17	30 V / 100 mA	30 V / 200 mA
	10" Touch screen internal unit	321071	Wall mount	198 x 255 x 27	30 V / 100 mA	30 V / 200 mA
	Audio Internal white	322040	Wall mount	141 x 91 x 34	30 V / 30 mA	30 V / 70 mA
	Colour hands free 7" alarm	322050	Wall mount	175 x 260 x 23	30 V / 20 mA	30 V / 145 mA
	Colour hands free 7"	322052	Wall mount	155 x 225 x 29	30 Vdc	
ACCESSORIES	Porter switchboard	323001	Table	290 x 170 x 165	30 Vdc	30 V / 280 mA
	Surface-mounting boxes 1 module	322001				
	Surface-mounting boxes 2 module	322002				
	Targa module	322012	Embedded	325 x 125 x 44,5	30 V / 5 mA	30 V / 25 mA
	16 Additional pushbuttons panel	322032	Embedded	325 x 125 x 44,5	30 V / 5 mA	30 V / 28 mA
	32 Additional pushbuttons panel	322033	Embedded	325 x 125 x 44,5	30 V / 5 mA	30 V / 28 mA
	Floor shunt	323002	DIN Rail	72 x 105 x 33	30 V / 25 mA	30 V / 130 mA
	Riser shunt	323003	DIN Rail	106 x 105 x 33	30 V / 60 mA	30 V / 110 mA
	Entrance panel video mixer	323004	DIN Rail	72 x 105 x 33	30 V / 20 mA	30 V / 60 mA
	Power supply	323005	Wall mount	167,5 x 161 x 85	220 V	30 V / 2 A
	2 Branches video splitter	323007	DIN Rail	72 x 105 x 33	30 V / 25 mA	30 V / 70 mA
	Basic apartment interface	323008	DIN Rail	72 x 105 x 33	30 V / 40 mA	30 V / 140 mA
	Apartment interface	323009	DIN Rail	141 x 105 x 33	30 V / 40 mA	30 V / 140 mA
	Auxiliary power supply	323010	Wall mount	167,5 x 161 x 85	AC input 220 V	DC output 30 V / 2 A
	D45/IP interface	323011	DIN Rail	90 x 175 x 60	30 V / 130 mA	30 V / 230 mA
	SF4 Switchboard software	323012	Laptop Windows quipped			
	Distric generator	323013	DIN Rail	175 x 105 x 66	30 V / 100 mA	30 V / 300 mA
	Door lock accessory	323015	DIN Rail	72 x 105 x 33	30 V / 30 mA	30 V / 30 mA
	Villa shunt	323016	DIN Rail	72 x 105 x 33	30 V / 20 mA	30 V / 160 mA
	Lift control interface module	323017	DIN Rail	141 x 105 x 33	30 V / 15 mA	30 V / 30 mA
	EP/Switchboard shunt	323018	DIN Rail	72 x 105 x 33	30 V / 70 mA	30 V / 70 mA
	System expansion interface	323019	DIN Rail	106 x 105 x 33	30 V / 50 mA	30 V / 80 mA
	Configuration tool kit	323020		48 x 48		
	Accessory for additional camera	323021	DIN Rail			
	Floor shunt with one output module	323022		44 x 30 x 20	30 V / 10 mA	30 V / 80 mA
	SEP video mixer	323023	DIN Rail	141 x 105 x 33	30 V / 15 mA	30 V / 1 A
	D45/2-wire interface	346858	DIN Rail	72 x 105 x 33	30 V / 1 mA	30 V / 20 mA

System composition

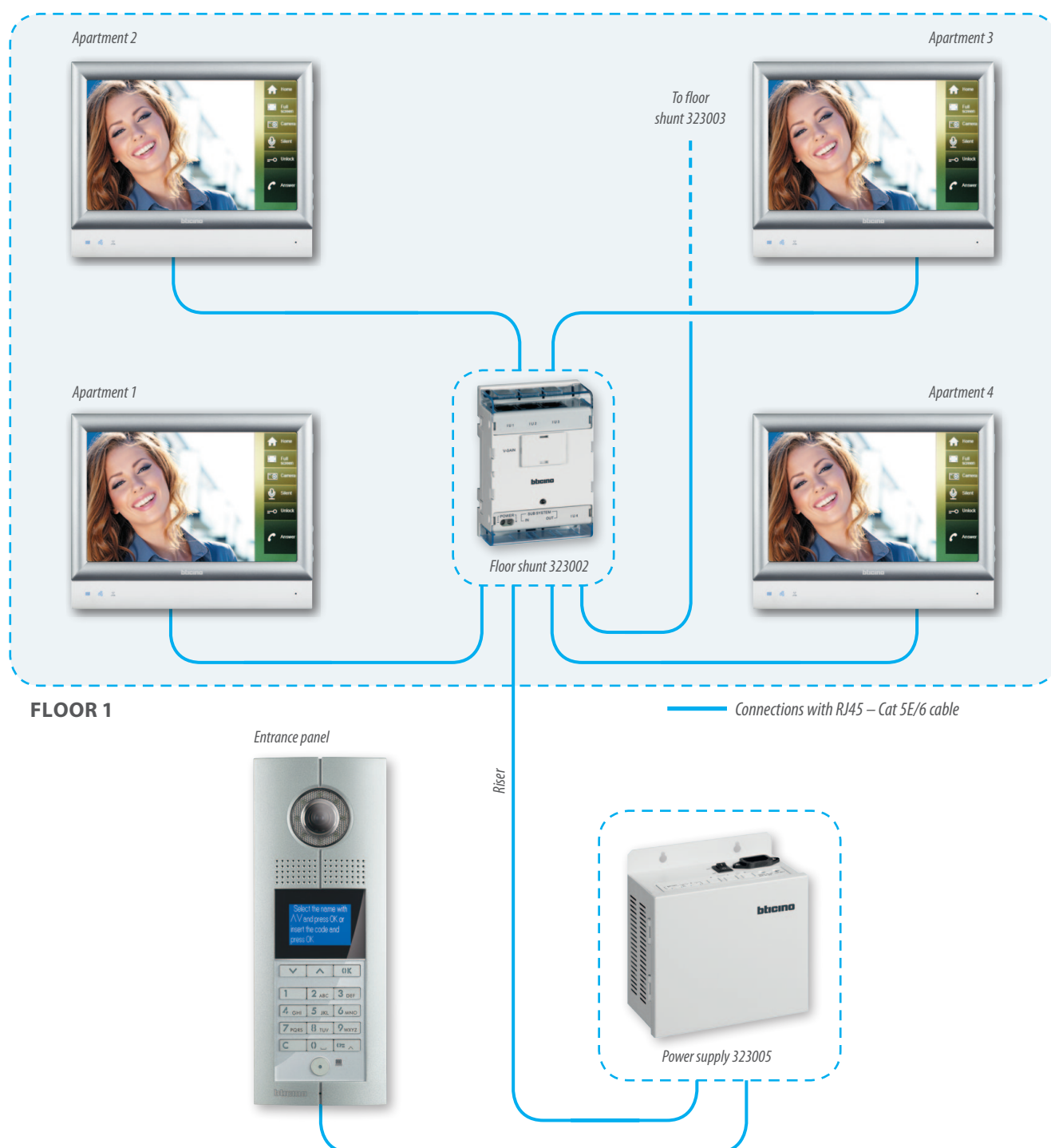
SINGLE BUILDING WITH ONE RISER

For the installation of one-riser video systems, the floor shunt, 323002, must be used. It is particularly suited to multifamily

systems with several dwellings on the same floor, and to multifamily systems where maximum distance between entrance panel and

internal units is required.

The floor shunt provides star connection of up to 4 apartments.



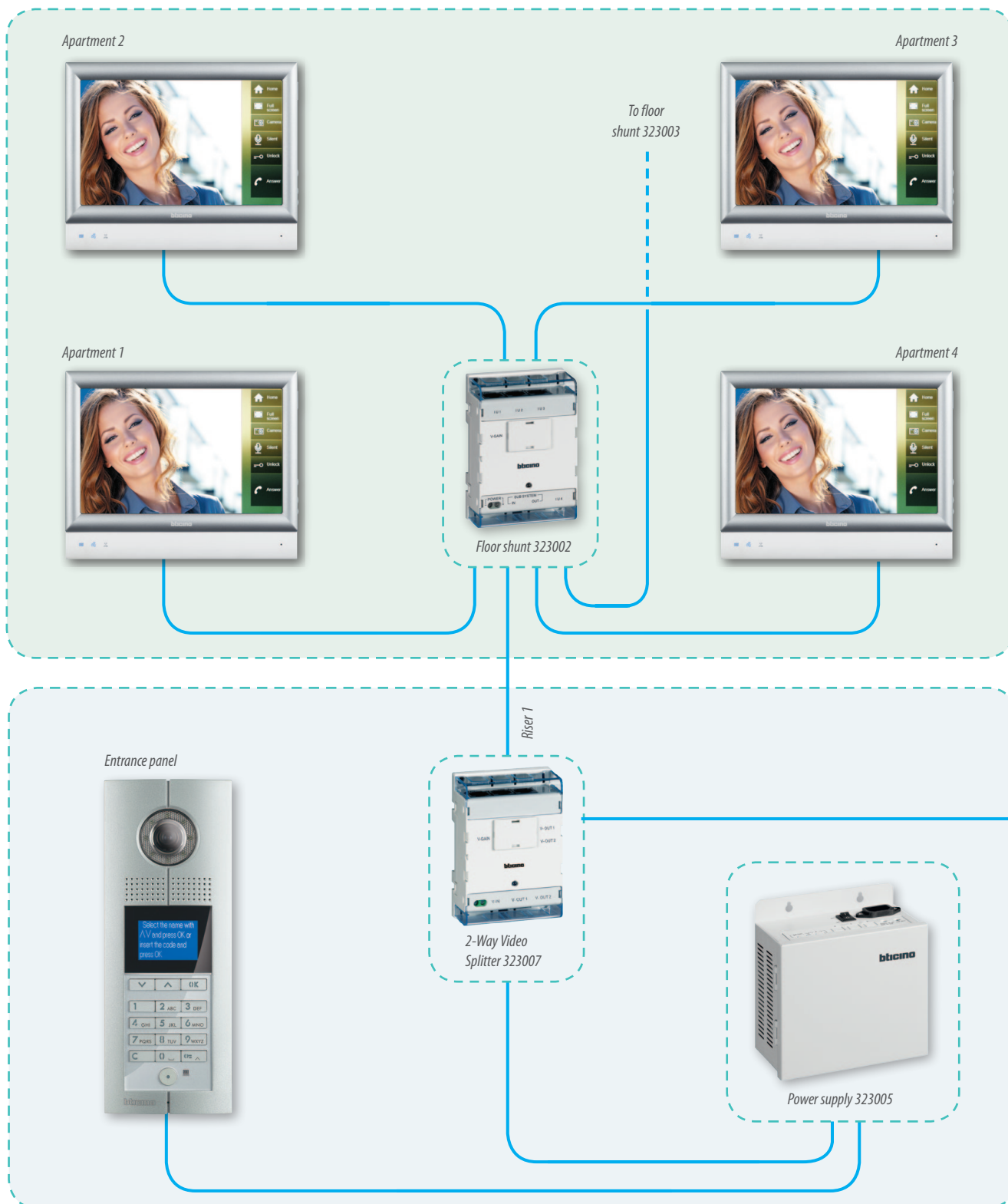
GENERAL FEATURES

System composition

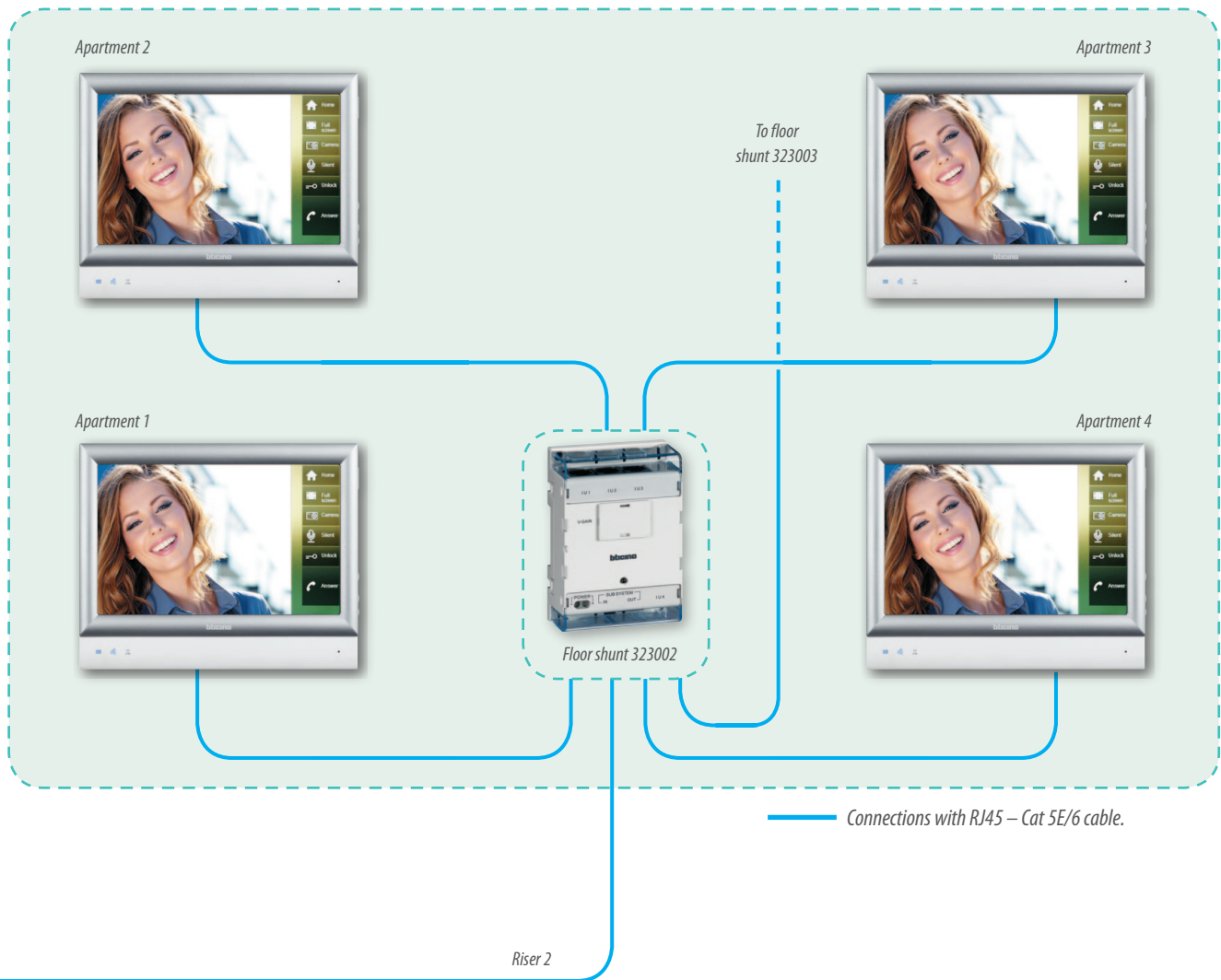
SINGLE BUILDING WITH MORE RISERS

For the installation of video systems with several branches, the 2-way video splitter, 323007, and the floor shunts, 323002, can be used.

BRANCH 1 FLOOR 1

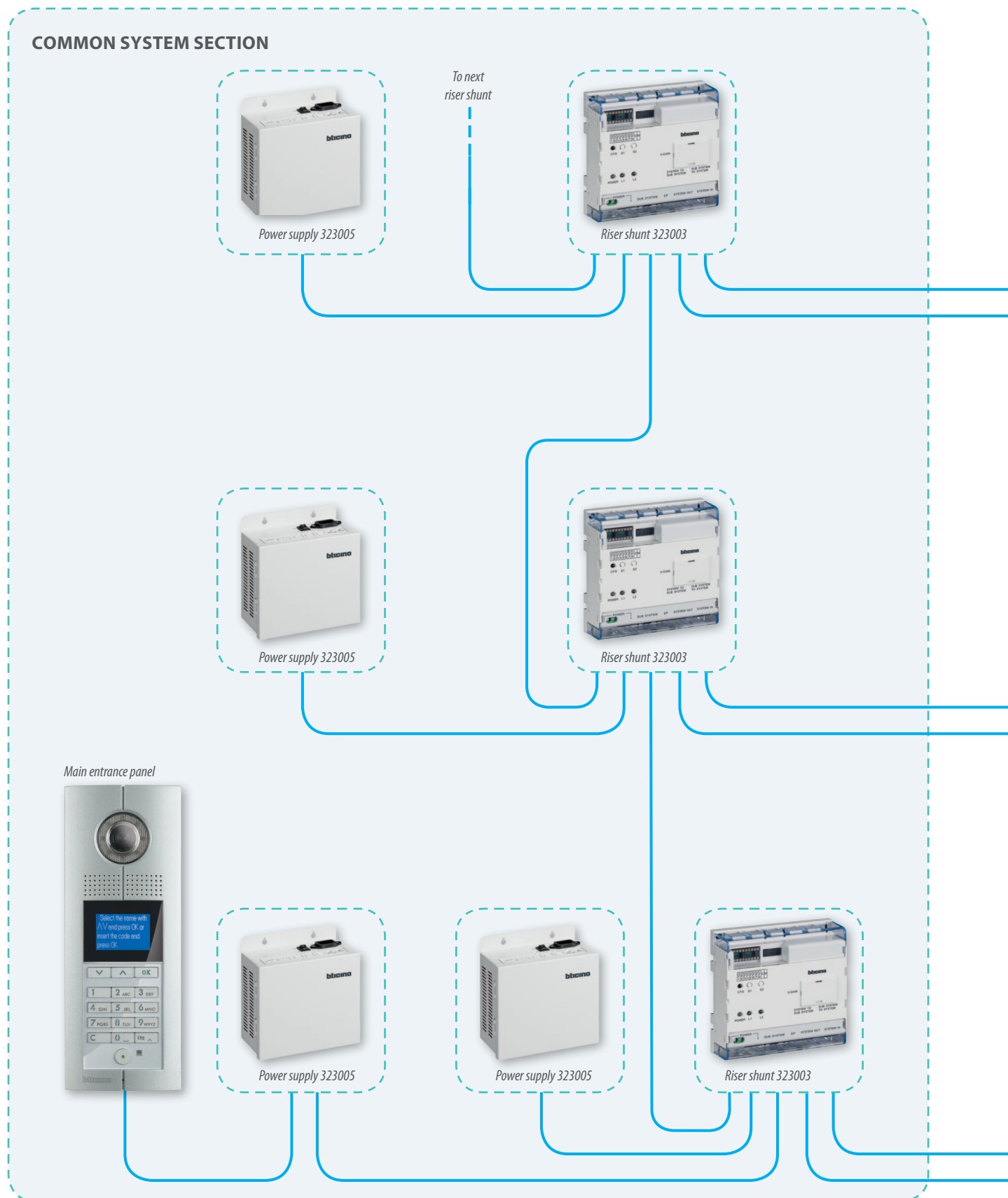


BRANCH 2 FLOOR 2



System composition

APARTMENT BLOCK WITH 1 MAIN ENTRANCE PANEL AND MORE SECONDARY ENTRANCE PANELS



BUILDING XX



Riser entrance panel

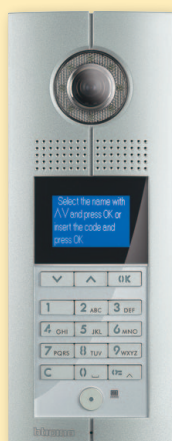
Connections with RJ45
Cat 5E/6 cable



Floor shunt 323002

Riser XX

BUILDING 2



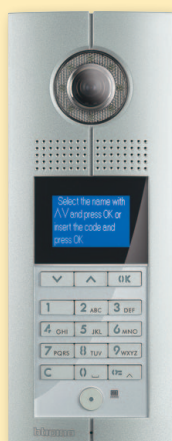
Riser entrance panel



Floor shunt 323002

Riser 2

BUILDING 1



Riser entrance panel



Floor shunt 323002

Riser 1

BUILDING XX



Riser entrance panel

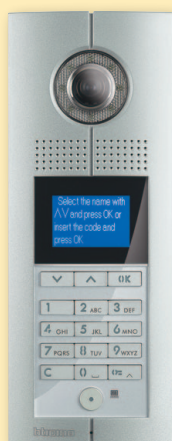
Connections with RJ45
Cat 5E/6 cable



Floor shunt 323002

Riser XX

BUILDING 2



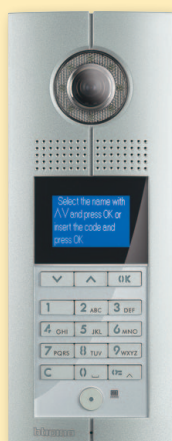
Riser entrance panel



Floor shunt 323002

Riser 2

BUILDING 1



Riser entrance panel



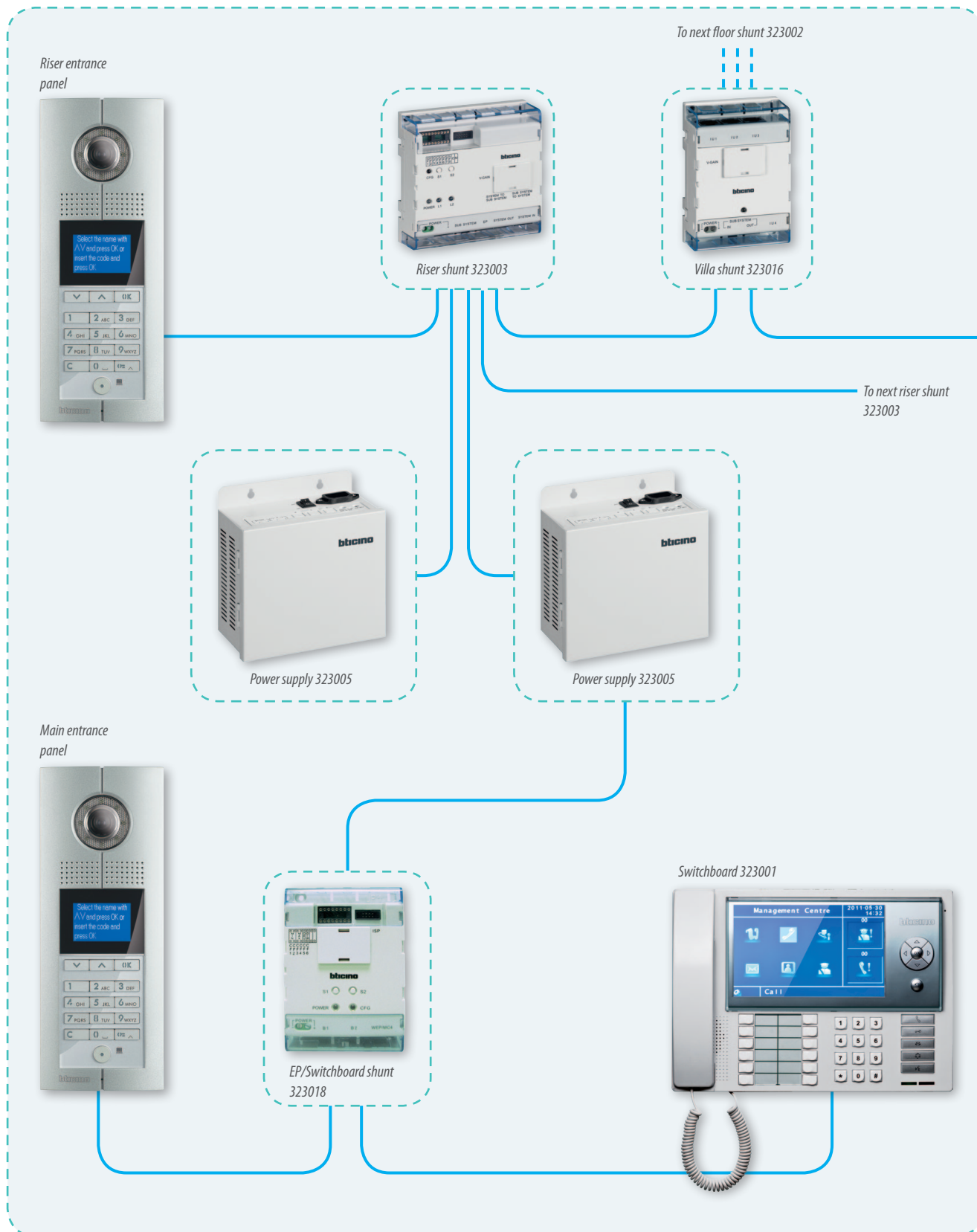
Floor shunt 323002

Riser 1

GENERAL FEATURES

System composition

VILLA COMPLEX WITH SWITCHBOARD



Connections with RJ45 – Cat 5E/6 cable.

VILLA 1



Floor shunt 323002

Touch screen video internal unit



Power supply 323010



Small EP 322020

VILLA 2

To next floor shunt 323002



Floor shunt 323002

Touch screen video internal unit



Power supply 323010



Small EP 322020

GENERAL FEATURES

The configuration

The configuration assigns a progressive address to the device within the system, and programs it using a simple, quick, and intuitive

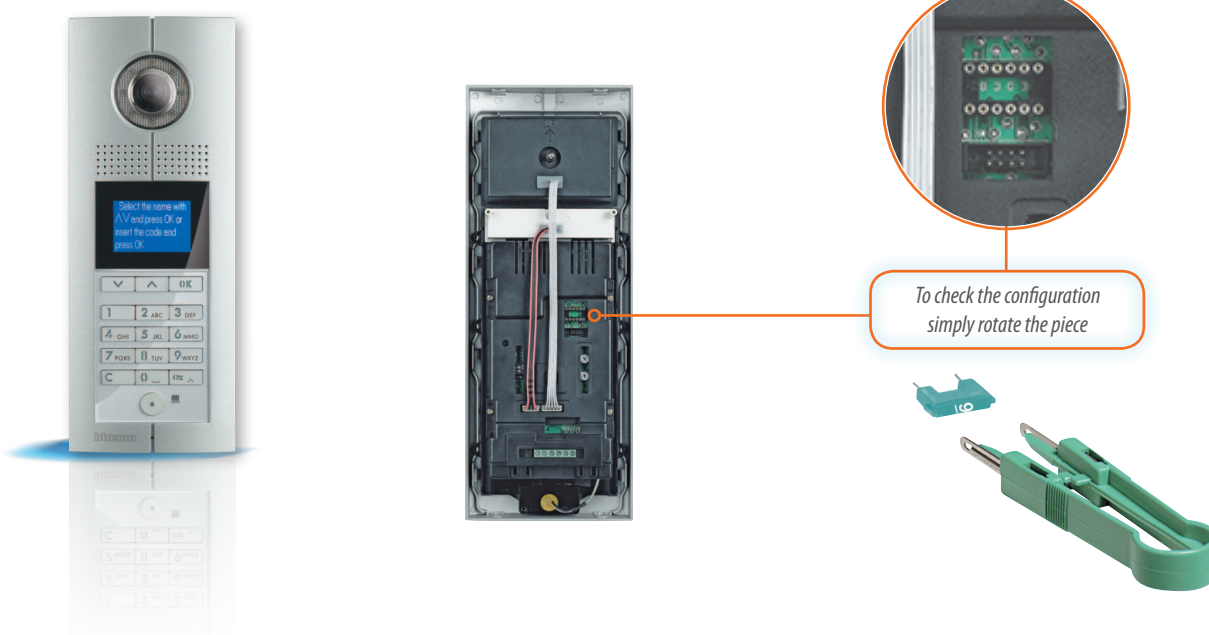
procedure. D45 system devices may be configured in two ways:

- physical configuration (has priority over the software configuration);

- configuration with SF2 software.

Physical configuration

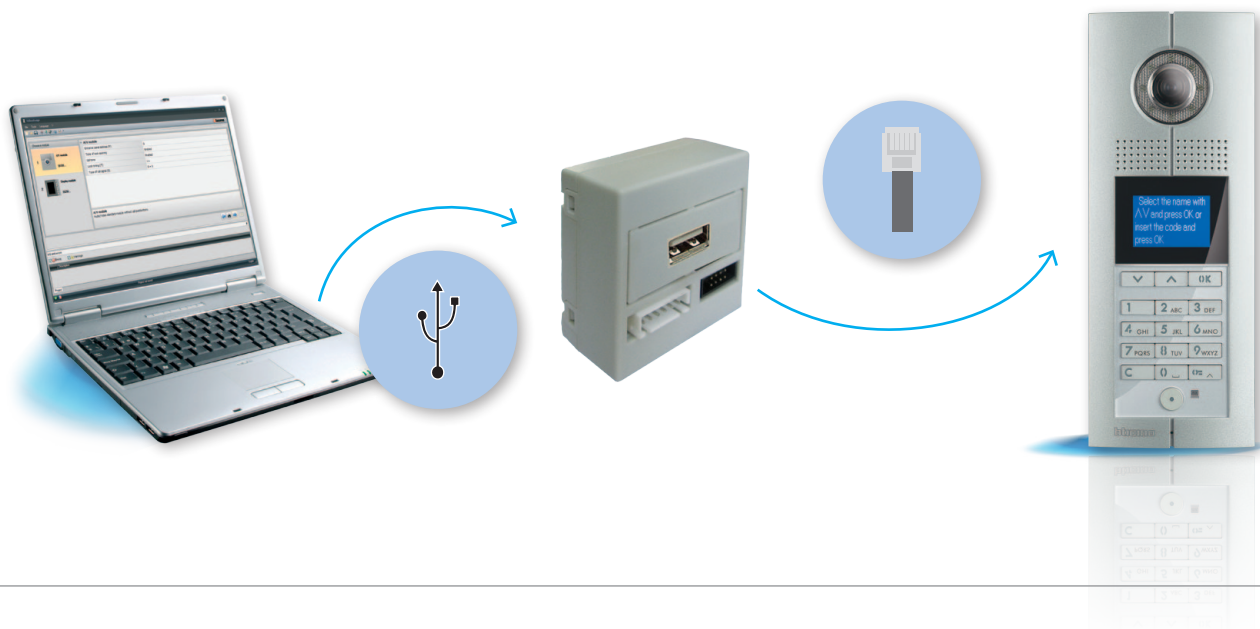
System devices (entrance panels, handsets and accessories system), must be physically configured. Insert configurators with system power supply off.



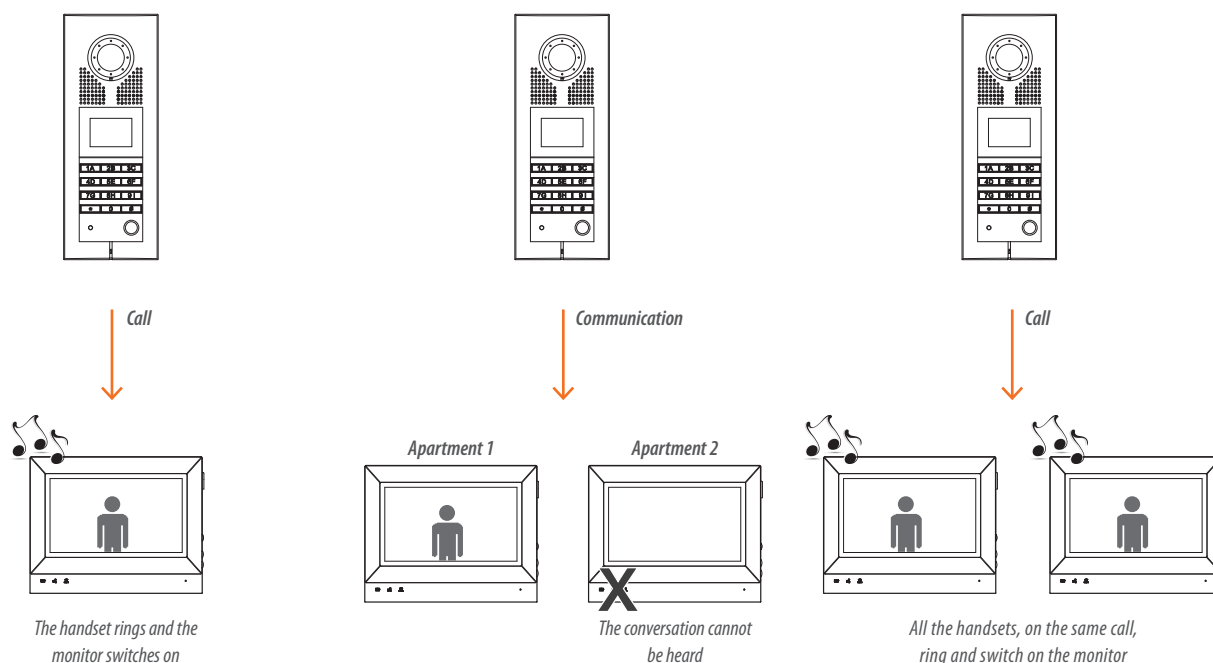
Configuration with SF2 software

The system component devices (entrance panels, internal units, and system accessories) may be configured in advanced mode using the PC and an interface (323020 configuration tool). The SF2 configuration and programming software gives the possibility of completing the configuration and of programming the devices with a high degree of customisation.

Warning: remove the configurators of the devices.



System functions



THE CALL

Pressing the call pushbutton on the entrance panel, the system generates a signal that is only recognised by the handsets the call is addressed to (the call will have to be answered within 30 seconds from the moment the pushbutton is pressed). Each handset is configured in a unique specific way. When the call is received, the handset rings and the monitor switches on. Press the pushbutton or lift the handset to establish the communication (maximum duration of the communication is 1 minute) with the entrance panel. Press again or replace the handset to stop the communication and switch the monitor off.

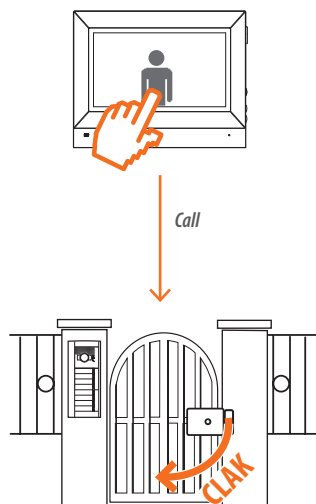
CONVERSATION SECRECY

During the conversation between the entrance panel and the video handsets, all entrance panels and handsets that are not involved in the conversation are temporarily excluded in order to guarantee the privacy of video door entry conversations. When calling from an entrance panel that is temporarily excluded, a time-out tone will be heard, to indicate that the extension line is momentarily busy.

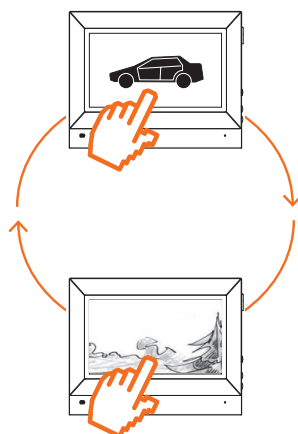
SIMULTANEOUS SWITCHING ON

With video handsets, simultaneous switching on of the monitor is also possible: upon arrival of the call, all handsets ring and the monitors of all video handsets switch on. When the call is answered, only the monitor of the video handset communicating with the entrance panel will remain on. In order to set this function, all the video handsets but one must be powered locally using an additional power supply, 323010.

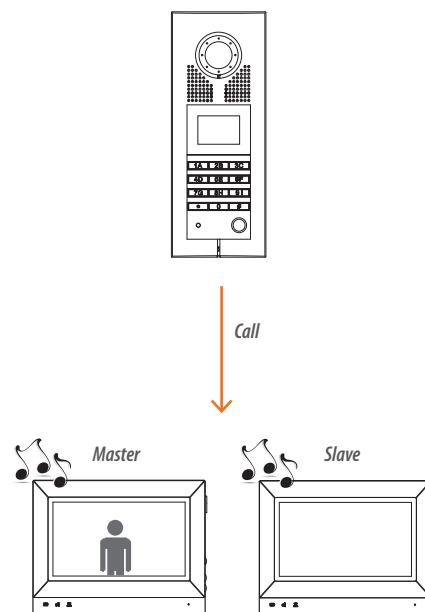
System functions



Pressing the door lock key will open the gate associated with the handset.



Each time the self-switching on key is pressed the images displayed change.



When a call is received, the master comes on, while the SLAVE will only ring.

DOOR LOCK PUSH BUTTON

The handsets are fitted with a door lock pushbutton. Pressing this pushbutton will open one of the door locks of the system.

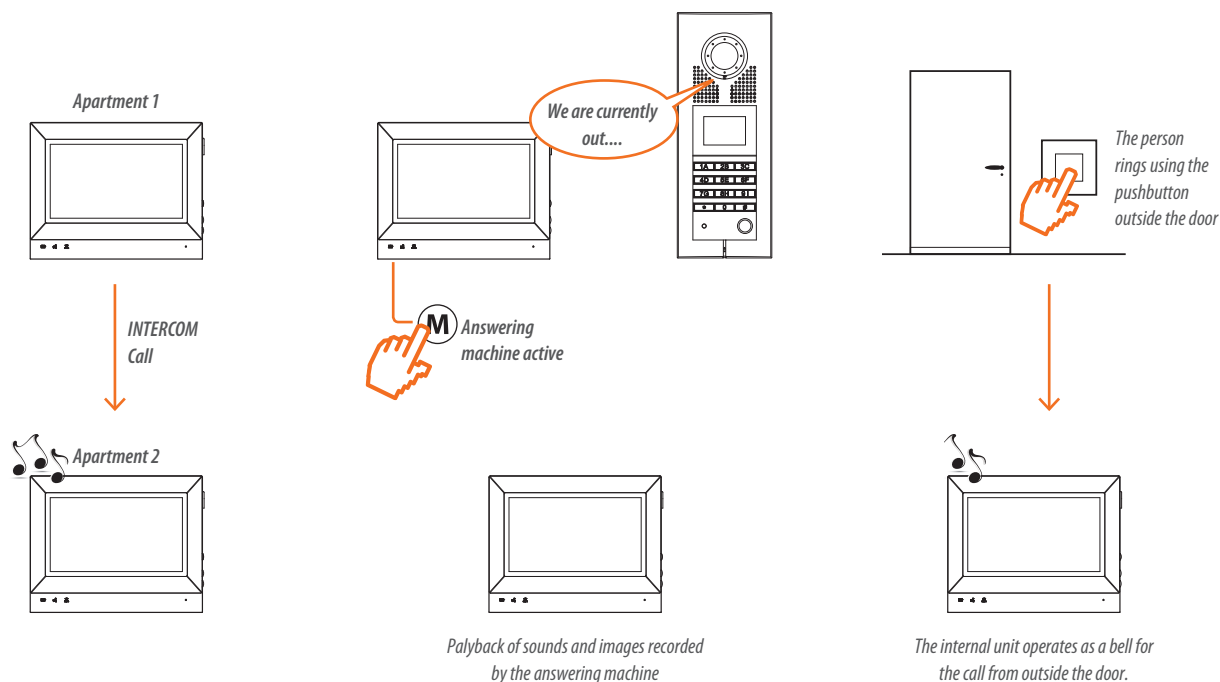
With the system at rest, the pressure of the pushbutton will cause the opening of the door lock of the entrance panel associated with the handset during the P configuration of the handset itself. On the other hand, if the pushbutton is pressed during the call, the door lock associated to the entrance panel making the call will be opened.

SELF-SWITCHING ON PUSHBUTTON

By pressing the self-switching on pushbutton while the videohandset is at rest, a connection will be established with the entrance panel associated with the handset during the P configuration of the handset itself. Pressing repeatedly on the self-switching on pushbutton, will scroll through the various entrance panels and the cameras connected to the system.

MASTER-SLAVE FUNCTION

The system offers the MASTER-SLAVE function: when the call is received, all the apartment handsets ring, but only the monitor of the video handset configured as master comes on. When the auto-switching on key of a SLAVE is pressed, the monitor of the MASTER handset turns off, while the monitor of the SLAVE itself turns on (without necessarily establishing communication with the entrance panel). If the connection key of a SLAVE is pressed (or lifting the handset), the MASTER monitor turns off and communication with the audio-video entrance panel is established.



INTERCOM

The system offers an intercom function, with up to 3 minutes communications between videohandsets:

- From different apartments;
- Within the same apartment.

If the apartment has an apartment interface - or is a one - family apartment, each videohand set of the apartment can be called individually.

The INTERCOM connection can be established at the same time as other external connections. The INTERCOM connection can be simultaneous to other connections external to the apartment. If the apartment does not INTERCOM call Apartment 1 Apartment 2 have an apartment interface any apartment handset can call all other apartment handsets. The INTERCOM connection will not occur at the same time as external connections. Any call received by an EP, even to any other apartment, will terminate the INTERCOM connection.

VIDEO DOOR ENTRY SYSTEM ANSWERING MACHINE FUNCTION

It is possible to record voice and images of a call from an entrance panel. It is also possible to record an audio message to play back on the entrance panel following an unanswered call. The video door entry system message can be recorded in 2 ways:

- **STILLS:** the message includes a picture of the visitor and the recorded audio message 160 messages max);
- **VIDEOS:** the message includes a video feed (duration 16 seconds) and the recorded audio message (18 messages max). Each message will be given a progressive number, which will be displayed on the video handset, together with the date and time information.
- When the memory is full, the oldest message is overwritten.

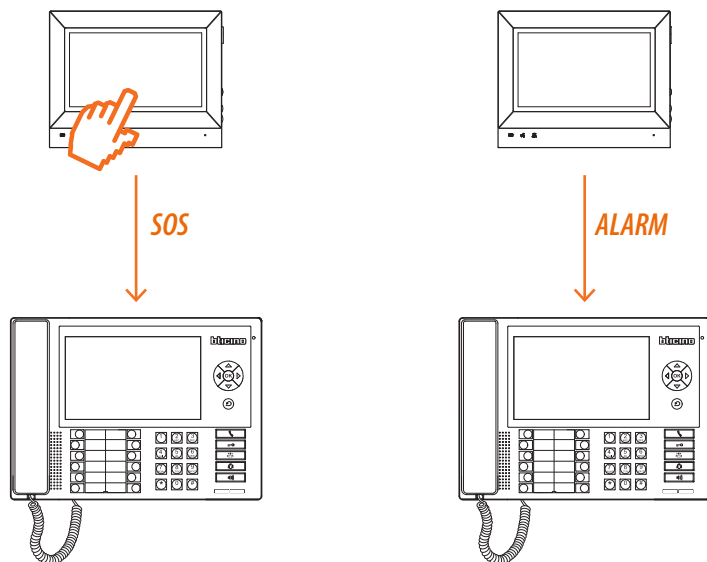
"FLOOR CALL" FUNCTION

"Call to the Floor" function; by connecting a pushbutton to the clamps (R2-R3), it is possible to use the internal bells of the internal units for calls from outside the apartment entrance door. In installations with internal units connected in parallel, only the internal unit to which the call pushbutton is connected will ring.

DOOR LOCK RELEASE FUNCTION WITH NUMERICAL CODE

Unlock the door lock by inserting a code in entrance panel.

System functions



SOS ALARM FUNCTION

This function gives the possibility of sending a request for help to the switchboard by pressing a dedicated SOS key.

An external SOS pushbutton can be directly connected to the switchboard.

BATTERY AGAINST BLACK-OUT

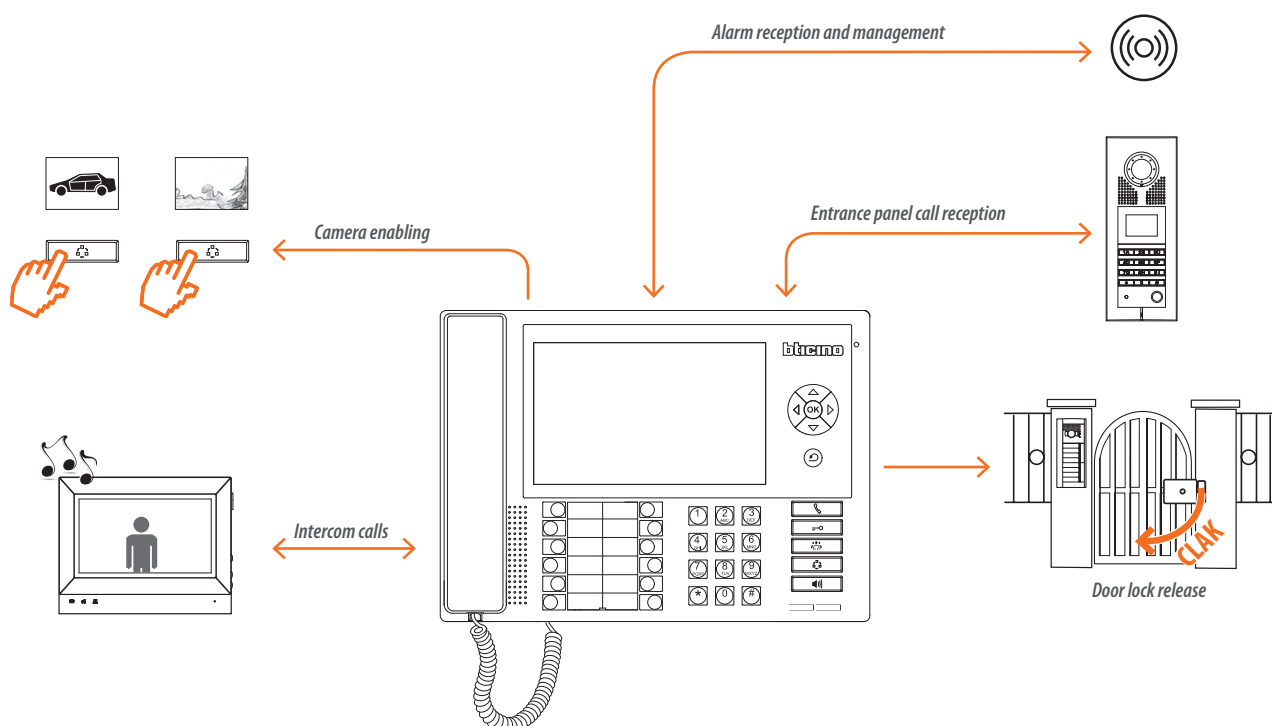
The back-up battery is necessary to power the system in case of power failure from the mains.

ALARM FUNCTION

This function that enables to have up to a maximum of 8 alarms (burglar and technical alarms). The sensors are connected directly to the internal unit. When an alarm situation occurs, if the alarm is not cancelled within the set time (default 40 seconds), the message alarm is sent to the switchboard. When an alarm triggers, the user can cancel it by using a password. Once the alarm has been cancelled, no message is sent to the switchboard.

ANTI-TAMPER FUNCTION

When the alarm function is set, a forced action on the internal unit will trigger the forwarding of an anti-tamper alarm to the switchboard. The tamper function is also set on alarm sensors, to prevent them from being removed.



SWITCHBOARD

Available for multi-family installations, the switchboard can be used for central management and supervision of the various apartment complex video door entry system services. Using this device it is possible to communicate with the apartment, manage the door lock, monitor the cameras connected to the common areas of the system, and monitor any alarms from apartments or common areas. It has a customisable address book for handsets, entrance panels, and any other switchboards connected (max. 16).

LIFT CONTROL

Call the lift at the own floor by the internal unit before to go out. Avoiding to stand up in front of the elevator many times in the morning. Send the lift to the lobby when someone arrives to visit the client. A good welcome to your friend. When someone comes to visit, owner of flat can send the elevator to the lobby and automatically send the elevator to the right floor. The visitor could go only to the floor of the person that he knows. Access denied in the other part of the building to the visitor.



GENERAL RULES FOR INSTALLATION

GENERAL RULES FOR INSTALLATION

System layout

General features

The first step towards the installation of a system is to design and ensure a good basic installation setup. In fact, an accurate setup of cables, trunking, boxes, equipment rooms and control points, gives the possibility of better following the evolution of devices already installed inside the home, and to connect new devices/expand the system. Irrespective of the type of system and the required

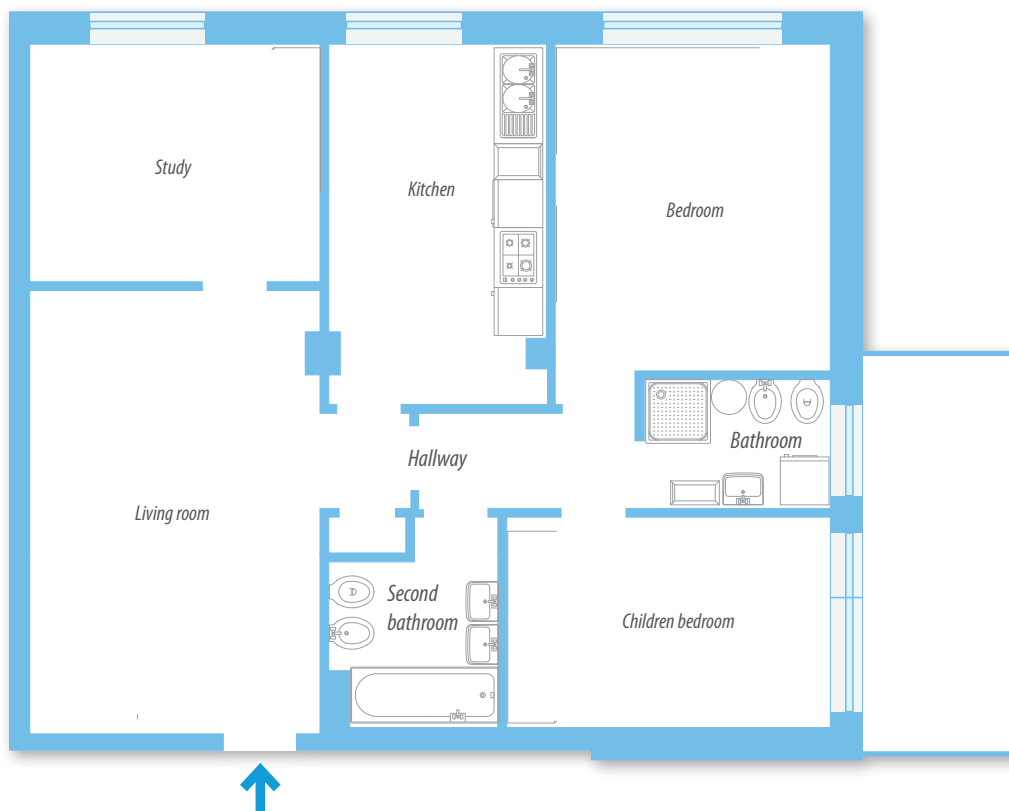
home automation applications, it is necessary that the layout of the house and a general furniture plan, are made available to the installer.

It is also important to check the accuracy of the details of the estimate in relation to the actual site.

In creating a system it will be necessary to take into account other factors based on the installation features:

- The layout of the conduits;
- The type of wiring;
- The coexistence of cables inside the same conduit.

Note: having the home layout is of primary importance for the correct design and setup of the system.



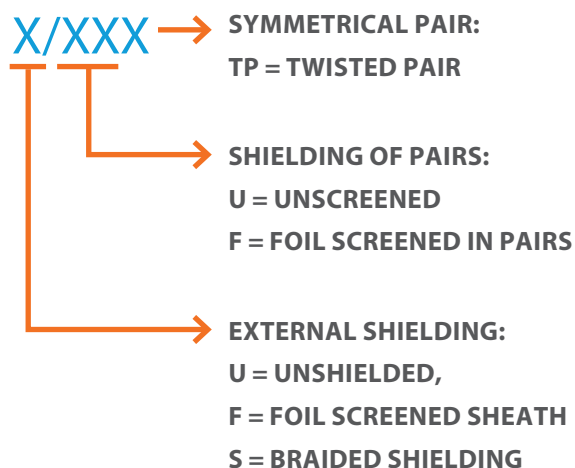
System cable

The D45 system only works correctly if CAT5E and CAT6 original cables are used. Twisted pairs offer good standard and differential immunity. The CAT5E and CAT6 cables must have a resistance value of 180 ohm/km (for every twisted pair).

BTICINO CABLE SOLUTIONS

	SHEATH	MARKING	STORAGE INSTALLATION TEMPERATURE	OPERATING TEMPERATURE
Cat. 6 U/UTP 100 Ω	PVC or LSZH cables conforming to standard NFC 32062, flame retardant conforming to standards IEC 332-1 and NFC 32070 2.1 - Ø 6.4 mm Colour: RAL 5015 blue	Bticino (4 pair or 2 x 4 pair) 24 AWG - UTP 100 ohms 250 Mhz (PVC or LSZH) CAT. 6 250 MHz EC VERIFIED TO ISO 11801 IEC 332-1 EN 50173-1 TIA/EIA 568A Batch no. + length in metres	0 to +50 °C	-20 to +60 °C
Cat. 5E U/UTP 100 Ω	PVC or LSZH cables conforming to standard NFC 32062, flame retardant conforming to standards IEC 332-1 and NFC 32070 2.1 - Ø 5.2 mm Colour: RAL 7035 light grey	Bticino CAT.NO (4 pair or 2 x 4 pair) 24 AWG UTP 100 ohms (PVC or LSZH) CAT. 5e EC VERIFIED TO ISO 11801 IEC 332-1 EN 50173-1 TIA/EIA 568A Batch no. + length in metres	-15 to +70 °C	+5 to +40 °C

NOTE: for all other types of cable, please contact the Bticino sales network.

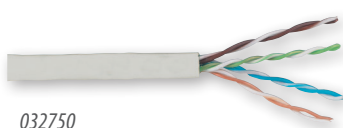


NEW REF.	OLD REF.	DESCRIPTION
U/UTP	UTP	Unshielded twisted multipair cable
F/UTP	FTP	Twisted multipair cable (external foil screen)
U/FTP	FTP PIMF	Shielded twisted multipair cable (foil screened in pairs)
F/FTP	FFTP	Shielded twisted multipair cable (foil screened in pairs and outer general shielding)
S/FTP	SFTP	Twisted multipair cable (foil screened in pairs and outer braid)

System cable

CABLES USED

CAT. 5E U/UTP CABLES

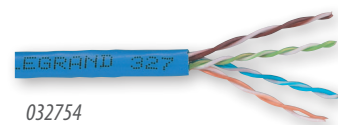


032750

Category 5E U/UTP unshielded cable with 24AWG (0.51 mm) solid copper conductors, polyolefin insulation, 4 pairs of twisted conductors with internal separator - in accordance with ISO/IEC 11801, and 2.0, EN 50173-1 and EIA/TIA 568 B2.10 standards - grey colour.

U/UTP	Sheath	Length	Packaging
032750	LSZH	305 m	box
032751	PVC	305 m	box
032873	LSZH	1000 m	reel
032874	PVC	1000 m	reel

CAT. 6 U/UTP CABLES



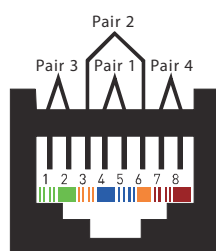
032754

Category 6 U/UTP unshielded cable with 24AWG (0.51 mm) solid copper conductors, polyolefin insulation, 4 pairs of twisted conductors with internal separator - in accordance with ISO/IEC 11801, and 2.0, EN 50173-1 and EIA/TIA 568 B2.10 standards - blue colour.

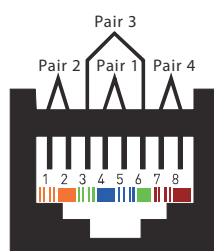
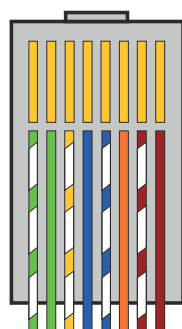
U/UTP	Sheath	Length	Packagings
032754	LSZH	305 m	reel
032871	LSZH	1000 m	reel
032872	PVC	1000 m	reel

Standard RJ45 connections for CAT5 cable

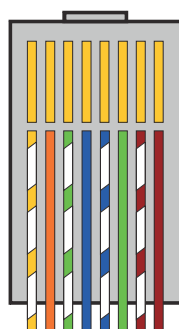
Two standards (T568A and T568B) of wires connection, both suitable, although it is recommended that they are not mixed in the same installation. Table 1 shows the two standards.



T568A



T568B



Where is Pin #1?



87654321



12345678

TABLE 1


PIN	T568A		T568B		SIGNAL
n°	pair	wire colour	pair	wire colour	
1	3		2		VIDEO +
2	3		2		VIDEO -
3	2		3		AUDIO +
4	1		1		POWER +
5	1		1		POWER -
6	2		3		AUDIO -
7	4		4		SCS-
8	4		4		SCS+

The four pairs are identified with different colours and each pair carries a different type of signal (see Table 1).

GENERAL RULES FOR INSTALLATION

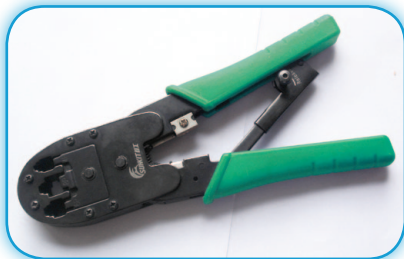
RJ45 connections

RJ45 WIRE MAP AND CONNECTION METHOD

WIRE MAP	1	2	3	4	5	6	7	8	1~8
Colour	White&orange	Orange	White&green	Blue	White&blue	Green	White&brown	Brown	
SIGNAL	Video+	Video-	Audio+	Power+	Power-	Audio-	Data-	Data+	

Wire specification: CAT cable.

1. Tools for making and testing CAT5 connections.

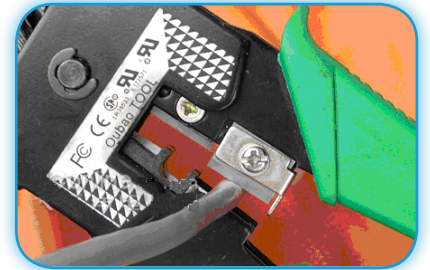


Wire crimping tool



Tester

2. Steps for making and testing CAT5 connections.



Step 1: Use the crimping tool to cut the desired length of Cat 5 cable



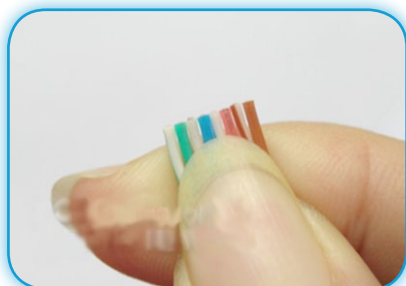
Step 2: remove the outer grey cable sheath. Use the crimping tool to cut the wire tips. Place the stripper on the cable, hold, twist and pull toward the cable end to strip the cable sheath off.



Step 3: separate the exposed coloured strands. Smooth out the strands and untwist each pair. Straighten out each wire and put them in order of colour. Make sure the cable is free of crimps and is straightened.



Step 4: after Straightening out each wire and putting them in colour order, check the order again. Use the tip of the crimping tool to cut the wire tips. You want to cut on a sharp slant. Otherwise, the difference in wire length will affect the contact with the RJ45 connector. If too much sheath is removed, just cut the bare wire lengths down as required. The bare wire length should be 1.5 mm. This length will make it easier to fit them to the RJ-45 connector.



Step 5: hold the RJ-45 connector between your fingers with the copper connectors face up. Slide the wires into the connector, ensuring that each coloured wire goes into its matching slot. Push the connector firmly against the wires.

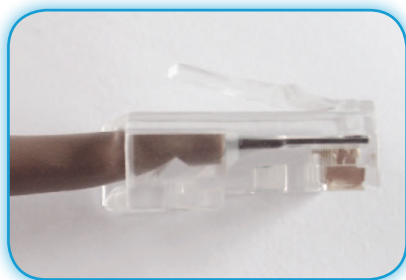


Step 6: before lock the wires inside the connector, check from the top of the connector to see that each wire is tightly connected to the copper connector.



Step 7: after the final check, place the attached RJ-45 connector into the wire crimping tool. Squeeze the crimper handles down to lock the wires in place inside the connector. When squeezing, a "click" sound should be heard.

The following picture shows a correctly fitted connector.



Step 8: test the cable.

Connect the two RJ45 connectors to the tester. Turn on the test. The two groups of lights will be flashing. If the 8 lights turn to green one by one, it means the cable is correctly assembled. Any red lights or yellow lights indicate an open circuit or bad connection.

Two wire cables must be used in the following conditions:

1. system power supply connection to floor shunt (323002);
2. addition power supply connection to Floor shunt;
3. P18V connection to IT1 P18V;
4. EP/ Backbone/main EP connection to door lock, EP/ Backbone/main EP connection to door lock and door lock connection to power supply.

Type DC-loop: $2 \times 1.0 \text{ mm}^2$

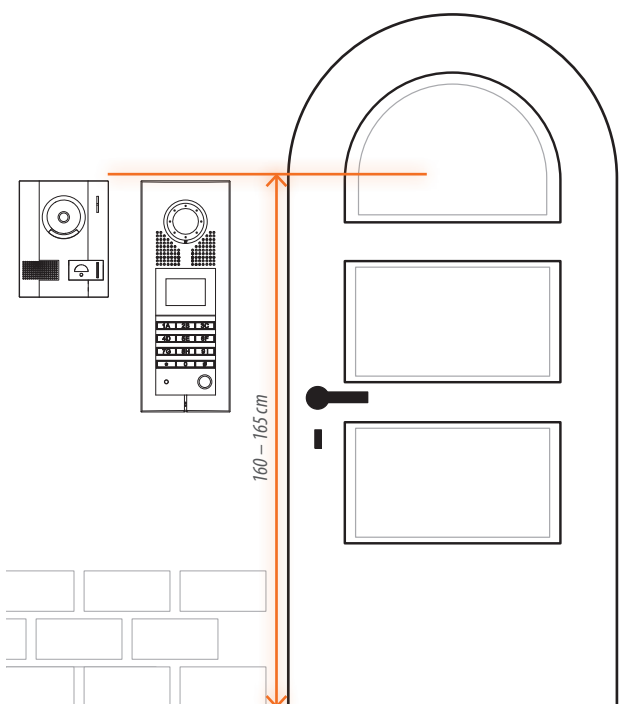
Resistance: $39.4 \Omega / 1 \text{ km}$

GENERAL RULES FOR INSTALLATION

Entrance panels and indoor handsets installation

SMALL EP/EP/MAIN EP INSTALLATION HEIGHT

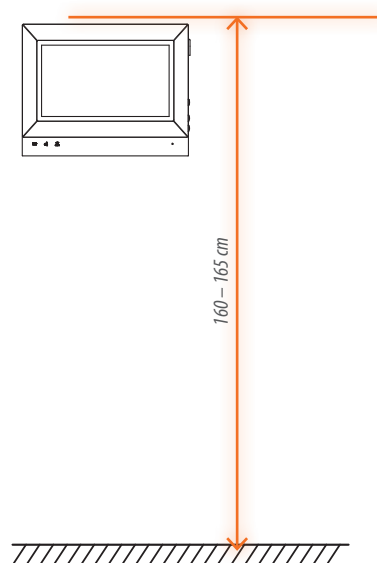
Below is the recommended installation height for the entrance panel:



Note: to allow use by disabled people, the device must be installed at a height of 120-125 cm.

HANDSET INSTALLATION HEIGHT

When installing audio or video internal units, it is advisable to position the devices as indicated here.



Note: to allow use by disabled people, the device must be installed at a height of 120-125 cm.

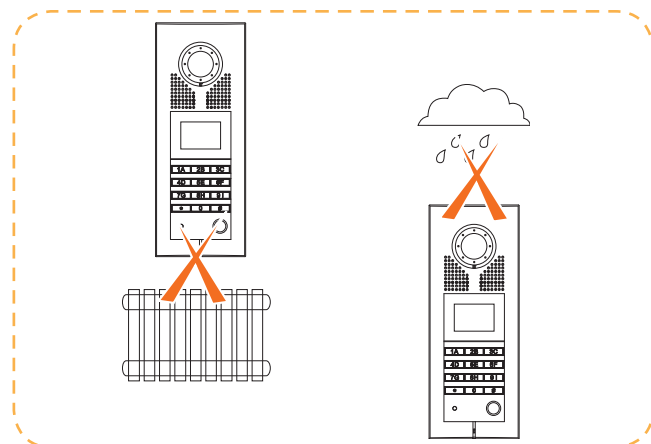
RECOMMENDATION FOR THE INSTALLATION

POSITION OF THE SMALL EP/EP/MAIN EP

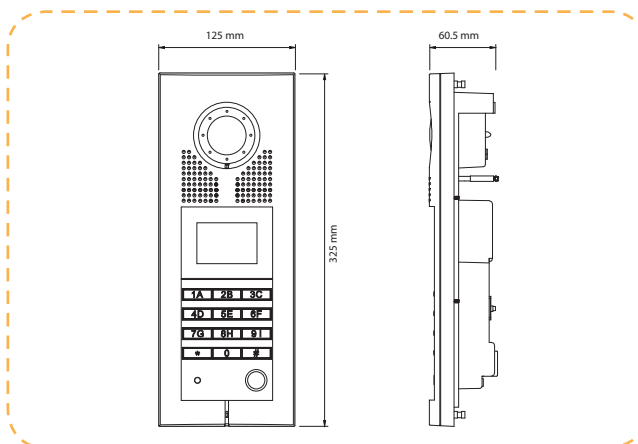
The most important condition to observe in the positioning of cameras is that they must not be turned towards light source (for example, lamps, sunlight, reflecting surfaces, etc.).

Entrance panel installation

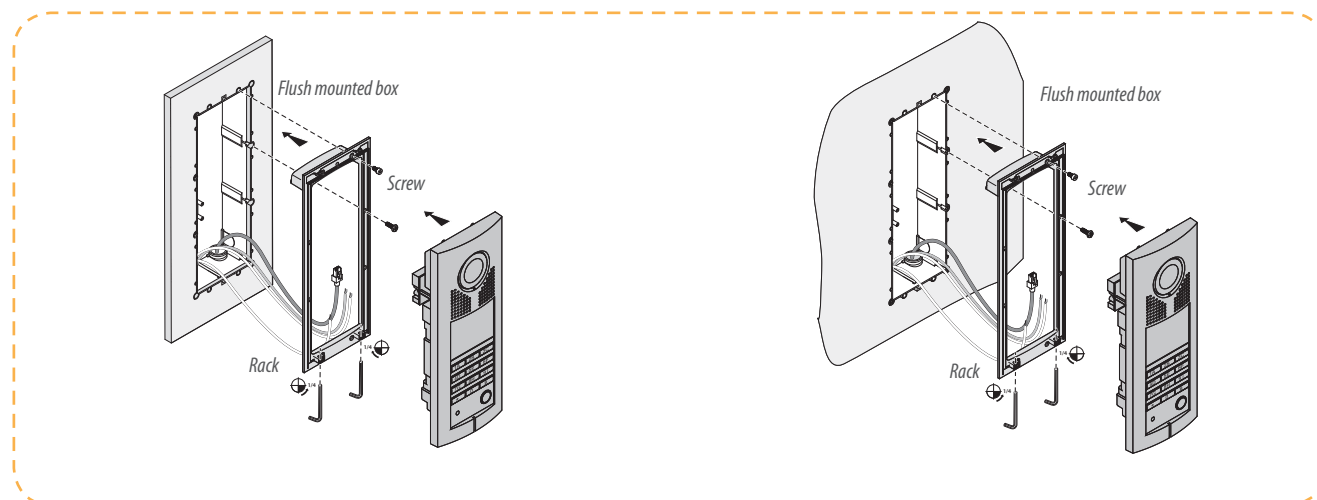
322010, 322011, 322030, 322032, INSTALLATION METHOD



Don't install in hot or damp places



Size overview



Install the EP on the door

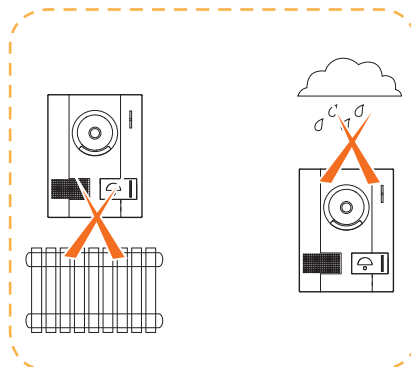
Install the EP on the wall

Note: the flush mounted box must be ordered separately.

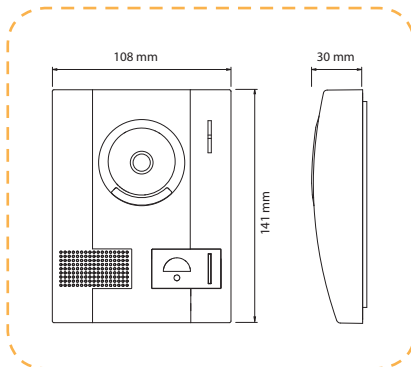
GENERAL RULES FOR INSTALLATION

Small entrance panel installation

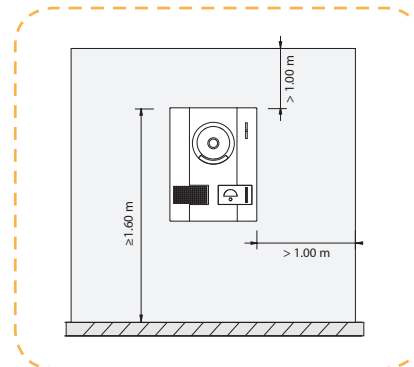
322020 INSTALLATION METHOD



Don't install in hot or damp places



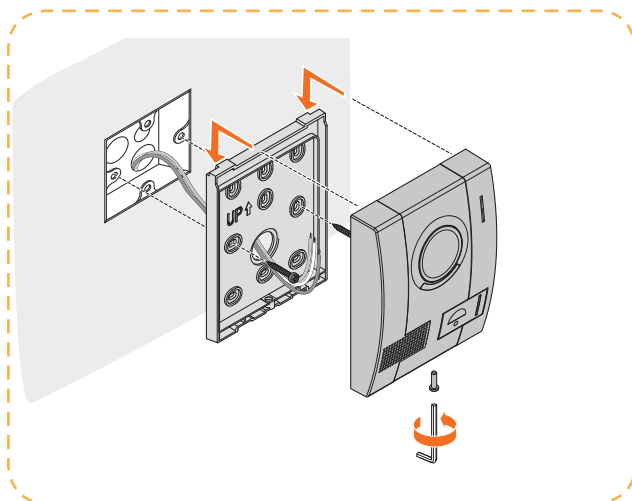
Size overview



Installation height and position

DO NOT INSTALL IN HOT OR DAMP PLACES

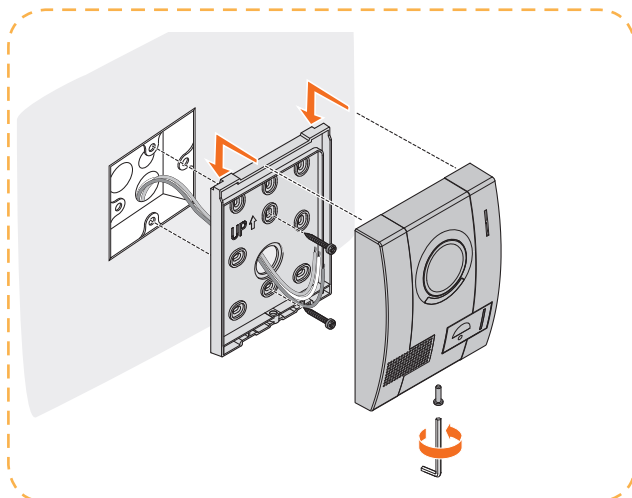
Installation method 1



Installation instruction:

1. Fix the base to the flush mounted box using the horizontal holes;
2. connect the cable to EP clamps and fit the cover to the body using the two grooves on the top;
3. secure the cover in position;
4. tighten up the bottom screw.

Installation method 2



Installation instructions:

1. Fix the base to the flush mounted box using the vertical holes;
2. connect the cable to EP clamps and fit the cover to the body using the two grooves on the top;
3. secure the cover in position;
4. tighten up the bottom screw.

General configuration concept

MEANING OF CONFIGURATION

Address codes are the numbers/ letters used by residents, visitors and Switchboard operators to identify the apartments or villas in the installation. The D45 system let you use this codes to make calls within the system. The composition of address codes follows the rules below: each handset (apartment or villa) of the installation must have one addressing code in order to be called by visitors and the Switchboard. The address code of each apartment depends on the position within the installation. **Inside the unit/riser each apartment can be addressed with a 4 digit code: FFII.** The first two digits refer to the

number of the floor (F F). The second two digits refer to the internal number inside the floor: (I I). The visitor calling the resident from the unit/riser entrance panel has to type these codes (push the button with the code printed on). **Outside the unit/riser each apartment can be addressed with a code consisting of 8 digits maximum: DDDD FFII.** The first four digits can be used in a flexible way to identify the unit/riser inside the installation: DDDD may refer to district/building address or building/unit address according to specific installation needs. In smaller installation less digits can be used (from 1 to 4).

The other four digits are the same of the addressing inside the unit/riser (F F I I). The visitor calling the resident from the wall entry panel or the main Switchboard has to type all the codes (minimum 5 - maximum 8). **Each digit can be a number from 0 to 9 or a letter from A to J (no mix of the two in the same digit).** The DDDD address can also be replaced by meaningful words (flowers, etc.): in this case the visitor/ user of the Switchboard must find the right name in the directory. (Only possible if the building main entrance panel and the Switchboard are configured from the PC).

SYSTEM CONFIGURATION

In order to allow:

- Visitors / Switchboards to issue the calls to the right handset (example using addressing codes);
- residents to issue the call to the intended Switchboard;
- right management of SOS push buttons, alarms pick up (Identify the apartment that issued the alarm, send the alarm to the right Switchboard);
- self-powering of the right building main EP or secondary EP from apartment and Switchboard;
- some devices of the system must be configured.

The configuration consists of two activities:

- decide the right numbers to obtain the intended function (a design/ project activity);
- teach to the physical device its proper configuration (an installation activity).

Both of these activities can be made easier by using a PC software – none of them needs it. As the complexity of the systems grows (in terms of topology and/or user function required) the advantage of using a PC to perform these activities also grows.

CONFIGURATION DESIGN

The configuration of the system is as close as possible to the address codes, not worrying installers with unusual rules. The configuration method is flexible, and offer two different configuration procedures: each configuration procedure can be applied to different types of installations (changing their limits/ systems possibilities):

Simplified configuration:

- Avoid using the PC;
- can only be used if units/riser have a number of floors and handsets for each floor set by us during specification of the "D45".

GENERAL RULES FOR INSTALLATION

General configuration concept

Flexible configuration:

- A PC can be used (but not mandatory) to simplify the installation project (not needed during the installation);
- can be used if units/risers have a number of floors and handsets that don't differ much from one another. (A table can explain when an installation can be configured in this way).

SIMPLIFIED CONFIGURATION

It is compulsory to configure:

1. Audio/video doorphone handsets. For each handset, its FFI address code must be configured, starting from flat number 1 and from floor number 1.
2. (Riser shunt). Each riser shunt must be configured in a progressive way starting from 1.

If in the entrance panel or Switchboard the progressive riser shunt address is used as the lowest two digits of DDDD, no configuration of the apartment/villa to call is needed in the Wall entrance panel or Switchboard. If the customer wants a complete DDDD address to call the apartment/villa, an association must be performed on the wall entrance panel and on the Switchboard between the riser shunt progressive address and the DDDD requested by the user. No PC support is needed/useful for these activities.

Using this configuration only the

default apartment functions are available.

With the simple configuration maximum 4000 apartments can be installed:

RISER SHUNTS (UNIT/RISER)	FLOORS	HANDSETS/ FLOOR
40	25	4
Alternatively we can have:		
16	40	6
25	40	4
22	30	6
20	25	8
or others ...].		

The simplified configuration can be applied to a standard installation or to a district of a multichannel installation inheriting the limits of the chosen configuration type.

FLEXIBLE CONFIGURATION

Before configuring the system two numbers must be decided:

- #FF maximum number of floors of the units/risers of the installation (a two digit number typical of the installation – max value 99).
- #II maximum number of apartments of the floors in the installation (a two digit number typical of the installation – max value 99).

It is compulsory to configure:

1. Audio/video doorphone handsets. For each handset, its FFI address code must be configured, starting from flat number 1 and from floor number 1 and the typical installation #ii number;
2. riser shunt each riser shunt must be configured progressively starting from 1 and the typical installation #ii number;
3. wall entrance panel and Switchboard. In each wall entrance panel and Switchboard, the #FF and #ii installation numbers must be configured.

If in the entrance panel or Switchboard the progressive riser shunt address is used as the lowest two digits of DDDD, no configuration of the apartment/villa to call is needed in the Wall entrance panel or Switchboard. If the customer want a complete DDDD address to call the apartment/villa, an association must be performed on the wall entrance panel and on the Switchboard between the riser shunt progressive address and the DDDD requested by the user. Using this configuration only the default apartment functions are available.

A PC is not needed to configure the system on the installation - it can be used during the project phase to easily identify and check if it is possible to configure the system following the flexible configuration method – it is an alternative to the table below.

The flexible configuration can be used in installation of up to 4000 apartments, with the maximum limits listed in the linked table (that can be shared with the people in charge of the configuration – and can be completed using how much row we want to communicate).

The simplified configuration can be applied to a simplified installation or to a district of the complete installation, inheriting the limits of the chosen configuration type.

NUMBERS OF RISER SHUNTS	NUMBERS OF FLOORS # FF	NUMBERS OF FLATS/FLOOR #II	NUMBER OF APART. IN EACH UNIT/RISER
99	10	4	40
20	50	4	200
11	90	4	360
66	10	6	60
13	50	6	300
7	90	6	540
50	10	8	80
10	50	8	400
5	90	8	720
25	10	16	160
5	50	16	800
12	10	32	320
6	20	32	640

DEFAULT BEHAVIOUR OF APARTMENT FUNCTIONS

The default functions are available both with simplified and flexible system configuration.

The default functions are:

- Self-powering of the main riser EP;
- repeated pression on self power on function changes on next address riser EP;
- call to Switchboard is to main Switchboard;
- alarm collected by main Switchboard.

PHYSICAL CONFIGURATION (INSTALLATION)

The devices may be configured in three ways:

- Use of physical configurators: this means placing the right numbered configurators in the devices in the right position (depending on the design of the configuration);
- define a procedure of configuration of each device that uses its resources (keypad, LCD,

LEDs, etc.) in order assign to the device the designated number;

- use the PC on the field to

download the results of the design configuration done on a PC, on to each device using its MAC address.

TOTAL NUMBER OF APARTMENTS IN THE INSTALLATION:	VIRTUALLY NO LIMITS
Number of apt. for each "district" (AS02: LAN-8Wire interface)	4.000 apt. or villas.
Total number of units/riser for each district	400
Total number of apt./villas for each riser:	800 (if only 1 handset in each apt.)
Total number of apt./villas for each riser:	400 (if only 2 handsets in each apt.)
Total number of apt./villas for each riser:	265 (if only 3 handsets in each apt.)
Total number of apt./villas for each riser:	800 (up to 5 handsets in each apt. with D45 apt. interface)

CONFIGURATION MODE FOR THE WHOLE SYSTEM

Two configuration modes available, configuration Mode 1 and configuration Mode 2. The main characteristics for each configuration Mode are described below:

1: Below are the rules for system configuration (Mode 1).

#FF FOR EACH RISER	#II FOR EACH FLOOR	CAN SYSTEM CONFIGURATION MODE 1 BE USED?
≤ 20	≤ 4	YES, but it is necessary to calculate the total number of handsets for whole system according to Mode 1 configuration. If the total number calculated is 4000 or less, Mode 1 configuration is possible, if the total number is over 4000, Mode 2 must be considered.
> 20	≤ 4	NO
≤ 20	> 4	NO
> 20	> 4	NO

GENERAL RULES FOR INSTALLATION

General configuration concept

For example: if the highest building of a project has 25 floors, and the max. number of apartment for floor is 8, with 15 risers in total. Then for Mode 2, the #FF should be 25, while #II should be 8. Make the calculations according to following table to judge if Mode 2 configuration can be used.

2: Below is an example explaining the rules for system configuration (Mode 2):

#FF FOR EACH RISER	#II FOR EACH FLOOR	TOTAL RISER	CAN SYSTEM CONFIGURATION MODE 2 BE USED?
25	8	15	$25 * 8 * 15 = 3000$ $3000 < 4000$ $30 - 25 * 8 * 30 = 6000$ $6000 > 4000$

HOW TO CHOOSE THE RIGHT CONFIGURATION MODE

- The biggest #FF number in the whole system ≤ 20 , the biggest #II number in the whole system ≤ 4 , and the number of risers ≤ 50 : system configuration Mode 1 is recommended.
- If the biggest #FF number in whole system is more than 20, or the biggest #II number is more than 4, please use system configuration Mode 1 to set #FF (choose the biggest #FF number in the system) and #II (choose the biggest #II number in the system), then calculate the total number of handsets in the system. If the total number ($\#FF * \#II * R$) is 4000 or less, use system configuration Mode 2.

SYSTEM CONFIGURATION MODES

There are 3 possible system configuration modes:

- Resistor configuration;
- local keyboard configuration;
- configuration using the configuration software, then download to the devices using the RS232 port.

Remarks:

for the 3 above configuration modes, the parameters to configure are the same, therefore it is not necessary to describe the configuration procedures separately. Below is an explanation of the resistor configuration as an example. The keyboard configuration is described in the product manual. The configuration using the RS232 port is described in the configuration software manual.

DEVICE RESISTOR CONFIGURATION



EP configuration examples

322010

DIGITAL ENTRANCE PANEL

CONFIGURATION

Possible EP configuration modes

	MODE 1	MODE 2
Resistor configuration	✓	✓
Keyboard configuration	✓	✓
RS232 configuration	✓	✓

⊙	⊙	⊙	⊙	⊙	⊙
N	N	#F	#F	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙

Note: the other configuration position C is for setting the Switchboard address number that will communicate with the EP directly. The configuration position C can only be configured using the EP keyboard or the configuration tool software.
(C default value: 0; this means that the Switchboard that will communicate with the EP is No.0).

MEANING OF EACH

CONFIGURATOR SOCKET PIN

NN: the number for the main EP, the number range is from 1 to 80, which means that the maximum main EP in riser is 80 (default value: 1).

#FF: typical floors per riser.

#II: typical number of handsets per floor.

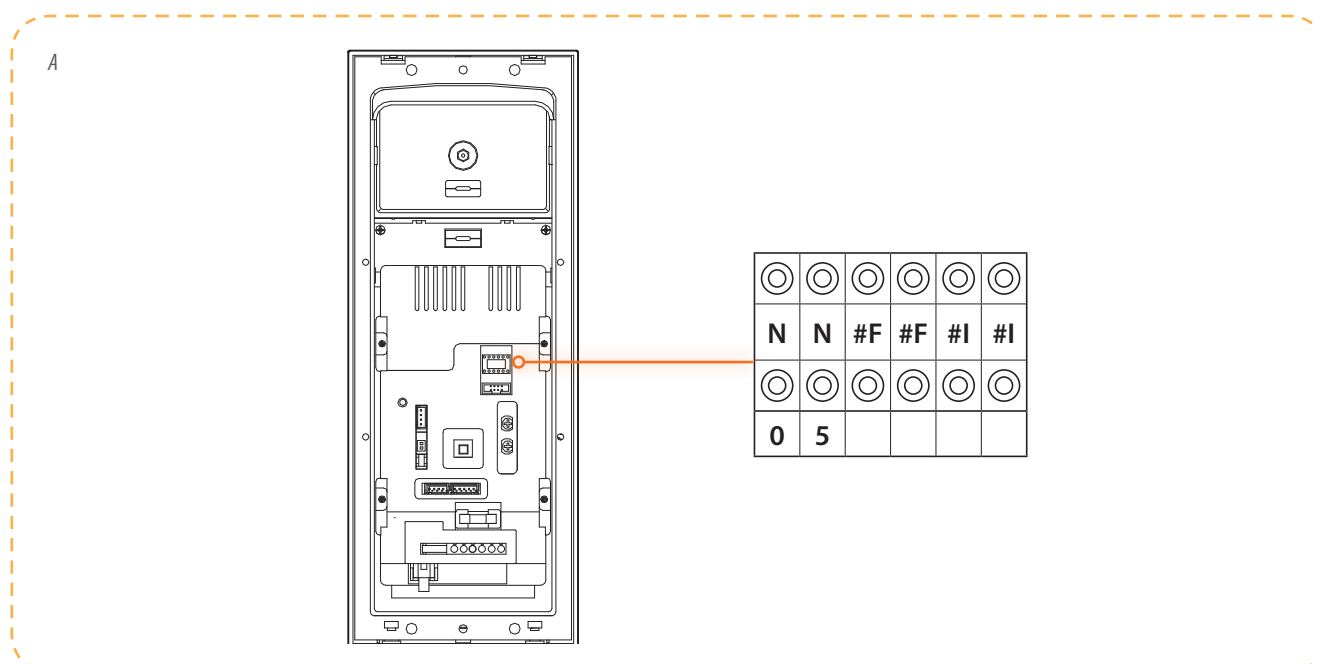
POSITION	MODE 1	MODE 2
N	NN	Mode 2= Mode 1
N		
	#FF is 20 (default). No need for configuration	#FF (use EP keyboard config or 323020 download config)
	#II is 4 (default). No need for configuration	(use EP keyboard config or 323020 download config)

Example (A):

EP address is 5, each riser has 20 floors, and each floor has 4 handset: system configuration Mode 1 is used. The Switchboard directly connected to the main EP is no. 2, main EP configuration should be as follows:

POSITION	VALUE FOR CONFIGURATOR	REMARKS
N	0	0
N	5	
#F		#FF is 20(default). No need for configuration
#F		
#I		#II is 4(default). No need for configuration
#I		

C 2 This position can use the EP keyboard or the configuration tool for the configuration.



GENERAL RULES FOR INSTALLATION

EP configuration examples

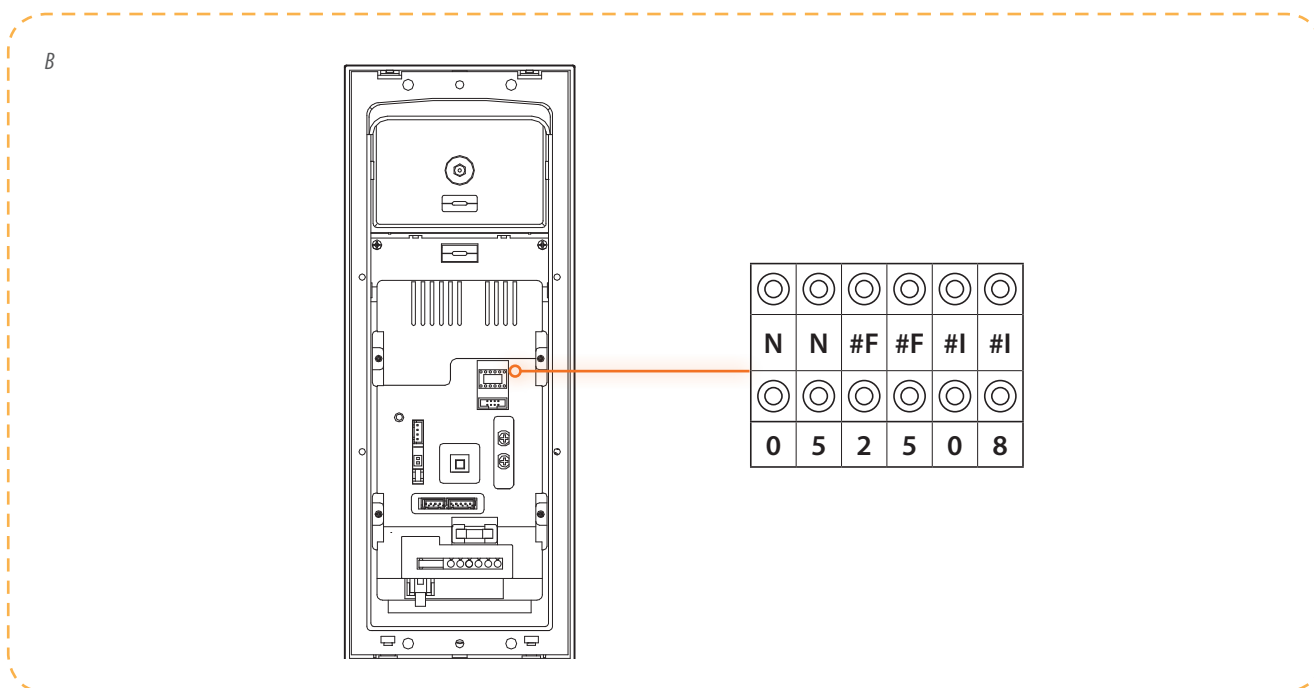
Example (B):

EP address, each riser has 25 floors,
and each floor has 8 handsets.
System configuration Mode 2 is used.
the Switchboard directly connected
to the main EP is no. 2 MC. Main EP
configuration should be as follows:

POSITION	VALUE FOR CONFIGURATOR	REMARKS
N	0	It is ok not to insert configurator 0
N	5	
#F	2	
#F	2	
#I	0	It is ok not to insert configurator 0
#I	8	

NOTE: there is an additional configuration slot "M".

M= switchboard address number - can be set only by keyboard or by SF2 software.



If configurator or keyboard
configuration is selected for the
main EP, the following conditions
must be met: all 323003 in the

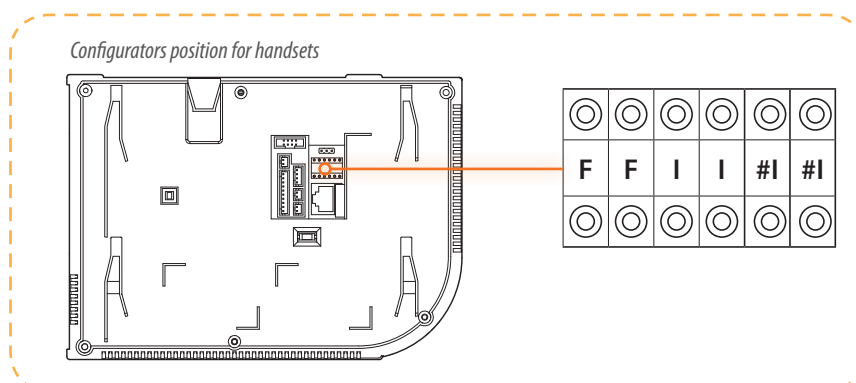
system should be numbered in
sequence. They must start from 1
and no number can be missed.

Handset configuration examples

321011

POSSIBLE HANDSET CONFIGURATION PROCEDURE

	MODE 1	MODE 2
Resistor configuration (only for Colour)	√	√
Keyboard configuration	√	√
RS232 configuration	×	×



MEANING OF EACH CONFIGURATOR SOCKET PIN

FF: Handset floor number.

II: handset household number.

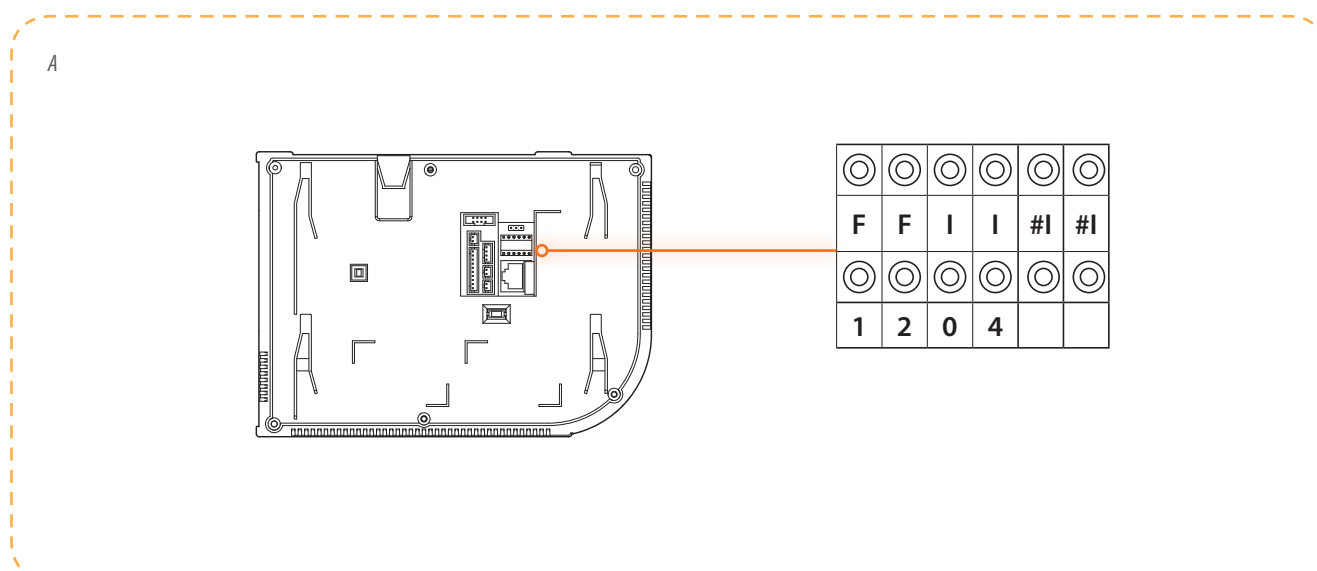
#II: typical number of handsets per floor.

POSITION	MODE 1	MODE 2
F	FF	FF
F		
I	II	II
I		
#I	Default for #II is 04, need not connect the configurator	II (#II setup using same value for all system handsets)
#I		

Example (A):

The number of handsets is 1204, each floor has 4 handsets, the system configuration Mode is Mode 1, the handset configuration should be as follows:

POSITION	CONFIGURATION VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	4	
#I		Because the default value of #II is 4, no configurator is needed
#I		



GENERAL RULES FOR INSTALLATION

Handset configuration examples

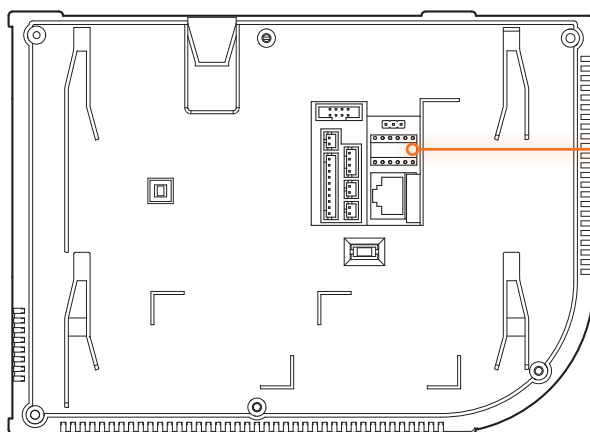
Example (B):

The number of handsets is 1206,
each floor has 8 handsets. System
configuration Mode 2 is used.

The handset configuration should
be as follows:

POSITION	VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	6	
#I	0	It is ok not to insert configurator 0
#I	8	

B



⊙	⊙	⊙	⊙	⊙	⊙
F	F	I	I	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙
1	2	0	6	0	8

Accessory configuration examples

323003

RISER SHUNT CONFIGURATION

Possible riser shunt configuration procedure.

	MODE 1	MODE 2
Resistor configuration	√	√
Keyboard configuration	√	√
Use RS232 configuration	×	×

MEANING OF EACH

CONFIGURATOR SOCKET PIN

NNNN: number of riser shunts.

#FF: typical floor number for riser.

#II: typical number of handsets

for each floor.

#Min handset: the lowest handset.

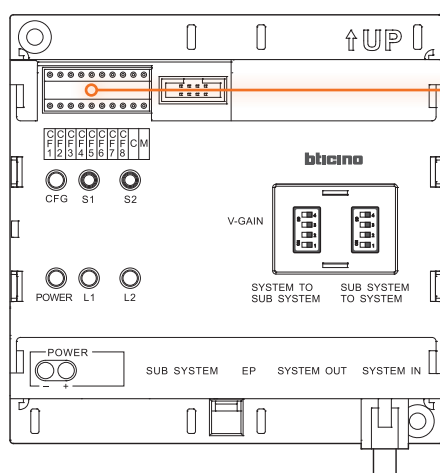
address managed by this riser shunt.

#Max handset: the highest handset

address managed by this riser shunt.

POSITION	MODE 1	MODE 2
CF1	NNNN	NNNN
CF2		
CF3		
CF4		
CF5	#FF is 20(default).	#FF
CF6	No need for configuration	(#II setup using same value for all system riser shunts)
CF7	#II is 4(default).	#II
CF8	No need for configuration	(#II setup using same value for all system riser shunts)
C	C	C
M	M	M

Riser shunt configuration position



CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
○	○	○	○	○	○	○	○	○	○
N	N	N	N	#F	#F	#I	#I	C	M
○	○	○	○	○	○	○	○	○	○

C: the Switchboard number that is the first priority for this riser.

If the number of the Switchboard is more than 9 (from 10 to 15), this parameter can only be set using the riser shunt keyboard or the SF2.

M: System configuration Mode.

If the selected configuration Mode is Mode 1 or Mode 2, this parameter is 0. If this configurator is set using

number 2, it means that this riser shunt is only used inside the riser to extend the maximum number of handsets (from 400 to 800).

If 323011 is present in the system or switchboard is install in the riser than

an additional configuration is needed for riser shunt as below listed: configuration can only be set by SF2 software or by keyboard.

CONFIGURATION BIT	DEFINITION	REMARK
CF11 CF12	First EP number in this riser	From 1 to 80
CF13 CF14	Riser EP quantity of riser	
CF15 CF16	Riser switchboard number	From 1 to 15

GENERAL RULES FOR INSTALLATION

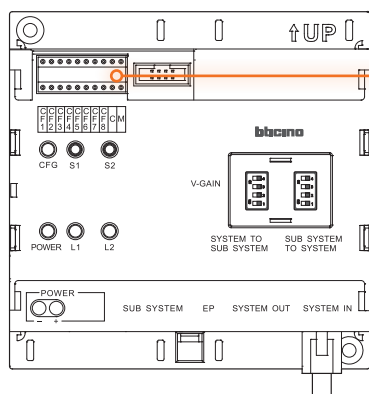
Accessory configuration examples

Example (A):

The number of riser shunts is 5, each riser has 20 floors, and each floor has 4 handsets. The Switchboard that can be called directly by this riser is no. 2. System configuration Mode 1 is used. The riser shunt configuration should be as follows:

POSITION	MODE 1	VALUE FOR CONFIGURATOR	REMARKS
CF1	N	0	0 no config needed
CF2	N	0	0 no config needed
CF3	N	0	0 no config needed
CF4	N	5	
CF5	#F		#FF is 20 (default)
CF6	#F		No need for configuration
CF7	#I		#II is 4 (default)
CF8	#I		No need for configuration
C	C	2	
M	M	0	0 no config needed

A



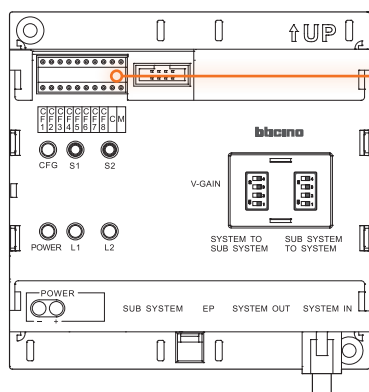
CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
○	○	○	○	○	○	○	○	○	○
N	N	N	N	#F	#F	#I	#I	C	M
○	○	○	○	○	○	○	○	○	○
0	0	0	5					2	0

Example (B):

The number of riser shunts is 5, each riser has 25 floors, and each floor has 8 handsets. The Switchboard that can be called directly by this riser is no.--># System configuration Mode 2 is used. The riser shunt configuration should be as follows:

POSITION	MODE 1	VALUE FOR CONFIG.	REMARKS
CF1	N	0	It is ok not to insert configurator 0
CF2	N	0	It is ok not to insert configurator 0
CF3	N	0	It is ok not to insert configurator 0
CF4	N	5	
CF5	#F	2	
CF6	#F	5	
CF7	#I	0	It is ok not to insert configurator 0
CF8	#I	8	
C	C	2	It is ok not to insert configurator 0
M	M	0	It is ok not to insert configurator 0

B



CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
○	○	○	○	○	○	○	○	○	○
N	N	N	N	#F	#F	#I	#I	C	M
○	○	○	○	○	○	○	○	○	○
0	0	0	5	2	5	2	8	2	0

323005**POWER SUPPLY CONFIGURATION**

Possible configuration way for power supply

	MODE 1	MODE 2
Resistor configuration	√	√
Keyboard configuration	√	√
RS232 configuration	√	√

MEANING OF EACH CONFIGURATOR SOCKET PIN

NNN: Power supply address (range 1–256), only when TYP= 1, the power supply address will be valid. It means when TYP= 0, there is no need to configure NNN.

FF Min: the floor number where this power management starts from.

FF Max: the floor number where this power management ends. FF Max must over or equal to FF Min.

#II: number of apartments on each floor (at Mode 1, the default number is 4, no need to set).

#Min handset: the address of the first address managed by this

CONFIGURATION	MODE 1 (1 PWS FOR EACH FLOOR)	MODE 2
N	NNN	NNN
N		
N		
CF4	FF Min	FF Min
CF5		
CF6	FF Max	#II
CF7		
CF8		
CF9	FF Max	FF Max
CF10		
CF11		
Type	Type	Type
ASR	ASR	ASR
M	M	M
LE	LE	LE

power supply).

#Max handset: the last handset address managed by this Power supply).

TYP: configuration position for the power supply function. Used to enable or disable the power supply management function and the smart power function.

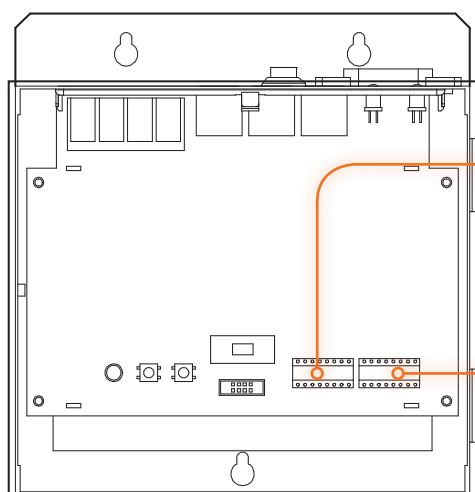
ASR: set how much current the

power supply will offer to each handset for the alarm function.

M: position to choose configuration Mode. connecting configurator 0 means choosing Mode 1 or Mode 2.

LE: configuration position for smart power supply management. Only valid when TYP=1. When TYP= 0, no need to configure that position.

Configurators position for power supply



N	N	N	CF4	CF5	CF6	CF7
⊙	⊙	⊙	⊙	⊙	⊙	⊙
N	N	N	FF min	FF min	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙	⊙

CF8	CF9	CF10	CF11	TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
FF max	FF max			TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

GENERAL RULES FOR INSTALLATION

Accessory configuration examples

TYP: configuration position for the power supply function (√ means that this function is available, X means that this function is not available).

TYP	POWER SUPPLY MANAGEMENT FUNCTION	SMART POWER FUNCTION
0	×	×
1	√	√
2	×	√

Power supply management:

In the systems with a standby battery (optional), in case of AC power cut the handset will automatically enter energy saving Mode, saving energy for the alarm function. For systems with alarm function and standby battery it is recommended that the power supply management is kept on.

Smart power supply:

This allows the max quantity of working small EP when power is supplied normally. For projects including small EP, we suggest that the power supply is used as auxiliary power supply and that the smart power supply function is kept on. When type= 0, no

configuration is necessary.

ASR: alarm sinking reserve of each apartment supplied by the PS.

LE: configuration position for smart power supply function. This position controls when to enter energy-saving Mode under different situations.

0 AC is not an not energy saving

1 AC is not an not energy saving

NOT energy saving: all the system functions are allowed. This Mode is not Energy saving. Energy saving: parts of the system functions (such as video) are disabled in order to save energy.

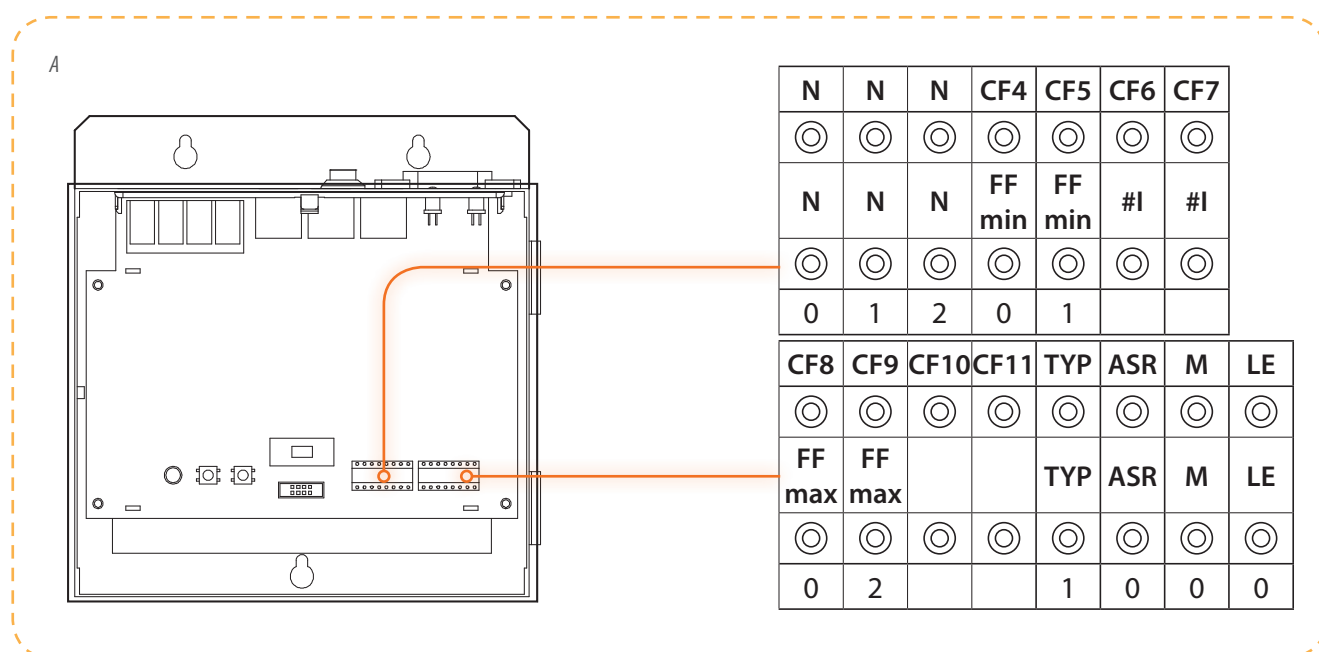
ASR = ALARM SINKING RESERVE OF EACH APARTMENT SUPPLIED BY THE PS

0	300 mA (Default (Max))
1	0 mA
2	50 mA
3	85 mA
4	120 mA
5	150 mA
6	180 mA
7	210 mA
8	240 mA
9	270 mA

Example (A):

This riser has 20 floors, and each floor has 4 handsets. This power supply manages 1-2 floors. If necessary enable the smart power function and power management function, the power supply address is 12, the max current of the alarm sensor is 300 mA. System configuration Mode 1 is used. The power supply configuration should be as follows:

POSITION	MODE 1	VALUE FOR CONFIGURATOR	REMARKS
CF1	N	0	
CF2	N	1	
CF3	N	2	
CF4	FF Min	0	
CF5	FF Min	1	
CF6	#I		Default is 4 apartments. 0 means 4 apartments0.
CF7	#I		
CF8	FF Max	0	
CF9	FF Max	2	
CF10	CF10		For Mode 1 and Mode 2, CF10 and CF11 do not apply
CF11	CF11		
CF12	Type	1	
CF13	ASR	0	
CF14	M	0	
CF15	LE	0	



GENERAL RULES FOR INSTALLATION

Accessory configuration examples

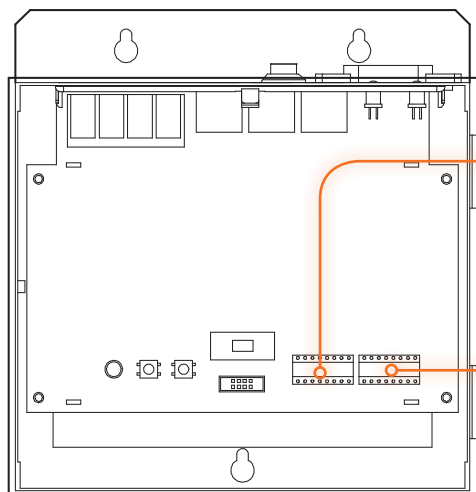
Example (B):

This riser has 20 floors, and each floor has 5 handsets. This power supply manages 1-2 floors.

If necessary enable the smart power function and the power management function, the power supply address is 12, max current of the alarm sensor is 300 mA. System configuration Mode 2 is used. The power supply configuration should be as follows:

POSITION	MODE 1	VALUE FOR CONFIGURATOR	REMARKS
CF1	N	0	
CF2	N	1	
CF3	N	2	
CF4	FF Min	0	
CF5	FF Min	1	
CF6	#I	0	
CF7	#I	5	
CF8	FF Max	0	
CF9	FF Max	2	
CF10	CF10		Here configuration is not necessary for Mode 1 and Mode 2
CF11	CF11		
CF12	Type	1	
CF13	ASR	0	
CF14	M	0	
CF15	LE	0	

B



N	N	N	CF4	CF5	CF6	CF7
⊙	⊙	⊙	⊙	⊙	⊙	⊙
N	N	N	FF min	FF min	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	1	2	0	1	0	5

CF8	CF9	CF10	CF11	TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
FF max	FF max			TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	2			1	0	0	0

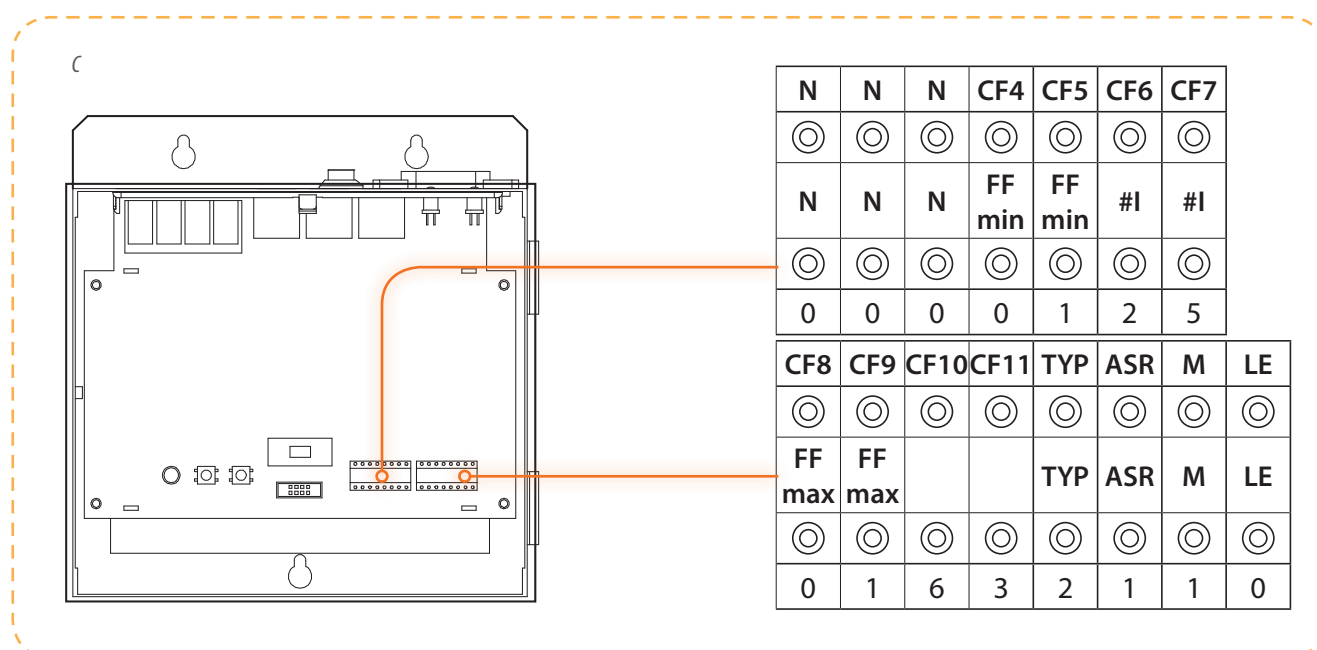
Example (C):

If necessary enable the smart power function, no need for the power management function (if no management function, the power supply address does not need to be set), the range of handset addresses managed by the power supply is 125-163.

Without alarm, it means that the current of alarm sensor is 0 mA. The system used Mode 3 configuration.

The power supply configuration should be as follows:

POSITION	MODE 1	VALUE FOR CONFIGURATOR	REMARKS
CF1	N	0	
CF2	N	0	
CF3	N	0	
CF4	FF Min	0	
CF5	FF Min	1	
CF6	#I	2	
CF7	#I	5	
CF8	FF Max	0	
CF9	FF Max	1	
CF10	CF10	6	
CF11	CF11	3	
CF12	Type	2	
CF13	ASR	1	
CF14	M	1	
CF15	LE	0	



GENERAL RULES FOR INSTALLATION

Accessory configuration examples

323005 - POWER SUPPLY

CONFIGURATION CHOOSING

THE SYSTEM POWER SOLUTION

■ Solution 1: PWS 323005 will be chosen as system power supply inside the riser while auxiliary PWS (323010) will be chosen for all the auxiliary power supply.

■ Solution 2: PWS 323005 will be chosen for both system power supply inside the riser and auxiliary power supply.

Note: when the system includes Small EP, solution 2 will be helpful to avoid possible damage to the power supply in the system. When the system has handsets connected to Small EP, sometimes if several Small EP call handsets at the same time, a power supply overload may occur. Under this situation there is a risk of damage to the power supply.

Suggested power supply solution and related configuration:

NO.	SYSTEM		PWS SOLUTION	CONFIGURATION WHEN PWS IS SYSTEM POWER SUPPLY (IMPEDANCE SWITCH OF PWS MUST BE ON)						CONFIGURATION OF PWS AND AUXILIARY PWS WHEN PWS IS AUXILIARY POWER SUPPLY (IMPEDANCE SWITCH OF POWER SUPPLY MUST BE OFF)					
	ALARM	SMALL EP		CF1 ~ CF3 (NNN)	CF4 ~ CF11	CF12 (TYPE)	CF13 (ASR)	CF14 (M)	CF15 (LE)	CF1 ~ CF3 (NNN)	CF4 ~ CF11	CF12 (TYPE)	CF13 (ASR)	CF14 (M)	CF15 (LE)
1	No	No	1	X	X	X	X	X	X	Here use Auxiliary Power supply, configuration is not necessary.					
2	No	No	1	X	X	X	X	X	X						
3	Yes	No	1	X	X	X	X	X	X						
4	Yes	No	1	NNN	X	1	0.2 – 9	1	X						
5	No	Yes	2	NNN	√	1	1	0/1	X	X	√	2	1	0/1	X
6	No	Yes	2	NNN	√	1	1	0/1	X	X	√	2	1	0/1	X
7	Yes	Yes	2	NNN	√	1	0.2~9	0/1	X	X	√	2	0.2 – 9	0/1	X
8	Yes	Yes	2	NNN	√	1	0.2~9	0/1	X	X	√	2	0.2 – 9	0/1	X

Note

X: it means no configurator is needed and the configuration position is 0; others need a configurator with corresponding value.√: It means configuration is needed. For the configuration procedure refer to the system configuration chapter.

Lock type and distance limits

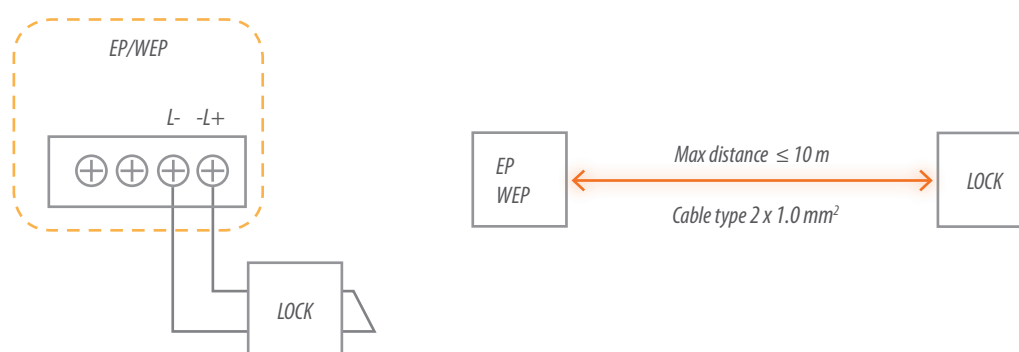
RECOMMENDED RJ45 CONNECTOR

The actual working environment may be damp or hot, which can cause inferior RJ45 connectors to rust.

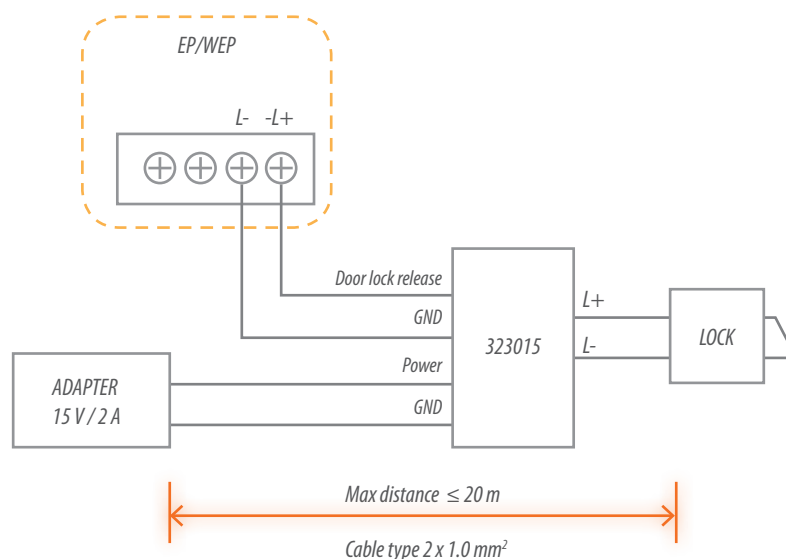
We recommend that Legrand/Ortronics connectors are used (see specific catalogue).

The types of door locks below are also recommended (shows diagram as figure 1).

No need of power for door lock during stand-b, Door lock release Voltage: DC12 V, Door lock release Current: ≤ 1 A, Time needed to release the lock (output voltage to release the lock) : ≤ 100 ms



If the current required for the door lock is more than 1A (DC12 V), the use of an additional power supply is required instead of obtaining power from the EP. The connection is shown below:



The door lock receives power from an additional power supply, without absorbing any current from the EP. In some cases, other types of door locks may be used for EPs or main EP.

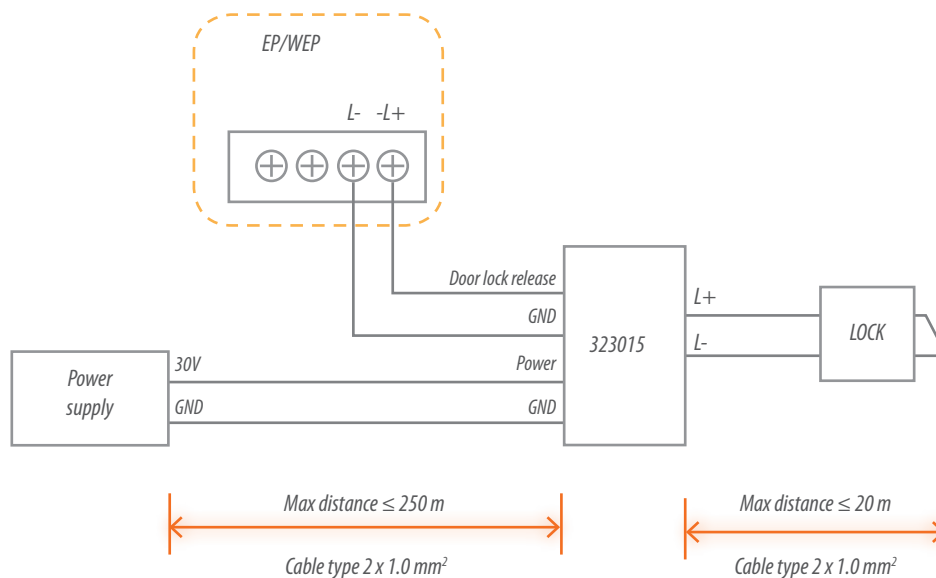
The main characteristic recommended for door locks are below.
Need power for lock in stand-by.
Stand-by Voltage: DC12.
Maximum stand-by Current: ≤ 0.3 A.

Door lock release method: Stop powering the door lock.
Time needed to release the lock: Adjustable.

GENERAL RULES FOR INSTALLATION

Lock type and distance limits

For this kind of door lock, an additional power supply must be used. The connection method is shown below.



The Power supply in the above drawing is the system riser power supply. It can be shared by the riser shunt without the need for an auxiliary Power supply.

The power supply is the auxiliary

EP power supply (in some cases the riser has several EP.

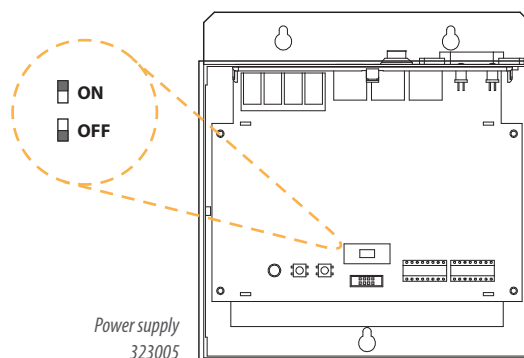
In this case auxiliary power supply will be needed; additional power supply is also needed if the main EP cable is too long).

The door lock accessory can be directly connected to this power supply without the need for an additional one.

Power supply installation rules

There are two kinds of power supplies for D45 systems, the system and the auxiliary power supply.

323005	323010
Can be system PWS (when impedance switch is ON)	Can be auxiliary PWS (when impedance switch is OFF) Auxiliary PWS only



Comparison between Power supply and Auxiliary Power supply.

FUNCTION	323005		323010
	SET TO BE SYSTEM PWS	SET TO BE AUXILIARY PWS	AUXILIARY PWS
Supply power to devices	√	√	√
Power supply management	√ (can be on or off)	× (off)	× n/a
Smart power supply	√ (can be on or off)	√ (can be on or off)	× n/a
Supply power to data communication cable	√	×	×
Impedance matching	√	×	×

From above table, it is found that the biggest feature of 323005 is that: it's capable of supplying power to the data communication cable, and offer impedance matching for the audio channel at the same time. Therefore, In the project, usually PWS smart power supply is used as system power; only when the system needs auxiliary power supply with smart function, the PWS will be set as auxiliary power supply; otherwise, the auxiliary power supply will be used.

Riser shunt:

Where system power supply is needed: in D45 systems it is possible to use only 323003, 323019 (able to extend quantity of handsets inside riser) and 323009 (able to connect 5 handsets) to separate audio cable and data communication cable.

In order to supply power to each data communication cable segment

and matching audio impedance, it is necessary to install one (only one is allowed) system power supply in each separated area. Other power supplies must be auxiliary power supply (323010 or 323005 set as auxiliary power supply).

Note: 323003 only separate in the direction towards the riser. Never separate from riser to BUS!

RECOMMENDED PWS SOLUTION AND RELATED CONFIGURATION

NO.	INSTALLATION STATUS OF SYSTEM		POWER SUPPLY SOLUTION	CONFIGURATION WHEN POWER SUPPLY IS SYSTEM POWER SUPPLY (impedance switch of Power supply must be ON)						CONFIGURATION OF POWER SUPPLY & A POWER SUPPLY when Power supply is assistant power supply (impedance switch of Power supply must be OFF)					
	alarm	Small EP		CF1 ~ CF3 (NNN)	CF4 ~ CF11	CF12 (Type)	CF13 (ASR)	CF14 (M)	CF15 (LE)	CF1 ~ CF3 (NNN)	CF4 ~ CF11	CF12 (Type)	CF13 (ASR)	CF14 (M)	CF15 (LE)
1	none	none	1	X	X	X	X	X	X	Under these four condition, using auxiliary power supply no need configure					
2	none	none	1	X	X	X	X	X	X						
3	have	none	1	X	X	X	X	X	X						
4	have	none	1	NNN	X	1	0.2~9	1	X						
5	none	have	2	NNN	√	1	1	0/1	X	X	√	2	1	0/1	X
6	none	have	2	NNN	√	1	1	0/1	X	X	√	2	1	0/1	X
7	have	have	2	NNN	√	1	0.2~9	0/1	X	X	√	2	0.2~9	0/1	X
8	have	have	2	NNN	√	1	0.2~9	0/1	X	X	√	2	0.2~9	0/1	X

Note:

(X:) It means no configurator is needed and the configuration position is 0; others need a configurator with corresponding value.

(√:) It means configuration is needed. For the configuration procedure refer to the system configuration chapter.

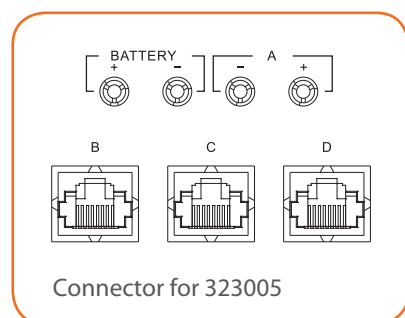
CF1~CF15 is the configuring position for 323005. For the detailed meaning and configuration method please check the system configuration chapter.

CONNECTION AND SETUP

PROCEDURE FOR 323005

(Set 323005 as system power supply)

Difference for each connector

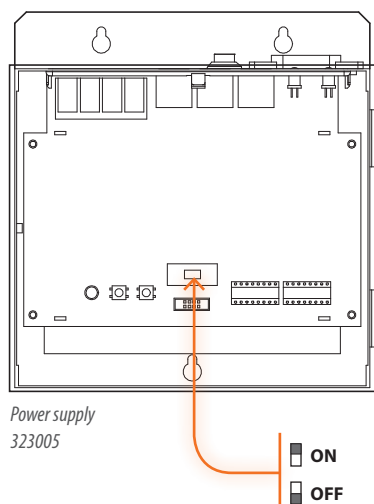


	LINE COLOUR	POWER CONNECTION	VIDEO CONNECTION	AUDIO CONNECTION	DATA CONNECTION
	Red	√			
	Black	√	√	√	√
	Black	√	√	√	√
	Green		√	√	√

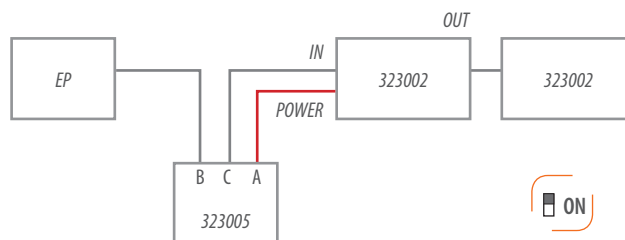
GENERAL RULES FOR INSTALLATION

Power supply installation rules

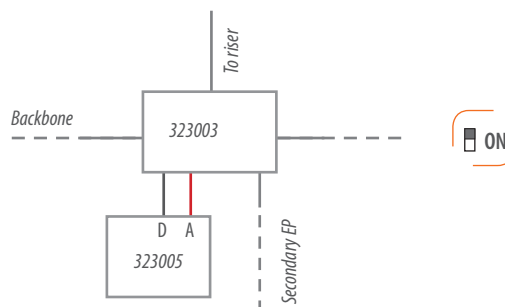
Impedance switch



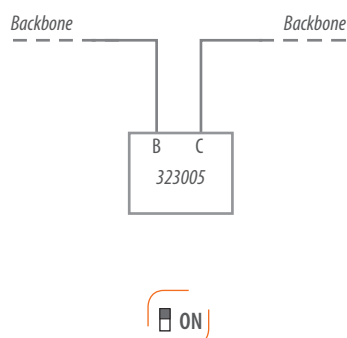
1) When there is no riser shunt in the system, the system power supply should be connected and set as following drawing:



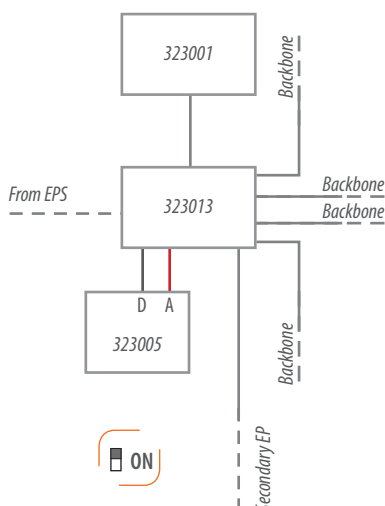
2) When there is riser shunt in the system, the system power supply should be connected and set as following drawing:



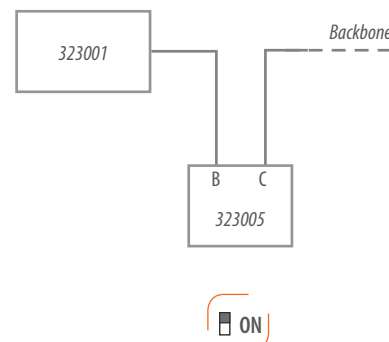
3) When there is no 323013 on the system BUS, the system power supply on the BUS should be connected and set as per the following drawing:



4) When there is no 323013 on the system BUS, the system power supply on the BUS should be connected and set as per the following drawing:

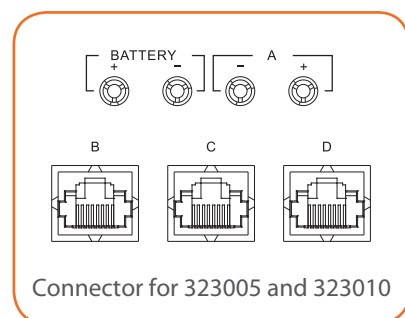


5) When there is a Switchboard in the system, 323001 will get power from system BUS power supply. The system BUS power supply should be connected and set as per the following drawing:

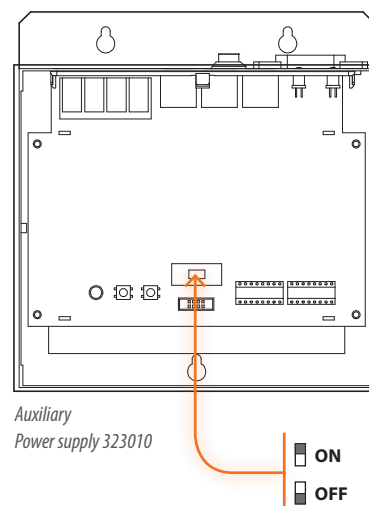


CONNECTOR FOR 323005 AND 323010

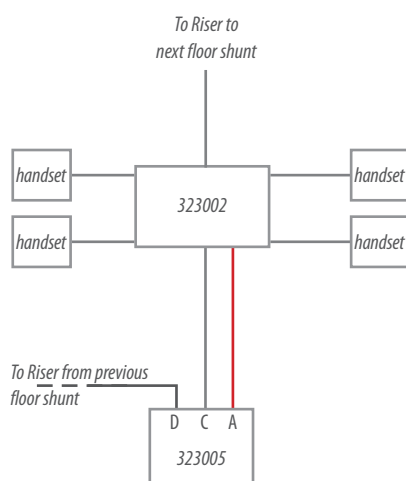
(Set PWS as additional power supply) or 323010



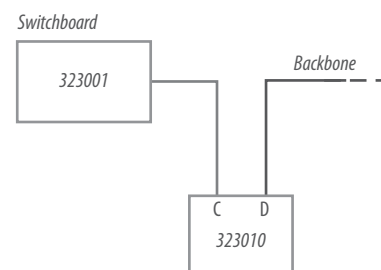
1. 323010 doesn't have an impedance setting switch, and can only be used as auxiliary power supply.
2. if using 323005 as auxiliary power supply, the impedance setting switch of 323005 must be switched to off as per the following drawing:



1) the connection of the auxiliary power supply inside the riser:



2) When there is a Switchboard in the system, the Switchboard will get power from the BUS system auxiliary power supply. Connection should be as per the following drawing:



GENERAL RULES FOR INSTALLATION

Power supply check and calculation

Before proceeding to the system installation, it is necessary to check the power supply of the whole system:

1. Check that the power supplies are enough to supply the power current needed by the devices to install the system.
2. Check that the distance (in meters of cable) between power supply and devices allows the devices to get enough power supply voltage to work correctly.
3. Maximum distance between Floor shunt and handset Maximum distance = 50m (CAT5 Cable).

TYPE OF HANDSETS

The video handset can be of different types depending on the power consumption:

TYPE OF HANDSETS	1	2	3	4	5	6	7	8	9	10	11	12
Colour							●	●	●	●	●	●
With alarm		●	●		●	●		●	●		●	●
With secondary entrance panel				●	●	●				●	●	●
100 mA current alarm sensor			●			●			●			●
300 mA current alarm sensor		●			●			●			●	

The maximum quantity of handsets and EP that the riser system power supply can accept:

TYPE OF HANDSETS	1	2	3	4	5	6	7	8	9	10	11	12
1 EP + Riser shunt (without A/C)	40	4	12	4 [*1]	[*N]	4 [*2]	52	4	12	24 [*1]	4 [*1]	4 [*1]
2 EP + Riser shunt + Entrance panel + video mixer (without A/C)	32	4	8	4 [*1]	[*N]	4 [*2]	44	4	12	20 [*1]	[*N]	4 [*1]
3 EP + Riser shunt + Entrance panel + video mixer (without A/C)	28	4	4	[*N]	[*N]	4 [*2]	38	4	8	12 [*1]	[*N]	[*N]
4 EP + Riser shunt + Entrance panel + video mixer (without A/C)	24	[*N]	4	[*N]	[*N]	[*N]	36	4	8	8 [*1]	[*N]	[*N]
5 EP + Riser shunt + Entrance panel + video mixer (without A/C)	20	[*N]	4	[*N]	[*N]	[*N]	36	4	4	4 [*1]	[*N]	[*N]
1 EP + Riser shunt (with A/C)	36	4	8	4 [*1]	[*N]	4 [*2]	48	4	12	20 [*1]	4 [*1]	8 [*1]
2 EP + Riser shunt + Entrance panel + video mixer (with A/C)	24	[*N]	4	[*N]	[*N]	[*N]	36	4	8	8 [*1]	[*N]	4 [*1]
3 EP + Riser shunt + Entrance panel + video mixer (with A/C)	16	[*N]	4	[*N]	[*N]	[*N]	28	[*N]	4	4 [*1]	[*N]	4 [*1]
4 EP + Riser shunt + Entrance panel + video mixer (with A/C)	4	[*N]	[*N]	[*N]	[*N]	[*N]	16	[*N]	4	[*N]	[*N]	4 [*1]
5 EP + Riser shunt + Entrance panel + video mixer (with A/C)	[*N]	[*N]	[*N]	[*N]	[*N]	[*N]	4	[*N]	[*N]	[*N]	[*N]	[*N]

TABLE 1

*N: in this condition (EPs quantity), the riser system power supply cannot provide current to this kind of handset, an additional power supply must be used.	*1: 2 small EP and 1 EP can work at the same time with handsets connected to the same power supply.	*2: 1 small EP and 1 EP can work at the same time with handsets connected to the same power supply.
--	---	---

The information of table is 5 based on below condition

1. 50 m cable from Floor shunt to handset and 5m cable between floors.	5. When using an entrance panel video mixer in the riser (more than one EP in the riser), the distance between entrance panel video mixer and riser shunt is 0.5 m.	to above table. But these 40 handsets need to be arranged as 4 apartments per floor.
2. 0.5 m cable between Floor shunt and Floor shunt in same floor for the projects with more than one floor shunt on each floor.	6. The data listed in above table are the requirements based on 4 apartments per floor.	If the height of each floor is 5 m, the height limit should be applied at the same time, which means $(40/4 - 1) * 5 = 45$ m.
3. Between Power supply and 1st Floor shunt or riser shunt, for the connection use 2 wire cables.	For example: if riser use type of handset, and there is only one EP without a/C, then we could found that this system power supply can afford other 40 handsets except EP and riser shunt according	7. If the riser EP get power from an auxiliary power supply, the riser system power supply only provide power to riser shunt, the floor shunt and the handsets.
4. Type of door lock release for EP is DC12 V/1 A., release time 100 ms or less. The door lock does not need power during.		

GENERAL RULES FOR INSTALLATION

Power supply check and calculation

Maximum distance between EP or handset and power supply.

In the riser, the quantity of devices managed by a power supply are shown in table 4, table 5, and table 6.

Case 1, case 2, case 3, case 4, case 7, case 8, case 9 are for 323005(PW1) and 323010(aPW1). Case 4, case 5, case 6, case 10, case 11, case 12 are for 323005(PW1).

Notes:

1. The current can also be affected by the distance.
Here every floor is supposed to be 5 m height.
2. If there are many 323002, it is supposed that the distance of 323002 is 0.5 m.

Table 4: case 1 to case 4, the quantity of devices managed by 323005 (PW1).

How many apartments on every floor	HANDSET							
	Case 1		Case 2		Case 3		Case 4	
	Total Qty of handsets	Floor limit	Total Qty of handsets	Floor limit	Total Qty of handsets	Floor limit	Total Qty of handsets	Floor limit
2 apartments/floor (Don't use extra power cable)	24	max: 12 floors	4	max: 2 floors	16	max: 8 floors	10 [*1]	max: 5 floors
2 apartments/floor (use extra power cable)	78	max: 39 floors	-	-	16	max: 8 floors	20 [*1]	max: 10 floors
4 apartments/floor	40	max: 10 floors	4	max: 1 floor	16	max: 4 floors	12 [*1]	max: 3 floors
8 apartments/floor	56	max: 7 floors	4	max: 1 floor	16	max: 2 floors	12 [*1]	max: 2 floors
12 apartments/floor	56	max: 5 floors	4	max: 1 floor	16	max: 2 floors	12 [*1]	max: 1 floor
16 apartments/floor	56	max: 4 floors	4	max: 1 floor	16	max: 1 floor	16 [*1]	max: 1 floor
20 apartments/floor	68	max: 4 floors	4	max: 1 floor	16	max: 1 floor	20 [*1]	max: 1 floor
24 apartments/floor	68	max: 3 floors	4	max: 1 floor	16	max: 1 floor	20 [*1]	max: 1 floor
28 apartments/floor	68	max: 3 floors	4	max: 1 floor	16	max: 1 floor	20 [*1]	max: 1 floor
32 apartments/floor	68	max: 3 floors	4	max: 1 floor	16	max: 1 floor	20 [*1]	max: 1 floor
36 apartments/floor	68	max: 2 floors	4	max: 1 floor	16	max: 1 floor	20 [*1]	max: 1 floor

Table 5: case 1 to case 4, the quantity of devices managed by 323005 (Power supply).

How many apartments on every floor	HANDSET							
	Case 5		Case 6		Case 7		Case 8	
	Total Qty of handsets	Floor limit	Total Qty of handsets	Floor limit	Total Qty of handsets	Floor limit	Total Qty of handsets	Floor limit
2 apartments/floor (Don't use extra power cable)	4 [*2]	max: 2 floor	8 [*2]	max: 4 floor	36	max: 18 floors	8	max: 4 floors
2 apartments/floor (use extra power cable)			8 [*2]	max: 4 floors	90	max: 45 floors	8	max: 4 floors
4 apartments/floor	4 [*2]	max: 1 floor	8 [*2]	max: 1 floor	56	max: 14 floors	8	max: 2 floors
8 apartments/floor	4 [*2]	max: 1 floor	8 [*2]	max: 1 floor	72	max: 9 floors	8	max: 1 floor
12 apartments/floor	4 [*2]	max: 1 floor	8 [*2]	max: 1 floor	76	max: 7 floors	8	max: 1 floor
16 apartments/floor	4 [*2]	max: 1 floor	8 [*2]	max: 1 floor	80	max: 5 floors	8	max: 1 floor
20 apartments/floor	4 [*2]	max: 1 floor	8 [*2]	max: 1 floor	80	max: 4 floors	8	max: 1 floor
24 apartments/floor	4 [*2]	max: 1 floor	8 [*2]	max: 1 floor	80	max: 4 floors	8	max: 1 floor
28 apartments/floor	4 [*2]	max: 1 floor	8 [*2]	max: 1 floor	80	max: 3 floors	8	max: 1 floor
32 apartments/floor	4 [*2]	max: 1 floor	8 [*2]	max: 1 floor	80	max: 3 floors	8	max: 1 floor
36 apartments/floor	4 [*2]	max: 1 floor	8 [*2]	max: 1 floor	80	max: 3 floors	8	max: 1 floor

Table 6: case 9 to case 12, the quantity of devices managed by 323005 (Power supply).

How many apartments on every floor	HANDSET							
	Case 9		Case 10		Case 11		Case 12	
	Total Qty of handsets	Floor limit	Total Qty of handsets	Floor limit	Total Qty of handsets	Floor limit	Total Qty of handsets	Floor limit
2 apartments/floor (Don't use extra power cable)	16	max: 8 floors	16 [*2]	max: 16 floors	4 [*3]	max: 1 floor	12 [*1]	max: 6 floors
2 apartments/floor (use extra power cable)	16	max: 8 floors	36 [*3]	max: 6 floors	4 [*3]	max: 1 floor	12 [*1]	max: 6 floors
4 apartments/floor	16	max: 4 floors	24 [*3]	max: 4 floors	4 [*3]	max: 1 floor	12 [*1]	max: 3 floors
8 apartments/floor	16	max: 2 floors	32 [*3]	max: 3 floors	4 [*3]	max: 1 floor	12 [*1]	max: 2 floors
12 apartments/floor	16	max: 2 floors	36 [*3]	max: 3 floors	4 [*3]	max: 1 floor	12 [*1]	max: 1 floor
16 apartments/floor	16	max: 1 floor	36 [*3]	max: 2 floors	4 [*3]	max: 1 floor	12 [*1]	max: 1 floor
20 apartments/floor	16	max: 1 floor	36 [*3]	max: 2 floors	4 [*3]	max: 1 floor	12 [*1]	max: 1 floor
24 apartments/floor	16	max: 1 floor	36 [*3]	max: 2 floors	4 [*3]	max: 1 floor	12 [*1]	max: 1 floor
28 apartments/floor	16	max: 1 floor	36 [*3]	max: 2 floors	4 [*3]	max: 1 floor	12 [*1]	max: 1 floor
32 apartments/floor	16	max: 1 floor	36 [*3]	max: 2 floors	4 [*3]	max: 1 floor	12 [*1]	max: 1 floor
36 apartment/floor	16	max: 1 floor	36 [*3]	max: 1 floor	4 [*3]	max: 1 floor	12 [*1]	max: 1 floor

*1: 2 small EP and 1 EP can work at the same time with handsets connected to the same power supply.

*2: 1 small EP and 1 EP can work at the same time with handsets connected to the same power supply.

*3: 3 small EP and 1 EP can work at the same time with handsets connected to the same power supply.

The information of table 4 to table 6 is based on the below conditions:

- A) 50 m cable from Floor shunt to handset.
- B) 5 m cable between floors.
- C) 0.5 m cable between Floor shunt and Floor shunt in same floor for the projects with more than one floor shunt on each floor.

D) Between Power supply and 1st Floor shunt, for the connection use 2 wire cables.

E) The data in above table also limited by distance. Example: 4 apartment on every floor. Case 1. can have 40 handsets and the Max. per floor is 10. In other words, the distance must less than 45 m, $45\text{ m} = [(40/4)-1]*5$.

Remark: In table 4, table 5 and table 6, in case 4, case 5, case 6, case 10, case 11 and case 12, the quantity of handsets is only for 323005.

If using 323010, Please refer to table 7;

GENERAL RULES FOR INSTALLATION

Power supply check and calculation

Table 7: 323010 application on case 4, case 5, case 6, case 10, case 11 and case 12

How many apartments on every floor	HANDSET					
	Case 4	Case 5	Case 6	Case 10	Case 11	Case 12
4 handsets/floor	4	2	3	6	4	5
8 handsets/floor	4	2	3	6	4	5
12 handsets/floor	4	2	3	6	4	5
16 handsets/floor	4	2	3	6	4	5
20 handsets/floor	4	2	3	6	4	5
24 handsets/floor	4	2	3	6	4	5
28 handsets/floor	4	2	3	6	4	5
32 handsets/floor	4	2	3	6	4	5

The information of table 7 is based on below conditions:

- A) 50 m cable from Floor shunt to handset.
- B) 5 m cable between floors.
- C) 0.5 m cable between Floor shunt and Floor shunt in same floor for projects with more than one floor shunt on each floor.
- D) Between Power supply and 1st Floor shunt, for the connection use 2 wire cables.

- E) Auxiliary power supply without smart function.
- F) For any types of handsets not listed in table 7 the information is the same as table 4 to table 6.
- G) For all handsets which connect to the same auxiliary power supply the display can be switched on at the same time.

Remark: if small entrance panels are present, the number of devices to be supplied by 323010 may require to use more power supplies, increasing the project cost.

We therefore suggest to use 323005 to setting auxiliary power supply.

Maximum system limits

DEVICE TYPE	MAX. QTY	REMARKS
Handsets in the whole system (Non-IP network system)	4000	The backbone/main EP can call all the handsets.
Handsets in the whole system (IP network system)	4000/each IP area, expandable	The Backbone/main EP can call 4000 users at most while the Switchboard can call all the users.
Handset on each riser	800	323003 can carry 400 handsets at most, but can expand to 800 by connecting 323019 in series in the unit.
EP on each riser	80	EP codes are available, but by expansion using 323004, it is possible to connect 25 EPs in total/80 EP.
Backbone/main EP in the whole system (Non-IP network system)	80	1, 2, 3, ..., 80/The number of the backbone/main EPs in the whole system must start from 1 and must be numbered in succession without gaps: 1, 2, 3, ..., 80
Riser shunt in the whole system (Non-IP network system)	100	
Riser shunt in the whole system (IP network system)	100/each IP area, expandable	
District generator in the whole system (non IP network system)	5	Using level connection with 5 District generators, it can expand 16 networking branch routes.
Switchboards in the whole system,	16	

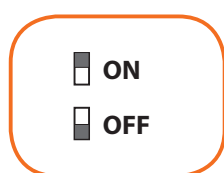
VIDEO LIMIT DISTANCE

Colour Video limit (EP to HANDSET): 1 Km.

B/W Video limit (EP to HANDSET): 2 Km.

Most of items have the video frequency expansion function.

The following figure show How to configure them.



Note: the instruction data in the above table are suggestions for the B/W signal.

They may differ during the actual operation.

Irrespective of whether it's a colour (less than 1000 m) or B/W signal, please take into account the actual image when setting the data.

ENTRANCE PANELS

	Distance	1	2	
Colour signal	0 – 300 m	OFF	OFF	
	300 – 700 m	ON	OFF	
	700 – 1000 m	ON	ON	

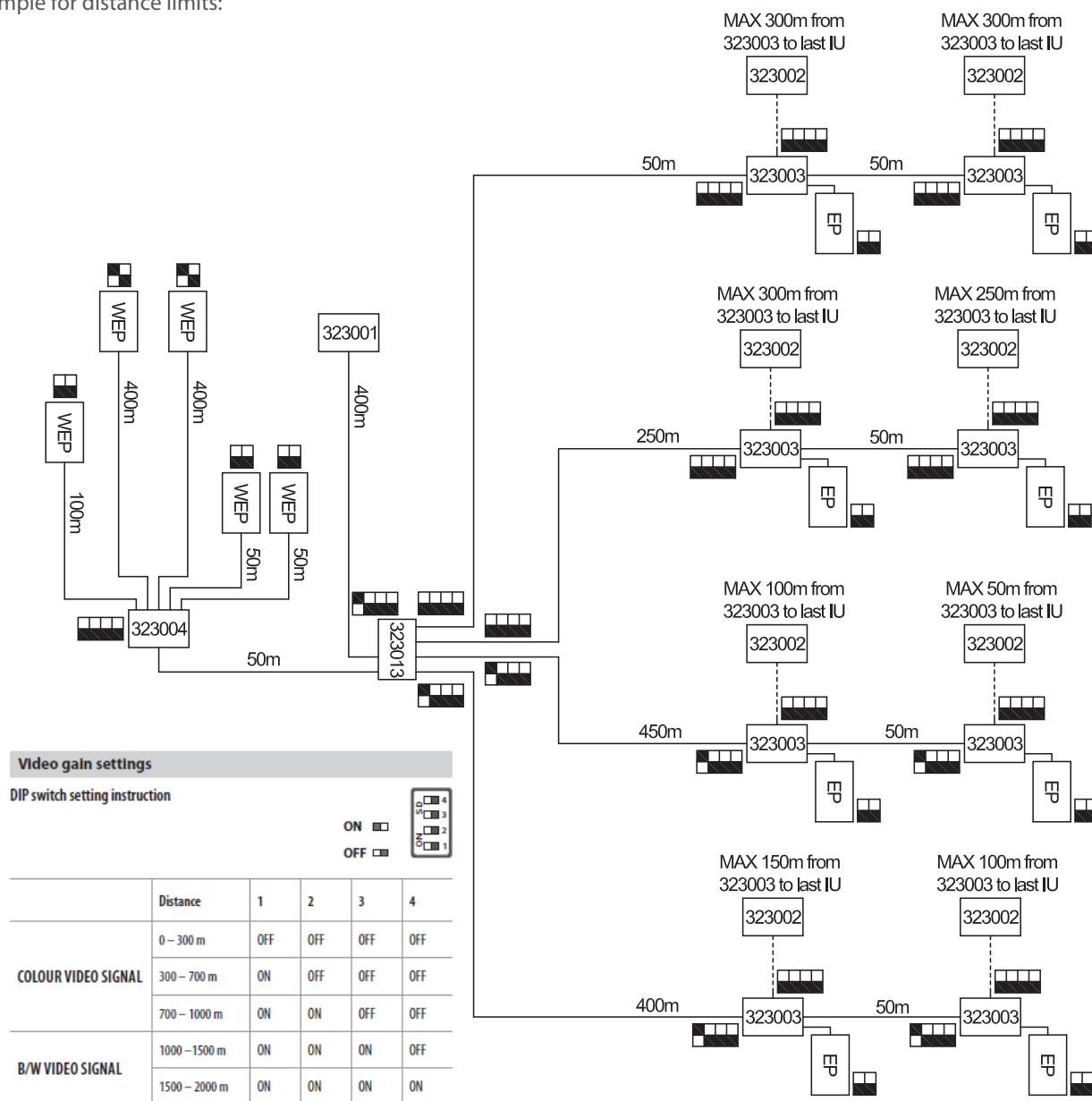
RISER SHUNT - VIDEO MIXER - DISTRICT GENERATOR

	Distance	1	2	3	4	
Colour signal	0 – 300 m	OFF	OFF	OFF	OFF	
	300 – 700 m	ON	OFF	OFF	OFF	
	700 – 1000 m	ON	ON	OFF	OFF	
B/W signal	1000 – 1500 m	ON	ON	ON	OFF	
	1500 – 2000 m	ON	ON	ON	ON	

GENERAL RULES FOR INSTALLATION

Maximum system limits

Example for distance limits:



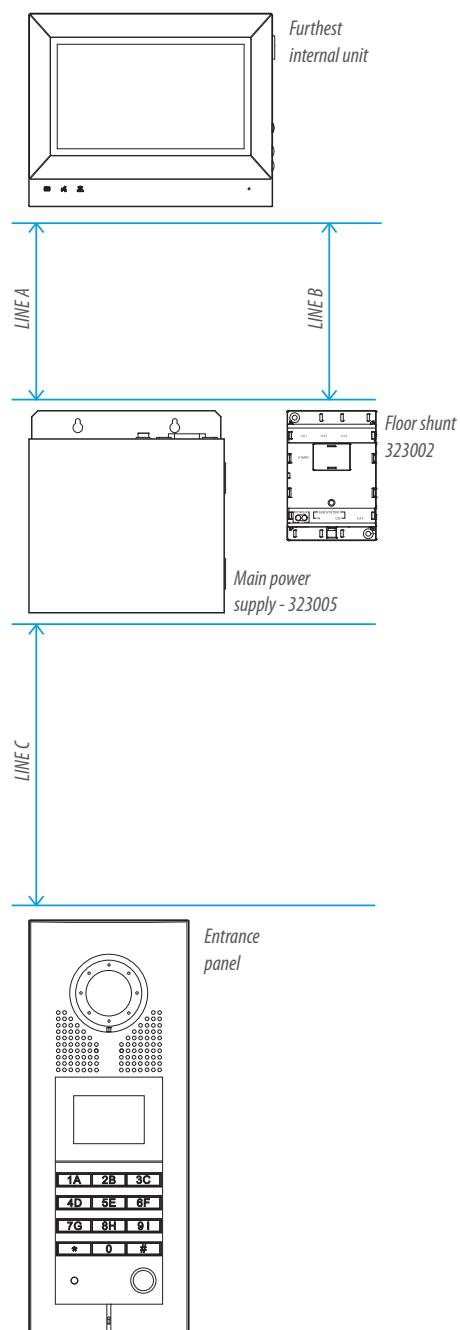
CASCADE INSTALLATION LIMITS OF VIDEO SIGNAL

After being transmitted by multilevel cascade (insert video amplifier, video splitter etc in transmission channel), the video signal will have distortion and the quality of the image will decrease.

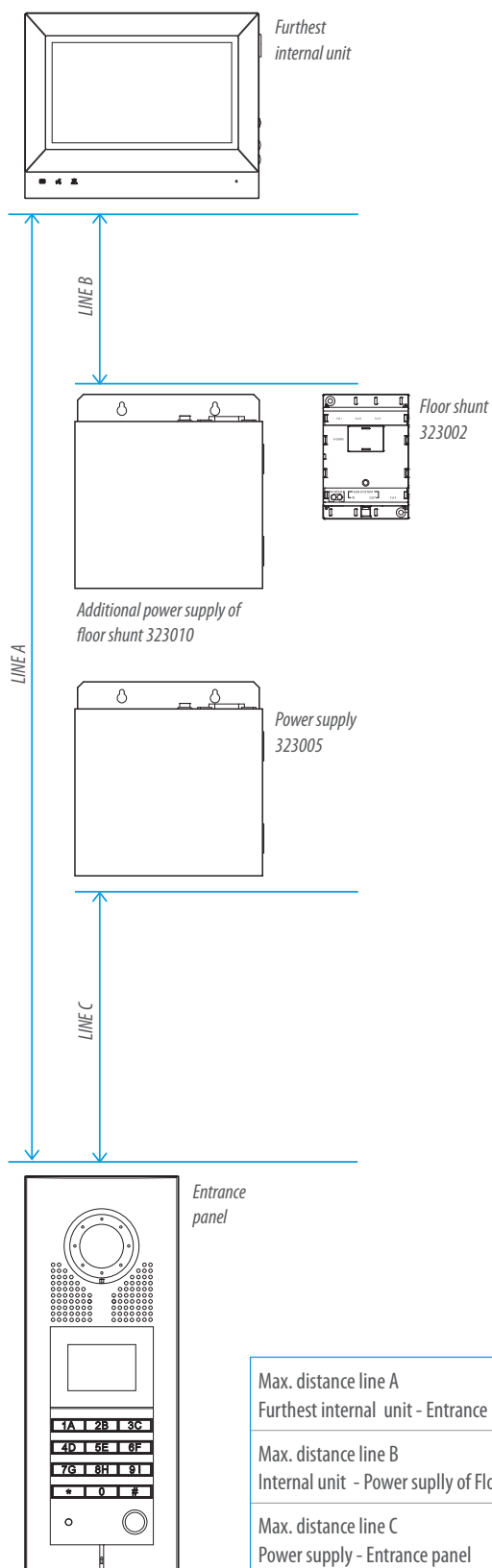
In D45, the maximum level of cascade is 6.

If any of the following devices is passed by a video signal in the system, the cascade level should increase by 1 level. The total level of cascade cannot be over 6.

COLOUR SYSTEM - SINGLE RISER



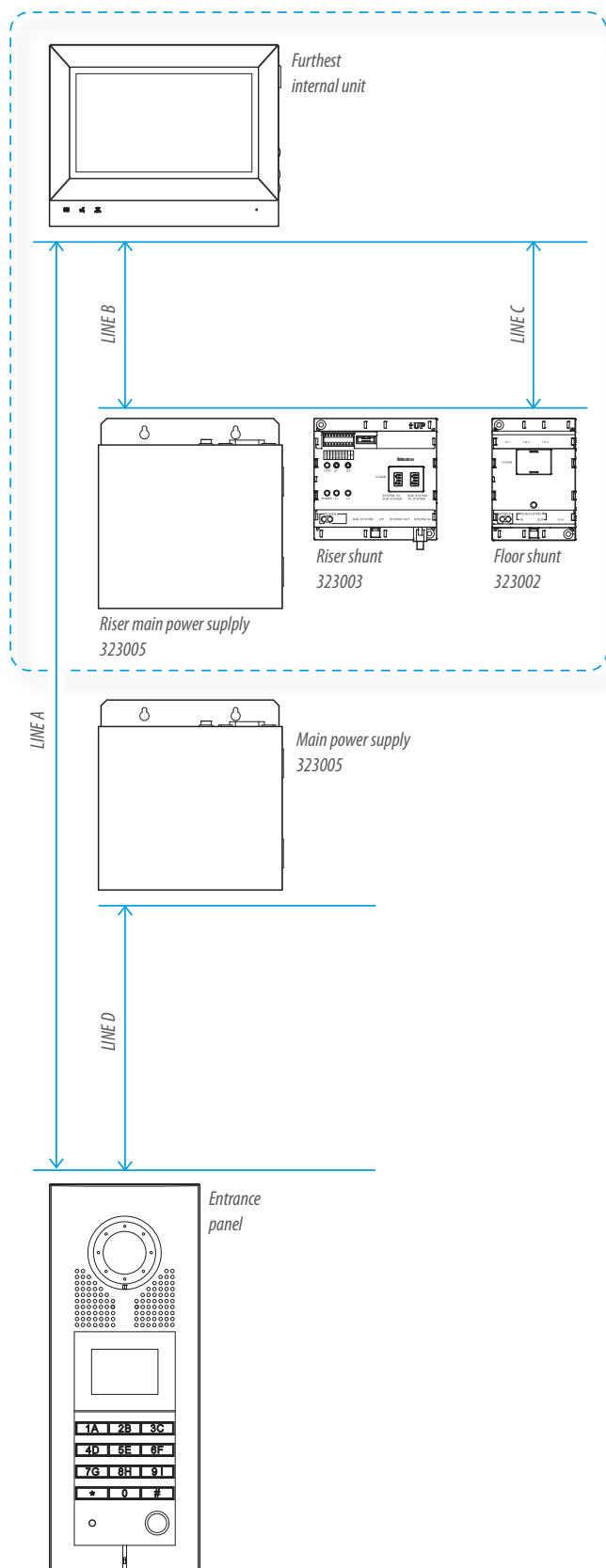
Max. distance line A Furthest internal unit - Power supply	50 m
Max. distance line B Internal unit - Floor shunt	50 m
Max. distance line C Power supply - Entrance panel	70 m



Max. distance line A Furthest internal unit - Entrance panel	1 Km
Max. distance line B Internal unit - Power supply of Floor shunt	50 m
Max. distance line C Power supply - Entrance panel	70 m

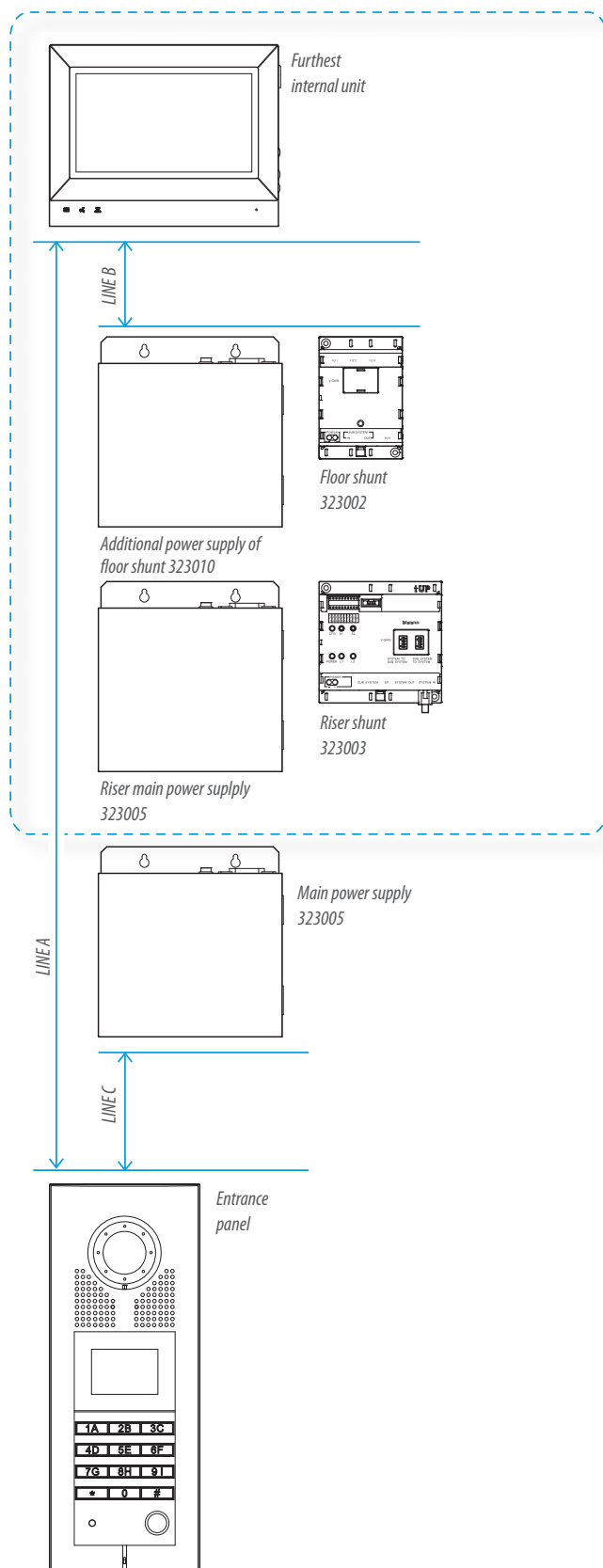
GENERAL RULES FOR INSTALLATION

COLOUR SYSTEM - MULTIPLE RISERS



Max. distance line A Furthest internal unit - Entrance panel	1 Km
Max. distance line B Furthest internal unit - Riser main Power supply	50 m
Max. distance line C Internal unit - Floor shunt	50 m
Max. distance line D Entrance panel - Power supply	70 m

COLOUR SYSTEM - MULTIPLE RISERS



Max. distance line A Furthest internal unit - Entrance panel	1 Km
Max. distance line B Internal unit - Power supply of Floor shunt	50 m
Max. distance line C Entrance panel - Power supply	70 m

Troubleshooting

1. ***The indicators flash when the handset is called, but there is no ring.***

When the handset being called does not ring check if it in silent Mode. If yes, please switch it over to standard common Mode.

2. ***The indoor unit is unable to monitor the entrance panel.***

Check whether the first entrance panel in the riser has been set as the no 1 entrance panel, and make sure that the numbers of the entrance panels in the riser are in sequence without repetitions.

3. ***Unable to monitor the Small EP.***

The function for monitoring the small EP can be only used after installation personnel has set the system depending on the actual requirements. If the unit has been set as a door bell, then the function for monitoring the gate EP will be disabled automatically.

4. ***Double click to turn Small EP monitoring on.***

When starting the small EP monitor function make sure that the double click interval is kept within 800 ms (namely quick double click on the monitor key), or it will be considered a request to monitor the EP.

5. ***How to make sure that the riser installation is correct.***

Once installing a handset, first set its number as 101 (default ex-factory value). The entrance panel will now call handset 101.

If the call gets through correctly, the normal video image will appear, confirming that the hardware installation and line connection are correct (on adjusting other handset, first disconnect the first handset at the 1st floor to avoid having two handsets with the same address). In case of more problems, please

check the configuration of other related devices. Once the settings have been confirmed, it is possible to set the handset with its actual number.

6. ***When the entry panel calls a handset with a certain number, the handset answers but there is no voice or video signal.***

If the entrance panel can call all handsets with a number smaller than a certain number (e.g. all handset with number lower than 501 can be called), these handset will answer normally. However if a call is made to a handset with that number or a higher number, there is no sound on answering and no video image is displayed. Now confirm whether the configuration on the riser shunt is correct. Take out the riser shunt from the unit system and directly connect the EP to the floor shunt to check if it works correctly. If it does it means that the riser shunt is set incorrectly.

7. ***The entrance panel fails to call a certain handset.***

The handset number may be set incorrectly, in which case reset the number and try again. If the call still fails, set the number as 101 and try again. If it is successful it may be that the handset household on each floor is not the same as the #II setting on the entrance panel. Reset this again. If the call still fails, it may be due to the line or other devices. Replace the handset and check the line. The handset will not answer calls while in installation setup status. Exit installation setup status and try again.

8. ***The entrance panel can call the handset normally without any problems.***

However, the internal indoor units can't be called through and when answered, they can't have a talk. Please make sure that the set parameters of two indoor units are identical. If unable to ensure that, please restore the default parameters and reset.

9. ***The Small EP can't have a conversation with the handset and there is no video signal.***

Please disable the doorbell function (this function is disabled by default).

When the doorbell function is enabled, and the small EP or the doorbell calls in, the system will ring but no conversation will be possible. This is normal and ringing will automatically stop after 10 seconds.

10. **On connecting the Apartment interface, the handset's own number won't be the same as the one previously set.**

On connecting an apartment interface, the handset will automatically detect the connection and change its own number to 101. The handset will automatically use the number set by the apartment interface.

11. **On being powered, the handset will send the SOS to the Switchboard.**

SOS switch type is different from the setting type.

Default setting SOS type is NO (Normally Open).

12. **The alarm handset cannot be armed.**

If the alarm handset cannot be armed, it may be due to the following:

- the probe type is incorrectly set. For example, the normally closed type is set as normally open;
- the probe is not connected or not correctly set. First ensure that the probe is correctly connected to hardware, and then open software setup to enable it. There is an overcurrent on the alarm probe and it cannot be guarded until repowered after 10 seconds.

13. **The handset is unable to start the Small EP monitoring function.**

- IU be set as Slave
Only the master handset can monitor the Small EP.
- IU enable door bell function
If the handset starts the doorbell function, it will automatically

close down the small EP.

14. **The handset is unable to set the household number**

When the handset is connected with an Apartment interface, the household number cannot be set.

When the last two digits of the household number are higher than the number of users (#II) on each floor, the household number cannot be set. For example, if the handset is programmed for one-riser two-households on each floor, then it will be illegal to set the household number as 203.

15. **Some parameters cannot be set.**

Some parameter settings in the handset rely on other parameter settings, namely they have an interlocking relation. If the doorbell function is enabled, Small EP monitoring cannot start. When unclear about which parameter is incorrect, it is recommended to reset the default parameters and start again.

Note: after the default parameter has been restored, all the other parameters will be restored to the ex-factory value.

16. **The alarm indicators or the zone indicators are always on irrespective of the status:**

This results from the overcurrent of the alarm probe powered by the handset which automatically causes a protection status.

Disconnect the power after 10 seconds to eliminate the fault.

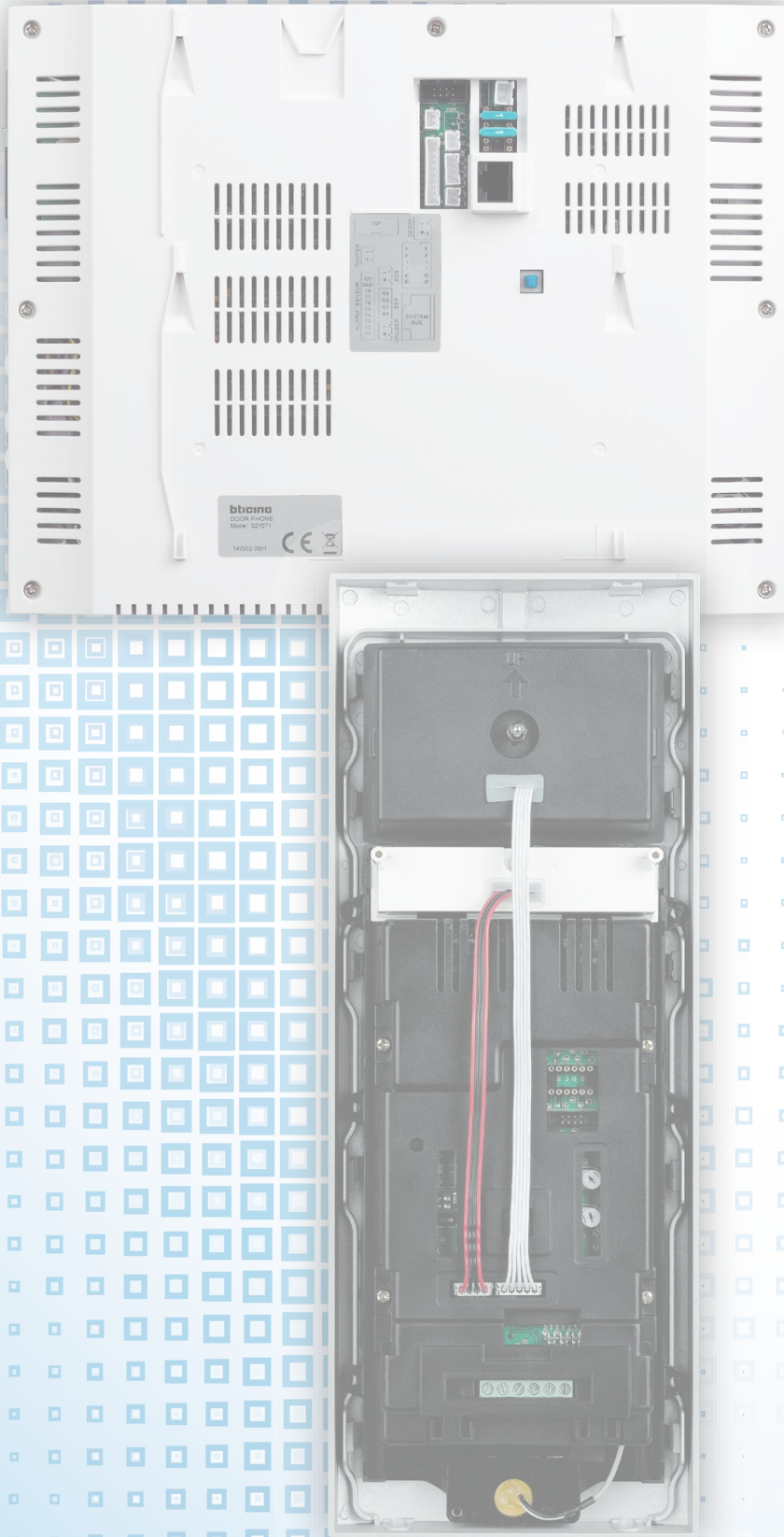
17. **When the Small EP calls in, the handset returns to the idle Mode immediately:**

This is the result of a short-circuit on the Small EP. Please eliminate the problem and then reconnect.

18. **The secondary EP can call the**

handset normally, but when the main EP calls the handset, conversation is possible but there is no video signal.

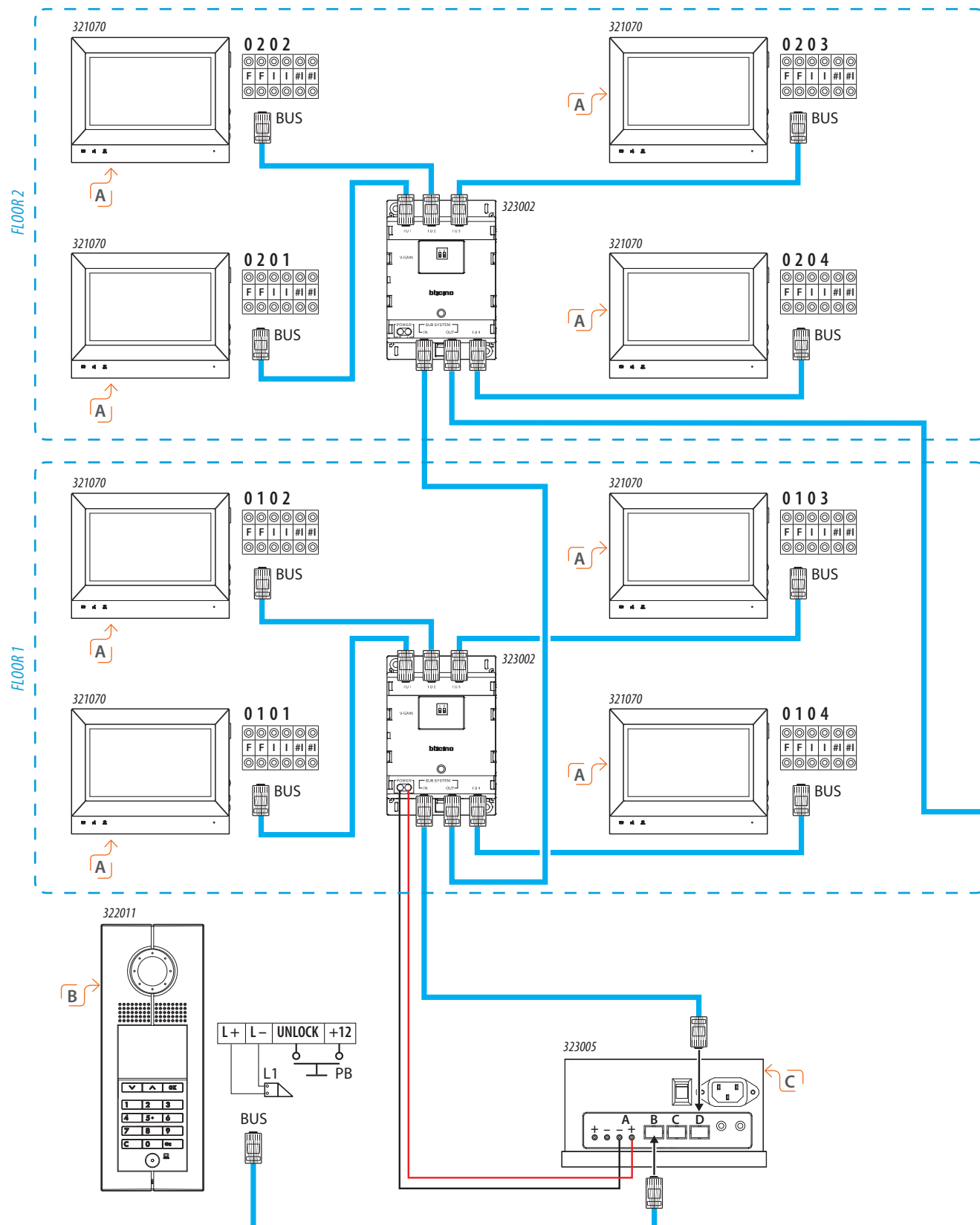
Make sure that main EP is connected to system out port of riser shunt.

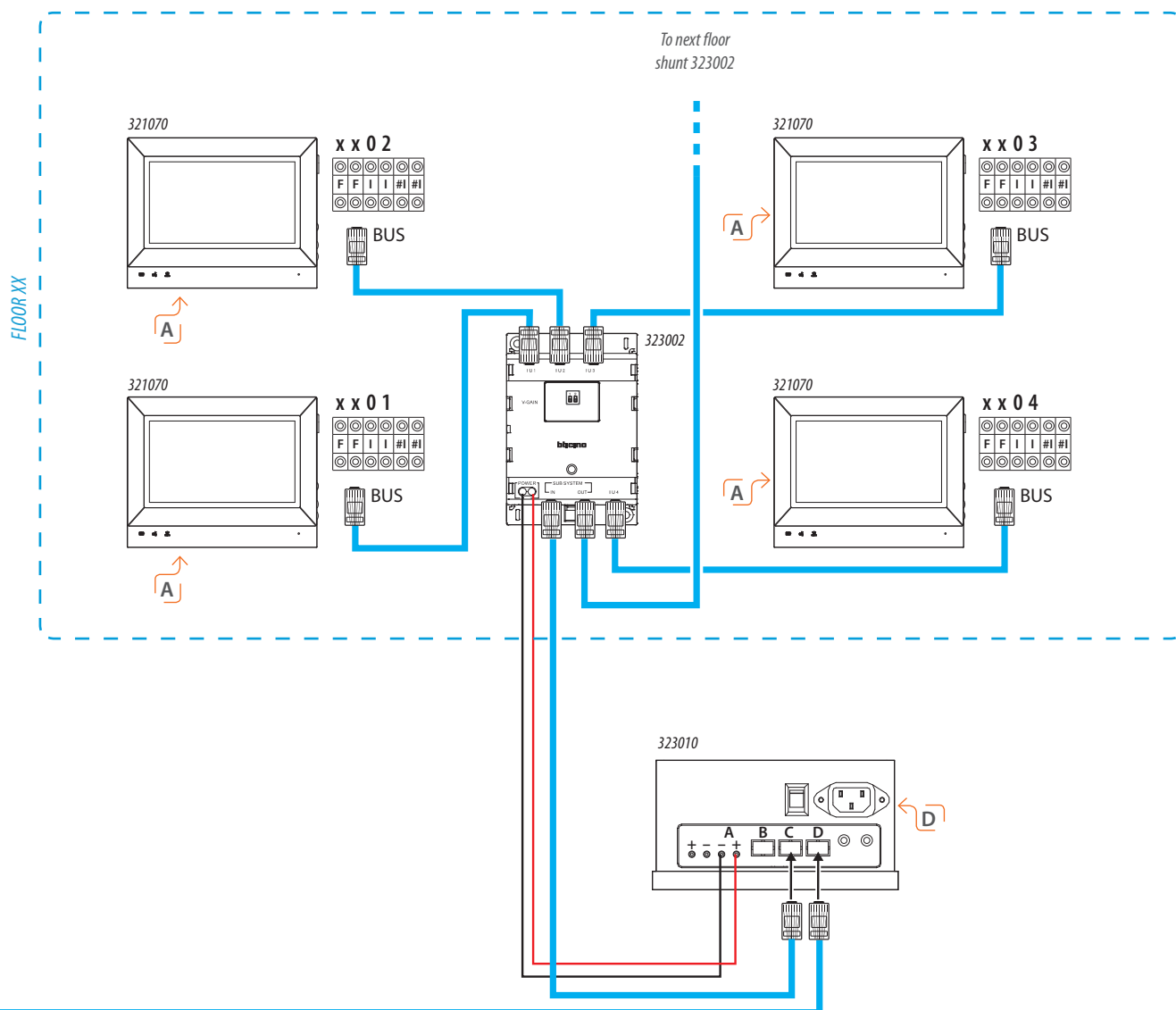


WIRING DIAGRAMS

Diagram 1

HANDSETS RISER CONNECTION WITH FLOOR SHUNT 323002





⚠ WARNINGS:

- Configure and insert the jumpers with the system SWITCHED OFF. Also every time the configuration is modified the pws must be switched OFF and ON again, waiting about 1 minute.

A To install alternative internal units, refer to wiring variant section.

B To install alternative Entrance panel, refer to wiring variant section.
Device configuration by SF2 software.

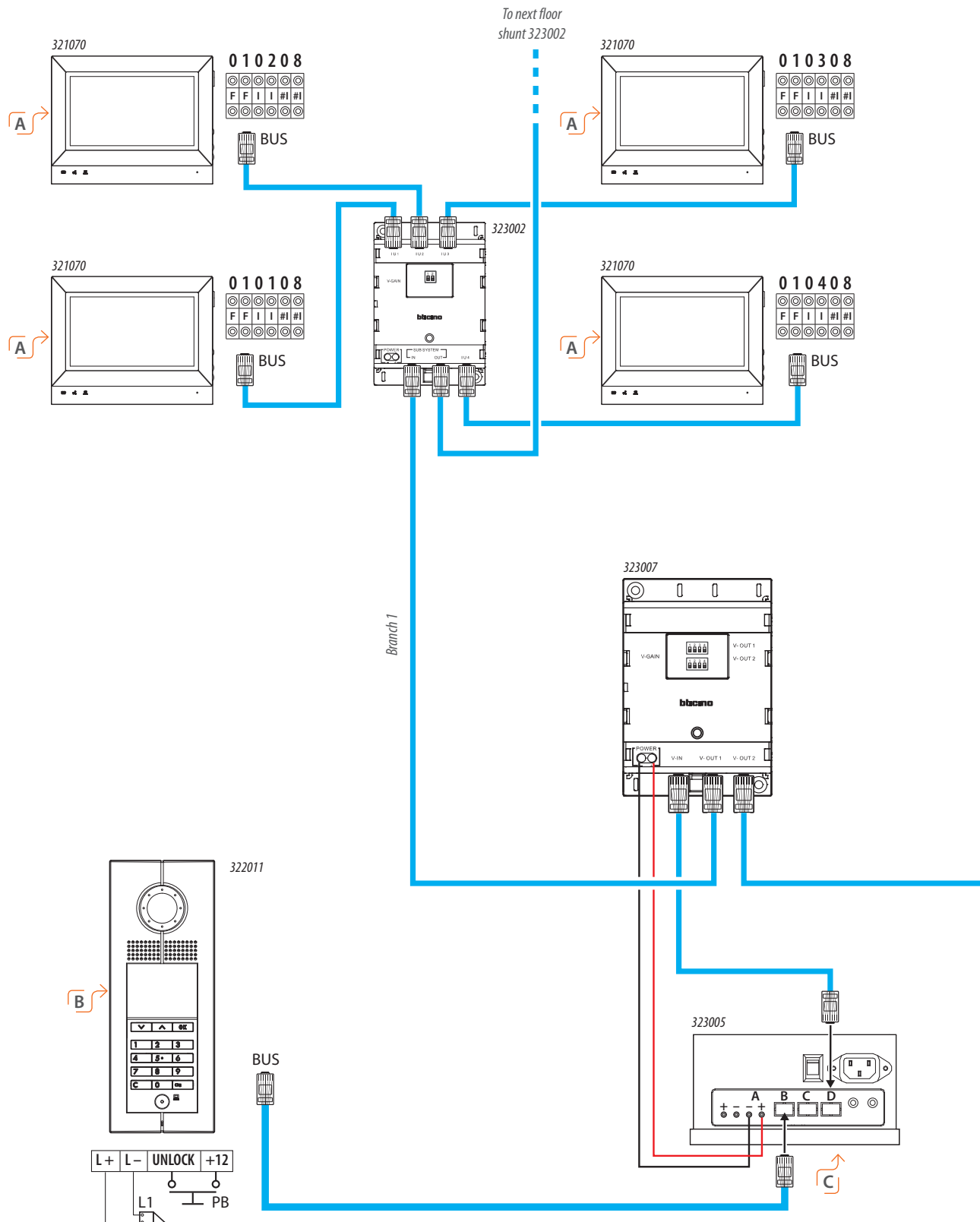
C Set internal IMPEDANCE SWITCH to ON.

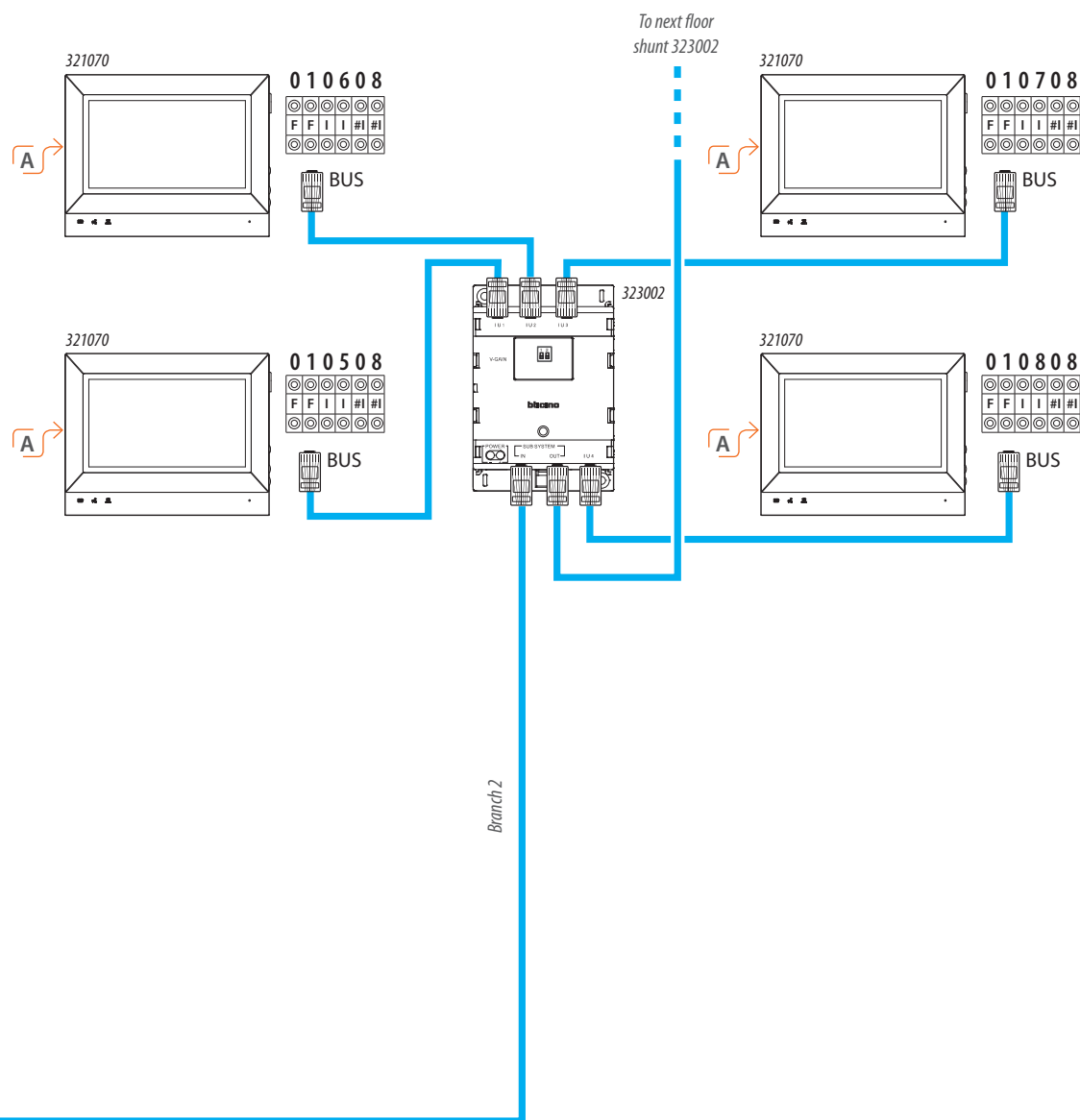
D Auxiliary PWS must be used in relation with the system distance extension - see specific section.

ITEM	DESCRIPTION
322011	Digital call entrance panel
323005	Main power supply
323010	Auxiliary power supply
323002	Floor shunt
321070	7" Touch screen internal unit
L1	Electric door lock 12V - 4A impulsive
PB	Door lock release pushbutton

Diagram 2

RISER WITH 2 BRANCHES VIDEO SPLITTER 323007





⚠ WARNINGS:

■ Configure and insert the jumpers with the system SWITCHED OFF. Also every time the configuration is modified the pws must be switched OFF and ON again, waiting about 1 minute.

A To install alternative internal units, refer to wiring variant section.

B To install alternative Entrance panel, refer to wiring variant section.
Device configuration by SF2 software.

C Set internal IMPEDANCE SWITCH to ON.

ITEM	DESCRIPTION
322011	Digital call entrance panel
323005	Main power supply
323007	Two branches video splitter
323002	Floor shunt
321070	7" Touch screen internal unit
L1	Electric door lock 12V - 4A impulsive
PB	Door lock release pushbutton

WIRING DIAGRAMS

Diagram 3

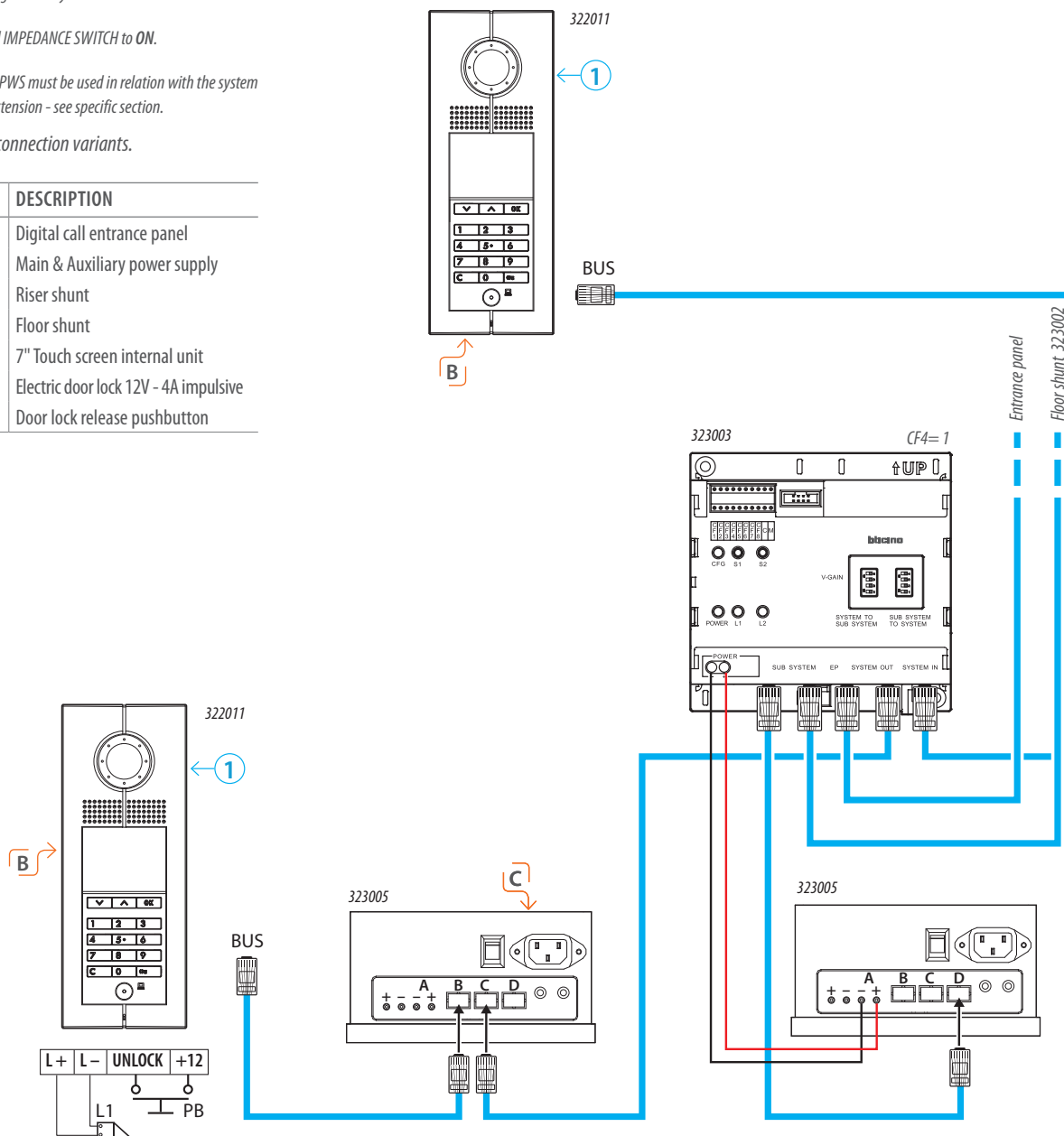
BACKBONE SYSTEM WITH 1 MAIN ENTRANCE PANEL

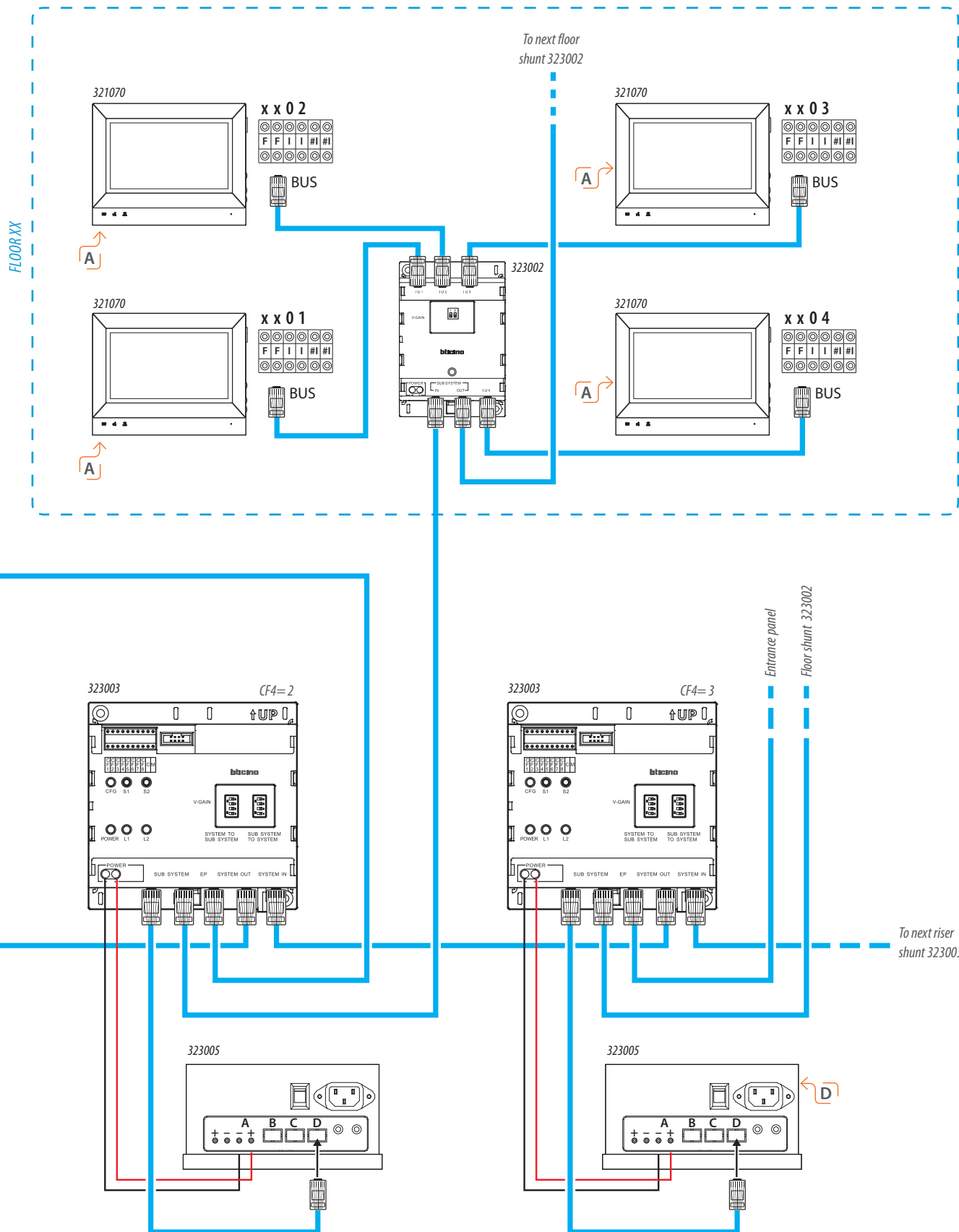
⚠ WARNINGS:

- Configure and insert the jumpers with the system SWITCHED OFF. Also every time the configuration is modified the pws must be switched OFF and ON again, waiting about 1 minute.
- A** To install alternative internal units, refer to wiring variant section.
- B** To install alternative Entrance panel, refer to wiring variant section.
Device configuration by SF2 software.
- C** Set internal IMPEDANCE SWITCH to ON.
- D** Auxiliary PWS must be used in relation with the system distance extension - see specific section.

NOTE: ① see connection variants.

ITEM	DESCRIPTION
322011	Digital call entrance panel
323005	Main & Auxiliary power supply
323003	Riser shunt
323002	Floor shunt
321070	7" Touch screen internal unit
L1	Electric door lock 12V - 4A impulsive
PB	Door lock release pushbutton





WIRING DIAGRAMS

Diagram 4

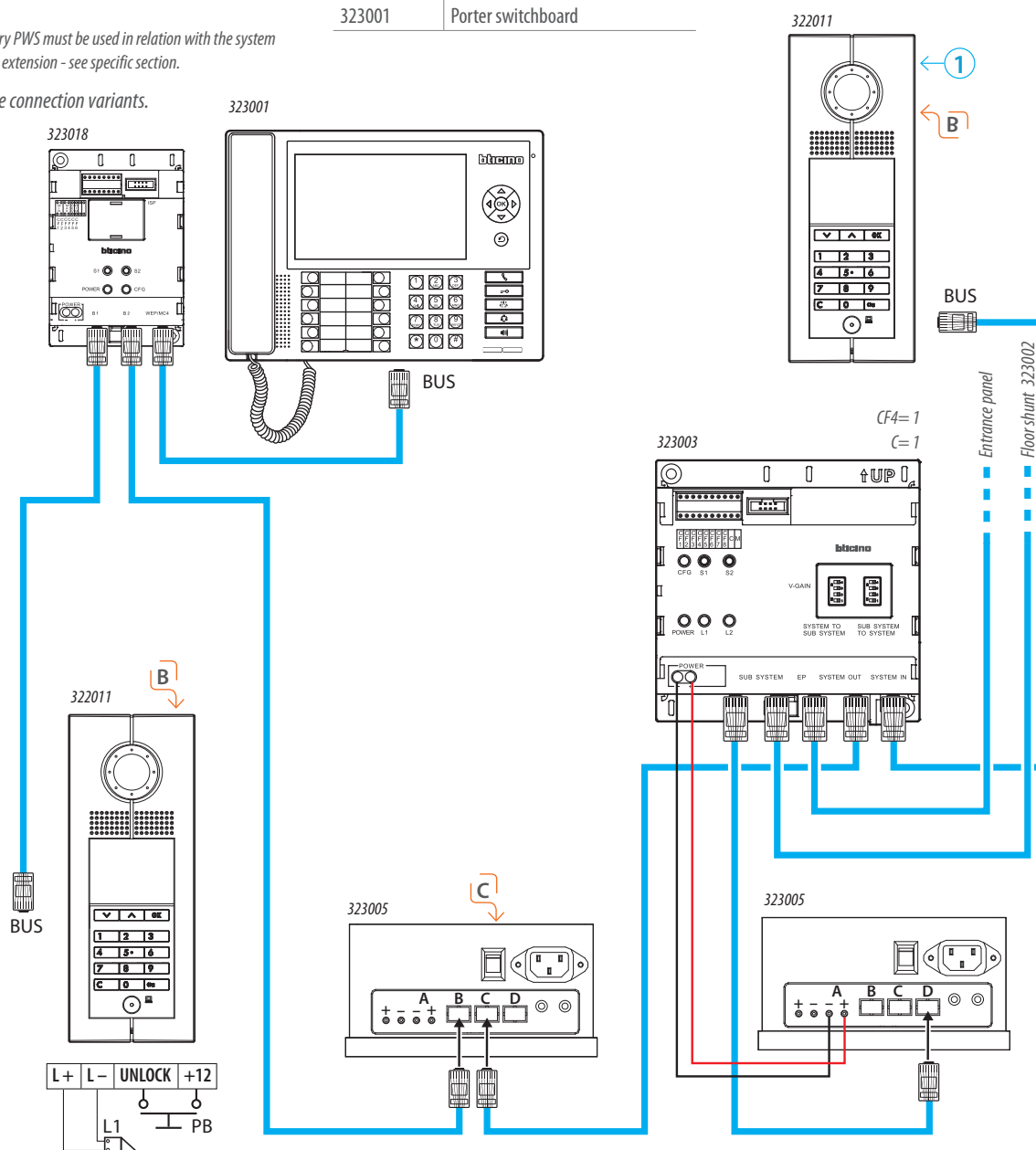
BACKBONE SYSTEM WITH 1 MAIN ENTRANCE PANEL AND PORTER SWITCHBOARD 323001

⚠ WARNINGS:

- Configure and insert the jumpers with the system SWITCHED OFF. Also every time the configuration is modified the pws must be switched OFF and ON again, waiting about 1 minute.
- A** To install alternative internal units, refer to wiring variant section.
- B** To install alternative Entrance panel, refer to wiring variant section. Device configuration by SF2 software.
- C** Set internal IMPEDANCE SWITCH to ON.
- D** Auxiliary PWS must be used in relation with the system distance extension - see specific section.

NOTE: ① see connection variants.

ITEM	DESCRIPTION
322011	Digital call entrance panel
323005	Main & Auxiliary power supply
323003	Riser shunt
323002	Floor shunt
321070	7" Touch screen internal unit
323018	Entrance panel / switchboard shunt
L1	Electric door lock 12V - 4A impulsive
PB	Door lock release pushbutton
323001	Porter switchboard



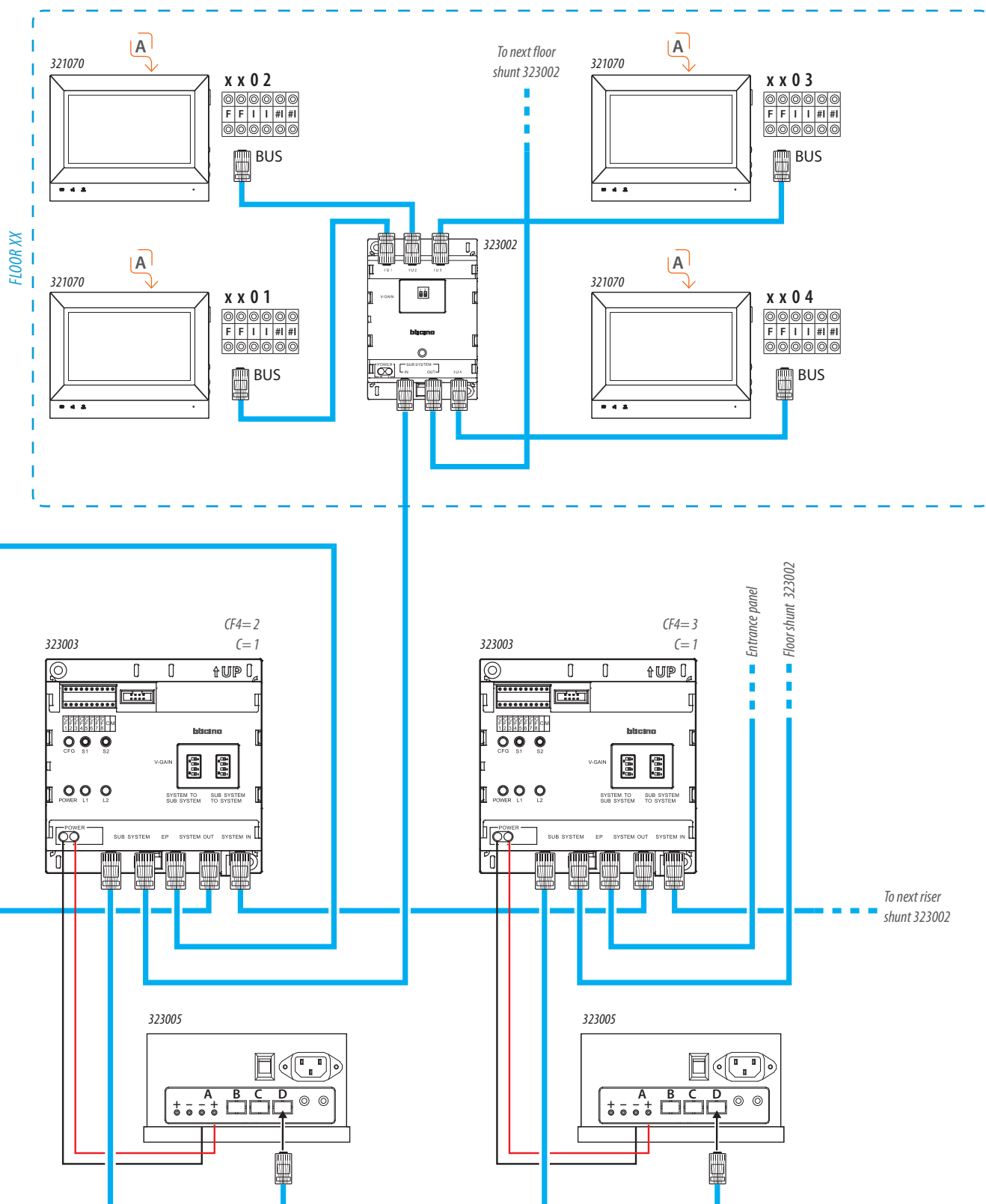
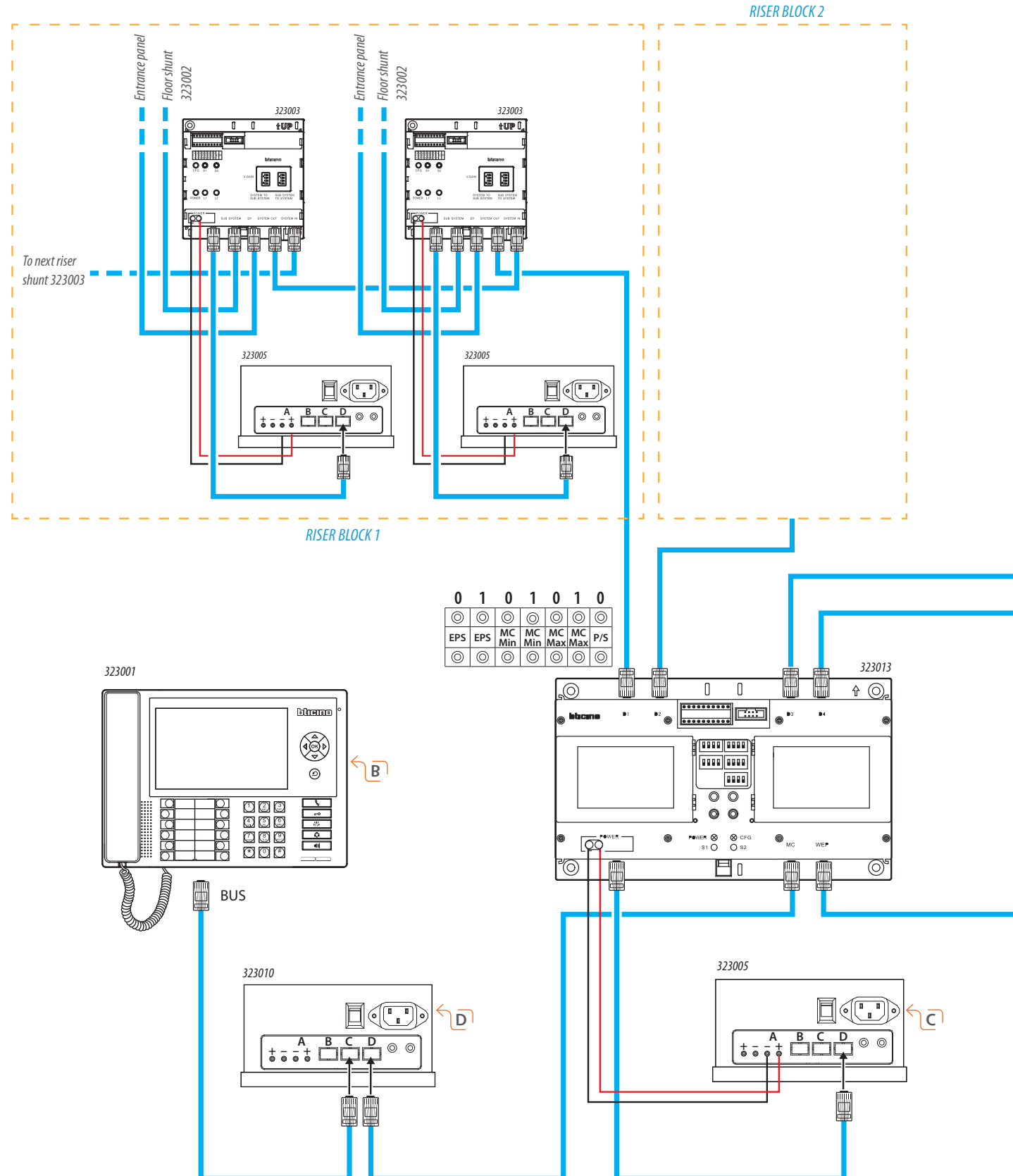
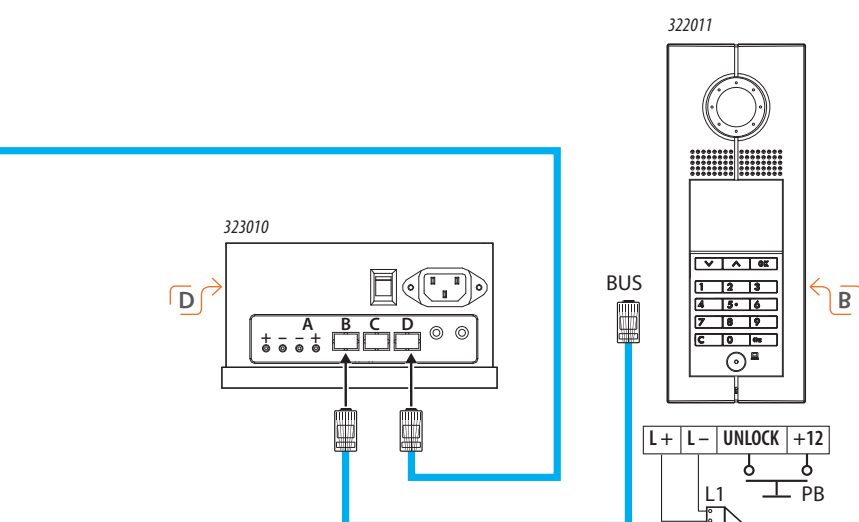
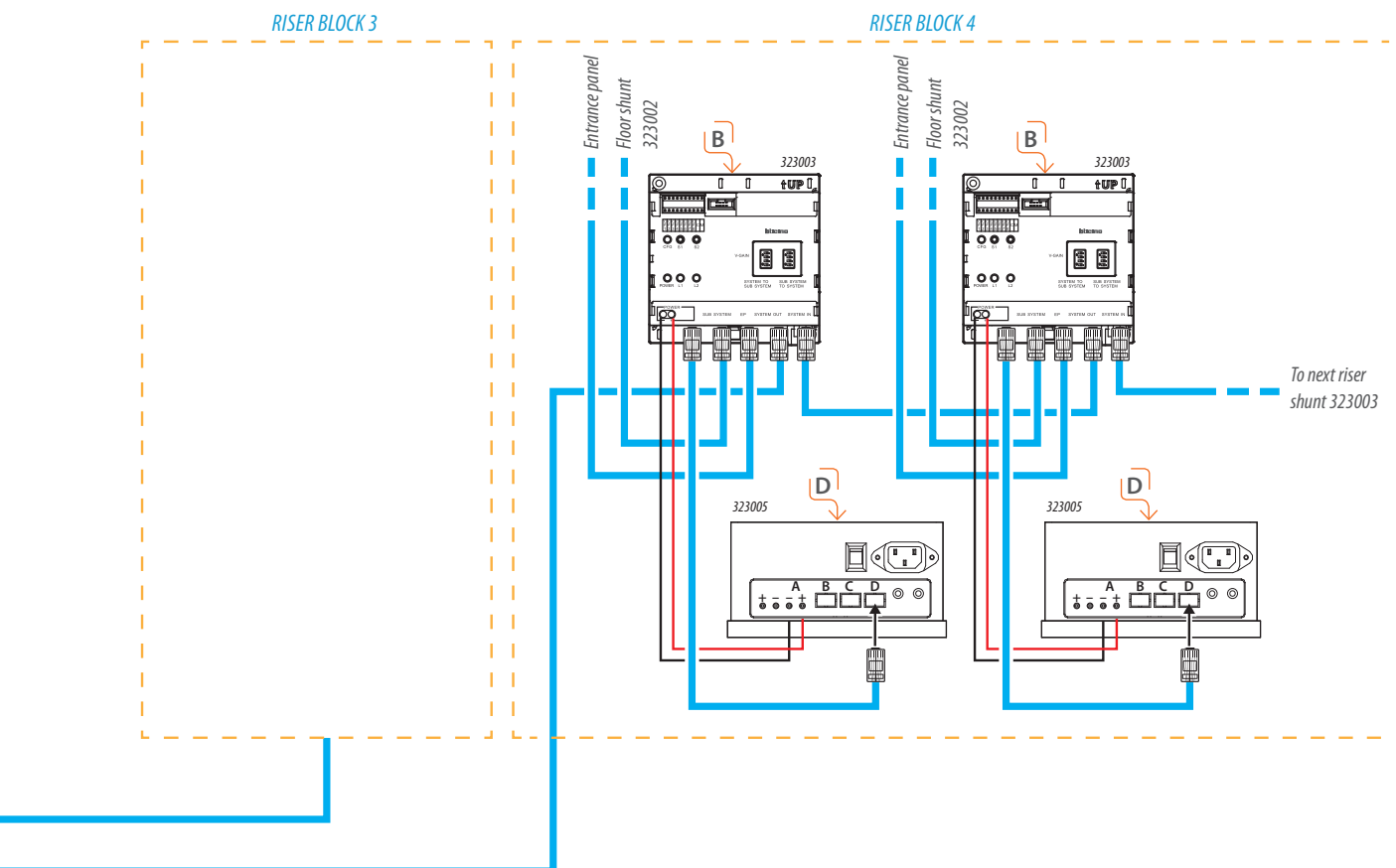


Diagram 5

SYSTEM WITH DISTRICT GENERATOR 323013





⚠ WARNINGS:

■ Configure and insert the jumpers with the system **SWITCHED OFF**. Also every time the configuration is modified the pws must be switched **OFF** and **ON** again, waiting about 1 minute.

A To install alternative internal units, refer to wiring variant section.

B To install alternative Entrance panel, refer to wiring variant section.
Device configuration by SF2 software.

C Set internal **IMPEDANCE SWITCH** to **ON**.

D Auxiliary PWS must be used in relation with the system distance extension - see specific section.

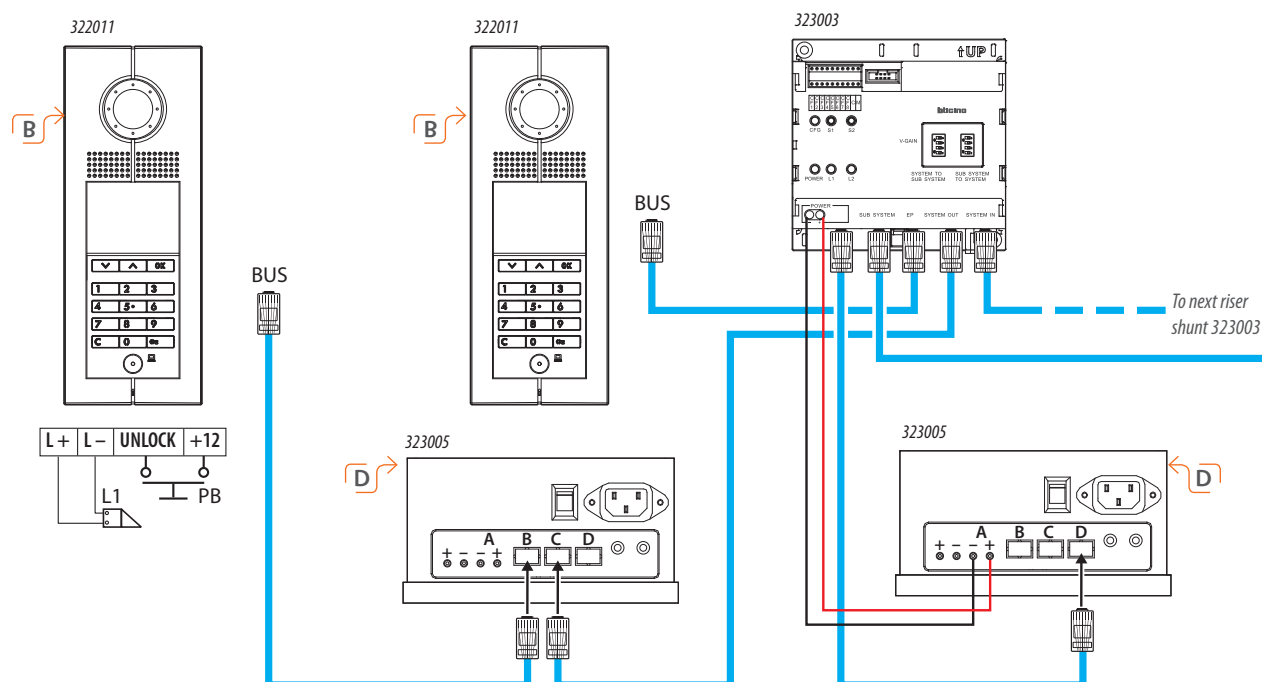
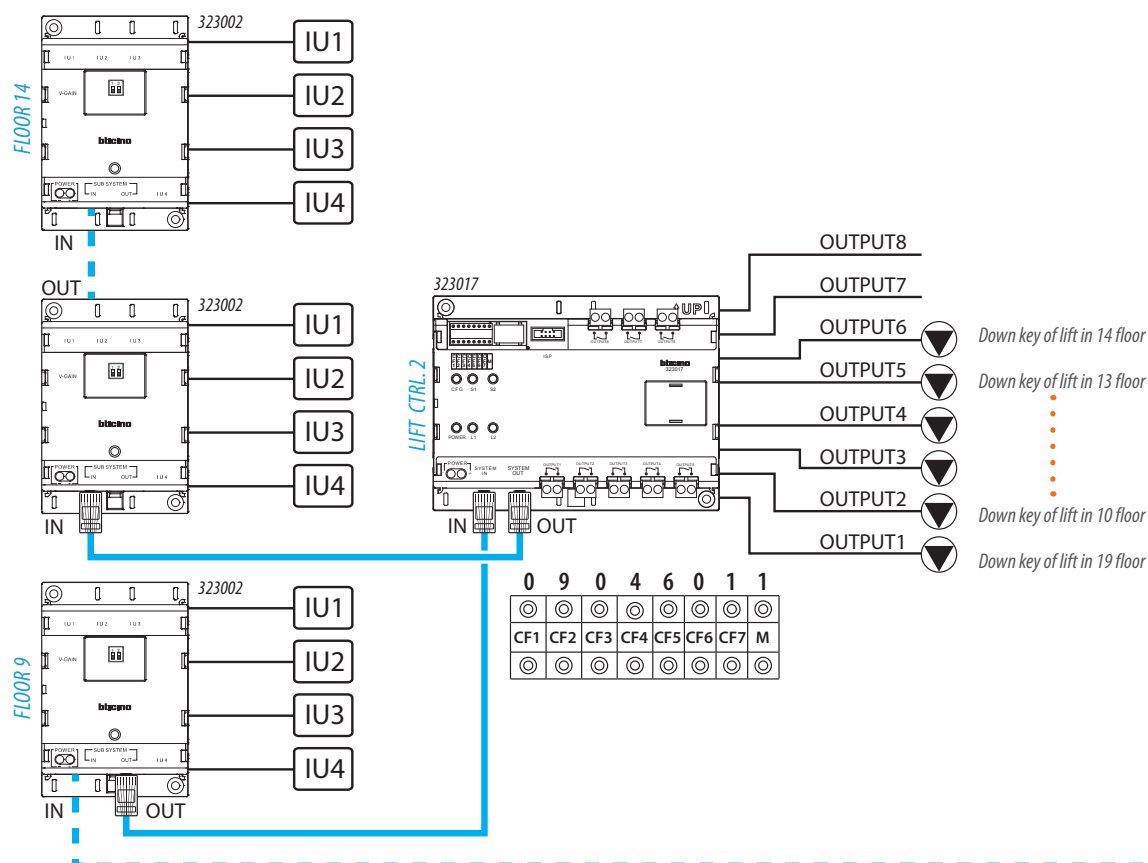
ITEM	DESCRIPTION
322011	Digital call entrance panel
323010	Auxiliary power supply
323005	Main power supply
323003	Riser shunt
323013	District generator
323001	Porter switchboard
L1	Electric door lock 12V - 4A impulsive
PB	Door lock release pushbutton

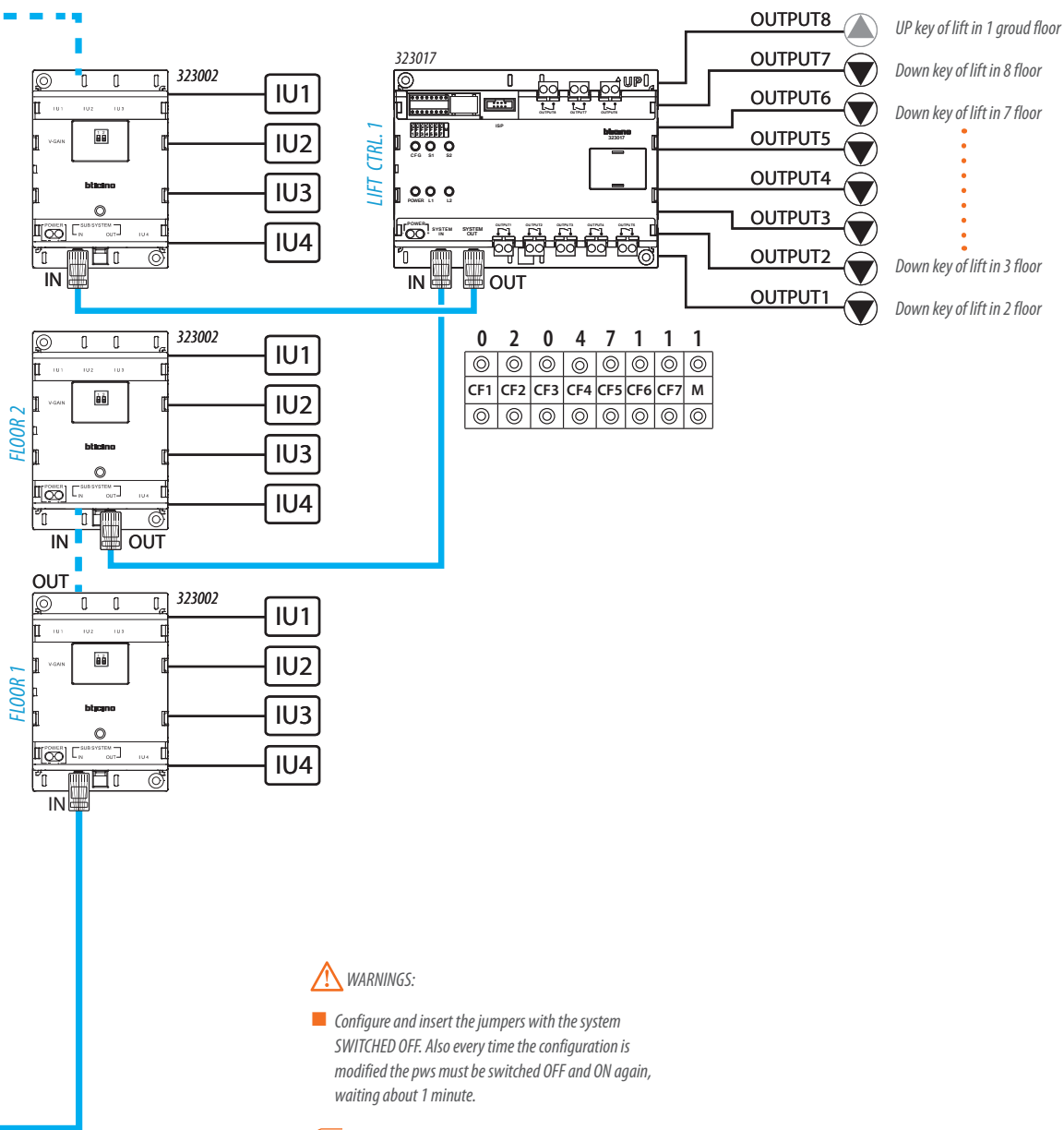
Diagram 6

RISER WITH LIFT CONTROL INTERFACE 323017

Example

Building with 14 floor: 2 to 14 are PRIVATE floors and every floor has 4 apartments. Floor 1 is a PUBLIC floor with one entrance panel. Delay time set a 10 sec. (CF7= 1). This system needs n° 2 lift control interfaces.





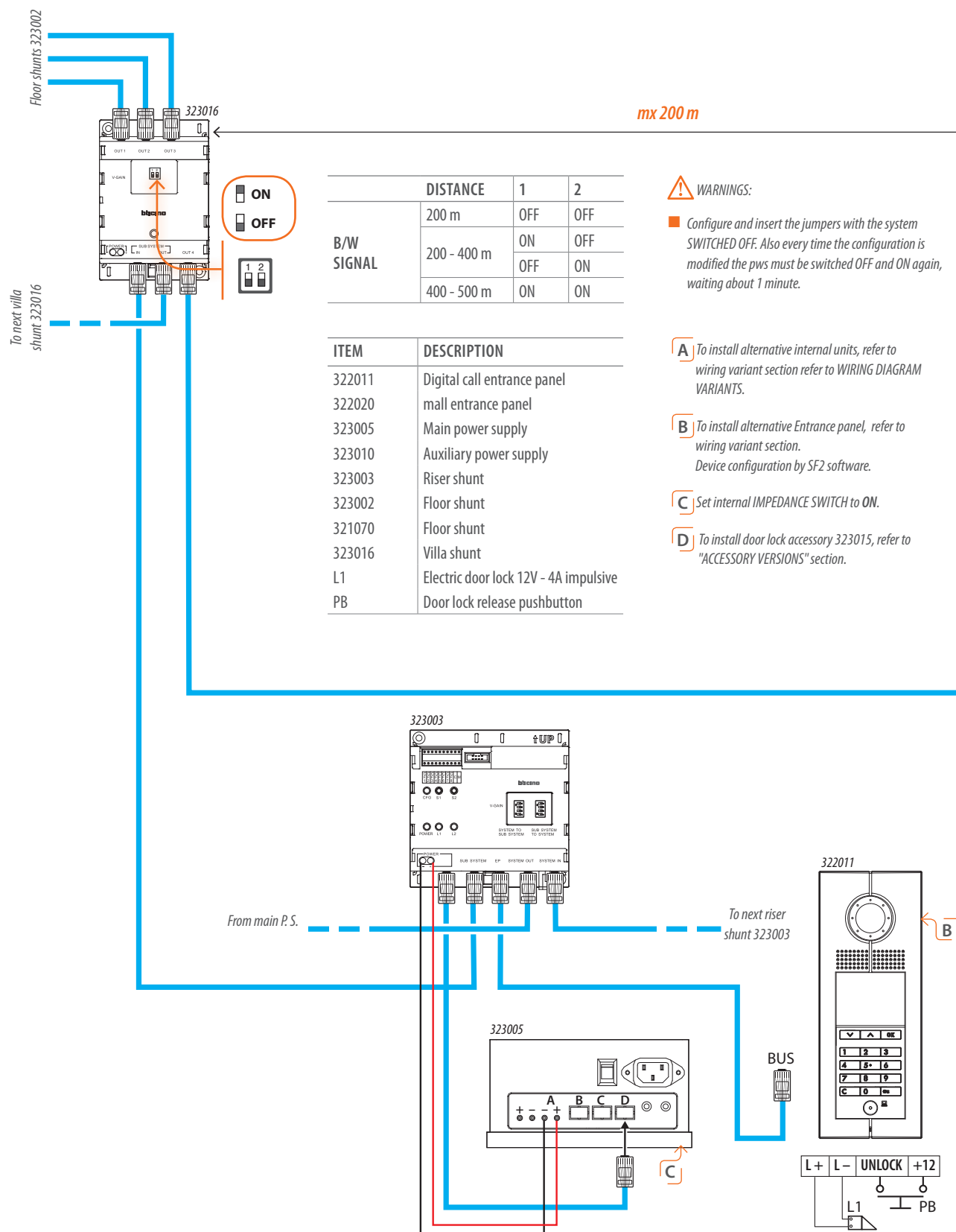
⚠ WARNINGS:

- Configure and insert the jumpers with the system SWITCHED OFF. Also every time the configuration is modified the pws must be switched OFF and ON again, waiting about 1 minute.
- A** To install alternative internal units, refer to wiring variant section.
- B** To install alternative Entrance panel, refer to wiring variant section.
Device configuration by SF2 software.
- C** Set internal IMPEDANCE SWITCH to ON.
- D** Auxiliary PWS must be used in relation with the system distance extension - see specific section.

ITEM	DESCRIPTION
322011	Digital call entrance panel
323005	Main & Auxiliary power supply
303003	Riser shunt
323002	Floor shunt
323017	Lift control interface
L1	Electric door lock 12V - 4A impulsive
PB	Door lock release pushbutton

Diagram 7

TOWN VILLAS SYSTEM WITH VILLA SHUNT 323016



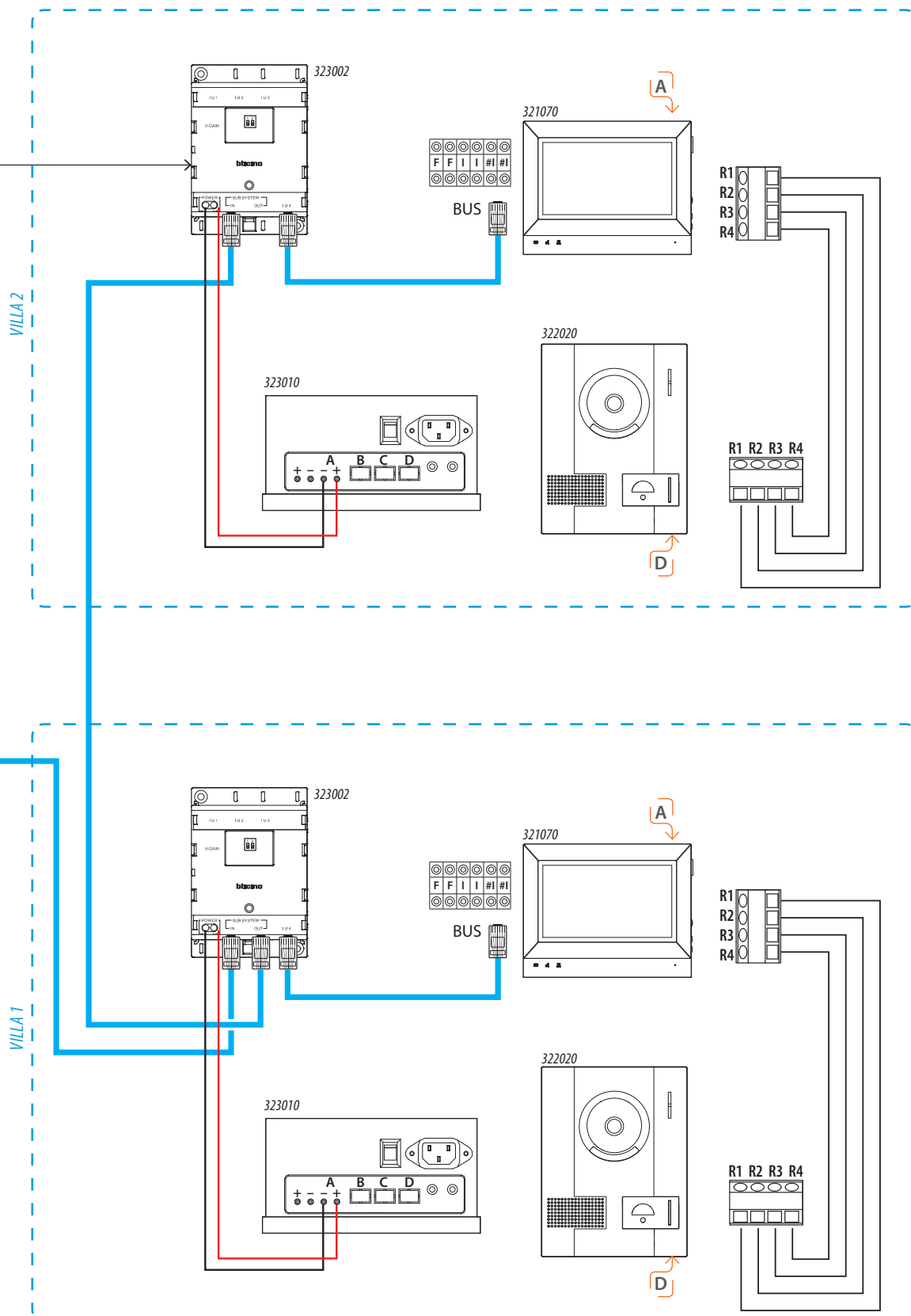


Diagram 8

SYSTEM WITH D45 INTERFACE AND FIBER OPTIC CONNECTION

⚠ WARNINGS:

■ Configure and insert the jumpers with the system SWITCHED OFF. Also every time the configuration is modified the pws must be switched OFF and ON again, waiting about 1 minute.

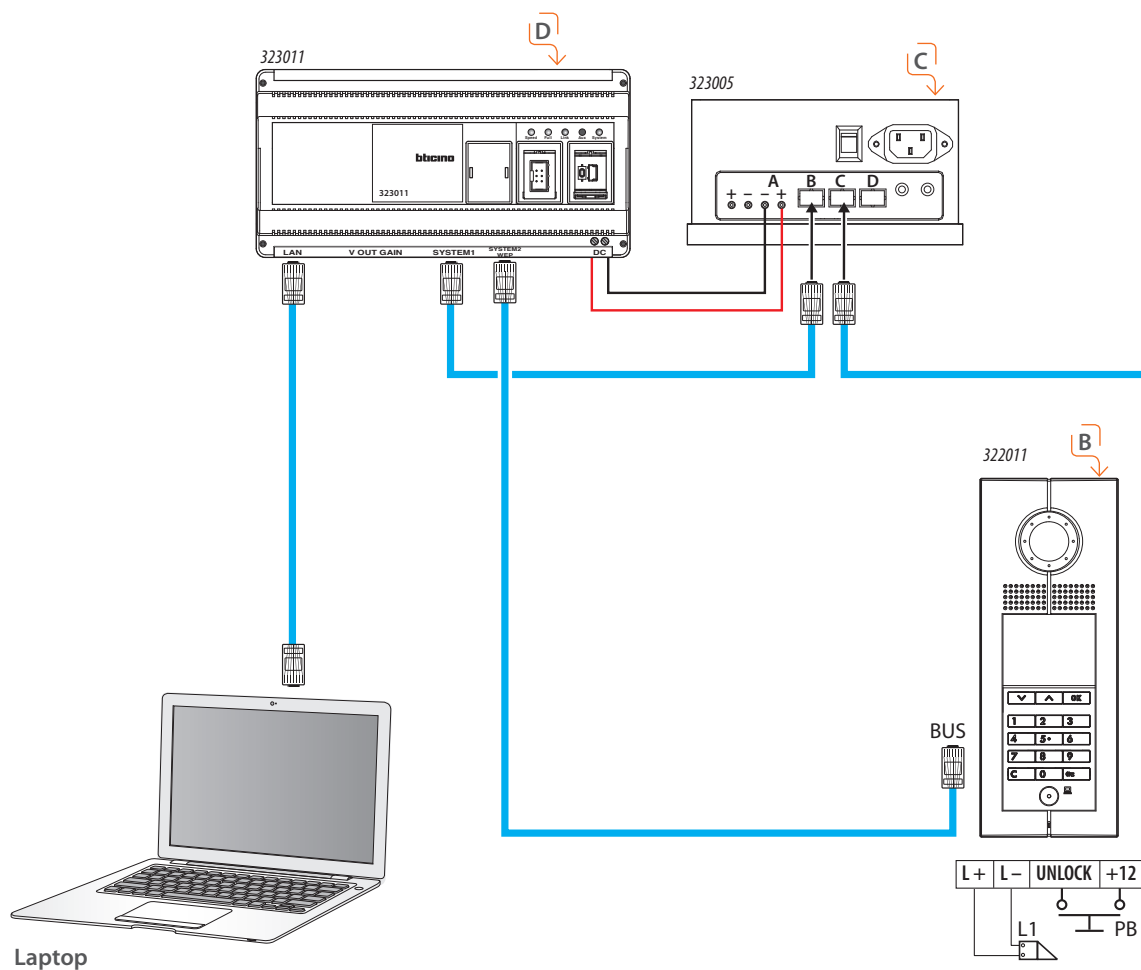
A To install alternative internal units, refer to wiring variant section.

B To install alternative Entrance panel, refer to wiring variant section.
Device configuration by SF2 software..

C Set internal IMPEDANCE SWITCH to ON.

D Physical configuration or advanced configuration by software MHSUITE.

ITEM	DESCRIPTION
322011	Digital call entrance panel
323011	D45/IP interface
323005	Main power supply
323002	Floor shunt
321070	7" Touch screen internal unit
323012	Softswitchbard for Laptop
L1	Electric door lock 12V - 4A impulsive
PB	Door lock release pushbutton



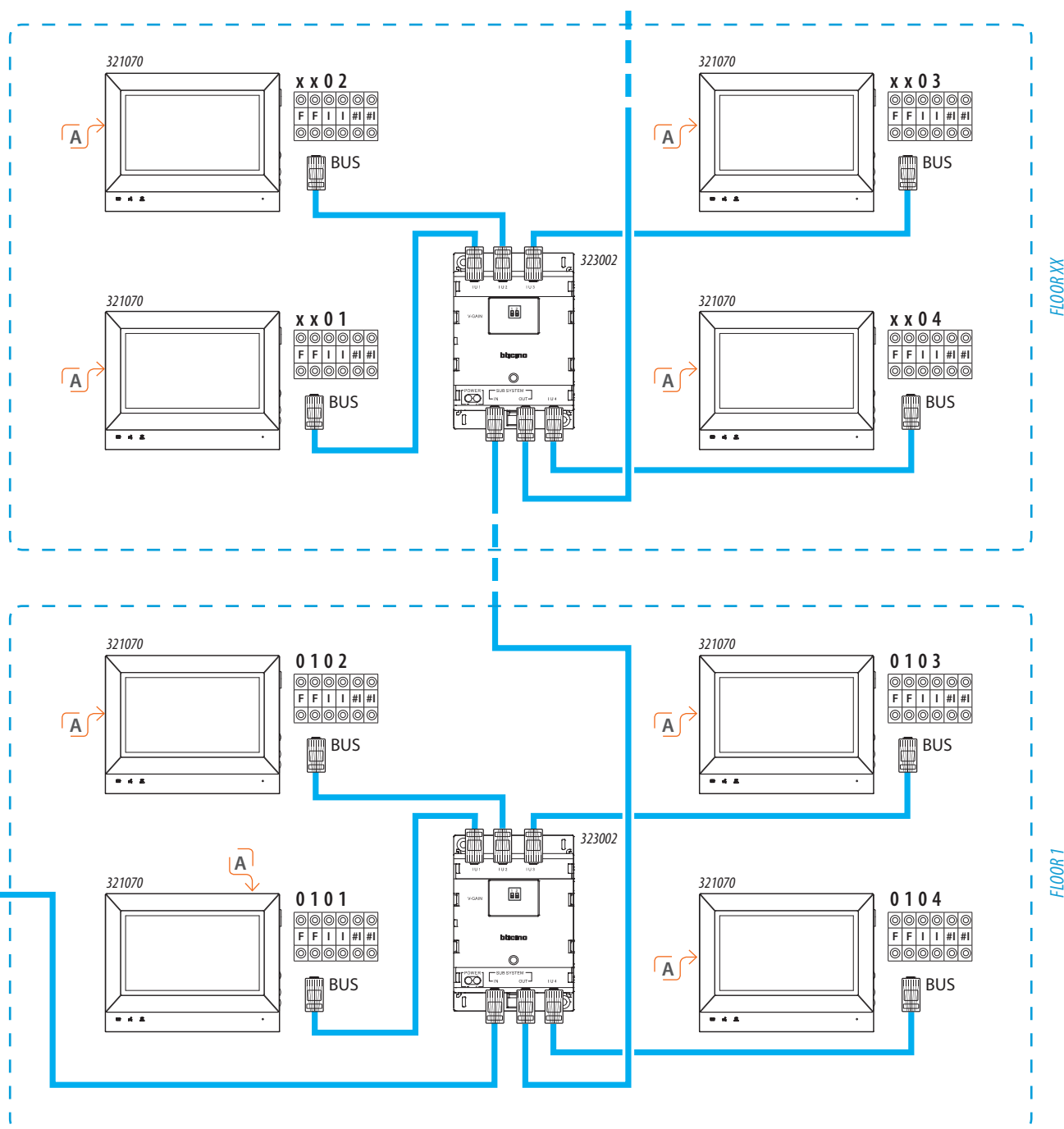


Diagram 9

SYSTEM WITH D45 INTERFACE AND SOFTWARE SWITCHBOARD

⚠ WARNINGS:

■ Configure and insert the jumpers with the system SWITCHED OFF. Also every time the configuration is modified the pws must be switched OFF and ON again, waiting about 1 minute.

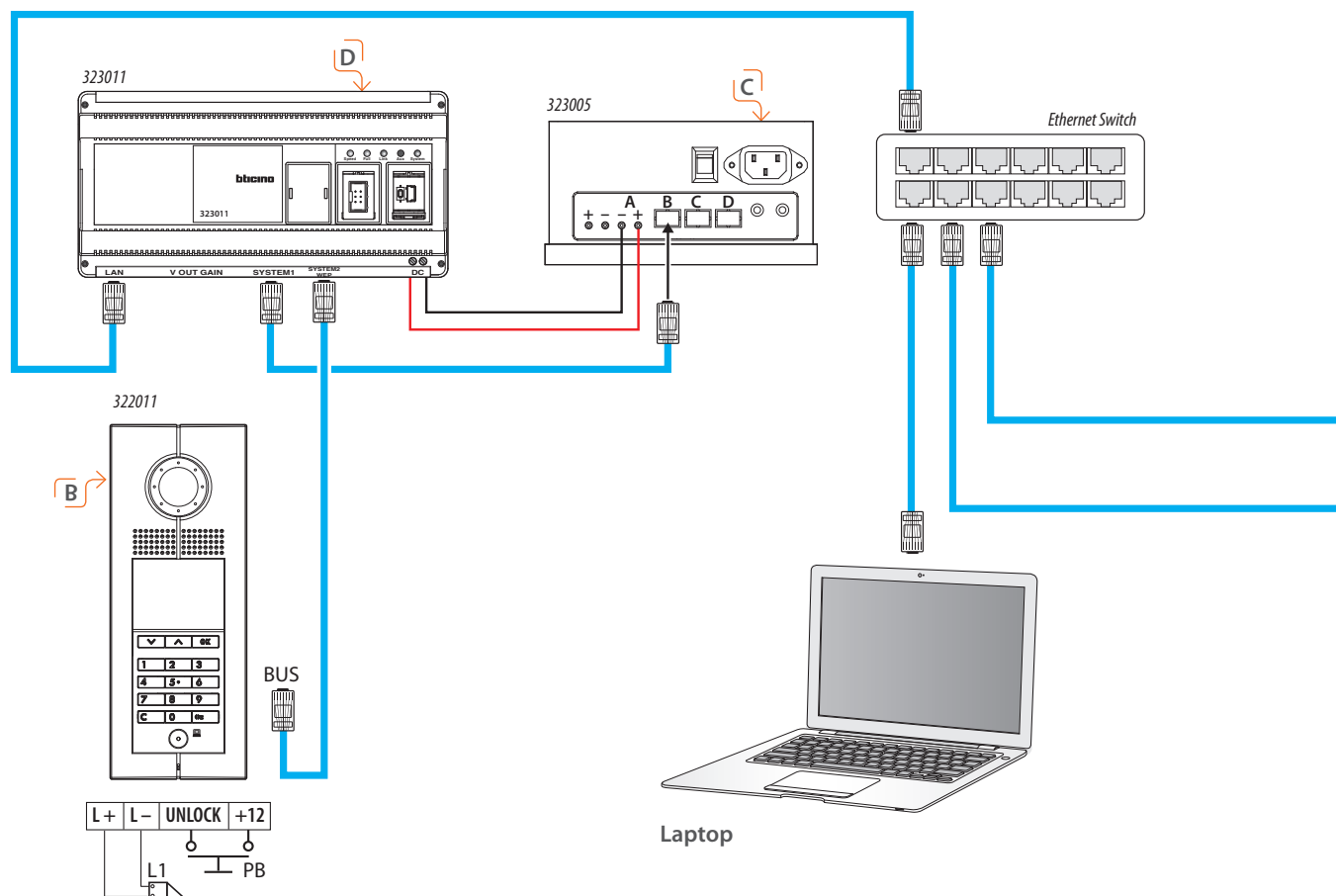
A To install alternative internal units, refer to wiring variant section.

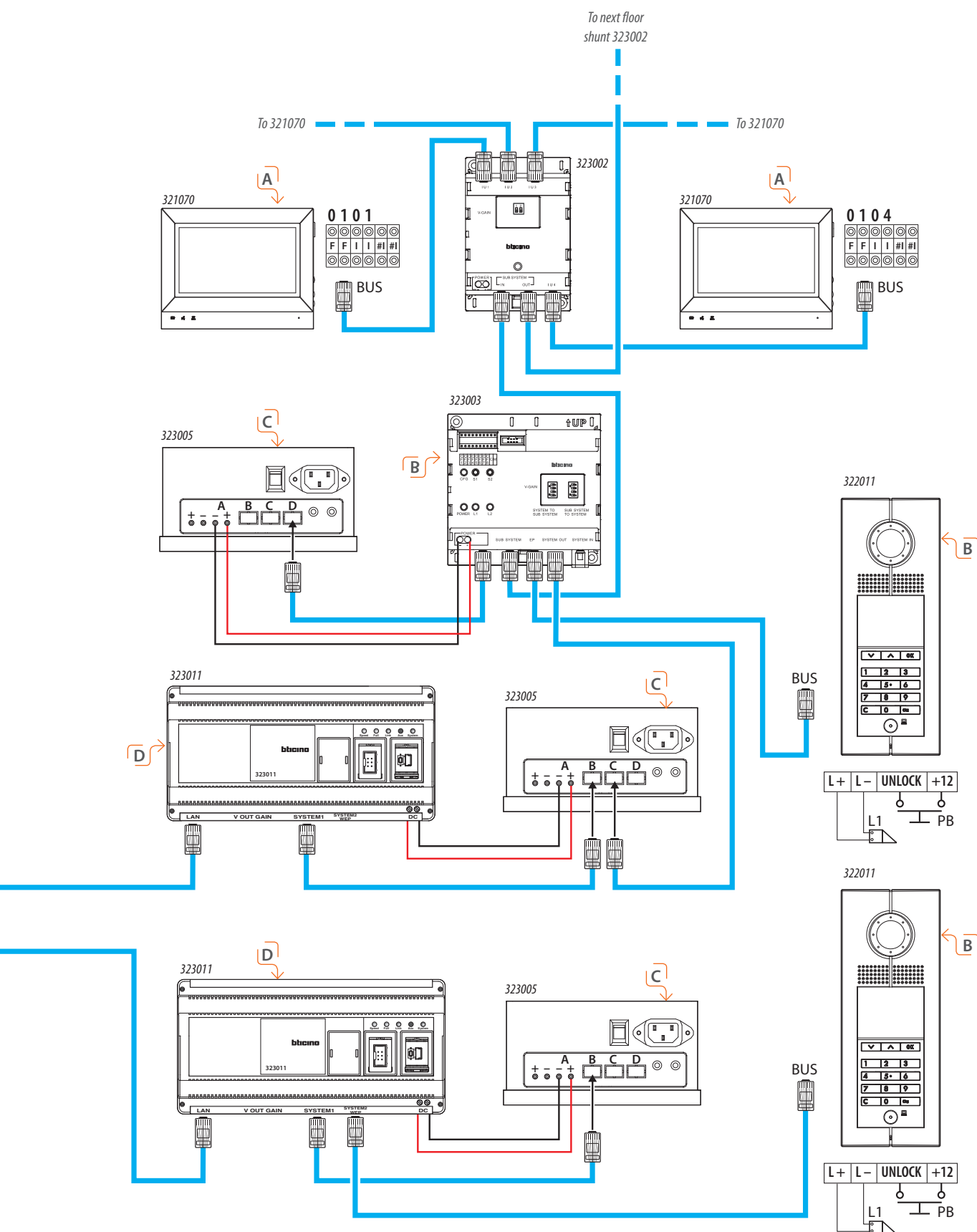
B To install alternative Entrance panel, refer to wiring variant section.
Device configuration by SF2 software.

C Set internal IMPEDANCE SWITCH to ON.

D Physical configuration or advanced configuration by software MHSUITE.

ITEM	DESCRIPTION
322011	Digital call entrance panel
323011	D45/IP interface
323005	Main power supply
323002	Floor shunt
321070	7" Touch screen internal unit
323003	Riser shunt
323012	Softswitchbard for Laptop
L1	Electric door lock 12V - 4A impulsive
PB	Door lock release pushbutton



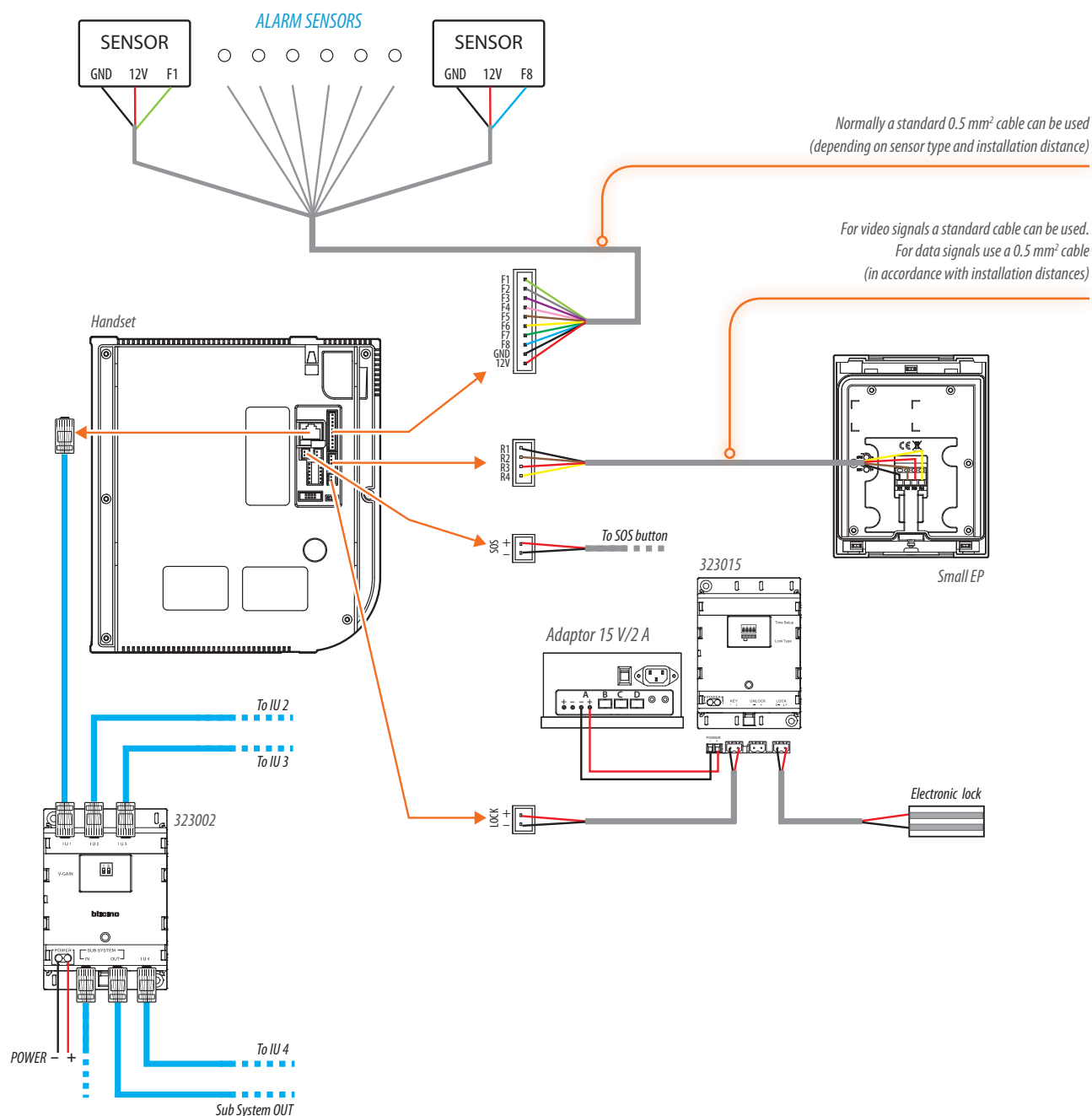




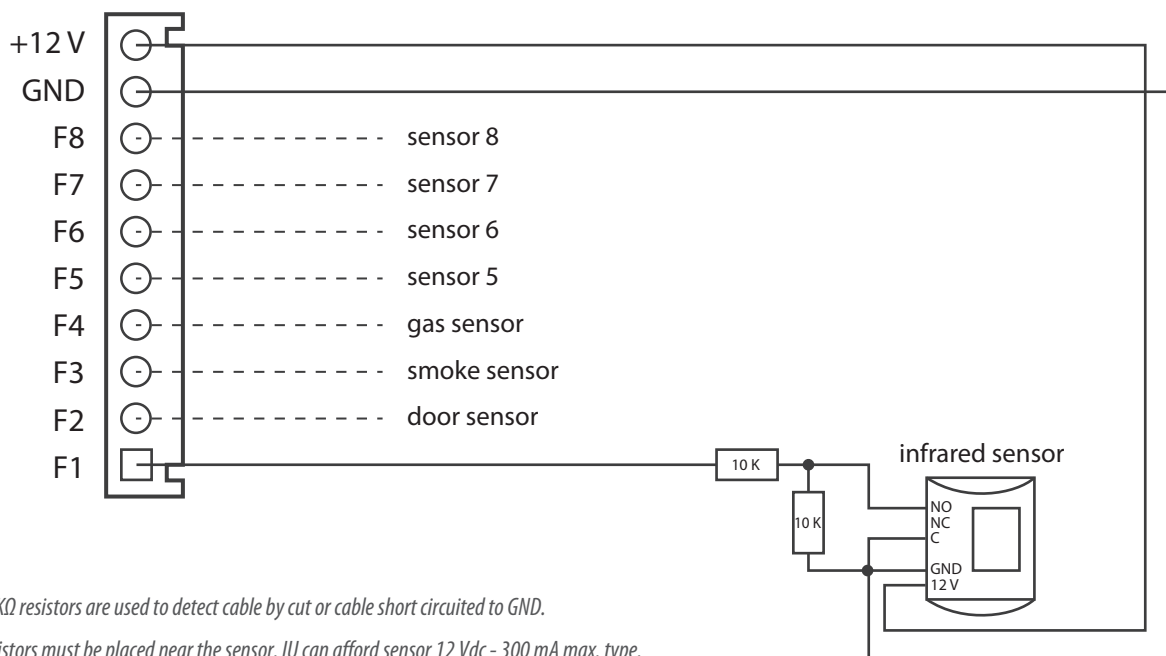
WIRING DIAGRAMS - VARIANTS

Diagram 1

IU WIRED CONNECTION + ALARM CONNECTION



IU REAR SIDE CONNECTOR

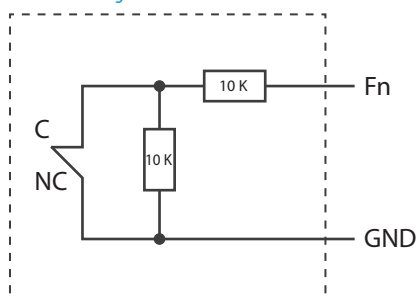


Note: 10 K Ω resistors are used to detect cable by cut or cable short circuited to GND.

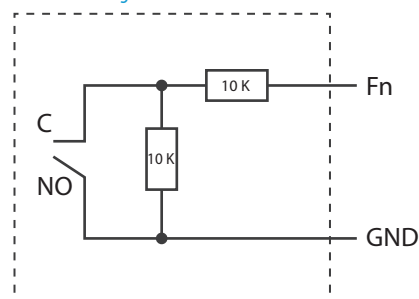
Resistors must be placed near the sensor. IU can afford sensor 12 Vdc - 300 mA max. type.

CONNECTION WAY FOR NC AND NO CONTACTS:

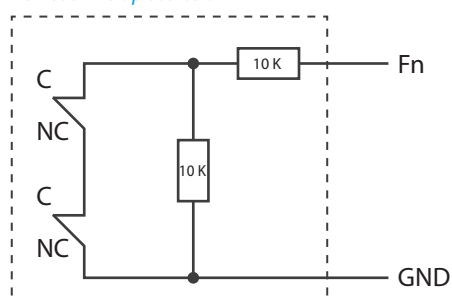
NC mode - Single sensor



NO mode - Single sensor



NC mode - Multiple sensors



NO mode - Multiple sensors

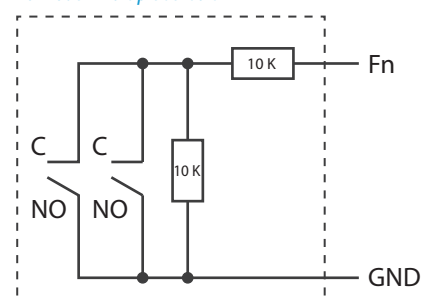
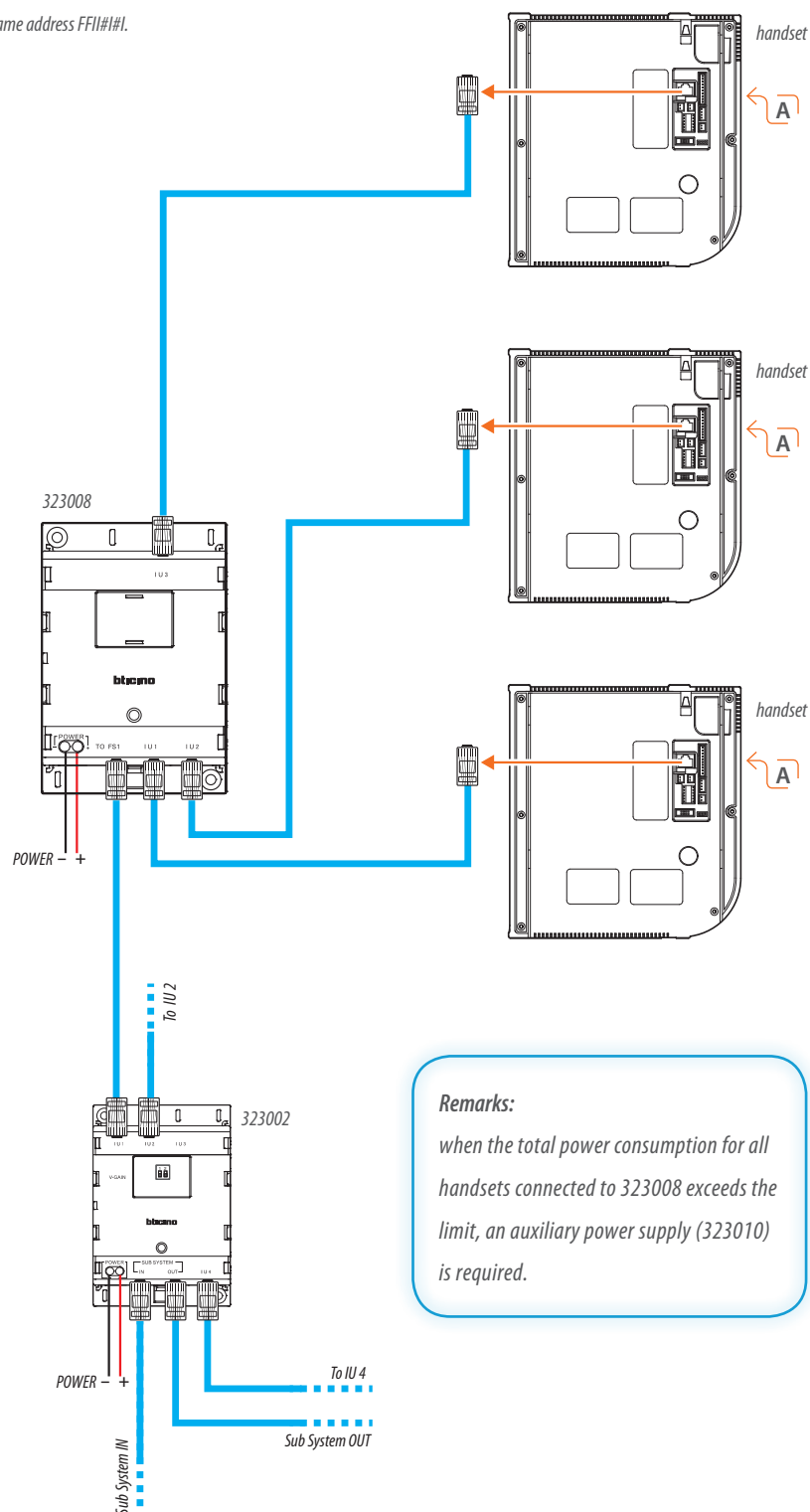


Diagram 2

BASIC APARTMENT INTERFACE CONNECTION

A The indoor units must have the same address FFII##.



Remarks:

when the total power consumption for all handsets connected to 323008 exceeds the limit, an auxiliary power supply (323010) is required.

Diagram 3

D45/2 WIRE INTERFACE CONNECTION

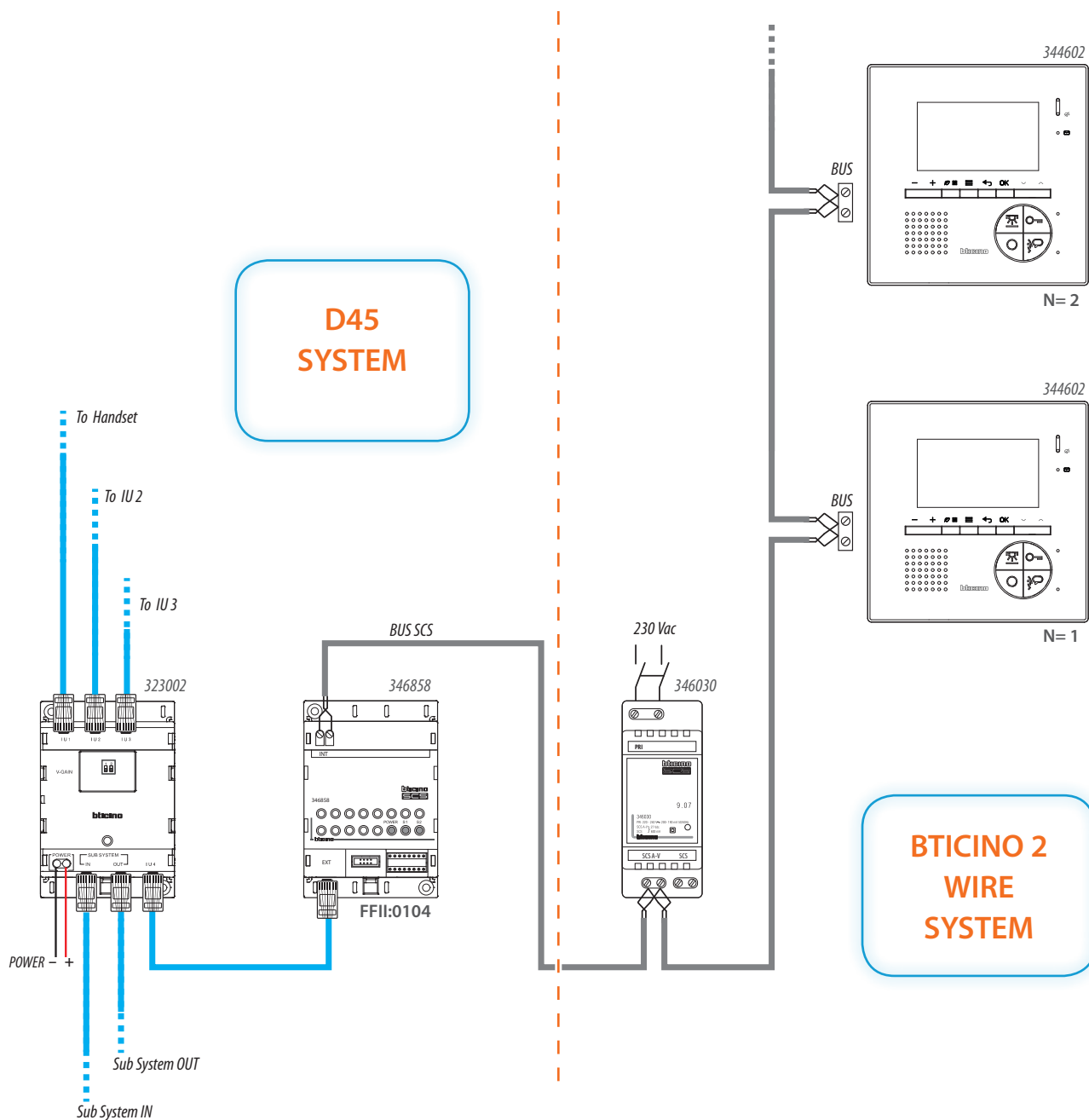


Diagram 4

APARTMENT INTERFACE CONNECTION

Remarks: if powered through the unit bus system, only one indoor unit can be set as the master indoor unit.

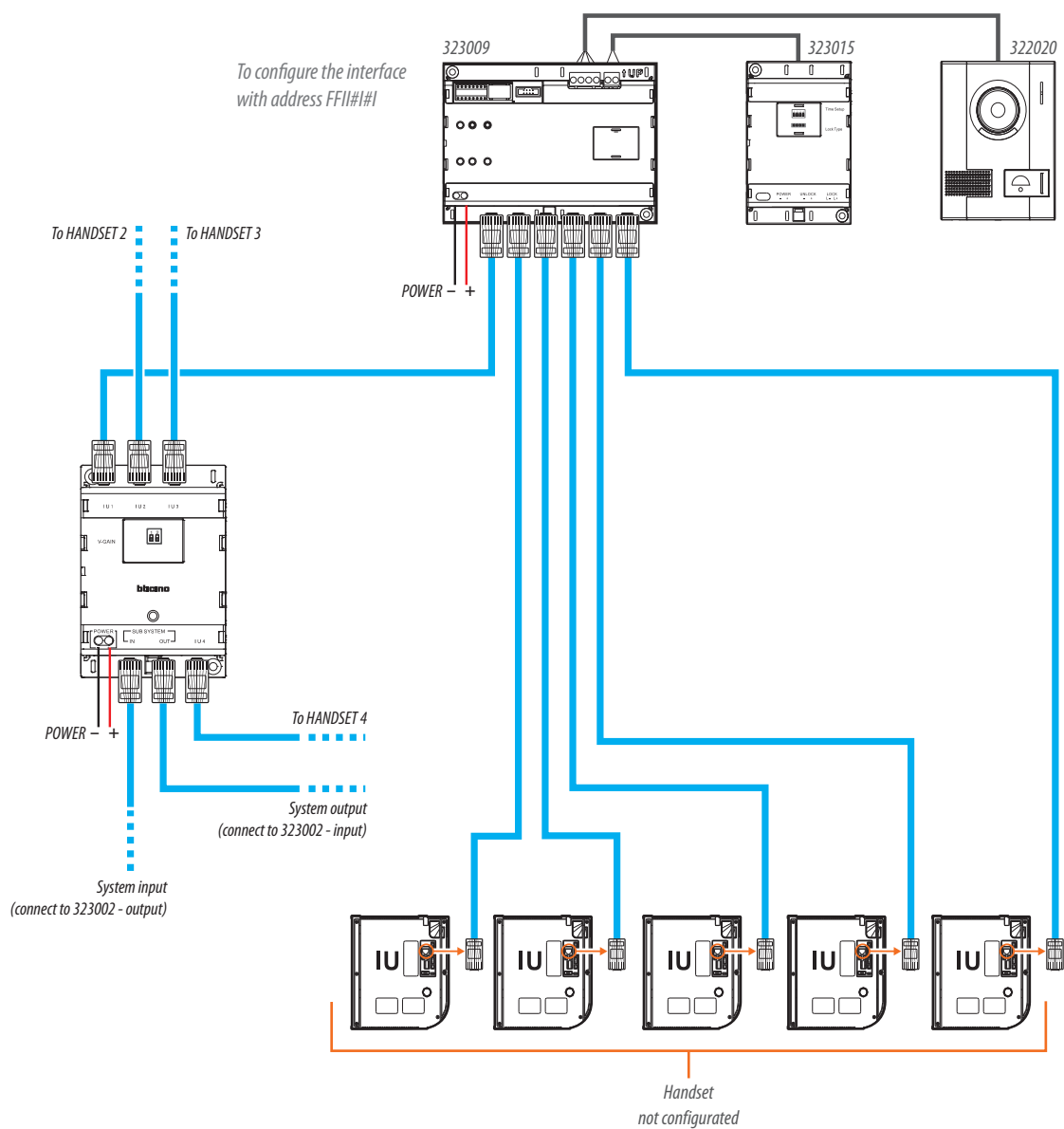
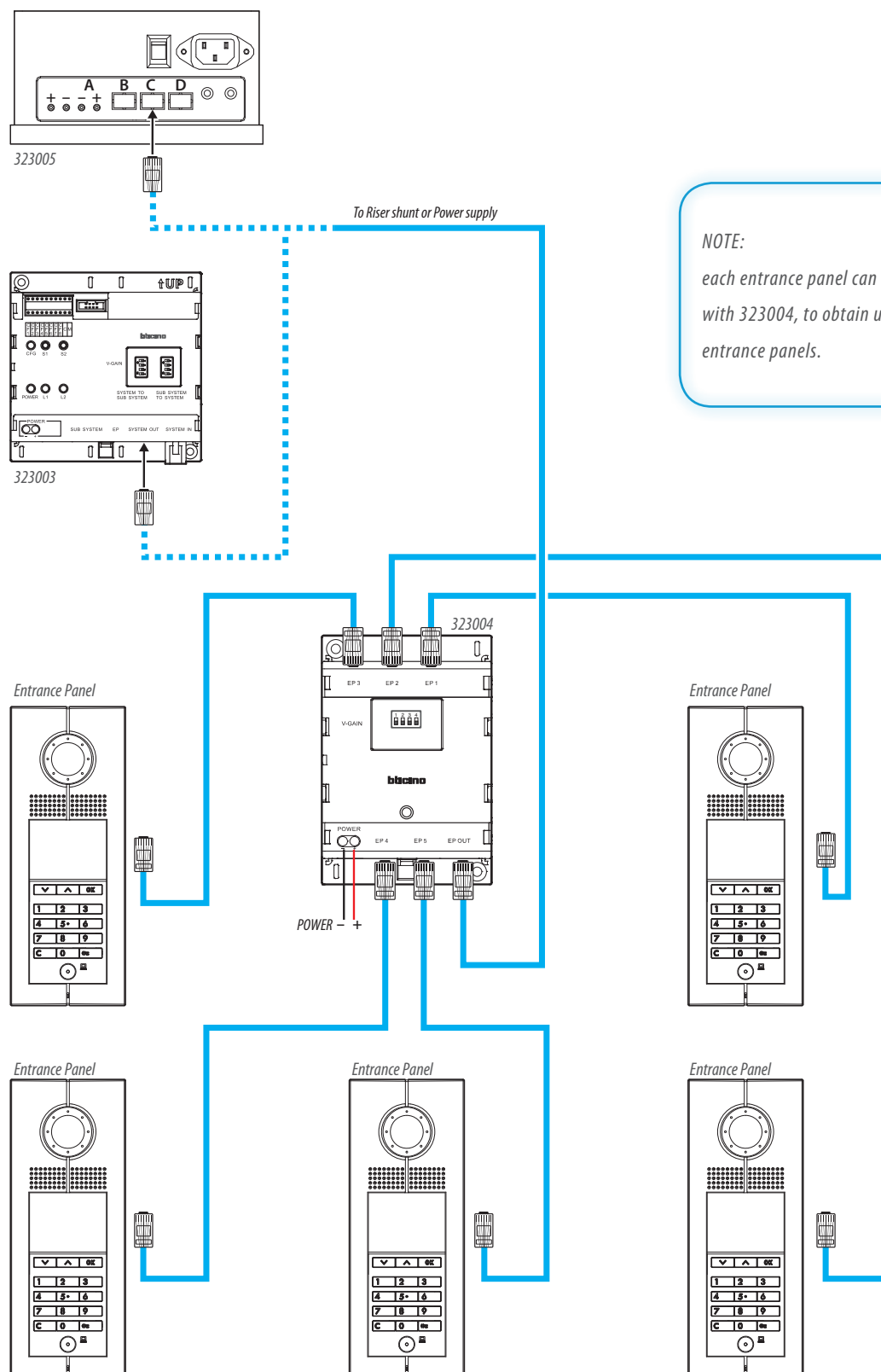


Diagram 5

ENTRANCE PANEL VIDEO MIXER CONNECTION



NOTE:

each entrance panel can be replaced with 323004, to obtain up to 25 entrance panels.

Diagram 6

WIRING DIAGRAMS - DOOR LOCK RELAY CONNECTION

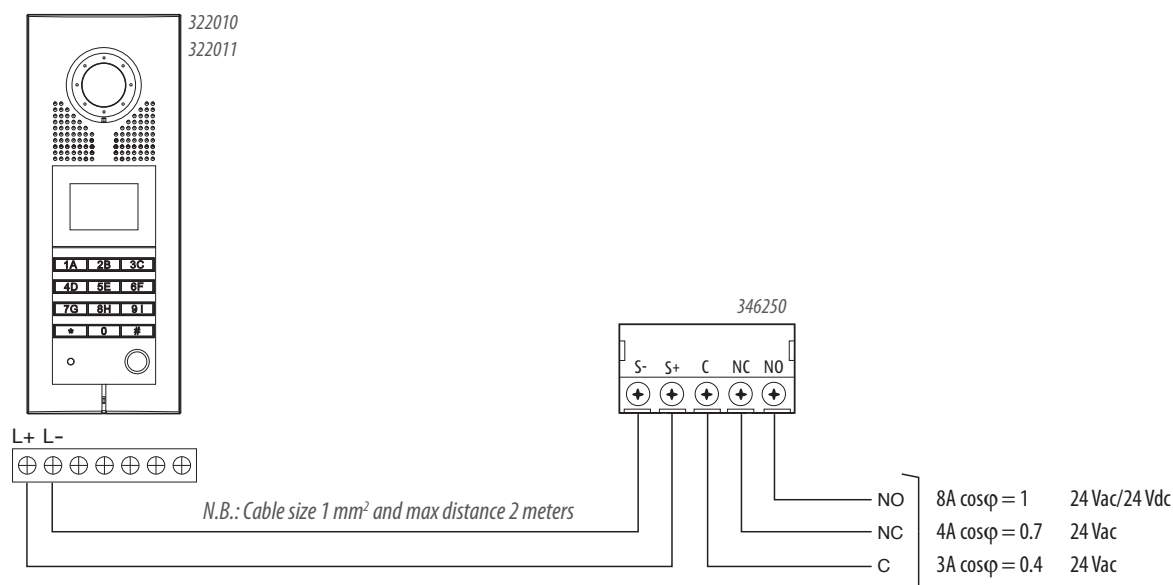


Diagram 7

ADDITIONAL POOWER SUPPLY CONNECTION

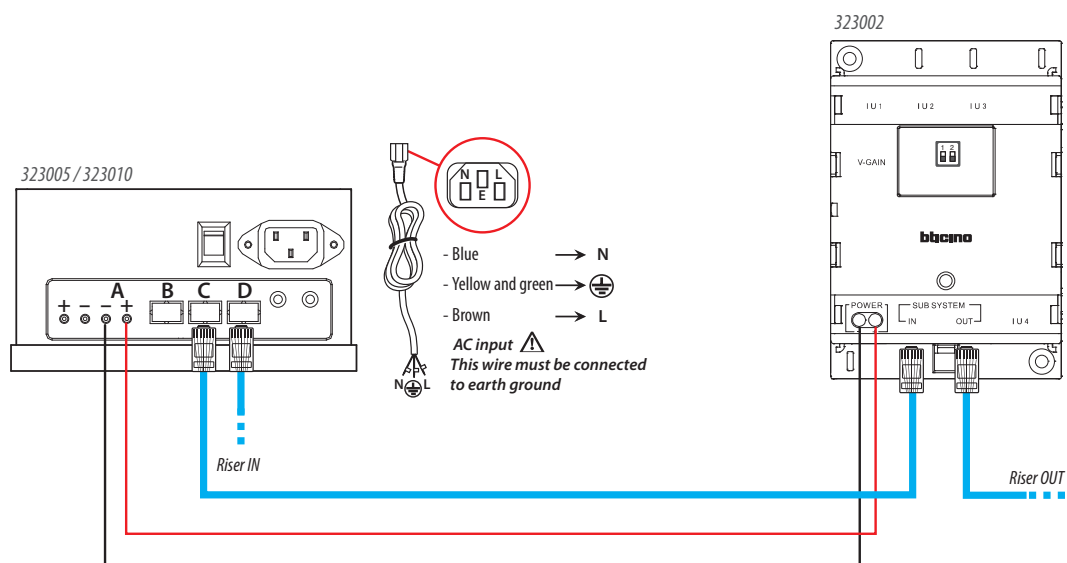


Diagram 8

ENTRANCE PANNEL AUXILIARY POWER SUPPLY CONNECTION

⚠ WARNINGS:

A Advanced configuration by software MHSUITE.

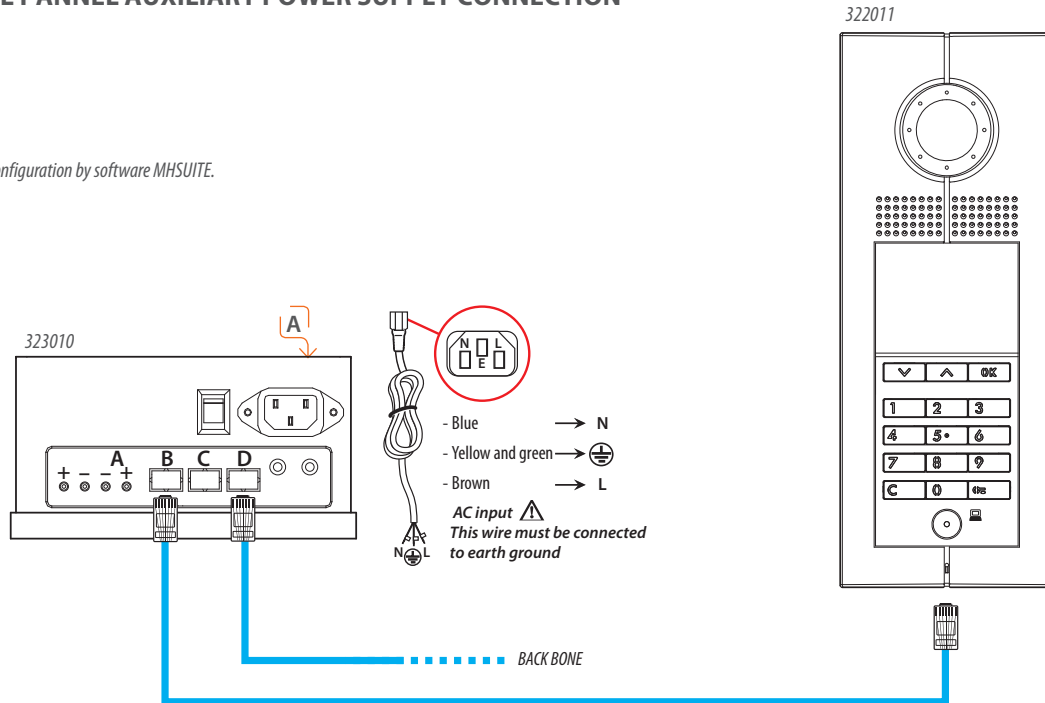


Diagram 9

POWER SUPPLY CONNECTION FOR SWITCHBOARD

⚠ WARNINGS:

A Advanced configuration by software MHSUITE.

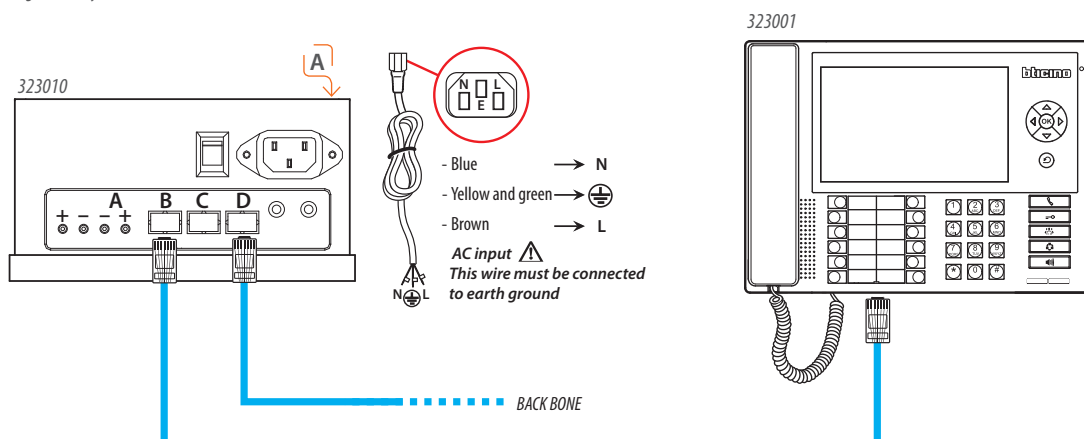


Diagram 10

CONNECTION OF ENTRANCE HALL PUSHBUTTON TO THE ENTRANCE PANEL



Diagram 11

FLOOR CALL CONNECTION

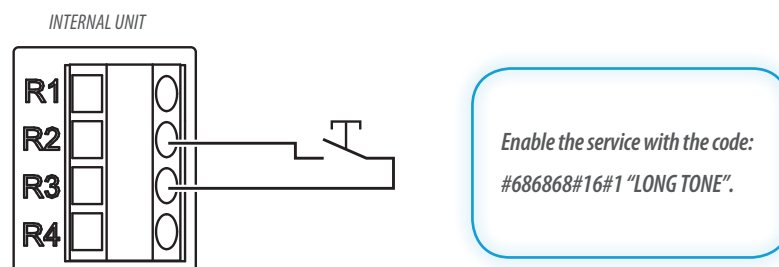


Diagram 12

BACK-UP BATTERY CONNECTION

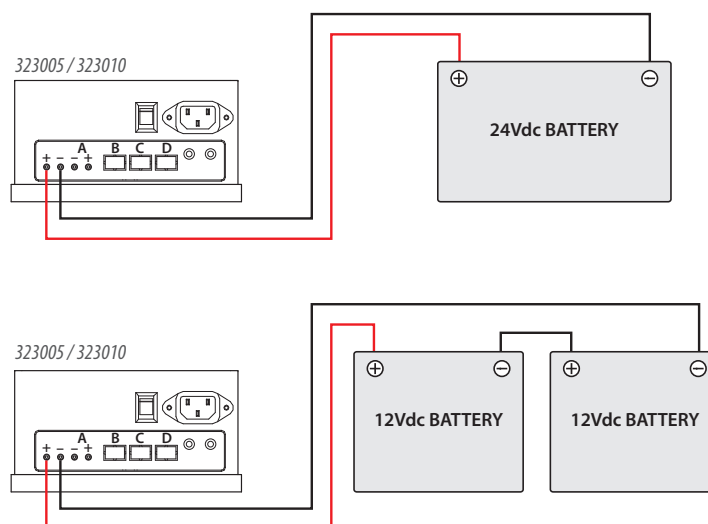


Diagram 13

IN/OUT CONNECTION

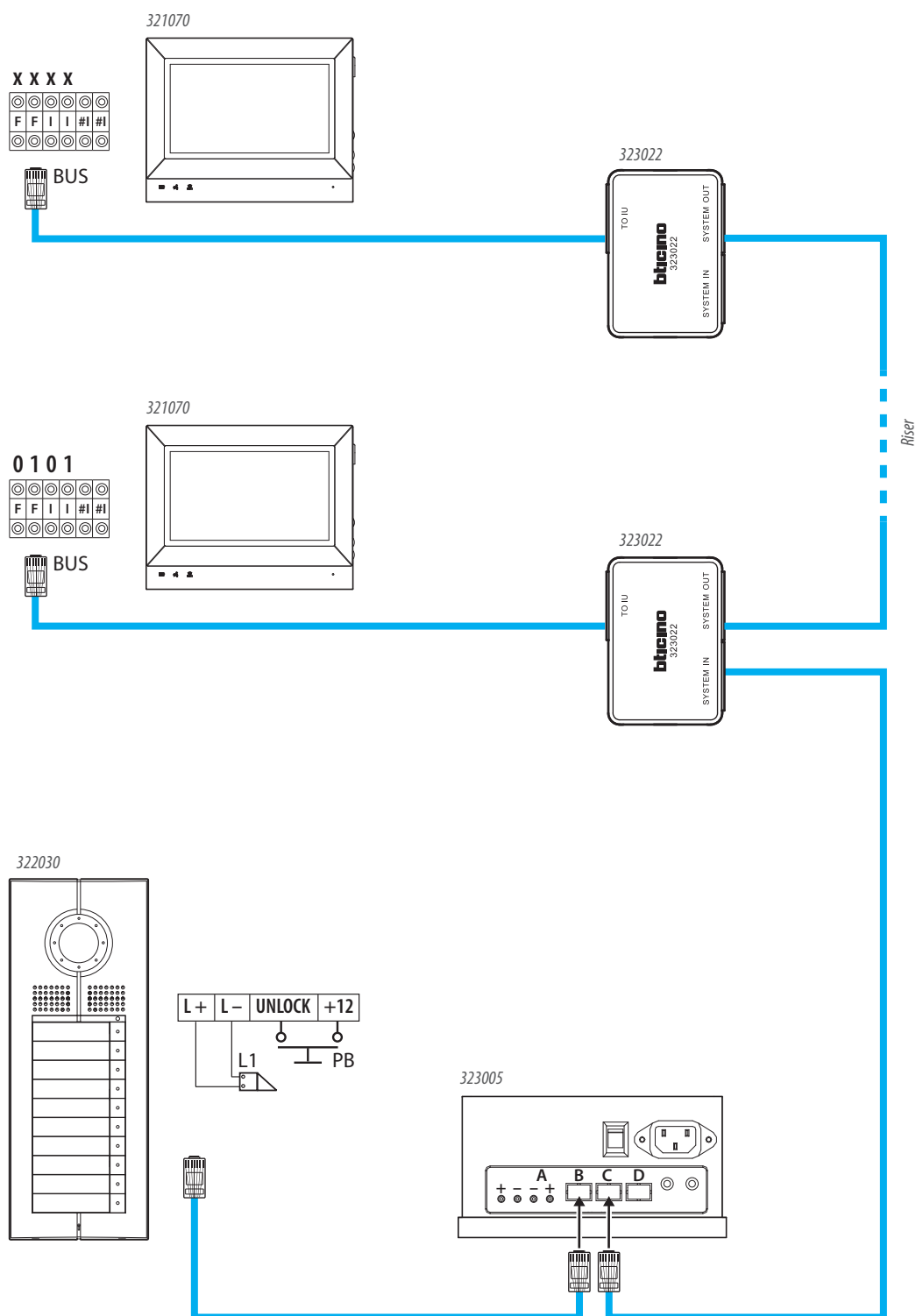
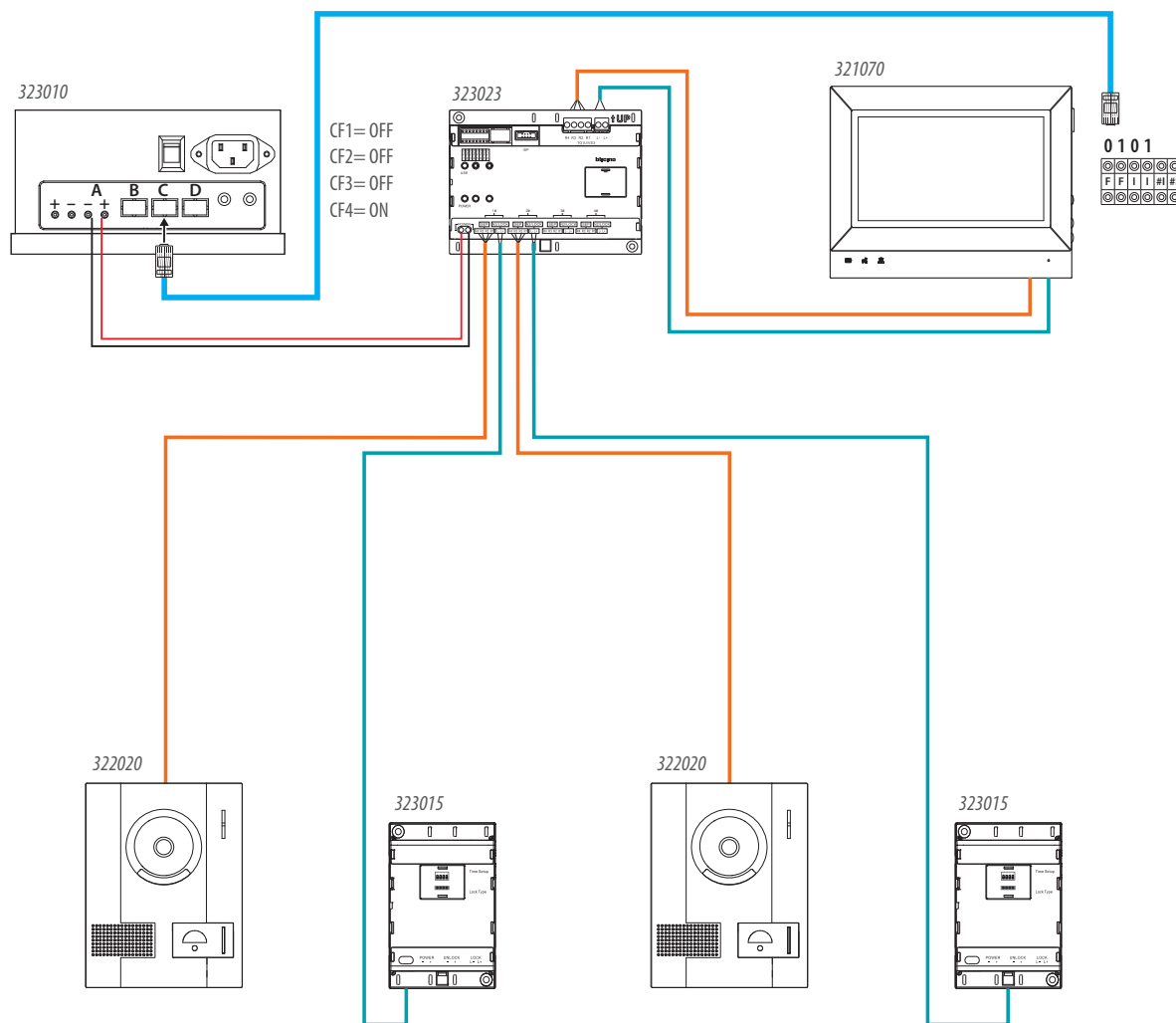


Diagram 14

SINGLE FAMILY SYSTEM WITH MORE THEN 1 ENTRY PANEL



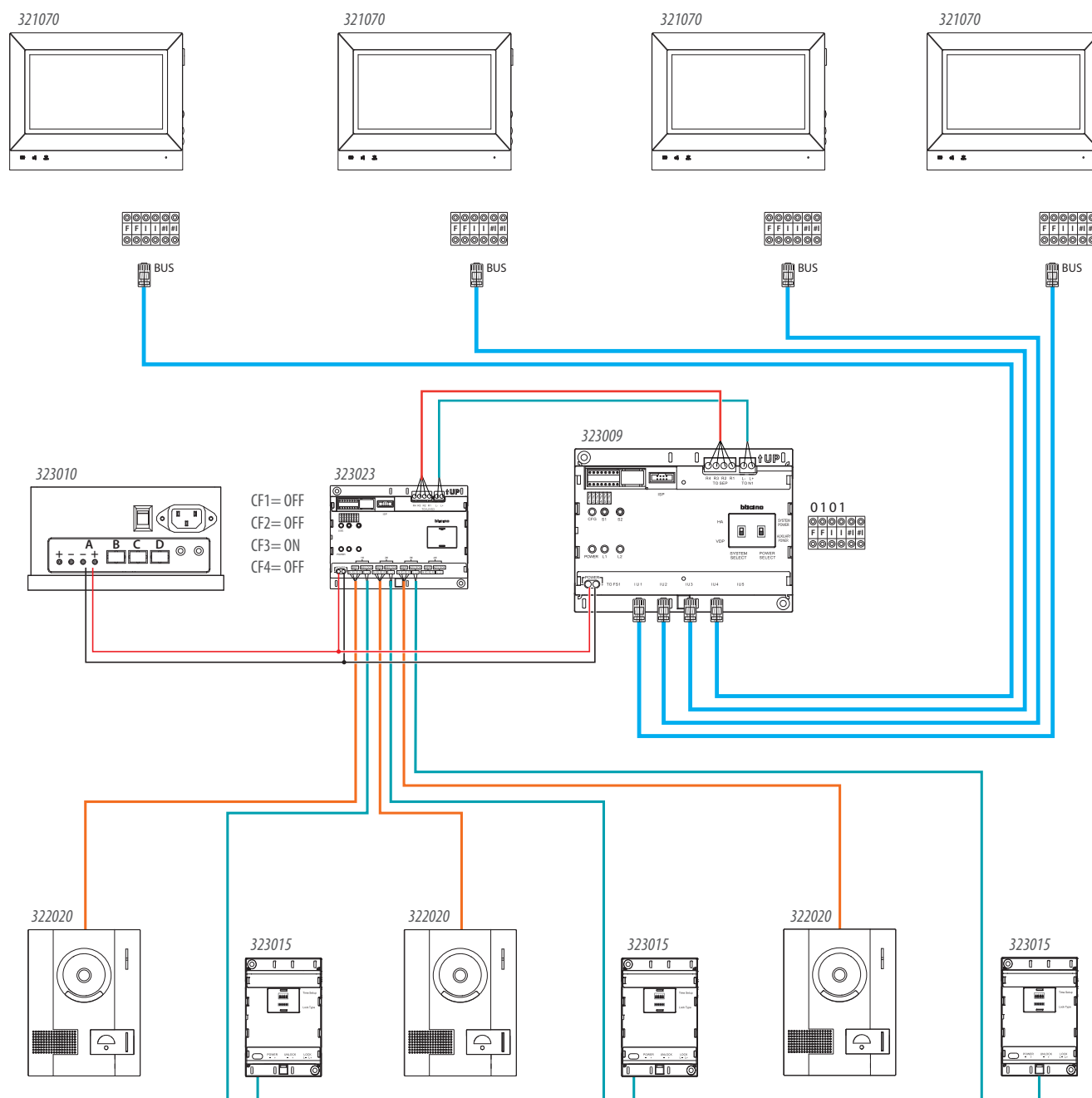
— Connections with RJ45 – Cat 5E/6 cable.

— 4 Wires

— 2 Wires

Diagram 15

SINGLE FAMILY SYSTEM WITH MORE THEN 1 INDOOR UNIT AND MORE THEN 1 ENTRY PANEL



Connections with RJ45 – Cat 5E/6 cable.

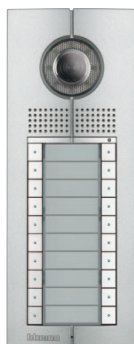
4 Wires

2 Wires




322010
322011

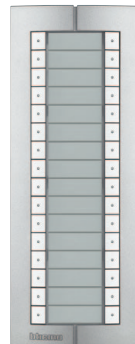

322030



322031



322032



322033



322020



322021

Pack	Cat.Nos	Digital calls colour entrance panels
1 1	BT-322010 BT-322011	Zamak digital call street panel with keyboard, LCD display and colour camera Equipped with door lock release and burglar alarm notification Configuration screen menu and software upgrade without the need to dismantle the device Flush-mounting installation (flush-mounting box sold with the street panel) Without addresses list With addresses list
1	BT-322012	Nameplate module Zamak nameplate module to install at the side of the digital call street panel Cat.No BT-322011 to insert the list of residents or customised messages Easy insertion / replacement of nameplates Flush-mounting installation (flush-mounting box supplied)
1 1	BT-322030 BT-322031	Pushbutton call colour street panels Zamak pushbutton street panel with pushbuttons colour camera. Flush-mounting installation (flush-mounting box supplied) With 10 call pushbuttons With 20 call pushbuttons

Pack	Cat.Nos	Additional pushbutton module
1 1	BT-322032 BT-322033	Additional Zamak pushbutton panel with pushbuttons on single column Easy insertion / replacement of nameplates Flush-mounting installation (flush-mounting box supplied) With 16 call pushbuttons With 32 call pushbuttons
1	BT-322020	Single call small entrance panel Aluminium alloy single call small street panel to be installed in one-family systems or as private street panel in multifamily systems Touch-sensitive pushbutton for calling indoor handsets and direct conversation Double verified intercom calls Surface-mounting
1	BT-322021	Floor call entry panel Plastic single call small panel to be installed in one-family system Surface mounting
1 1	BT-322001 BT-322002	1 module Box for street panel wall-mounting installation Rainshield integrated Compatible with Cat.No: - BT-322010 (digital street panel) - BT-321011 (digital street panel with address list) - BT-321030 (10 pushbutton street panel) - BT-321031 (20 pushbutton street panel) 2 modules Box for street panel wall-mounting installation Rainshield integrated Compatible with Cat.No: - BT-322010 (digital street panel) - BT-321011 (digital street panel with address list) - BT-321030 (10 push button street panel) - BT-321031 (20 push button street panel) - and one expansion module: BT-321012 (targa module) or BT-321032 (16 pushbutton extension) or BT-321033 (32 pushbutton extension)

Dimensional data

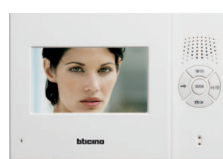
MODEL NAME	CODE NUMBER	DIMENSIONS (mm)
Entrance panel with call address list	322011	325 x 125 x 44,5
Small entry panel color	322020	141 x 108 x 31
Floor call entry panel	322021	152 x 104 x 25
10 Call pushbuttons entrance panel	322030	325 x 125 x 63
20 Call pushbuttons entrance panel	322031	325 x 125 x 63
16 Additional pushbuttons panel	322032	325 x 125 x 44,5
32 Additional pushbuttons panel	322033	325 x 125 x 44,5
Targa module	322012	325 x 125 x 44,5

D45 System

internal units

321070
321071

322050



321061



321011



322052



321060



322040



323001

Pack	Cat.Nos	Touch screen hands-free internal units
1	BT-321070	Complete door entry functions with alarm managements International standard SOS pushbutton, intercom function, programming device touch screen functions Digital photo frame and camera functions Direct call to switchboard function 6 different default selectable ringtones (can be changed with your favourite music) Slot for SD CARD Surge protection Wall-mounting
1	BT-321071	7" touch screen video internal unit 10" touch screen video internal unit
Hands-free colour internal units		
1	BT-322052	For standard video entry functions Hands-free colour internal unit with 7" TFT LED (16/9 format), SOS function, door lock release and scrolling EP activation
1	BT-321061	Hands-free colour internal unit with 4,3" TFT LEDbacklit screen, equipped for standard video door entry functionsplus direct call to the switchboard and entrance panel camera activation Wall-mounting
For standard video door entry functions plus Intercom		
1	BT-322050	Equipped for standard video door entry functions plus Intercom with other internal units, direct call to the switchboard, SOS pushbutton and possibility of direct connection with alarm sensors 12 different ringtones Wall-mounting
1	BT-321011	Hands-free slim colour internal unit with alarm function, with 7" TFT LED backlit screen (16/9 format) Hands-free colour internal unit with alarm function, with 3.5" TFT LED backlit screen

Pack	Cat.Nos	Hands-free colour internal units
1	BT-321060	For standard video door entry functions plus direct call Hands-free colour internal unit with 3.5" TFT LED backlit screen Equipped for standard video door entry functions plus direct call to the switchboard and entrance panel camera activation 12 different ringtones Wall-mounting
1	BT-322040	Audio handset internal unit Handset audio internal unit, equipped for standard door entry system functions plus Intercom with other internal unit and direct call to the switchboard Possibility to connect an external SOS call switch Wall-mounting
1	BT-323001	Switchboard Table-top switchboard unit with high resolution 7" LCD display with graphic icons Able to communicate with internal units, street panels and other devices Manages incoming calls and alarms Possibility to save up to 1000 calls and alarms and to directly connect an external coax camera Equipped with 12 shortcut pushbuttons for direct access of calls and services

Dimensional data

MODEL NAME	CODE NUMBER	DIMENSIONS (mm)
3.5" Handsfree internal unit	321011	139,5 x 193,5 x 29
3.5" Handsfree internal unit	321060	158 x 165 x 29
4.3" Handsfree internal unit	321061	120 x 179 x 22,5
7" Touch screen internal unit	321070	157 x 198 x 17
10" Touch screen internal unit	321071	198 x 255 x 27
Audio Internal white	322040	141 x 91 x 34
Colour hands free 7" allarm	322050	175 x 260 x 23
Colour hands free 7"	322052	155 x 225 x 29
Porter switchboard	323001	290 x 170 x 165



323002



323003



323005



323009

Pack	Cat.Nos	System accessories
1	BT-323002	Floor shunt This is used to convert video signals on the BUS to transfer mode and then distribute them to the connected internal units; To be installed between floors; Each floor shunt can be connected to 4 internal units; DIN rail installation
1	BT-323022	One-output floor shunt Interface to be installed between floors Connects all the system BUS adapting video signal from difference ended into a single ended and distribute the BUS to the extensions indoor unit Build in a small plastic case to be installed easily inside the system junction boxes
1	BT-323003	Riser shunt Used to connect the riser BUS and system BUS in order to obtain BUS separation Transfer signals and switch between video and audio channels Video transfer distance can be increased by setting the gain adjustment dip switch DIN rail installation
1	BT-323004	Entrance panel video mixer Device can mix signals coming from 5 entrance panels Video transfer distance can be adjusted by setting the gain adjustment dip switch; DIN rail installation
1	BT-323005	Power supply System power supply unit able to supply power on the data communication cable and simultaneously provide impedance matching for the audio channel; Protected against short circuits: in case of DC output short circuit, the device will switch to protected mode. Once the problem has been resolved, it will return to normal status automatically Can also be set up to operate as an auxiliary power supply; Wall-mounting
1	BT-323007	2-way video splitter Device splits the BUS signal into two channels where the video signal can only be transferred from input to output. Provides compensation to the two channels separately and adapts the video signal output from the street panel for different distances via settings. Mainly used in riser systems to divide the riser, BUS into several channels to adapt the cabling, DIN rail installation

Pack	Cat.Nos	System accessories (continued)
1	BT-323008	Basic apartment interface Device must be used in apartments with 2 or 3 internal units Interface must be installed between the floor shunt (Cat.No BT-323002) and the internal units DIN rail installation
1	BT-323009	Apartment interface Device used to expand the number of internal units and add a small street panel Each device can connect 5 internal units and 1 street panel, providing the intercom function and call or monitor function of the street panel DIN rail installation
1	BT-323010	Auxiliary power supply Auxiliary power supply protected against short circuits: in case of DC output short circuit, the device will switch to protected mode Once the problem has been resolved, it will return to normal status automatically Wall-mounting installation
1	BT-323011	D45/IP interface IP interface which can be connected to the D45 SYSTEM and BTicino 2 wire/IP System in order to create mixed installations DIN rail installation

Dimensional data

MODEL NAME	CODE NUMBER	DIMENSIONS (MM)
Floor shunt	323002	72 x 105 x 33
Riser shunt	323003	106 x 105 x 33
Entrance panel video mixer	323004	72 x 105 x 33
Power supply	323005	167,5 x 161 x 85
2 Branches video splitter	323007	72 x 105 x 33
Basic apartment interface	323008	72 x 105 x 33
Apartment interface	323009	141 x 105 x 33
Auxiliary power supply	323010	167,5 x 161 x 85
D45/IP interface	323011	90 x 175 x 60

D45 System

system accessories (continued)



BT-323016



BT-323018



BT-323023



BT-346858

Pack	Cat.Nos	System accessories (continued)
1	BT-323012	IP management switchboard software Integrated IP management software provides the communication for calls between internal units and the switchboard
1	BT-323013	District generator District hub to be connected to 4 riser shunts (Cat.No BT-323003), one street panel, one switchboard and one system power supply Enables a large network to be created Controls and changes video channels Provides amplifying compensation for video signals DIN rail installation
1	BT-323015	Door lock accessory Operates electric door locks, particularly the commonly used 12 V cathode locks When the opening current of an anode lock is over 1 A, this device is also required to operate anode locks It is generally connected to the street panel to obtain the door lock release control signal Possible to open door locks by means of external manual switches Selection of the type of electric door lock release via the jumper configuration line DIN rail installation
1	BT-323016	House shunt Distributes video, audio and data signals from the BUS to the floor shunt (Cat.No BT-323002) connected to it, so that the signals from the BUS unit can reach the maximum distance of 200 metres, to meet specific domestic requirements To be installed in the low voltage subscriber unit in the house DIN rail installation
1	BT-323021	Accessory for additional camera Interface that permits to integrate additional camera to the system The image from the camera can be visualized by all the internal units of the system Additional camera accessory increases security level of the system giving the possibility to monitor public area [ex. garden, swimming pool, parking] 4 additional cameras max. per accessory Compatible with coaxial camera 12V

Pack	Cat.Nos	System accessories (continued)
1	BT-323017	Lift control interface For integrating the D45 system with the elevator system Possibility to manage the elevator directly from the internal unit
1	BT-323018	Entrance panel/Switchboard shunt Used to connect the entrance panel and the switchboard to the system The device automatically switches over the video channels DIN rail installation
1	BT-323019	System expansion interface Extends the riser system when the number of internal units installed on the riser exceeds the limit of 400 The interface can increase this limit to 800 handsets This device is also used to adjust the video gains and improve video transmission quality DIN rail installation
1	BT-323020	Configuration tool Configuration kit consisting of: - SF2 configuration software - Tool interface - Serial extension cable - Flat cable
1	BT-323023	Small street panel video mixer Interface for the installation of several small street panels for each internal unit or for each apartment Permits to install 4 small street panels By using more than one accessory in series, it's possible to install more than 4 street panels
1	BT-346858	D45 to BTicino 2-wire interface Switch-over interface to install the BTicino 2-wire door entry system inside the apartment DIN rail installation

Dimensional data

MODEL NAME	CODE NUMBER	DIMENSIONS (MM)
Distric generator	323013	175 x 105 x 66
Door lock accessory	323015	72 x 105 x 33
House shunt	323016	72 x 105 x 33
Lift control interface module	323017	141 x 105 x 33
EP/Switchboard shunt	323018	72 x 105 x 33
System expansion interface	323019	106 x 105 x 33
Configuration tool kit	323020	48 x 48
SEP video mixer	323023	141 x 105 x 33
D45/2-wire interface	346858	72 x 105 x 33



The technical sheets

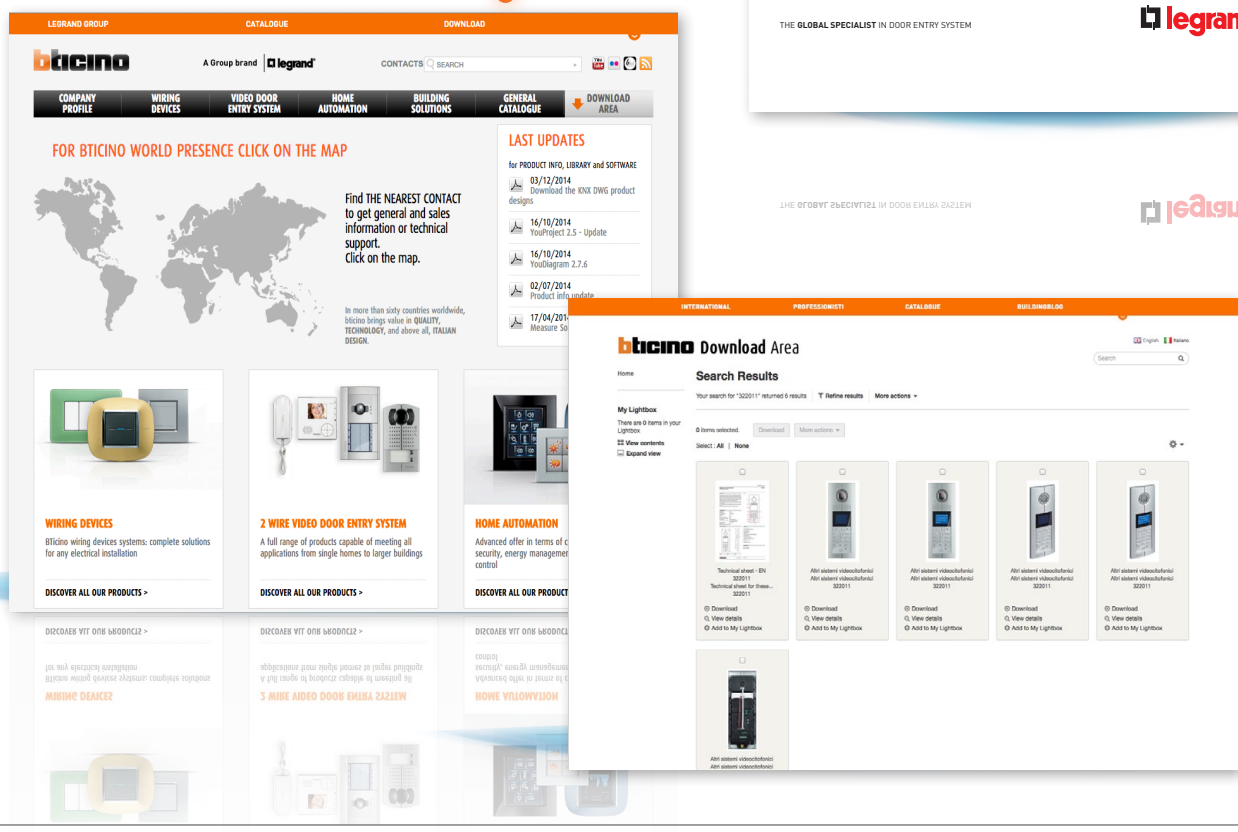
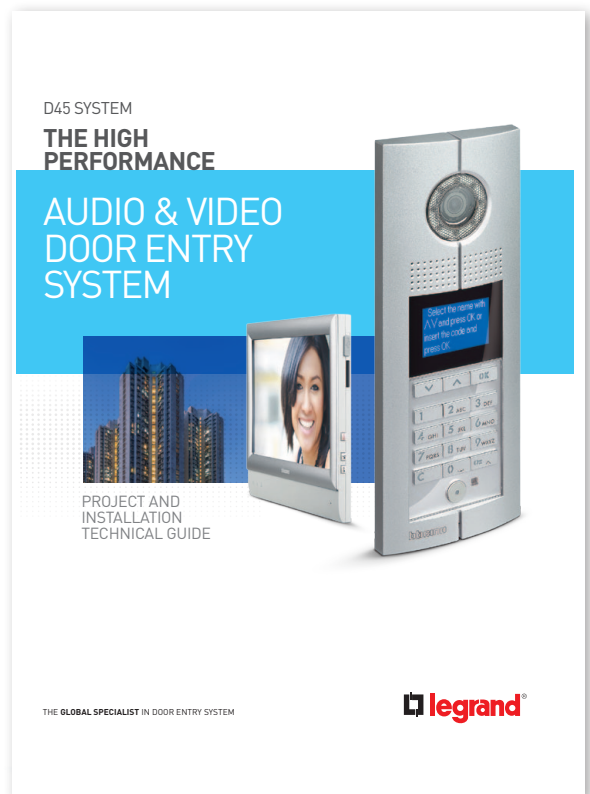
This document contains all the technical information for the assessment, design, and installation of D45 audio and video/audio door entry systems.

For detailed information on the individual devices see the "technical sheets", which can be selected by item code.

For each device, the technical sheet shows the following information:

- Product description;
- Related items;
- Technical and dimensional data;
- Configuration;
- Collection diagram, if applicable.

Technical sheets can be viewed and downloaded by accessing the on-line catalogue www.bticino.com



Description

System the device belongs to

D45 System
321070

7" touch screen handsfree internal unit

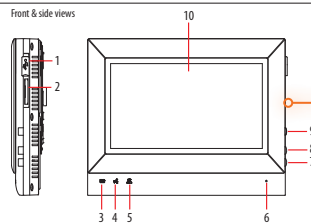
Description

D45 System 7" touch screen video internal unit. Complete door entry functions with alarm managements. International standard SOS pushbutton, intercom function, programming device touch screen functions. Digital photo frame and camera functions. Direct call to switchboard function. 6 different default selectable ringtones (can be changed with your favourite music). Slot for SD CARD. Surge protection. Wall mount installation.

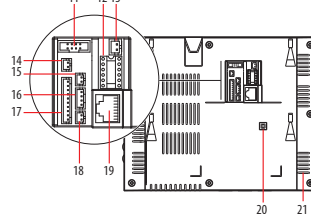
Technical data

Power supply : 18-30 Vdc
Stand by absorption: ≤ 100 mA @ 30 V
Max. operating absorption: ≤ 200 mA @ 30 V
Operating temperature: (-10) - (+40) °C
LCD display size : 7"
LCD display resolution : 800 x 480
Supported SD CARD : 32 Gb maximum
Supported music files : mp3, wav, wma

Front & side views



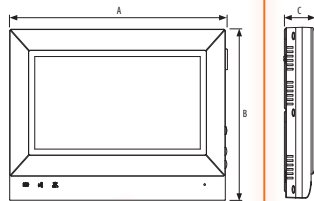
Rear view



Legend

1. Mini USB port
2. SD CARD socket
3. Message information LED
4. Connection status LED
5. Alarm LED
6. Microphone
7. Door lock release pushbutton
8. Communication pushbutton
9. SOS pushbutton
10. 7" LCD touch screen display
11. Download connector
12. Configurator housing
13. Local power connector
14. Anti removal alarm sensor connector
15. SOS alarm connector
16. SEP entrance panel connector
17. Alarm sensor connector
18. Unlock device connector
19. RH45 System BUS connector
20. Anti removal switch
21. Loudspeaker

Dimensional data



A (mm)	B (mm)	C (mm)
198	137	27

bticino

BT00851-a-EN

03/09/2014

Dimensional data

Technical data

Legend

Specific wiring diagrams

Device drawing

Configuration

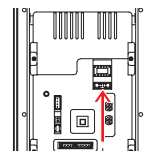
Digital colour entrance panel

322010

Configuration

Configuration by using SF2 Software and PC connection - WAY 3 :

This is the enhanced way to download the device configuration to entrance panel previously created by using SF2 configuration software and a personal computer. To transfer use the configuration hardware tool 323020 serial interface



Video gain setting

The entrance panel has two video compensation gears. By setting different V-GAIN gears, we can let the video signal output adapt to different transmission distance. See followings:

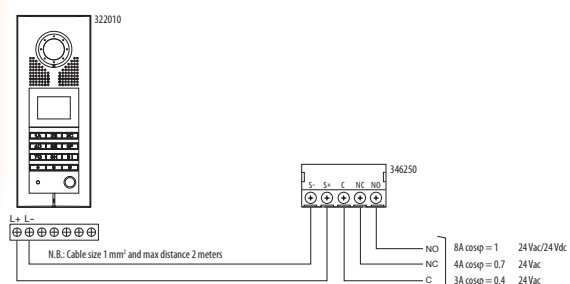


DIP SWITCH SETTINGS FOR B/W AND COLOUR SYSTEM

Distance	1	2
0 - 300 m	OFF	OFF
300 - 700 m	ON	OFF
700 - 1000 m	ON	ON

WARNING : in order for the communication to take place, the EP must be powered and not physically configured

Wiring diagrams - Door lock relay connection


bticino

BT00466-b-EN

30/05/2013

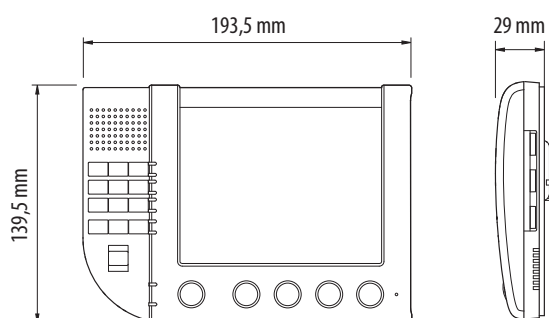
6

Description

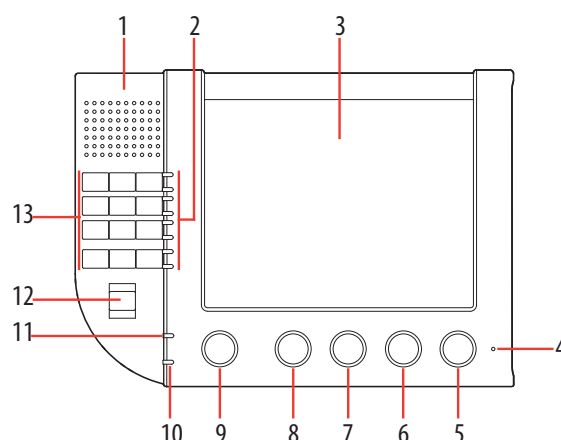
D45 System indoor handsfree video handset with 5.6" analogue LCD backlit display. Complete door entry functions with alarms management. International standard SOS pushbutton and keyboard for intercom function and programming device. Direct call to switchboard function. 12 ring tones selectable for different call types. Surge protection. Wall mount installation.

Technical data

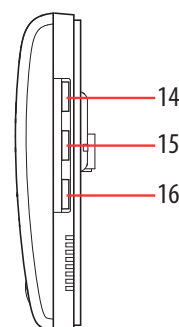
LCD display resolution:	320 x 234 pixels
Power supply :	30 Vdc
Stand by absorption:	≤ 10 mA @ 30 V
Max. operating absorption:	≤ 140 mA @ 30 V
Operating temperature:	(-10)-(+40)°C

Dimensional data

Front view

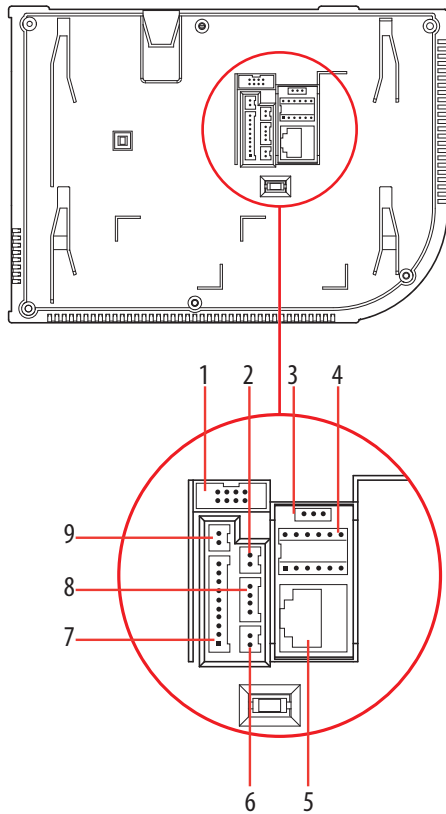


Side view

**Legend**

1. Loudspeaker
2. 1 to 8 defence areas status LEDs
3. 5.6" LCD backlit display
4. Microphone
5. Door lock activation key
6. Monitoring key
7. Call to the switchboard key
8. Audio connection activation/deactivation key
9. SOS pushbutton
10. Information status LED
11. Connection status LED
12. Shortcut key
13. Numerical keyboard
14. Ring volume control knob
15. Display brightness regulation knob
16. Display colour regulation knob

Rear view



Legend

- 1. Serial interface connector (to download configuration)
- 2. Door lock device connector
- 3. MASTER/SLAVE selection pin
- 4. Configurators housing
- 5. RJ45 BUS connector
- 6. SOS alarm connector
- 7. Alarm sensors connector
- 8. Analogue small entrance panel connector
- 9. Anti removal sensor connector

Configuration

Indoor handset must be configured for following parameters:

⊙	⊙	⊙	⊙	⊙	⊙
F	F	I	I	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙

FF : Floor number
II : Apartment number
#II: Maximum apartments quantity per floor in a riser

Two different configuration modes available for whole system: configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of #FF in whole system is ≤ 20 , and the biggest number of #II is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose (**MODE 1**) configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use (**MODE 2**) configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number ($\#FF * \#II * R$) is less or equal 4000, use of (**MODE 2**) is suggested.

POSITION	MODE 1	MODE 2
F	FF	FF
F		
I	II	II
I		
#I	Default for #II is 04, need not connect the configurator	II (#II setup using same value for all system handsets)
#I		

Two different device configuration ways available:

WAY 1) Configuration settings by device keyboard

WAY 2) Configuration settings by inserting physical configurators

Configuration settings by device keyboard - WAY 1:

When the handset is in standby and all zone alarms are disabled, press “#”, then enter the fixed installer password 686868, and press “#” to confirm. If the wrong password is entered, 3 short beeps will be heard; if the password is correct, an extended beep will

be heard, and the unit will switch to installation setup status. The 8 alarm lights and the message light will be off.

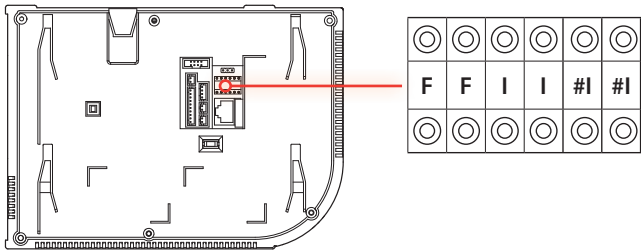
INSTALLATION SETTINGS OPERATION LIST TABLE

SETUP	OPERATION CODE AND LIGHT STATUS	NEXT OPERATION	MEANING AND INFORMATION FOR THE OPERATION	REMARK
Set room number for handset	11# 8 alarm lights and message light off	“FFII#”	correct parameter input: 1 long tone	Default room number: 101
		*	wrong parameter input: 3 short tones	
			return to main menu of installation setup, 1 short tone	
		other	unsuccessful operation: 3 short tone	
Set maximum apartments quantity per floor in a riser	12# 8 alarm lights and message light off	“II#” or “I#”	correct parameter input: 1 long tone	Range:1-99 Default:4; it can be set only when there is no setting for hardware
		*	wrong parameter input: 3 short tones	
			return to main menu of installation setup, 1 short tone	
		other	unsuccessful operation: 3 short tones	
Set external SOS to be always on or always off	15# message light will indicate status of this setting item	1	SOS external switch or pushbutton always open (NO): message light on, 1 long tone	Default: always open
		0	SOS external switch or pushbutton always close (NC): message light off, 1 long tone	
		*	return to main menu of installation setup, 1 short tone	
		other	unsuccessful operation: 3 short tones	
Enable and disable function of monitoring Small EP	17# message light will indicate status of this setting item	1	enable: handset can monitor Small EP: message light on, 1 long tone	Default: cannot monitor Small EP. This function is available only when the function is set as Small EP function.
		0	Shielded: handset can not monitor Small EP: message light off, 1 long tone	
		*	return to main menu of installation setting, 1 short tone	
		other	unsuccessful operation: 3 short tones	
Return all the parameters to default value	19# message light will indicate status of this setting item	1	Get all the default parameters: message light on, 1 long tone	
		0	Do not get all the default parameters: message light off, 1 long tone	
		*	return to main menu of installation setup, 1 short tone	
		other	unsuccessful operation: 3 short tones	
Enable and disable sensors	21# Message light is off. 8 alarm lights will indicate status of each alarm zone	1#	1	Default: (all) without sensor
			0	
			*	
			other	
		
		8#	1	
			0	
			*	
			other	
		*	return to main menu of installation setting, 1 short tone	
		other	unsuccessful operation: 3 short tones	
Set NO and NC type of sensors	22# 8 alarm lights will indicate status of each alarm zone.	1#	1	Default: sensors for 8 alarm zones are always open (NO).
			0	
			*	
			other	
		
		8#	1	
			0	
			*	
			other	
		*	return to main menu of installation setup, 1 short tone	
		other	unsuccessful operation: 3 short tones	

Configuration settings by device keyboard - WAY 1:

INSTALLATION SETTINGS OPERATION LIST TABLE							
SETUP	OPERATION CODE AND LIGHT STATUS	NEXT OPERATION	MEANING AND INFORMATION FOR THE OPERATION		REMARK		
Set infrared sensor	23# Message light is off. 8 alarm lights will indicate status of infrared sensor. Setting: infrared sensor: light of this alarm zone will be on. Non-infrared sensor, light of this alarm defence area zone will be off.	5#	1	infrared sensor for alarm zone 5: LED 5 on, 1 long tone	Note: 1/2/3/4 alarm zone are defined as infrared alarm zones, door alarm, smoke alarm, gas alarm. They cannot be changed. 5/7 are defaulted as infrared alarm zones s. 6/8 alarm are defaulted as non-infrared alarm zones		
			0	non- infrared sensor for alarm zone 5: LED 5 on, 1 long tone			
			*	return to previous menu, 1 short tone			
			other	unsuccessful operation: 3 short tones			
				
		8#	1	infrared sensor for alarm zone 8: LED 8 on, 1 long tone			
			0	Non-infrared sensor for alarm zone 8: LED 8 on, 1 long tone			
			*	return to previous menu, 1 short tone			
			other	unsuccessful operation: 3 short tones			
			*	return to main menu of installation setup, 1 short tone			
	other	unsuccessful operation: 3 short tones					
Setting for Time delay after alarm set	24# The light of the zone indicates the parameter For example, if the parameter is 3, then LED 3 will on	1	delay 40 s: 1 long tone, only LED 1 will on		Default: 100 s only for thief area alarm		
		2	delay 100 s: 1 long tone, only LED 2 will on				
		3	delay 150 s: 1 long tone, only LED 3 will on				
		4	delay 210 s: 1 long tone, only LED 4 will on				
		5	delay 255 s: 1 long tone, only LED 5 will on				
		*	return to main menu of installation setup, 1 short tone				
		Other	unsuccessful operation: 3 short tones				
Setting for Time delay after alarm happens	25# The light of defence area give the parameter. For example, if the parameter is 3, then LED 3 will on	1	delay 40 s: 1 long tone, only LED 1 will on		Default: 40 s only for thief area alarm		
		2	delay 100 s: 1 long tone, only LED 2 will on				
		3	delay 150 s: 1 long tone, only LED 3 will on				
		4	delay 210 s: 1 long tone, only LED 4 will on				
		5	delay 255 s: 1 long tone, only LED 5 will on				
		*	return to main menu of installation setup, 1 short tone				
		other	unsuccessful operation: 3 short tones				
Enable and disable sound alarm for thief	26# The Information LED indicates the setup state	1	enabled: if there is a burglar alarm, loudspeaker will emit a sound. Message light on, 1 long tone		Default: no sound		
		0	disabled: if there is a burglar alarm, loudspeaker will not emit a sound. Message light off, 1 long tone.				
		*	return to main menu of installation setup, 1 short tone				
		other	unsuccessful operation: 3 short tones				
	*		exit main menu of installation setup, 1 short tone				
	other		unsuccessful operation: 3 short tones				
1) Doorbell function setup(if is doorbell function , it is not Small EP function)	16# The information LED to give setup state	1	Enable doorbell function, the information LED is on, 1 long tone.		Default: is not doorbell function, tt is Small EP function.		
		0	Disable doorbell function, the information LED is off, 1 long tone				
		*	return to main menu of installation setup, 1 short tone				
		other	unsuccessful operation: 3 short tones				
2) Handset connection to Apartment inter- face function setup	13# The information LED to give setup state	1	handset has connected to the Apartment interface the information LED is on, 1 long tone,		Default: Handset not connected to the Apartment interface.		
		0	handset has not connected to the Apartment interface, the information LED is off, 1 long tone.				
		*	return to main menu of installation setup, 1 short tone				
		other	unsuccessful operation: 3 short tones				

Configuration settings by inserting physical configurators - WAY 2:



FF: Floor number
II : Apartment number
#II: Maximum apartments quantity per floor in a riser

Configuration examples:

Example (A):

The number of handsets is 1204, each floor has 4 handsets, the system configuration mode is Mode 1, the handset configuration should be as follows:

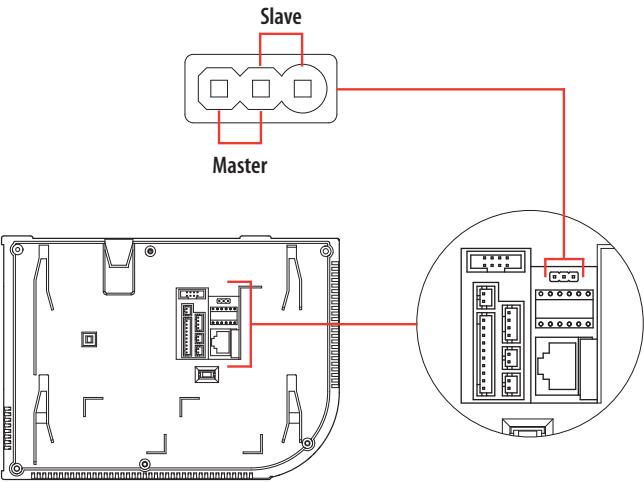
POSITION	CONFIGURATION VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	4	
#I		Because the default value of #II is 4, no configurator is needed
#I		

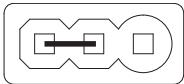
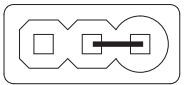
Example (B):

The number of handsets is 1206, each floor has 8 handsets. System configuration mode 2 is used. The handset configuration should be as follows:

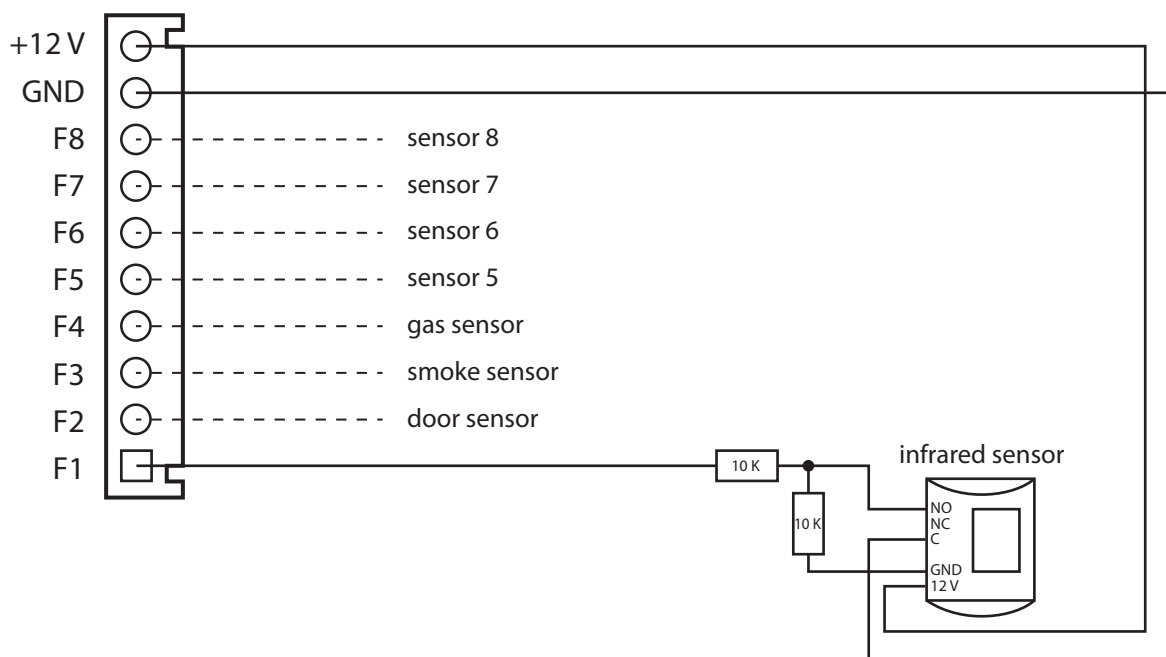
POSITION	VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	6	
#I	0	It is ok not to insert configurator 0
#I	8	

Master and Slave settings



SET THE MASTER AND SLAVE HANDSETS	METHODS
Set as the master handset	 Or not jump
Set as the slave handset	

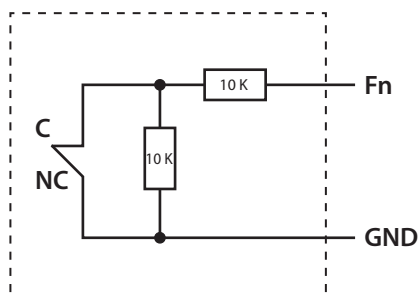
Wiring diagram - alarm sensors connections



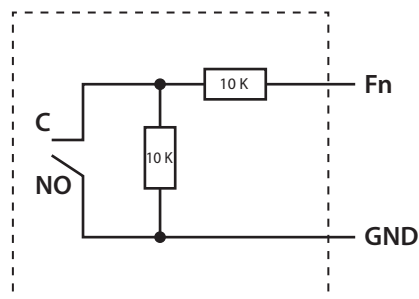
NOTE: 10 K Ω resistors used to detect cable by cut or cable short circuited to GND. Resistors must be placed near the sensor. IU can afford sensor 12 Vdc - 300 mA type.

Connection way for NC and NO contacts

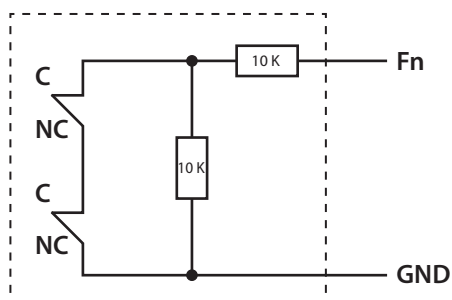
NC mode - SINGLE SENSOR



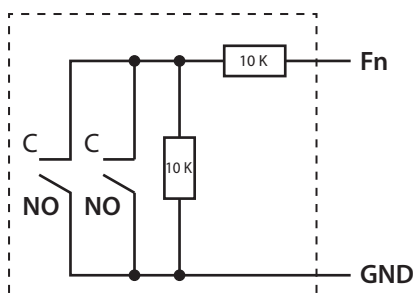
NO mode - SINGLE SENSOR



NC mode - MULTIPLE SENSORS



NO mode - MULTIPLE SENSORS



Connection way for NC and NO contacts				
PIN	ALARM AREA	SENSOR TYPE	SENSOR TYPE	REMARK
F1	SENSOR 1	THEFT ALARM	INFRARED SENSOR	Can use short key to sensor active or idle
F2	SENSOR 2		DOOR SENSOR	
F3	SENSOR 3	FIRE ALARM	SMOKE SENSOR	Can't use short key to let sensor idle
F4	SENSOR 4		GAS SENSOR	
F5	SENSOR 5	THEFT ALARM	Infrared or non-infrared; Default is infrared sensor; User can set it to be non infrared	Can use short key to sensor active or idle
F6	SENSOR 6		Infrared or non-infrared; Default is non-infrared sensor; User can set it to be non infrared	
F7	SENSOR 7		Infrared or non-infrared; Default is infrared sensor; User can set it to be non infrared	
F8	SENSOR 8		Infrared or non-infrared; Default is non-infrared sensor; User can set it to be non infrared	
GND				
+ 12 V				

3.5" Colour handsfree internal unit

321011

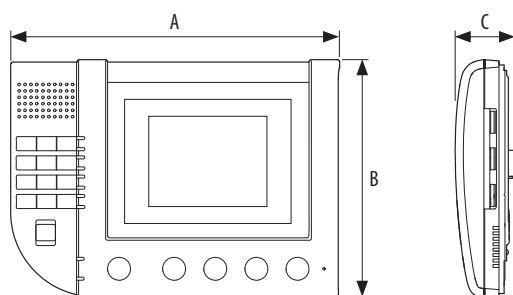
Description

D45 System colour handsfree internal unit with 3.5" LCD backlit display. Complete door entry functions with alarms management. International standard SOS pushbutton and keyboard for intercom function and programming device. Direct call to switchboard function. 12 ring tones selectable for different call types. Surge protection. Wall mount installation.

Technical data

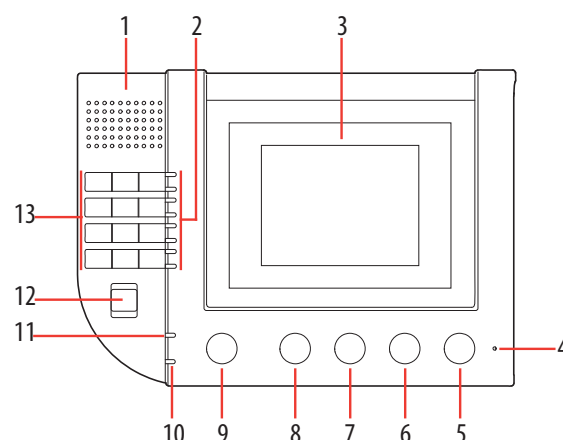
Power supply: 30 Vdc
 Stand by absorption: $\leq 20 \text{ mA @ } 30 \text{ V}$
 Max. operating absorption: $\leq 85 \text{ mA @ } 30 \text{ V}$
 Operating temperature: $(-10) - (+40) ^\circ\text{C}$
 LCD display resolution: 320×240

Dimensional data

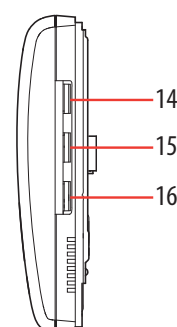


A (mm)	B (mm)	C (mm)
193,5	139,5	29

Front view



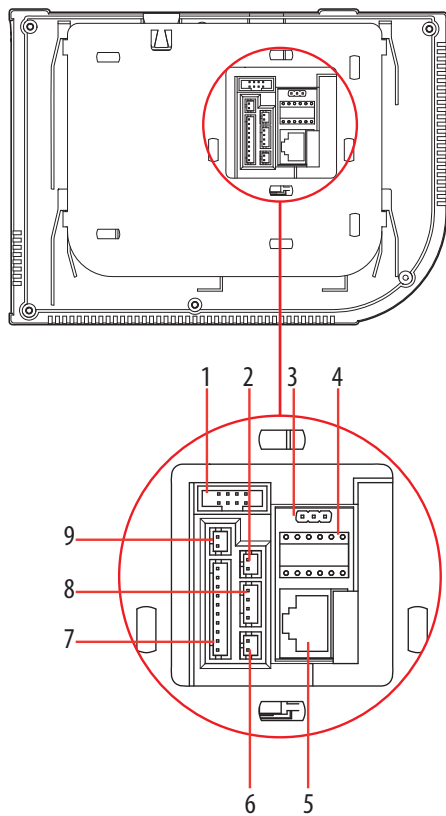
Side view



Legend

1. Loudspeaker
2. 1 to 8 defence status area LEDs
3. 3.5" LCD backlit display
4. Microphone
5. Door lock activation key
6. Monitoring key
7. Call to the switchboard key
8. Audio connection activation/deactivation key
9. SOS pushbutton
10. Information status LED
11. Connection status LED
12. Shortcut key
13. Numerical keyboard
14. Ring volume control knob
15. Display brightness regulation knob
16. Display colour regulation knob

Rear view



Legend

- 1. Serial interface connector (ex. configuration download)
- 2. Door lock device connector
- 3. MASTER / SLAVE selection jumper
- 4. Configurators housing
- 5. RJ45 System BUS connector
- 6. SOS alarm connector
- 7. Alarm sensors connectors
- 8. Analogue small entrance panel connector
- 9. Anti removal (tamper) sensor connector

Configuration

Device **MUST** be configured for following parameters:

⊙	⊙	⊙	⊙	⊙	⊙
F	F	I	I	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙

FF : Floor number
II : Apartment number
#II : Maximum apartments quantity per floor in a riser

Two different configuration modes available for whole system:

configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of **#FF** in whole system is ≤ 20 , and the biggest number of **#II** is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose (**MODE 1**) configuration for system.

When the biggest number of **#FF** in whole system is more than 20, or the biggest number of **#II** is more than 4, we suggest to use (**MODE 2**) configuration to setup **#FF** (choose the biggest number **#FF** of system) and **#II** (choose the biggest number **#II** of system), then calculate total IU number of system. If the total number (**#FF** * **#II** * **R**) is less or equal 4000, use of (**MODE 2**) is suggested.

POSITION	MODE 1	MODE 2
F	FF	FF
F		
I	II	II
I		
#I	Default for #II is 04, need not connect the configurator	II (#II setup using same value for all system handsets)
#I		

Configuration

Two different device configuration ways available:

Configuration settings by device keyboard - WAY 1

Configuration settings by inserting physical configurators - WAY 2

Configuration settings by device keyboard - WAY 1:

When the handset is in standby and all zone alarms are disabled, press “#”, then enter the fixed **installer password 686868**, and press “#” to confirm. If the wrong password is entered, 3 short beeps will be heard; if the password is correct, an extended beep will be heard, and the unit will switch to installation setup status. The 8 alarm lights and the message light will be off.

INSTALLATION SETTINGS OPERATION LIST TABLE

SETUP	OPERATION CODE AND LIGHT STATUS	NEXT OPERATION	MEANING AND INFORMATION FOR THE OPERATION	REMARK		
Set room number for handset	11# 8 alarm lights and message light off	“FFII#”	correct parameter input: 1 long tone	Default room number: 101		
			wrong parameter input: 3 short tones			
		*	return to main menu of installation setup, 1 short tone			
		other	unsuccessful operation: 3 short tone			
Maximum apartments quantity per floor in a riser	12# 8 alarm lights and message light off	“II#” or “I#”	correct parameter input: 1 long tone	Range:1-99 Default:4; it can be set only when there is no setting for hardware		
			wrong parameter input: 3 short tones			
		*	return to main menu of installation setup, 1 short tone			
		other	unsuccessful operation: 3 short tones			
Set external SOS to be always on or always off	15# message light will indicate status of this setting item	1	SOS external switch or pushbutton always open (NO): message light on, 1 long tone	Default: always open		
		0	SOS external switch or pushbutton always close (NC): message light off, 1 long tone			
		*	return to main menu of installation setup, 1 short tone			
		other	unsuccessful operation: 3 short tones			
Enable and disable function of monitoring Small EP	17# message light will indicate status of this setting item	1	enable: handset can monitor Small EP: message light on, 1 long tone	Default: cannot monitor Small EP. This function is available only when the function is set as Small EP function.		
		0	Shielded: handset can not monitor Small EP: message light off, 1 long tone			
		*	return to main menu of installation setting, 1 short tone			
		other	unsuccessful operation: 3 short tones			
Return all the parameters to default value	19# message light will indicate status of this setting item	1	Get all the default parameters: message light on, 1 long tone			
		0	Do not get all the default parameters: message light off, 1 long tone			
		*	return to main menu of installation setup, 1 short tone			
		other	unsuccessful operation: 3 short tones			
Enable and disable sensors	21# Message light is off. 8 alarm lights will indicate status of each alarm zone	1#	1	1 alarm zone with sensor: LED 1 on, a long tone.	Default: (all) without sensor	
			0	1 alarm zone without sensor: LED 1 off, a long tone.		
			*	return to previous menu, 1 short tone		
			other	Ineffective operation: 3 short tones		
			
		8#	1	8 alarm zone with sensor: LED 8 on, a long tone.		
			0	8 alarm zone without sensor: LED 8 off, a long tone.		
			*	return to previous menu, 1 short tone		
			other	unsuccessful operation: 3 short tones		
		*		return to main menu of installation setting, 1 short tone		
		other		unsuccessful operation: 3 short tones		
		Set NO and NC type of sensors	22# 8 alarm lights will indicate status of each alarm zone.	1#		1
0	always-close (NC) sensor for alarm area 1: LED 1 off, 1 long tone					
*	return to previous menu, 1 short tone					
other	unsuccessful operation: 3 short tones					
...				...		
8#	1			always-open (NO) sensor for alarm area 8: LED 8 on, 1 long tone		
	0			always-close (NC) sensor for alarm area 8: LED 8 off, 1 long tone		
	*			return to previous menu, 1 short tone		
	other			unsuccessful operation: 3 short tones		
*				return to main menu of installation setup, 1 short tone		
other				unsuccessful operation: 3 short tones		

Configuration

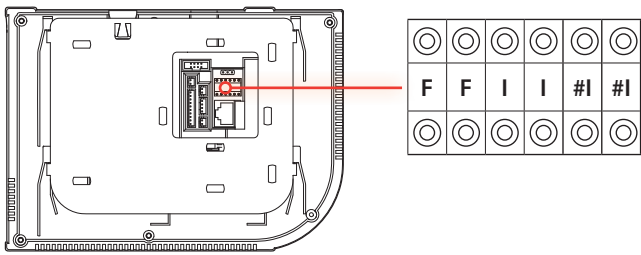
FROM PREVIOUS PAGE → Configuration settings by device keyboard - WAY 1:

INSTALLATION SETTINGS OPERATION LIST TABLE

SETUP	OPERATION CODE AND LIGHT STATUS	NEXT OPERATION		MEANING AND INFORMATION FOR THE OPERATION	REMARK		
Set infrared sensor	23# Message light is off. 8 alarm lights will indicate status of infrared sensor. Setting: infrared sensor: light of this alarm zone will be on. Non-infrared sensor, light of this alarm defence area zone will be off.	5#	1	infrared sensor for alarm zone 5: LED 5 on, 1 long tone	Note: 1/2/3/4 alarm zone are defined as infrared alarm zones, door alarm, smoke alarm, gas alarm. They cannot be changed. 5/7 are defaulted as infrared alarm zones s. 6/8 alarm are defaulted as non-infrared alarm zones		
			0	non- infrared sensor for alarm zone 5: LED 5 on, 1 long tone			
			*	return to previous menu, 1 short tone			
			other	unsuccessful operation: 3 short tones			
				
		8#	1	infrared sensor for alarm zone 8: LED 8 on, 1 long tone			
			0	Non-infrared sensor for alarm zone 8: LED 8 on, 1 long tone			
			*	return to previous menu, 1 short tone			
			other	unsuccessful operation: 3 short tones			
		*		return to main menu of installation setup, 1 short tone			
		other		unsuccessful operation: 3 short tones			
Setting for Time delay after alarm set	24# The light of the zone indicates the parameter For example, if the parameter is 3, then LED 3 will on	1	delay 40 s: 1 long tone, only LED 1 will on	Default: 100 s only for thief area alarm			
		2	delay 100 s: 1 long tone, only LED 2 will on				
		3	delay 150 s: 1 long tone, only LED 3 will on				
		4	delay 210 s: 1 long tone, only LED 4 will on				
		5	delay 255 s: 1 long tone, only LED 5 will on				
		*	return to main menu of installation setup, 1 short tone				
		Other	unsuccessful operation: 3 short tones				
Setting for Time delay after alarm happens	25# The light of defence area give the parameter. For example, if the parameter is 3, then LED 3 will on	1	delay 40 s: 1 long tone, only LED 1 will on	Default: 40 s only for thief area alarm			
		2	delay 100 s: 1 long tone, only LED 2 will on				
		3	delay 150 s: 1 long tone, only LED 3 will on				
		4	delay 210 s: 1 long tone, only LED 4 will on				
		5	delay 255 s: 1 long tone, only LED 5 will on				
		*	return to main menu of installation setup, 1 short tone				
		other	unsuccessful operation: 3 short tones				
Enable and disable sound alarm for thief	26# The Information LED indicates the setup state	1	enabled: if there is a burglar alarm, loudspeaker will emit a sound. Message light on, 1 long tone	Default: no sound			
		0	disabled: if there is a burglar alarm, loudspeaker will not emit a sound. Message light off, 1 long tone.				
		*	return to main menu of installation setup, 1 short tone				
		other	unsuccessful operation: 3 short tones				
	*		exit main menu of installation setup, 1 short tone				
	other		unsuccessful operation: 3 short tones				
1) Doorbell function setup(if is doorbell function , it is not Small EP function)	16# The information LED to give setup state	1	Enable doorbell function, the information LED is on, 1 long tone.	Default: is not doorbell function, tt is Small EP function.			
		0	Disable doorbell function, the information LED is off, 1 long tone				
		*	return to main menu of installation setup, 1 short tone				
		other	unsuccessful operation: 3 short tones				
2) Handset connection to Apartment inter- face function setup	13# The information LED to give setup state	1	handset has connected to the Apartment interface the information LED is on, 1 long tone,	Default: Handset not connected to the Apartment interface.			
		0	handset has not connected to the Apartment interface, the information LED is off, 1 long tone.				
		*	return to main menu of installation setup, 1 short tone				
		other	unsuccessful operation: 3 short tones				

Configuration

Configuration settings by device keyboard - WAY 2:



FF: Floor number
II: Apartment number
#II: Maximum apartments quantity per floor in a riser

Configuration examples:

Example (A):

The number of handsets is 1204, each floor has 4 handsets, the system configuration mode is **MODE 1**, the handset configuration should be as follows:

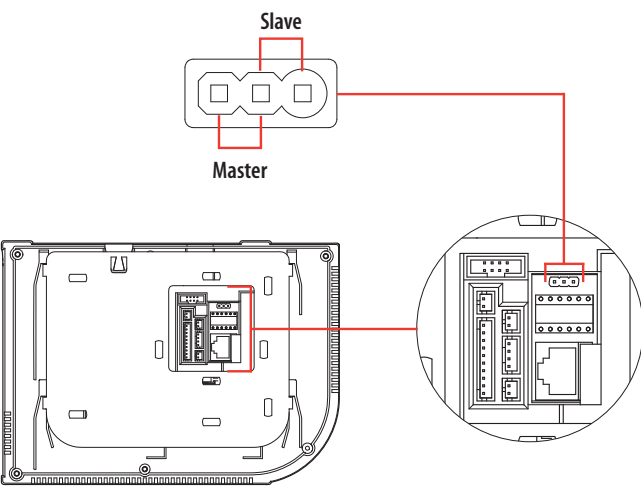
POSITION	CONFIGURATION VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	4	
#I		Because the default value of #II is 4, no configurator is needed
#I		

Example (B):

The number of handsets is 1206, each floor has 8 handsets. System configuration **MODE 2** is used. The handset configuration should be as follows :

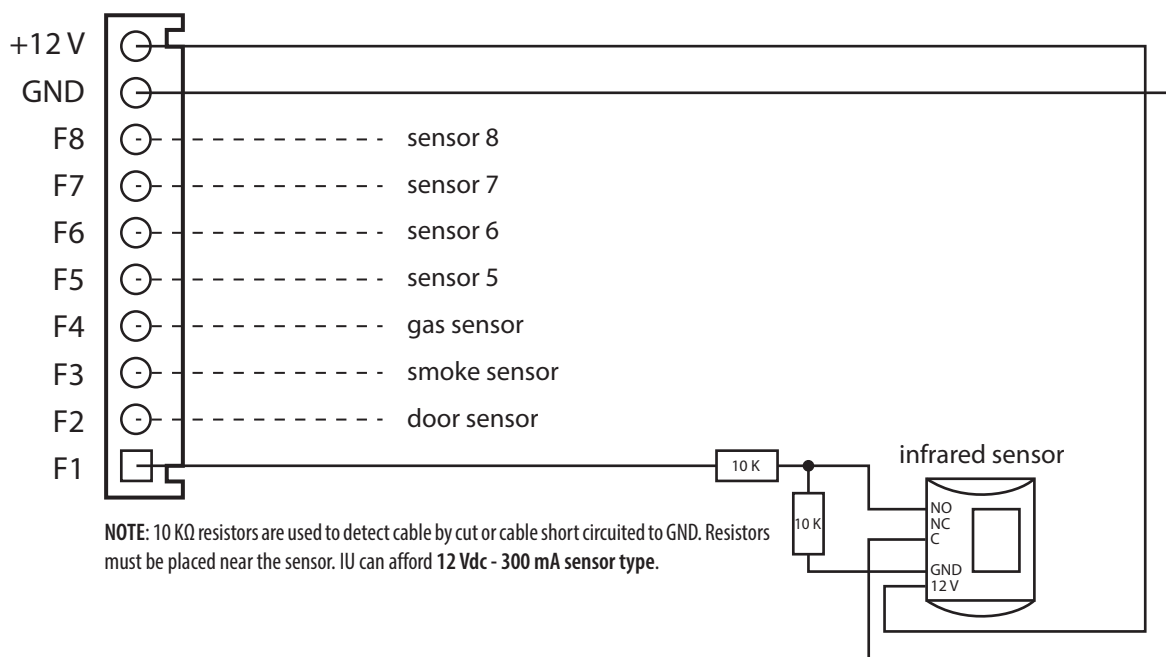
POSITION	VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	6	
#I	0	It is ok not to insert configurator 0
#I	8	

MASTER and SLAVE settings



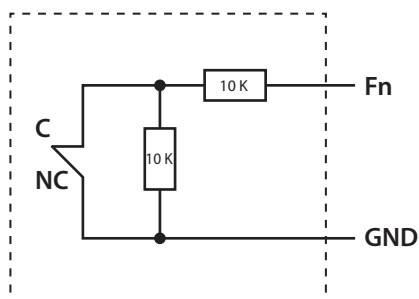
SET THE MASTER AND SLAVE HANDSETS	METHODS
Set as the master handset	
	Or not jump
Set as the slave handset	

Wiring diagram - alarm sensors connections

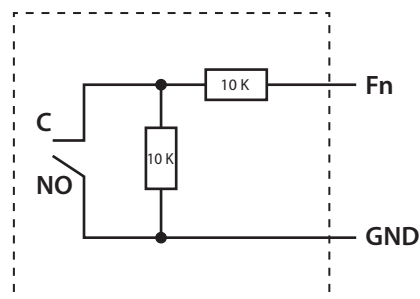


Wiring diagram - NC & NO contacts connection

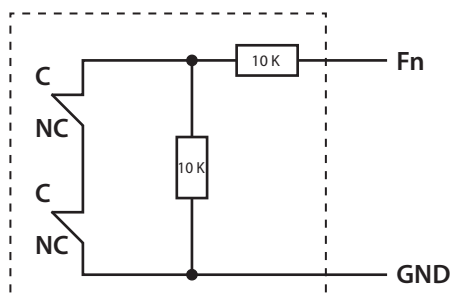
NC mode - SINGLE SENSOR



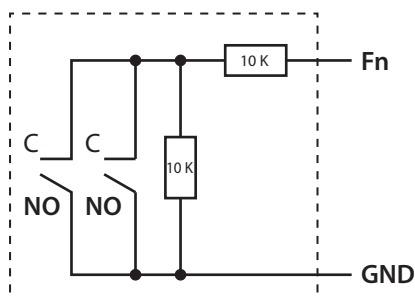
NO mode - SINGLE SENSOR



NC mode - MULTIPLE SENSORS



NO mode - MULTIPLE SENSORS



NC & NO alarm sensors connection table

PIN	ALARM AREA	SENSOR TYPE	SENSOR TYPE	REMARK
F1	SENSOR 1	THEFT ALARM	INFRARED SENSOR	Can use short key to sensor active or idle
F2	SENSOR 2		DOOR SENSOR	
F3	SENSOR 3	FIRE ALARM	SMOKE SENSOR	Can't use short key to let sensor idle
F4	SENSOR 4		GAS SENSOR	
F5	SENSOR 5	THEFT ALARM	Infrared or non-infrared; Default is infrared sensor; User can set it to be non infrared	Can use short key to sensor active or idle
F6	SENSOR 6		Infrared or non-infrared; Default is non-infrared sensor; User can set it to be non infrared	
F7	SENSOR 7		Infrared or non-infrared; Default is infrared sensor; User can set it to be non infrared	
F8	SENSOR 8		Infrared or non-infrared; Default is non-infrared sensor; User can set it to be non infrared	
GND				
+ 12 V				

3.5" Colour handsfree internal unit

321060

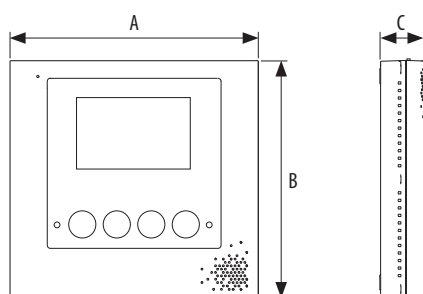
Description

D45 System entry level colour handsfree internal unit with 3.5" LCD backlit display. Complete door entry functions. Direct call to switchboard function. 12 ring tones selectable for different call types. Surge protection. Wall mount installation.

Technical data

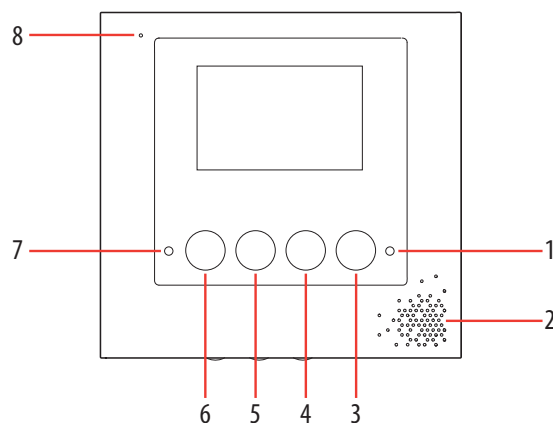
Power supply: 30 Vdc
 Stand by absorption: $\leq 15 \text{ mA @ } 30 \text{ V}$
 Max. operating absorption: $\leq 85 \text{ mA @ } 30 \text{ V}$
 Operating temperature: $(-10) - (+40) ^\circ\text{C}$
 LCD display resolution: 320 x 240

Dimensional data

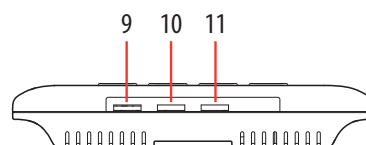


A (mm)	B (mm)	C (mm)
165	158	29

Front view



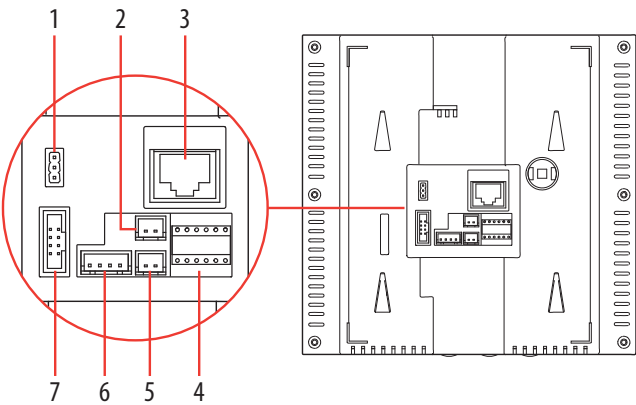
Lower view



Legend

1. Connection status LED
2. Loudspeaker
3. Door lock activation key
4. Monitoring key
5. Call to the switchboard key
6. Audio connection activation/deactivation key
7. Information status LED
8. Microphone
9. Ring volume control knob
10. Display brightness regulation knob
11. Display colour regulation knob

Rear view



Legend

- 1. MASTER / SLAVE selection jumper
- 2. SOS alarm connector
- 3. RJ45 System BUS connector
- 4. Configurators housing
- 5. Door lock device connector
- 6. Analogue small entrance panel connector
- 7. Serial interface connector

Configuration

Device **MUST** be configured for following parameters:

⊙	⊙	⊙	⊙	⊙	⊙
F	F	I	I	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙

FF : Floor number
II : Apartment number
#II: Maximum apartments quantity per floor in a riser

Two different configuration modes available for whole system:

configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of **#FF** in whole system is ≤ 20 , and the biggest number of **#II** is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose (**MODE 1**) configuration for system.

When the biggest number of **#FF** in whole system is more than 20, or the biggest number of **#II** is more than 4, we suggest to use (**MODE 2**) configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number ($\#FF * \#II * R$) is less or equal 4000, use of (**MODE 2**) is suggested.

POSITION	MODE 1	MODE 2
F	FF	FF
F		
I	II	II
I		
#I	Default for #II is 04, need not connect the configurator	II (#II setup using same value for all system handsets)
#I		

Configuration

Two different device configuration ways available:

Configuration settings by device keyboard - **WAY 1**

Configuration settings by inserting physical configurators - **WAY 2**

Configuration settings by device keyboard - WAY 1:

When the handset is in standby mode, press and maintain the door lock key until a long tone is heard. With information & connection status LEDs OFF you are in settings mode. Then within 10 seconds, press and maintain the call to the switchboard key until a long tone is heard to enter into the initial installation settings (you can set parameters without selecting submenus).

SETTING FOR THE ROOM NUMBER OF THE INDOOR UNIT		
FUNCTION	OPERATION	REMARK
Access to the room code to set the submenu	At initial setting status, short-press on the connection key once and enter into the room code of the indoor unit to set the submenu. Note: on entering into the room code of the indoor unit to set the submenu, the initialized place should be of the thousand-digit.	The room number can be set in a range from 101 to 9999. The ex-factory default number is 101. The last two digits after the 101 room code are not to be bigger than the household number of each floor.
Set the parameter	Press on the monitoring key and add 1 to the parameter of the relevant setting place. On adding to 10, three short tones can be heard, meaning the wrong operation, and it automatically exit the submenu and return to the initial installation status	
Set the displacement place and exit the setting of the submenu	Short-press on the door lock key to move to the next setting place, with the sequence of the thousands, the hundreds, the tens and the ones places. Note: 1) In the process to set the displacement place, if the parameter is not set, then take the default value at 0. 2) When the place moves to the ones, short-press on the door lock key again to exit the setting of the room number and return to the setting status of the initial installation. At the exit, if the setting of the room number of the indoor unit is correct, a long tone can be heard as a prompt. You can save it. If not correct, three short tones will be heard, and no need to save it.	
Exit	1) Short-press on the Door lock key and move to the last digit. Then short-press on the Door lock key again to exit the room code of the indoor unit and setting of the submenu to return to the setting status of the initial installation. 2) With a wrong operation, three short tones can be heard and it will automatically return to the setting status of the initial installation.	

SET MAXIMUM APARTMENTS QUANTITY PER FLOOR IN A RISER		
FUNCTION	OPERATION	REMARK
Enter into the submenu to set the household number of each floor	At the setting status of the initial installation, short-press the Call to the switchboard key twice to enter into the submenu and set the household number of each floor. Note: On setting the submenu, the initialized place should be set at the tens place.	The household number cannot be less than the room numbers, ranging from 1 to 99, and the ex-factory default value is 4.
Set the parameter	Short-press the MONITOR key and add 1 to the parameter of the relevant setting place. On adding to 10, three short tones can be heard, meaning the wrong operation, and it automatically exit the submenu and return to the setting status of the initial installation.	
Set the displacement place and exit the setting of the submenu	Short-press the Door lock key to move to the next place, which is the ones place. Short-press the Door lock key and move to the next place, the sequence of which is the tens place to the ones place. Exit the current setting options and return to the setting status of the initial installation. After the displacement, the parameter of the displacement place can be set as 0. Before exit, check whether the parameter is correctly set. If correct, one long tone can be heard and save it. If not, three short tones can be heard, no need to save it.	
Exit	1) Short-press the Door lock key twice and move to the last digit. Then short-press Door lock key again to exit the current setting options of the submenu and return to the setting status of the initial installation. 2) With a wrong operation, three short tones can be heard and it will automatically return to the setting status of the initial installation.	

Configuration

FROM PREVIOUS PAGE → Configuration settings by device keyboard - WAY 1:

SET THE EXTERNAL SOS CONTACT TYPE	
FUNCTION	OPERATION
Select the setting submenu of the external SOS contact type to set the submenu	At initial settings status, short-press on the call to the switchboard key five times and enter into the setting submenu for the external SOS contact type. Read the current setting parameter. If it's NO type , the parameter is 0 and the message LED ON. If it's NC type , the parameter is 0 and the message LED OFF.
Set the parameter	Press on the MONITOR key , and add 1 to the parameter. On adding to 2, it will automatically turn to 0. With the parameter being 1, SOS is the NO type and the message LED ON; with the parameter being 0, if SOS is the NC type and the message LED will be OFF. In the setting process, the parameter will be automatically saved.
Exit	1) Short-press the door lock key, exit the setting options of the current submenu, and return to the setting status of the initial installation. 2) With a wrong operation, three short tones can be heard and it will automatically return to the setting status of the initial installation.

SET THE FUNCTION FOR ENTRANCE PANEL MONITORING		
FUNCTION	OPERATION	REMARK
Select the setting submenu to monitor the functions of the entrance panel	At initial setting status, short-press on the call to the switchboard key seven times to enter into the setting submenu to monitor the functions of the entrance panel and read the current setting parameter. If it is Enabled, the parameter will be 1 and the message LED will be ON; if Shielding, the parameter will be 0 and the message LED OFF.	Ex-factory default: disabled
Set the parameter	Press on the MONITOR key and add 1 to the parameter. On adding 2, the parameter will automatically turn to 0. With the parameter being 1, the indoor unit can monitor the entrance panel and the message LED will be ON. With the parameter being 0, the indoor unit can't monitor the entrance panel and the message LED will be OFF. In the setting process, the parameter will be automatically saved.	
Exit	1) Short-press the door lock key , exit the setting options of the current submenu, and return to the setting status of the initial installation. 2) With a wrong operation, three short tones can be heard and it will automatically return to the setting status of the initial installation.	

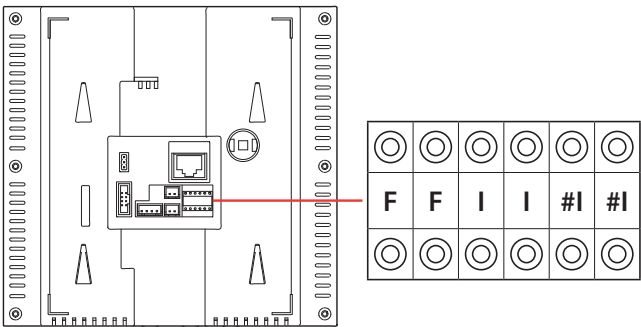
RECOVER ALL THE DEFAULTED PARAMETERS		
FUNCTION	OPERATION	REMARK
Select the setting submenu to recover all the defaulted parameters.	At initial settings status, short-press the call to the switchboard key nine times to enter into the setting submenu to recover all the defaulted parameters and read the current setting parameter. If it is Enabled, the parameter will be 1 to recover all the defaulted parameters and the message LED will be ON; if disabled, the parameter will be 0, not to recover all the defaulted parameters and the message LED will be OFF.	Ex-factory default: disabled
Set the parameter	Press on the MONITOR key and add 1 to the parameter. On adding to 2, the parameter will automatically turn to 0. With the parameter being 1, the indoor unit can monitor the entrance panel and the message LED will be ON. With the parameter being 0, the indoor unit can't monitor the entrance panel and the message LED will be OFF. In the setting process, the parameter will be automatically saved.	
Exit	1) Short-press the door lock key , exit the setting options of the current submenu, and return to the setting status of the initial installation. 2) With a wrong operation, three short tones can be heard and it will automatically return to the setting status of the initial installation.	

Exit the installation setting

Long-press the **door lock key**. When a long tone is heard, release your hand to exit the setting status; on entering into the setting status, you won't need to operate any key. Within 10 seconds, it will automatically exit the setting status.

Configuration

Configuration settings by device keyboard - WAY 2:



FF: Floor number
II : Apartment number
#II: Maximum apartments quantity per floor in a riser

Configuration examples :

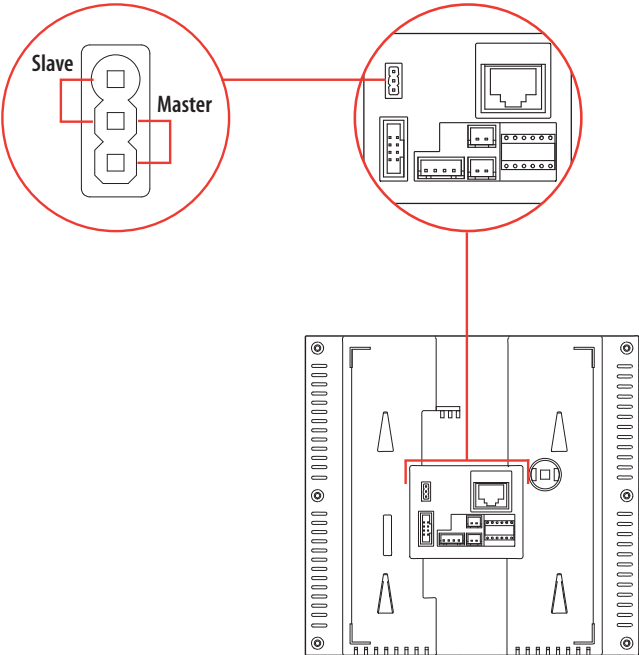
Example (A) :
The number of handsets is 1204, each floor has 4 handsets, the system configuration mode is **MODE 1**, the handset configuration should be as follows:

POSITION	CONFIGURATION VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	4	
#I		Because the default value of #II is 4, no configurator is needed
#I		

Example (B) :
The number of handsets is 1206, each floor has 8 handsets. System configuration **MODE 2** is used. The handset configuration should be as follows :

POSITION	VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	6	
#I	0	It is ok not to insert configurator 0
#I	8	

MASTER and SLAVE settings



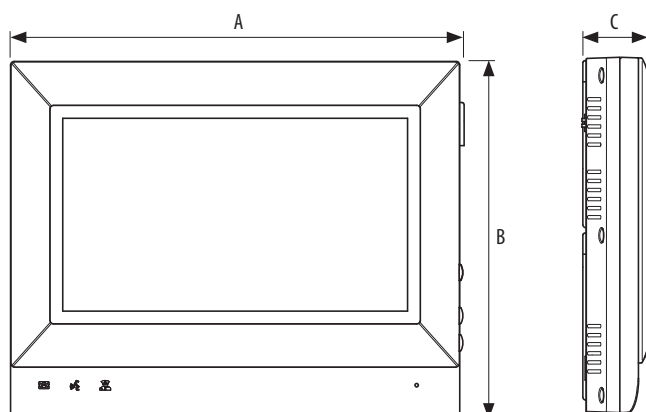
SET THE MASTER AND SLAVE HANDSETS	METHODS
Set as the master handset	 Or not jump
Set as the slave handset	

Description

D45 System 7" touch screen video internal unit. Complete door entry functions with alarm managements. International standard SOS pushbutton, intercom function, programming device touch screen functions. Digital photo frame and camera functions. Direct call to switchboard function. 6 different default selectable ringtones (can be changed with your favourite music). Slot for SD CARD. Surge protection. Wall mount installation.

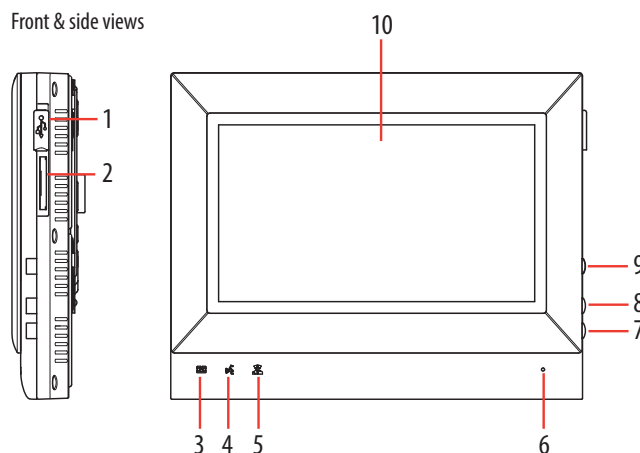
Technical data

Power supply : 18-30 Vdc
 Stand by absorption: $\leq 100 \text{ mA @ } 30 \text{ V}$
 Max. operating absorption: $\leq 200 \text{ mA @ } 30 \text{ V}$
 Operating temperature: $(-10)-(+40)^{\circ}\text{C}$
 LCD display size : 7"
 LCD display resolution : 800 x 480
 Supported SD CARD : 32 Gb maximum
 Supported music files : mp3, wav, wma

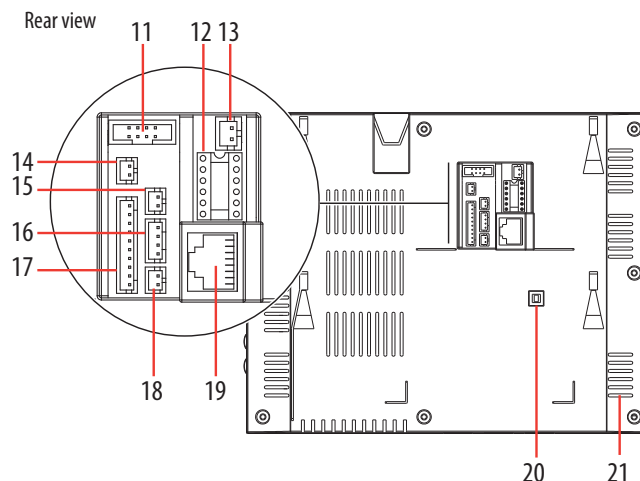
Dimensional data

A (mm)	B (mm)	C (mm)
198	157	27

Front & side views



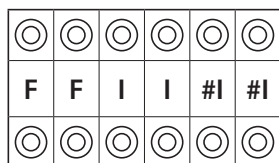
Rear view

**Legend**

1. Mini USB port
2. SD CARD socket
3. Message information LED
4. Connection status LED
5. Alarm LED
6. Microphone
7. Door lock release pushbutton
8. Communication pushbutton
9. SOS pushbutton
10. 7" LCD touch screen display
11. Download connector
12. Configurator housing
13. Local power connector
14. Anti removal alarm sensor connector
15. SOS alarm connector
16. SEP entrance panel connector
17. Alarm sensor connector
18. Unlock device connector
19. RJ45 System BUS connector
20. Anti removal switch
21. Loudspeaker

Configuration

Indoor handset must be configured for following parameters:



FF : Floor number

II : Apartment number

#II: Maximum apartments quantity per floor
in a riser

Two different configuration modes available for whole system:

configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of #FF in whole system is ≤ 20 , and the biggest number of #II is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose (MODE 1) configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use (MODE 2) configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number ($\#FF * \#II * R$) is less or equal 4000, use of (MODE 2) is suggested.



POSITION	MODE 1	MODE 2
F	FF	FF
F		
I	II	II
I		
#I	Default for #II is 04, need not connect the configurator	II (#II setup using same value for all system handsets).
#I		

Two different device configuration ways available:

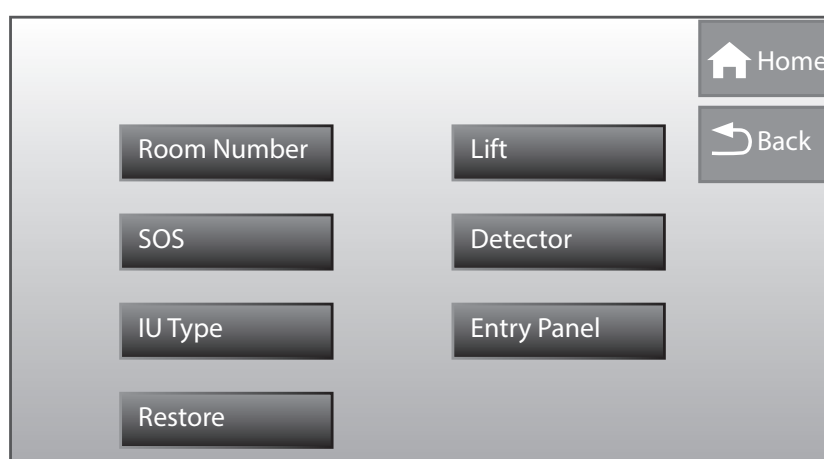
WAY 1: configuration settings by touch screen

WAY 2: configuration setting by inserting physical configurators

Configuration setting by touch screen - WAY 1 :

At the lower right corner of the main interface, press on the  icon, you will enter in the setting page. Click on the  icon, to input the installation password (default password : 686868) and click on the **(OK)** icon to confirm, you will come to the installation page.

Note : when you come to the sub menu, click on the white circle at front of the setting item, if selected there is a red dot in the white circle. When you operate with the digital keyboard, click on the **(C)** icon to delete the last number; click on the **(OK)** icon to confirm



Configuration

Room Number

Click on the white circle to select **"With apartment interface 323009"** or **"Without apartment interface 323009"**. If you select **"With apartment interface 323009"**, you can't set the room number because this is directly set by the apartment interface. If you select **"With apartment interface 323009"**, two modes are available: **direct call mode** and **normal call mode**. With direct call mode, the room number is a digital value (1 to 4000). With normal call mode, the room number is a combination of floor number and room number. You need to set the room number and the maximum apartment quantity per floor.

Lift

Click on the white circle to select **"With lift controller"** or **"Without lift controller"**. If you select **"With lift controller"**, a lift icon  will appear in the main interface. In idle state, press this icon or the unlock key to call the lift.

Note : lift control function should be equipped with a lift controller interface and supported by the lift manufacturers. Default setting is without lift controller.

SOS

Click on the white circle to select SOS alarm contact status **"Normal open"** or **"Normal close"**.

Default setting is Normal open.

Detector

The alarm detector sub menus include two pages, the setting item in the first page as below :

Enable /Disable : enable or disable the detector, click on the **"Enable"** or **"Disable"** to switch enable /disable.


Detector mode : set the detector normal open or normal close, select **"ON"** (normal open) or **"OFF"** (normal close) to switch detector mode.

Definition : define the detector type, (area1-infrared), (area2-door contact), (area3-smoke), (area 4-gas), (area5-infrared/no infrared), (area 6- infrared/no infrared), (area 7- infrared/no infrared), (area 8- infrared/no infrared), click on the **"infrared"** or **"no infrared"** to switch detector definition of area 5 to area 8. Area1 to area 4 can't be changed.

Status : display the detector status, when it becomes blue detector is enabled and when it becomes gray means disabled.

Areas : show area1 to area 8 alarms.

Click on **"Reset"** to restore the parameters of the page to default value.


Click on the  icon to have access to the second page. Setting item in the second page as below:

Alarm : define alarm whether with sound, click on the white circle to select **"YES/ON"**.

Effective time for alarmed : click on the white circle to set the effective time as 40 sec./100 sec./150 sec./210 sec./225 sec.

Delay : when the detector monitors an alarm, it will report the message after the setting delay time. You can click on the white circle to set the delay time as 40 sec./100 sec./150 sec./210 sec./225 sec. For Area 3 and Area 4 you can't set delay time.

Click on **"reset"** to restore the parameters of the page to default value.


Click on the  icon to return to the first page

IU Type

Click on the white circle to select **"Master"** or **"Slave"** IU. When one apartment install multiple handsets, if the handsets be called, only the master handset opens the video, slave handsets do not open the video. If the slave handset answered, the other handset returns to static, the answered handset open the video and audio, and then you can talk with the entry panel.

Default setting is master handset.

Entry Panel

Click on the white circle to select **"Doorbell"** or **"Entry panel"**. If the handset linked is a small entry panel, we can set whether monitor the small entry panel, if you select **"Monitor enable"**, **"Video door phone"** menu will display .

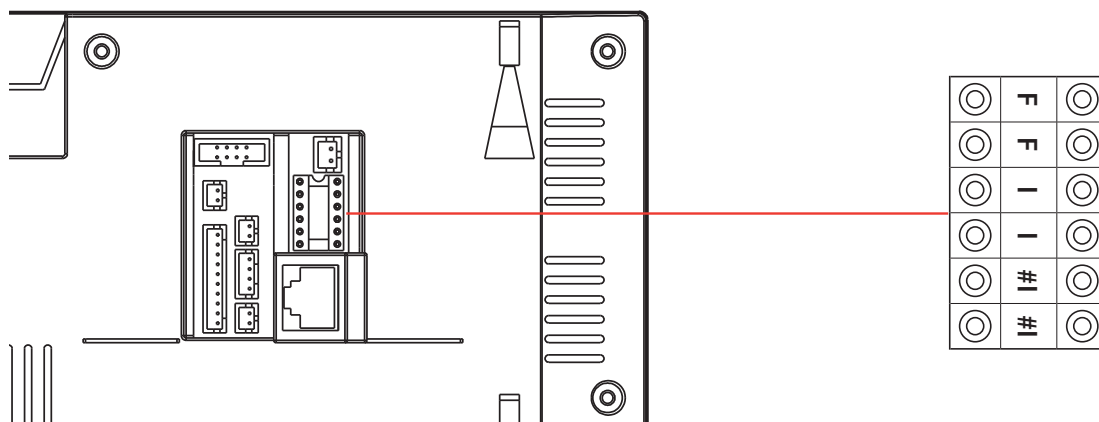
When the small entry panel call handset, the handset will ring and turn on the video; if linked with doorbell, it can't monitor and when the handset detect income signal the handset only ringing for 10 seconds.

Restore

Click on **"OK"** to restore all the parameters to default value or click on **"Cancel"** to abort your operation.

Configuration

Configuration setting by inserting physical configurators - WAY 2 :



Example (A):

The number of handsets is 1204, each floor has 4 handsets, the system configuration mode is Mode 1, the handset configuration should be as follows

POSITION	CONFIGURATION VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	4	
#I		Because the default value of #I is 4, no configurator is needed
#I		

Example (B):

The number of handsets is 1206, each floor has 8 handsets. System configuration mode 2 is used. The handset configuration should be as follows:

POSITION	VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	6	
#I	0	It is ok not to insert configurator 0
#I	8	

Side pushbutton functions

SOS Key : in case of urgent or unexpected situation, press on the "SOS key" to send the alarm message to the management center.

Answer Key :

When a visitor calls the host, press the "Answer key" to talk with him, during which you can press again on the key to end the talk.

Unlock Key :

During the communication with the entrance panel or the small entrance panel, press on the "Unlock key" to unlock and call the lift.

Icons quick explanations



Back

Return to previous menu



Home

Return to the main interface



PgUp

Page up



PgDn

Page down



Anti-disturb mode, the status LED on (red)













Outside mode, the status LED on (pink)



Home mode, the status LED on (blue)

LED indicators

LED				Status of the internal unit
Status LED		Red	ON	Anti disturb mode
		Blue	ON	Common mode
		Pink	ON	Outside mode
		Red	Quick flash	Being called, no answer
		Red	Slow flash	Talking
Information LED		Off	Dim	No new message
		Blue	Quick flash	New message
Alarm LED		Off	DIM	Unguarded
		Red	Slow flash	Guarded, without alarm
		Red	Quick flash	Alarm occurs

SD Card storage

IU device supports an SD CARD (32 Gb max.). The icon pops up at the up-right angle of the screen, meaning that the storage card has been inserted. When inserted, sound and image media contents can be used.

Supported audio format : MP3, WAV, WMA.

Supported images format : JPG, BMP.

Device connection

Device can be connected to a PC by using an universal USB cable in order to share music and photos. PC must be equipped with the USB 2.0 and one of the following operating systems :

MAC OS X v10.5.8 or higher version

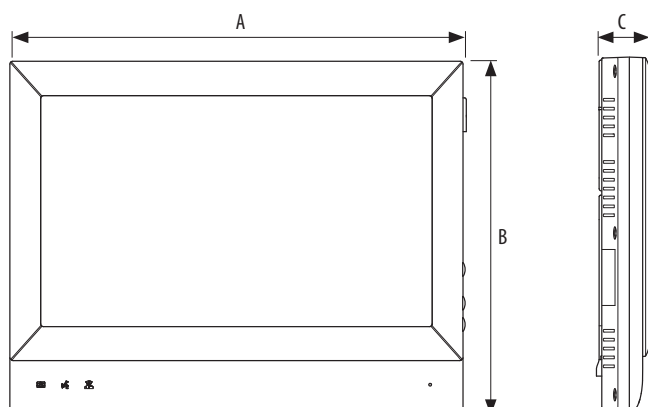
Windows 7, Windows Vista or Windows XP Home or Professional(SP3).

Description

D45 System 10" touch screen video internal unit. Complete door entry functions with alarm managements. International standard SOS pushbutton, intercom function, programming device touch screen functions. Digital photo frame and camera functions. Direct call to switchboard function. 6 different default selectable ringtones (can be changed with your favourite music). Slot for SD CARD. Surge protection. Wall mount installation.

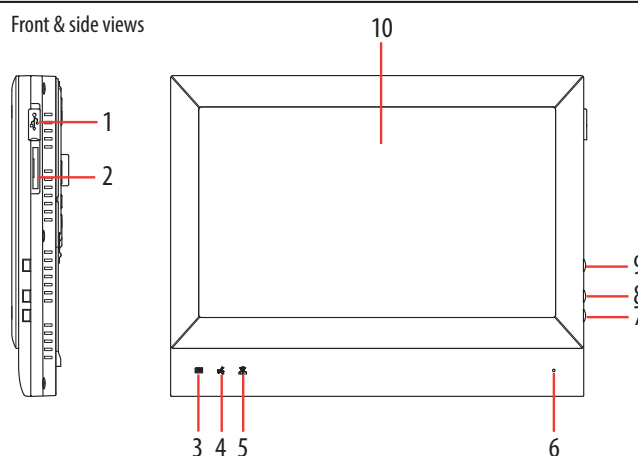
Technical data

Power supply : 18-30 Vdc
 Stand by absorption: $\leq 100 \text{ mA @ } 30 \text{ V}$
 Max. operating absorption: $\leq 200 \text{ mA @ } 30 \text{ V}$
 Operating temperature: $(-10)-(+40)^{\circ}\text{C}$
 LCD display size : 10.2"
 LCD display resolution : 800 x 480
 Supported SD CARD : 32 Gb maximum
 Supported music files : mp3, wav, wma

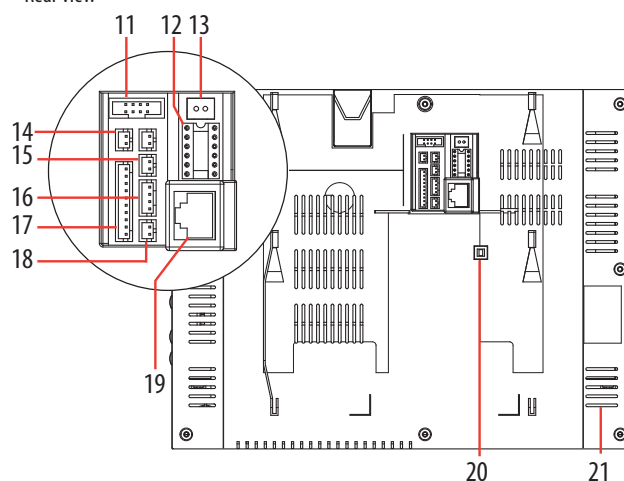
Dimensional data

A (mm)	B (mm)	C (mm)
255	198	27

Front & side views















Rear view

**Legend**

1. Mini USB port
2. SD CARD socket
3. Message information LED
4. Connection status LED
5. Alarm LED
6. Microphone
7. Door lock release pushbutton
8. Communication pushbutton
9. SOS pushbutton
10. 10" LCD touch screen display
11. Download connector
12. Configurator housing
13. Local power connector
14. Anti removal alarm sensor connector
15. SOS alarm connector
16. SEP entrance panel connector
17. Alarm sensor connector
18. Unlock device connector
19. RJ45 System BUS connector
20. Anti removal switch
21. Loudspeaker

Configuration

Indoor handset must be configured for following parameters:

					
F	F	I	I	#I	#I
					

FF : Floor number
II : Apartment number
#II: Maximum apartments quantity per floor
in a riser

Two different configuration modes available for whole system:

configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of #FF in whole system is ≤ 20 , and the biggest number of #II is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose (MODE 1) configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use (MODE 2) configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number ($\#FF * \#II * R$) is less or equal 4000, use of (MODE 2) is suggested.



POSITION	MODE 1	MODE 2
F	FF	FF
F		
I	II	II
I		
#I	Default for #II is 04, need not connect the configurator	II (#II setup using same value for all system handsets).
#I		

Two different device configuration ways available:

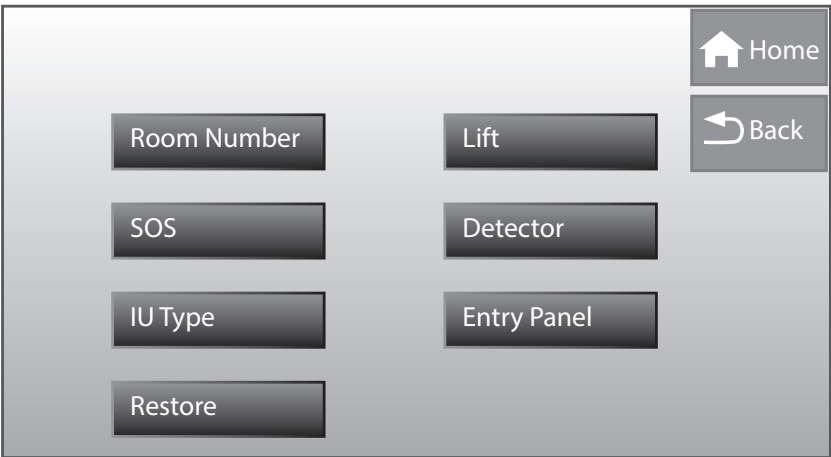
WAY 1: configuration settings by touch screen

WAY 2: configuration setting by inserting physical configurators

Configuration setting by touch screen - WAY 1 :

At the lower right corner of the main interface, press on the  icon, you will enter in the setting page. Click on the  icon, to input the installation password (default password : 686868) and click on the **(OK)** icon to confirm, you will come to the installation page.

Note : when you come to the sub menu, click on the white circle at front of the setting item, if selected there is a red dot in the white circle. When you operate with the digital keyboard, click on the **(C)** icon to delete the last number; click on the **(OK)** icon to confirm



Configuration

Room Number

Click on the white circle to select **"With apartment interface 323009"** or **"Without apartment interface 323009"**. If you select "With apartment interface 323009", you can't set the room number because this is directly set by the apartment interface. If you select "Without apartment interface 323009", two modes are available: **direct call mode** and **normal call mode**. With direct call mode, the room number is a digital value (1 to 4000). With normal call mode, the room number is a combination of floor number and room number. You need to set the room number and the maximum apartment quantity per floor.

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Click on the white circle to select **"With lift controller"** or **"Without lift controller"**. If you select "With lift controller", a lift icon  will appear in the main interface. In idle state, press this icon or the unlock key to call the lift.

Note : lift control function should be equipped with a lift controller interface and supported by the lift manufacturers. Default setting is without lift controller.

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Click on the white circle to select SOS alarm contact status **"Normal open"** or **"Normal close"**.

Default setting is Normal open.

Detector

The alarm detector sub menus include two pages, the setting item in the first page as below :

Enable /Disable : enable or disable the detector, click on the "Enable" or "Disable" to switch enable /disable.


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Definition : define the detector type, (area1-infrared), (area2-door contact), (area3-smoke), (area 4-gas), (area5-infrared/no infrared), (area 6- infrared/no infrared), (area 7- infrared/no infrared), (area 8- infrared/no infrared), click on the "infrared" or "no infrared" to switch detector definition of area 5 to area 8. Area1 to area 4 can't be changed.

Status : display the detector status, when it becomes blue detector is enabled and when it becomes gray means disabled.

Areas : show area1 to area 8 alarms.

Click on **"Reset"** to restore the parameters of the page to default value.


Click on the  icon to have access to the second page. Setting item in the second page as below:

Alarm : define alarm whether with sound, click on the white circle to select "YES/ON".

Effective time for alarmed : click on the white circle to set the effective time as 40 sec./100 sec./150 sec./210 sec./225 sec.

Delay : when the detector monitors an alarm, it will report the message after the setting delay time. You can click on the white circle to set the delay time as 40 sec./100 sec./150 sec./210 sec./225 sec. For Area 3 and Area 4 you can't set delay time.

Click on "reset" to restore the parameters of the page to default value.


Click on the  icon to return to the first page

IU Type

Click on the white circle to select **"Master"** or **"Slave"** IU. When one apartment install multiple handsets, if the handsets be called, only the master handset opens the video, slave handsets do not open the video. If the slave handset answered, the other handset returns to static, the answered handset open the video and audio, and then you can talk with the entry panel.

Default setting is master handset.

Entry Panel

Click on the white circle to select **"Doorbell"** or **"Entry panel"**. If the handset linked is a small entry panel, we can set whether monitor the small entry panel, if you select **"Monitor enable"**, "Video door phone" menu will display .

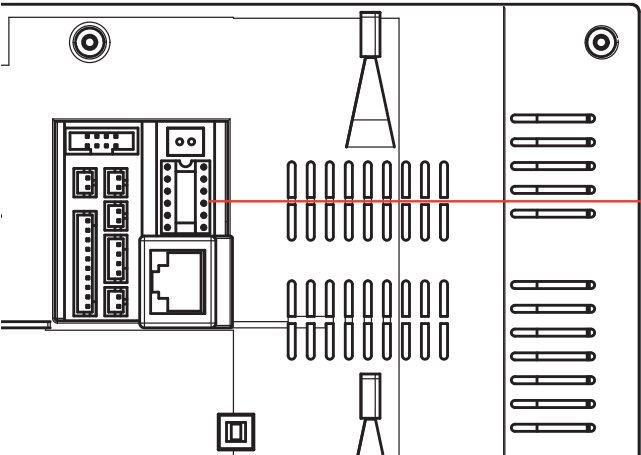
When the small entry panel call handset, the handset will ring and turn on the video; if linked with doorbell, it can't monitor and when the handset detect income signal the handset only ringing for 10 seconds.

Restore

Click on **"OK"** to restore all the parameters to default value or click on **"Cancel"** to abort your operation.

Configuration

Configuration setting by inserting physical configurators - WAY 2 :



	F	
	F	
	I	
	I	
	#I	
	#I	

Example (A):

The number of handsets is 1204, each floor has 4 handsets, the system configuration mode is Mode 1, the handset configuration should be as follows

POSITION	CONFIGURATION VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	4	
#I		Because the default value of #I is 4, no configurator is needed
#I		

Example (B):

The number of handsets is 1206, each floor has 8 handsets. System configuration mode 2 is used. The handset configuration should be as follows:

POSITION	VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	6	
#I	0	It is ok not to insert configurator 0
#I	8	

Side pushbutton functions

SOS Key : in case of urgent or unexpected situation, press on the "SOS key" to send the alarm message to the management center.

Answer Key :

When a visitor calls the host, press the "Answer key" to talk with him, during which you can press again on the key to end the talk.

Unlock Key :

During the communication with the entrance panel or the small entrance panel, press on the "Unlock key" to unlock and call the lift.

Icons quick explanations



Return to previous menu



Return to the main interface



Page up



Page down



Anti-disturb mode, the status LED on (red)













Outside mode, the status LED on (pink)



Home mode, the status LED on (blue)

LED indicators

LED				Status of the internal unit
Status LED		Red	ON	Anti disturb mode
		Blue	ON	Common mode
		Pink	ON	Outside mode
		Red	Quick flash	Being called, no answer
		Red	Slow flash	Talking
Information LED		Off	Dim	No new message
		Blue	Quick flash	New message
Alarm LED		Off	DIM	Unguarded
		Red	Slow flash	Guarded, without alarm
		Red	Quick flash	Alarm occurs

SD Card storage

IU device supports an SD CARD (32 Gb max.). The icon pops up at the up-right angle of the screen, meaning that the storage card has been inserted. When inserted, sound and image media contents can be used.

Supported audio format : MP3, WAV, WMA.

Supported images format : JPG, BMP.

Device connection

Device can be connected to a PC by using an universal USB cable in order to share music and photos. PC must be equipped with the USB 2.0 and one of the following operating systems :

MAC OS X v10.5.8 or higher version

Windows 7, Windows Vista or Windows XP Home or Professional(SP3).

Digital colour entrance panel

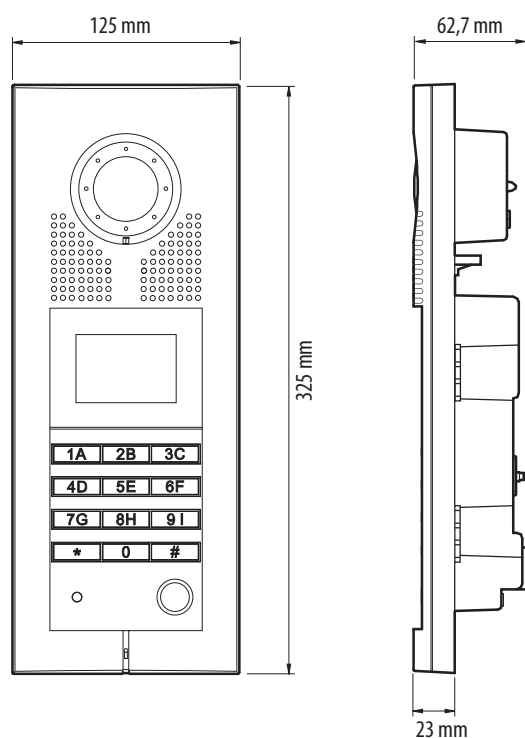
Description

D45 System entrance panel with colour camera and backlit alphanumeric keyboard equipped with : pushbutton to direct calls to the porter switchboard; door lock opening with a numeric code to residents. Possibility to send an alarm message to the switchboard when opening over 2 minutes of the associated lock or when trying to remove the device. Setup key functions via keyboard, programming and heading residents through the dedicated software supplied with the product. Flush mounting installation with dedicated box - supplied with the product.

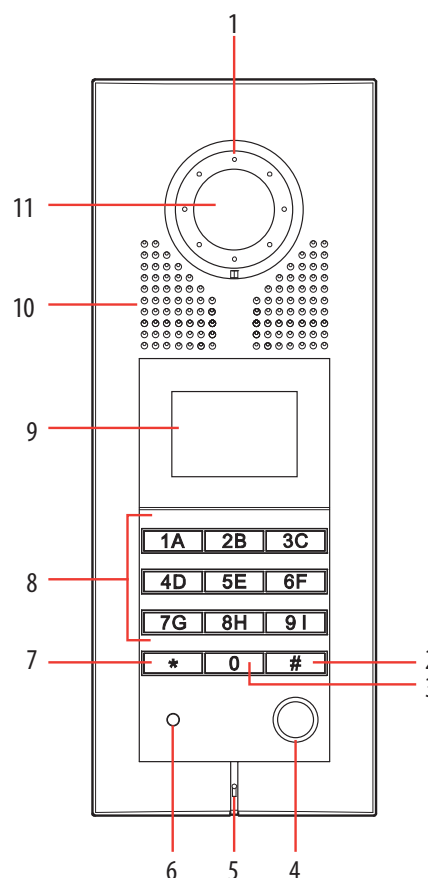
Technical data

Power supply:	30 Vdc
Stand by absorption:	≤ 110 mA @ 30 V
Max operating absorption:	≤ 290 mA@30 V
Camera diagonal view angle:	90°
Camera distance up to clear picture:	40 – 50 cm
Camera resolution:	537 x 597
Camera minimum lux level visibility:	0.5 Lux
Operating temperature:	(-25) – (+55) °C
Protection index:	IP54
Protection against mechanical impact:	IK07

Dimensional data



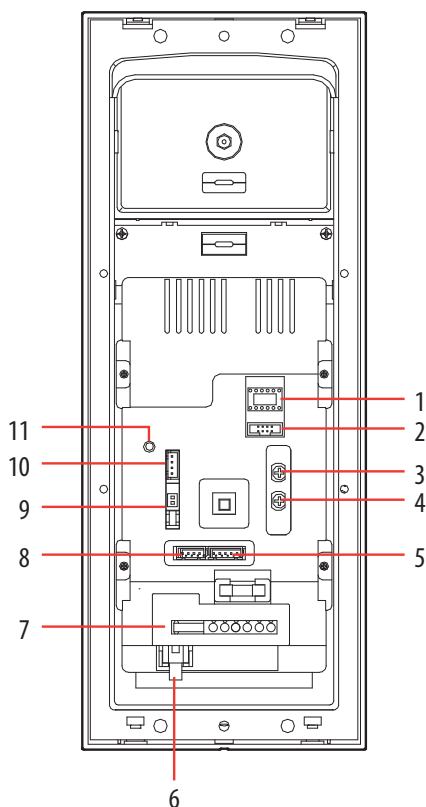
Front view



Legend

1. Compensation Lamp
2. Confirm menu setting or other operation pushbutton
3. Numerical keyboard: internal unit call & function setting
4. Switchboard call pushbutton
5. Microphone
6. Photosensitive lamp
7. Return or quit menu setting pushbutton
8. Alphanumeric pushbuttons
9. LCD Display
10. Loudspeaker
11. Colour camera

Rear view

**Legend**

1. NN #FF #II: configurators housing
2. ISP: entrance panel software upgrade connector
3. SPK: loudspeaker volume adjust
4. MIC: microphone volume adjust
5. VIDEO-IN/GND/NC/+12V/LED : entrance panel camera and compensation Lamp connector
6. RJ45 SYSTEM BUS connector
7. 7 poles connector for :
 - +12V/GND power supply for access control module (Optional)
 - UNLOCK signal output from access control module (Optional)
 - GND/DAS electronic lock status signal connector
 - LOCK-/LOCK+ electrical door lock connection
8. SPK-OUT/GND/GND/SPK-OUT: entrance panel loudspeaker connections
9. DIP SWITCH for video gain setting - see specific section
10. ANT access control antenna module connection (Optional)
11. RESET - Password reset pushbutton

Configuration

Entrance panel must be configured for following parameters:

⊙	⊙	⊙	⊙	⊙	⊙
N	N	#F	#F	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙

NN : Entrance panel number

FF : Floor quantity in a riser

II : Maximum apartment quantity per floor in a riser

Two different configuration modes available for whole system :

configuration MODE 1 and **configuration MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of #FF in whole system is ≤ 20 , and the biggest number of #II is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose **(MODE 1)** configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use **(MODE 2)** configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number ($\#FF * \#II * R$) is less or equal 4000, use of **(MODE 2)** is suggested.

MODE 1 example

#FF FOR EACH RISER	#II FOR EACH FLOOR	CAN SYSTEM CONFIGURATION MODE 1 BE USED?
≤ 20	≤ 4	YES, but it is necessary to calculate the total number of handsets for whole system according to Mode 1 configuration. If the total number calculated is 4000 or less, Mode 1 configuration is possible, if the total number is over 4000, Mode 2 must be considered.
> 20	≤ 4	NO
≤ 20	> 4	NO
> 20	> 4	NO

MODE 2 example

For example: if the highest building of a project has 25 floors, and the max. number of apartment for floor is 8, with 15 risers in total. Then for mode 2, the #FF should be 25, while #II should be 8. Make the calculations according to following table to judge if mode 2 configuration can be used.

#FF FOR EACH RISER	#II FOR EACH FLOOR	TOTAL RISER	CAN SYSTEM CONFIGURATION MODE 2 BE USED?
25	8	15	$25 * 8 * 15 = 3000$ $3000 < 4000$ $30 - 25 * 8 * 30 = 6000$ $6000 > 4000$

Three different device configuration ways available:

- WAY 1) Configuration settings by device keyboard
- WAY 2) Configuration settings by inserting physical configurators
- WAY 3) Configuration by using SF2 Software and PC connection

Configuration settings by device keyboard - WAY 1:

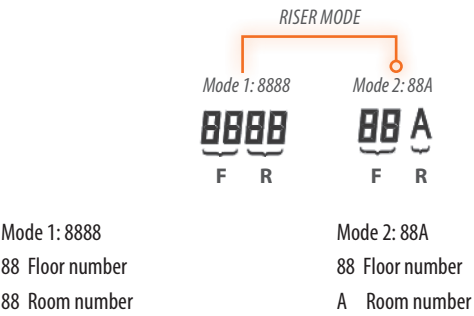
Press the # key for about 5 seconds. Input the master password as per the prompt on the display and press the # key for confirmation. When you get to the setting status, you can enter the following settings as per the prompt: (Press on the 0 key to scroll through the pages).

1. Select 1 and change the master password. The default master password is 200000. If you want to change it, you can input your desired password as per the prompt and press the # key for confirmation. If two inputs are identical, then the master password is successfully changed. If not, it will indicate an error and ask you to re-enter it. Note that only the administrator is entitled to keep or modify the master password.
2. Select 2 to set the signal types to open/close electric door locks. As per the interface prompt, we can press the 0 or 1 key to set as either often-closed or often-opened type.
3. Select 3 to complete the setting of the anti-removal alarm.

This function must be used together with the anti-removal alarm pushbutton. By selecting this function and pressing the anti-removal alarm button the entrance panel automatically send a removal alarm. If a wrong alarm is sent due to A wrong settings during installation, switch the power off and press the alarm button. Then switch the power on again to cancel the alarm settings. When the entrance panel has been installed, reopen the anti-removal alarm function.

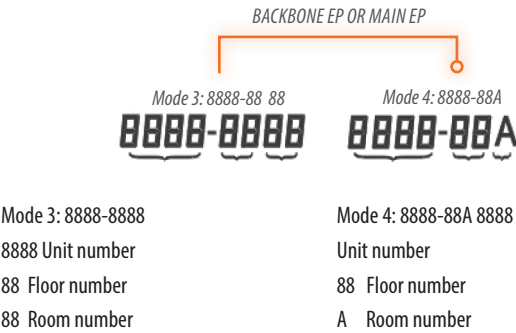
4. Select 4 to complete the mode setting of the room number.

Eight options are available for your selections. When using the entrance panel as the (Riser EP or secondary EP), the first and the second mode can be selected. When using it as the (Backbone EP or main EP), the 3rd, 4th 5th, 6th, 7th and 8th mode can be selected, depending on the actual situations. The default factory setting is the 1st mode.

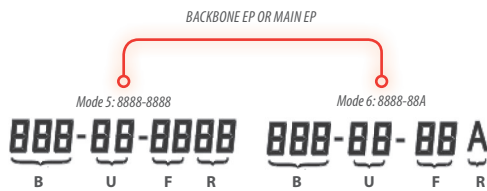


When used as (Backbone EP or main EP):

Mode 3 and Mode 4: these are commonly used modes. When the riser number (building number and unit number) plus floor number plus room number is not above 8 digits, one of them can be selected. Now the riser number actually includes the building number. Take Unit 1 of Building 1 for example, the riser number will be 0101.



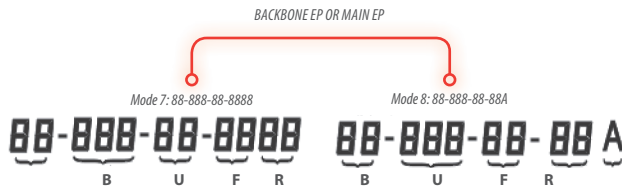
Mode 5 and Mode 6: When the building number plus unit number (building number and unit number are coded separately) plus floor number plus room number is not above 9 digits, one of them can be selected. Take Room 1 5th floor, Unit 2 of Building 101 for example, the riser number will be 101-02-0501.



Mode 5: 888-88-8888
888 Building number
88 Unit number
88 Floor number
88 Room number

Mode 6: 888-88-88A
888 Building number
88 Unit number
88 Floor number
A Room number

Mode 7 and Mode 8: When there are several zones in one project and we need the zone number for a call, we can select one of them. Take Room 1 5/F Unit 2 Building 101 of Zone 2 for example, which can be coded at 02-101-02-0501.



Mode 7: 88-888-88-8888
88 Zone number
888 Building number
88 Unit number
88 Floor number
88 Room number

Mode 8: 88-888-88-88A
88 Zone number
888 Building number
88 Unit number
88 Floor number
A Room number

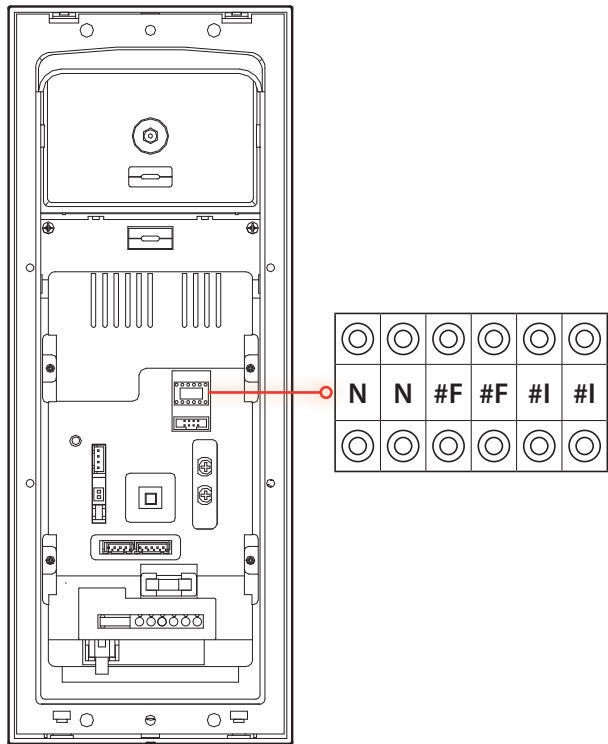
5. Select 5 to complete entrance panel configuration parameters setting.

As per the prompt on the display interface, we can set the address of the entrance panel, the floor number of the said riser and the maximum number of handset installed on each floor of the riser. We can also set the address of the gate in relation to the Switchboard. When we come to the setting interface, the configuration parameters of the current entrance panel will appear. To make changes, enter the desired number in serial order. After entering the 8 digit number, just press # to confirm.

Note: This setting is only valid when the entrance panel does not use the parameter of the configurator. For example, a certain place has been configured of its resistance, and this setting shall be invalid.

6. Select 6 to setup language: you can setup english or other languages.
7. Select 7 to setup pulse width for unlock. 1 to 99 seconds can be set for lock opening pulse.
8. Select 8 to set the password door lock release function. As per the prompt on the display, we can enable or disable the function to open the door lock by password. When we disable this function, the menu item "7 to edit the lock-open password" shall not be on display, and therefore cannot be edited.
9. Select 9 to complete the relevant settings of the password door lock release function. There are 3 available options :
 - **set the door lock release password.** Press 1 key and enter your desired group number and the new password. On entering the group number, if password for the group already exist, it will be replaced by the new one. Press * key to exit and return to the last operation.
 - **Delete the door lock release passwords one by one.** Press 2 key and enter the group number you want to delete. Press # key to delete the password.
 - **Delete all the door lock release passwords.** Press 3 key and a prompt window will appear asking you if you want to delete all the door lock release passwords or not. Press * key to exit and the # key to delete all the passwords.

Configuration settings by inserting physical configurators - WAY 2:
Physical connection for the configurators to their sockets



NN - Entrance panel number - range is 1 to 80,
means maximum EP number per riser is 80 (default value is 1).
#FF - Floor quantity in a riser.
#II - Maximum apartments quantity per floor in a riser.

Note: other configuration position C is for setting switchboard address number which will communicate with EP directly. The configuration position C can only be configured by keyboard of EP or system Configuration tool software. (C default value: 0, it means the switchboard which will communicate with EP is No.0)

POSITION	MODE 1	MODE 2
N	NN	Mode 2= Mode 1
N		
	#FF is 20(default). No need for configuration	#FF (use EP keyboard config or 323020 download config)
	#II is 4(default). No need for configuration	use EP keyboard config or 323020 download config)

Configuration examples:

Example (A):

EP address is 5, each riser has 20 floors, and each floor has 4 handset: system configuration mode 1 is used.
The Switchboard directly connected to the main EP is no. 2, main EP configuration should be as follows:

POSITION	VALUE FOR CONFIGURATOR	REMARKS
N	0	0
N	5	
#F		#FF is 20(default).
#F		No need for configuration
#I		#II is 4(default).
#I		No need for configuration

Example (B):

EP address, each riser has 25 floors, and each floor has 8 handsets. System configuration mode 2 is used. The Switchboard directly connected to the main EP is no. 2.
Main EP configuration should be as follows:

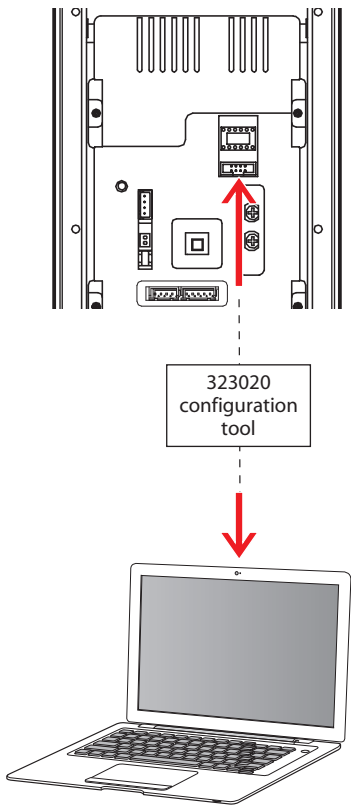
POSITION	VALUE FOR CONFIGURATOR	REMARKS
N	0	It is ok not to insert configurator 0
N	5	
#F	2	
#F	2	
#I	0	It is ok not to insert configurator 0
#I	8	

NOTE: there is all additional configuration slot "M".
M= switchboard address number - can be set only by keyboard or by SF2 software.

If configurator or keyboard configuration is selected for the main EP, the following conditions must be met: all item 323003 in the system should be numbered in sequence. They must start from 1 and no number can be missed.

Configuration

Configuration by using SF2 Software and PC connection - **WAY 3** :
This is the enhanced way to download the device configuration to entrance panel previously created by using SF2 configuration software and a personal computer. To transfer use the configuration hardware tool 323020 serial interface



WARNING : in order for the communication to take place, the EP must be powered and not physically configured

Video gain setting

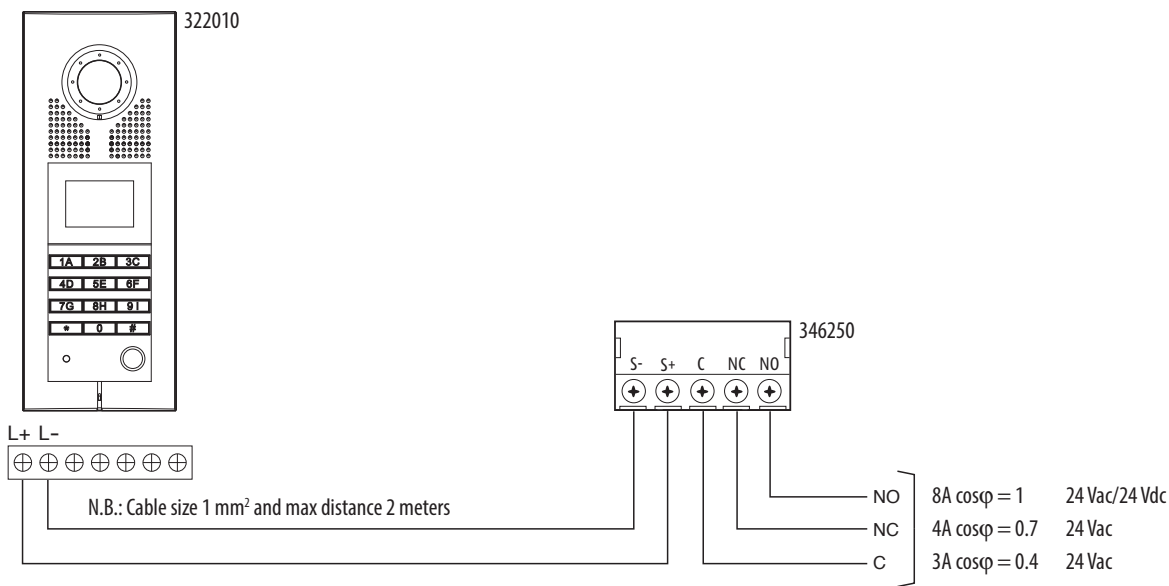
The entrance panel has two video compensation gears. By setting different V-GAIN gears, we can let the video signal output adapt to different transmission distance. See followings:



DIP SWITCH SETTINGS FOR B/W. AND COLOUR SYSTEM

Distance	1	2
0 – 300 m	OFF	OFF
300 – 700 m	ON	OFF
700 – 1000 m	ON	ON

Wiring diagrams - Door lock relay connection



Digital colour entrance panel with addresses list

Description

D45 System entrance panel with colour camera and backlit alphanumeric keyboard equipped with pushbutton to direct calls to the porter switchboard. Possibility to send an alarm message to the switchboard when opening over two minutes of the associated lock or when trying to remove the device. Setup parameters via device keyboard. Configuration by device menu and keyboard or through the dedicated software (supplied with the product). Residents can be called in 3 different ways :

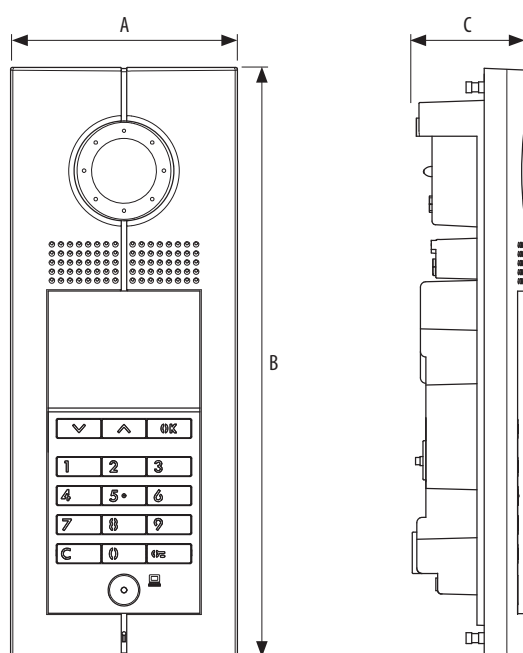
- searching the name of the resident in the addresses list by using up & down arrow keys
- entering the resident surname by using the alphanumeric keyboard (same way as for the mobile phone)
- direct call by typing the resident corresponding numerical code (you must know the resident code).

Flush mounting installation with dedicated box - supplied with the product.

Technical data

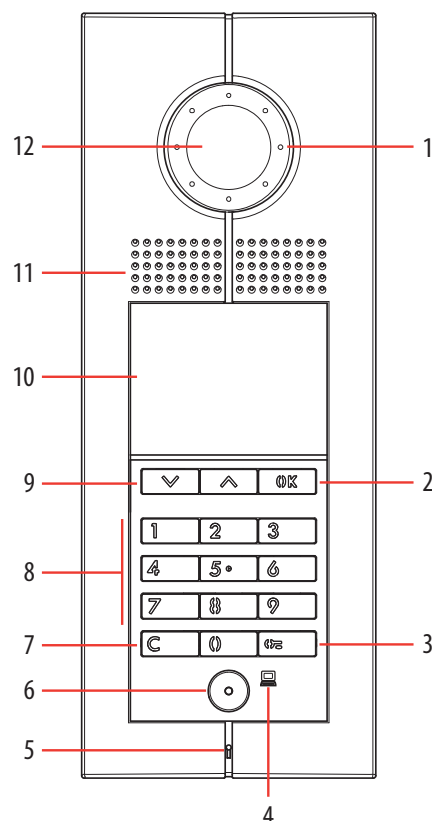
Power supply:	30 Vdc
Stand by absorption:	≤ 25 mA @ 30 V
Max operating absorption:	≤ 245 mA@30 V
Camera sensor:	1/3"
Lens:	F3.6 mm
Camera diagonal view angle:	85°
Camera distance up to clear picture:	16.4 cm
Camera resolution:	540 TV Lines (horizontal)
Camera minimum lux level visibility:	0.01 lux (compensation lamp OFF) 0 lux (compensation lamp ON)
Operating temperature:	(-25) – (+55) °C
Protection index:	IP54
Protection against mechanical impact:	IK07

Dimensional data



A (mm)	B (mm)	C (mm)
125	325	44,5

Front view



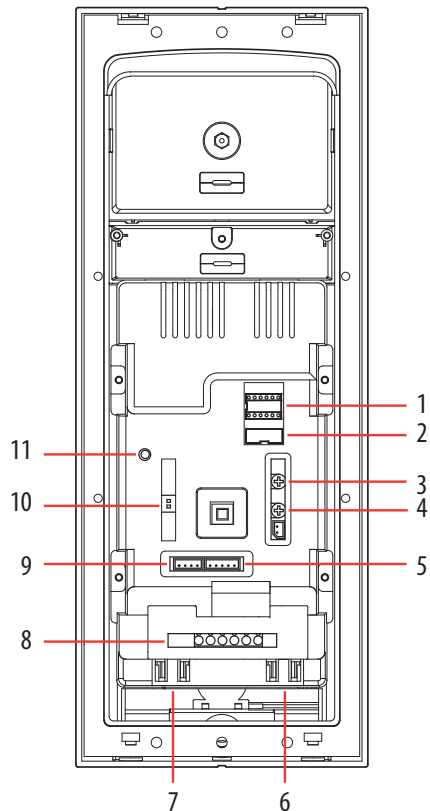
Legend

1. Compensation Lamp
2. Send call to the selected resident key
3. Door lock release key
4. External light sensor
5. Microphone
6. Direct call to the management center pushbutton
7. Delete & Return key
8. Alphanumeric pushbuttons
9. Navigation / search for the resident keys
10. Backlit LCD display
11. Loudspeaker
12. Adjustable colour camera

Related items

- 322012 Targa module
- 346250 Door lock relay

Rear view



- Legend
1. NN RRRR: configurators housing

2. ISP: entrance panel software upgrade connector

3. SPK: loudspeaker volume adjust

4. MIC: microphone volume adjust

5. VIDEO-IN/GND/NC/+12V/LED : entrance panel camera and compensation Lamp connector

6. RJ45 Targa module connection

7. RJ45 System BUS connection

8. 6 poles connector :

+12V/GND power supply for access control module (Optional)

UNLOCK signal output from access control module (Optional)

DAS electronic lock status signal connector

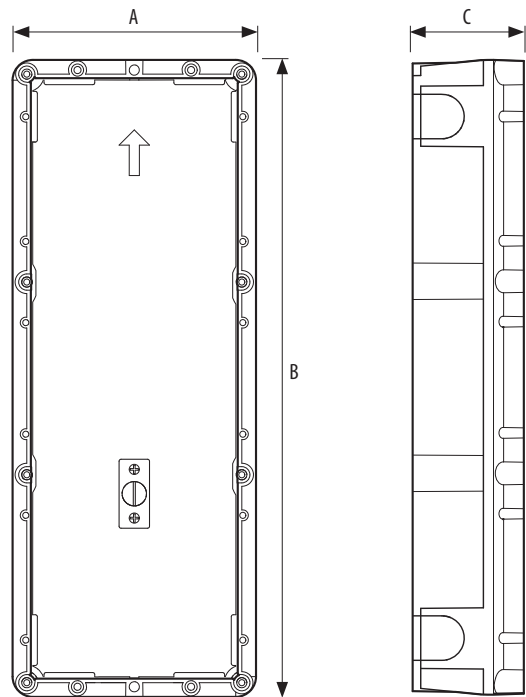
LOCK-/LOCK+ electrical door lock connection

9. SPK-OUT/GND/GND/SPK-OUT: entrance panel loudspeaker connections

10.(V-GAIN) video gain setting

11.Password RESET pushbutton

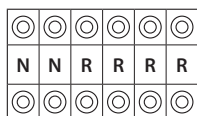
Flush mounting box - dimensional data



A (mm)	B (mm)	C (mm)
120	314	55

Configuration & Settings

Entrance panel must be configured for the following parameters:



NN : Entrance panel number

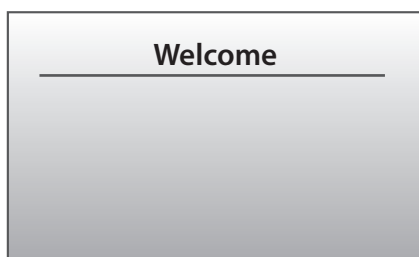
RRRR : NOT USED

Two different device configuration ways available:

WAY 1) Configuration settings by device keyboard

WAY 2) Configuration by using SF2 Software and PC connection

Configuration settings by device keyboard - WAY 1:



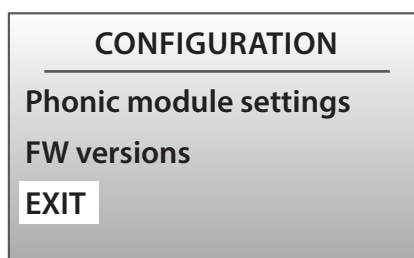
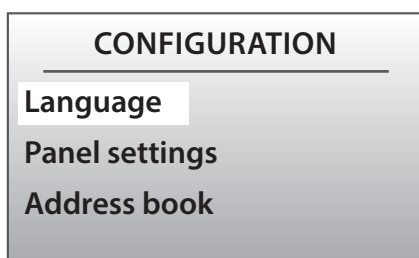
Access to the configuration menu by press and hold the door lock key  for more than 10 seconds.



Enter the access code (DEFAULT 1 2 3 4)



If the correct code has been entered, direct access to the configuration menu will be granted.



To exit from the configuration menu, or to return to the previous menu, select EXIT than press OK.

Configuration & Settings

Changing the PASSWORD - if the password has been forgotten , it is possible to change it in this way : press the RESET pushbutton on the rear side of the device for about 6 seconds.
Password will be recovered to default (1 2 3 4).

Password setup

PASSWORD SETUP

Password

1234

EXIT

To change the access password, press OK than enter new password "6789"

PASSWORD SETUP

Password

6789

EXIT

Confirm by pressing



Entrance panel settings :

CONFIGURATION

Language

Panel settings

Address book

Select the menu function



and confirm by pressing



PANEL SETTINGS

Device settings

Password

Home page

DEVICE SETTINGS

Brightness

Contrast

EXIT

Device settings submenu, allows you to set up the following parameters :

- display brightness adjustment
- display contrast adjustment

Press EXIT to return to the previous menu.

Configuration & Settings

HOME PAGE - this menu function allows you to enter a customized welcome message or any other general message.
The message can fill a maximum of three text rows (15 characters max.) - Template.
Is possible to set the display time of the message on the screen (5, 10 or 15 seconds) - Timeout.



HOME PAGE	
Template	1 line
Timeout	5 Sec
Text	---

HOME PAGE TEXT	
Line 1	---
Line 2	---
EXIT	

Select the line where to enter the text by using   and confirm with 

HOME PAGE TEXT	
Line 1	
Welcome	
EXIT	

HOME PAGE TEXT	
Line 1	
MY TEXT	<input type="text"/>
EXIT	

Press  to select the text field. Enter the message text by using the alphanumerical keyboard (in the same way as you write an SMS on your mobile phone).
Then confirm with .
The message will continuously appear on the home page screen as for the time set in the Timeout menu.

Restore DEFAULT SETTINGS

PANEL SETTINGS	
Home page	
Restore default	

HOME PAGE TEXT	
Confirm	
EXIT	

Select the line where to enter the text by using   and confirm with 

The settings of the entrance panel will be restored to the factory default settings.

NOTE : this operation does not delete the data contained in the resident address book.

Configuration & Settings

ADDRESS BOOK - This menu is used to to enter various residents data (including call codes and door lock release codes) as well as performing any other function described below :

CONFIGURATION	
Panel settings	
Address book	
Phonic module settings	

CONFIGURATION	
List of names	ON
Type of code	--->
Recall	OFF

List of names - this setting establish how the name of the residents will be displayed on the screen. ON = list enabled

Select the name with ^ v and press OK
--

To search the desired resident name, use the indicated keys or enter the surname by using the alphanumerical keypad.

Calling mode by type of code - Enter the type of code to be used to call the resident

CALLING MODE	
List of names	ON
Type of code	--->
Phonic module settings	

CODE TYPE	
Apart address	*
Call code	
EXIT	

Apart address = SCS address of the handset

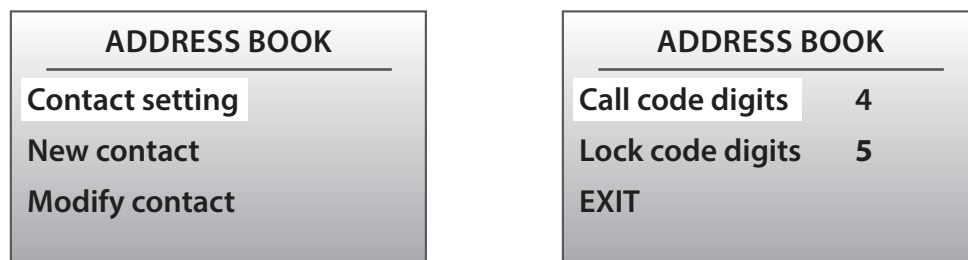
Call mode = Numerical code assigned to the resident

Calling mode - recall - when this function is enabled, the entrance panel will automatically repeat the call every 25 seconds up to 2 times.

CALLING MODE	
List of names	
Type of code	--->
Recall	OFF

Configuration & Settings

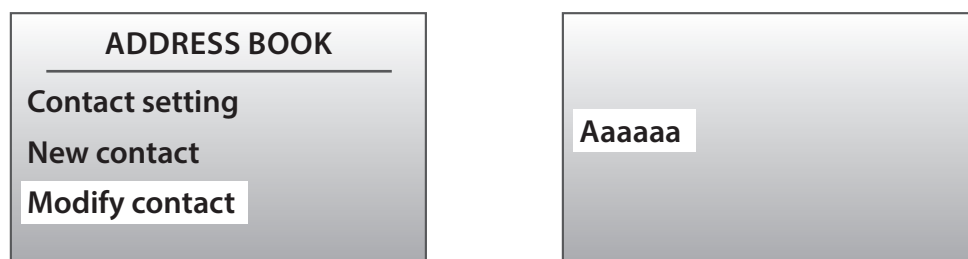
Contact setting - call codes can be set with a lenght from 1 to 8 digits. Door lock codes can be set with a lenght from 4 to 9 digits.



Call code digits : default 4 digits

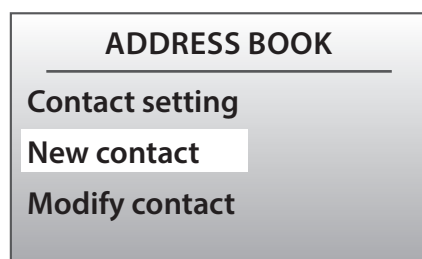
Door lock release code digits : default 9 digits

Modify contact - this function gives you the possibility to change the selected contact.



Select the contact to change   and confirm with 

Entering a new contact - this function gives you the possibility to enter new residents in the address book.



For each resident is possible to set the following parameters :

- ID Number :** identification progressive number automatically assigned by the device to each resident. This function gives you the possibility to change this ID with a 4 digits number assigned by the installer.
- Surname :** surname of the resident.
- Name :** name of the resident.
- Public :** set on (YES), the name and the surname of the resident will appear on the display during the call selection.
set on (NO), the name and the surname are hidden. Resident call is possible by entering the call code.
- Apart address :** SCS address of the corresponding handset.
- Call code :** numerical call code assigned to the resident.
- Lock code :** door lock release numerical code.

Configuration & Settings

Delete contact - this function gives you the possibility to delete the selected contact.

<p>ADDRESS BOOK</p> <p>New contact</p> <p>Modify contact</p> <p>Delete contact</p>	<p>Aaaaa</p> <p>Bbbbb</p> <p>Ccccc</p> <p>Ddddd</p>
---	---

Select the contact to delete with   than press 

DEL THIS CONTACT

Confirm

Will be deleted

EXIT

Confirm the elimination by pressing 

Delete the addresses book - this function gives you the possibility to delete all the contacts present in the addresses book.

DEL ADDRESS BOOK

Confirm

Will be deleted

EXIT

Confirm the elimination by pressing 

Configuration & Settings

Speaker module settings - this configuration can be performed only with the module NOT physically configured (NO configurators inserted).


SCS SETTINGS	
P – Panel number	00
T – Lock time	1
Switchboard	00

- P-Panel number:** SCS address of the entrance panel
T-Lock time: door lock time delay (**NOT USED**)
Switchboard: SCS address of the switchboard (if present)
Signal type of lock: NO = Normally open
NC = Normally closed
Dismantle alarm: ON = alarm enabled
OFF = alarm disabled

Firmware version - this menu indicate you the firmware version installed on the device.

FW versions	
Phonic mod. :	00.00.00
EXIT	

Direct call to the switchboard - by pressing the dedicated pushbutton.

To call the switchboard press the button 

Switchboard

Door lock release by code - you can directly activate the door lock releasing by typing the associated numerical code. Press the key  than enter the numerical code.

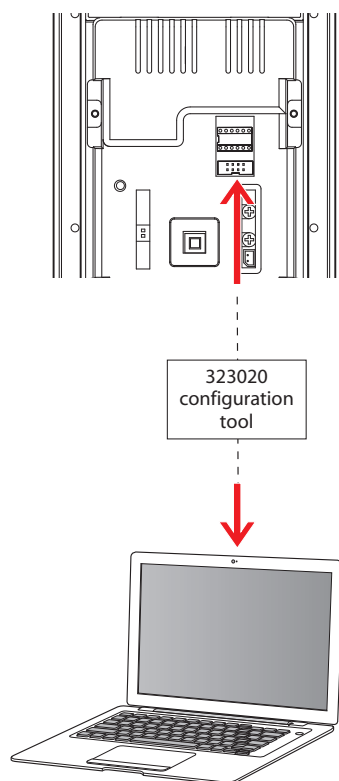
Input unlock password _ _ _ _

DOOR OPEN

Configuration

Configuration by using SF2 Software and PC connection - **WAY 2** :

This is the enhanced way to download the device configuration to entrance panel previously created by using SF2 configuration software and a personal computer. To transfer use the configuration hardware tool 323020 serial interface



WARNING : in order for the communication to take place, the EP must be powered and not physically configured

Video gain settings

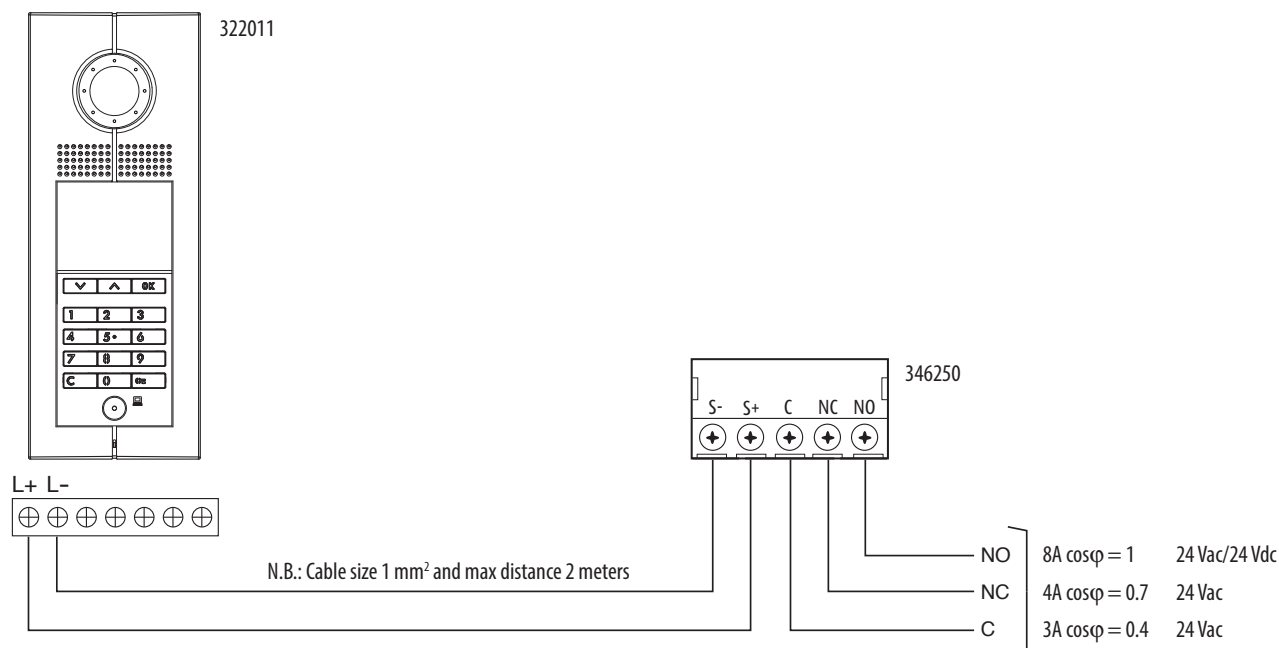
The entrance panel has a double DIP SWITCH for the video compensation setting. By setting different DIP V-GAIN, it is possible to adapt the video signal to different transmission distances - refer as follows :



DIP SWITCH SETTINGS FOR B/W. AND COLOUR SYSTEM

Distance	1	2
0 – 300 m	OFF	OFF
300 – 700 m	ON	OFF
700 – 1000 m	ON	ON

Wiring diagrams - Door lock relay connection



Description

D45 System zamak nameplate /targa module to be installed side by side to the digital call entrance panel 322012 to insert the list of residents or customised messages.

Easy insertion / replacement of nameplates.

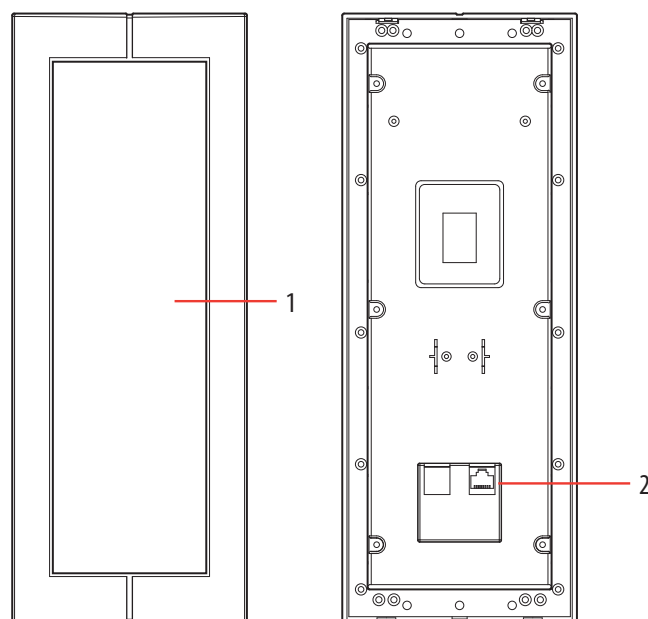
Flush mounted installation (flush mounted box supplied with the product). White night backlit. Protection degree : IP54, protection index against mechanical impact : IK07.

Related items

322011 Digital call entrance panel with addresses list

Technical data

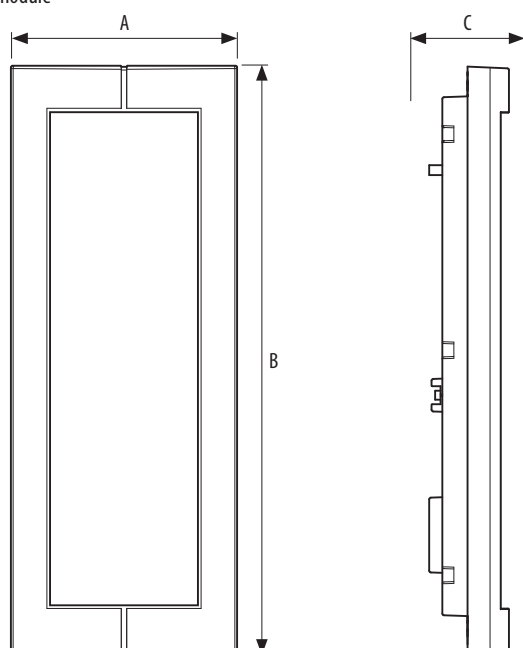
Power supply: 30 Vdc
 Stand by absorption: $\leq 5 \text{ mA @ } 30 \text{ V}$
 Max operating absorption: $\leq 25 \text{ mA @ } 30 \text{ V}$
 Operating temperature: $(-25) - (+55) ^\circ\text{C}$
 Protection index: IP54
 Protection against mechanical impact: IK07

**Legend**

1. Information area with label, label cover and lens
2. RJ45 connector for the connection to the main entrance panel

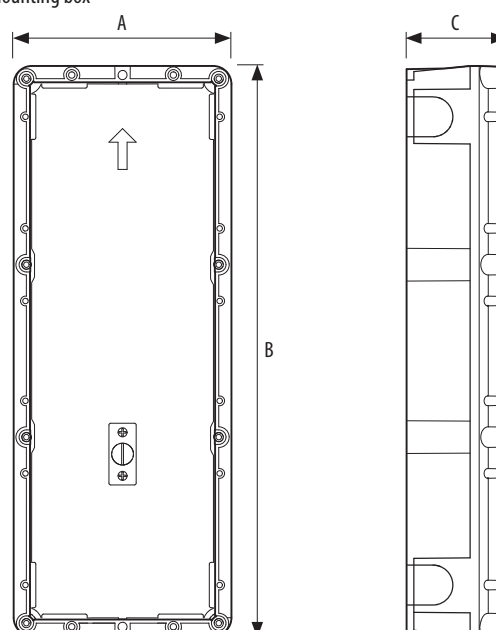
Dimensional data

Targa module



A (mm)	B (mm)	C (mm)
125	325	44,5

Flush mounting box



A (mm)	B (mm)	C (mm)
120	314	55

Small colour entrance panel

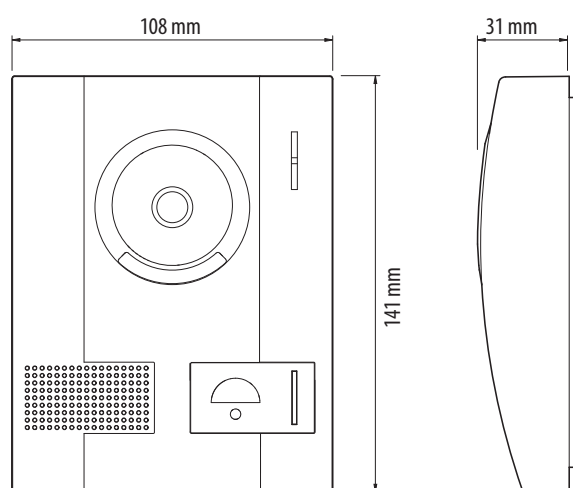
Description

D45 System aluminium alloy small colour camera entrance panel to be installed on the front of the apartment door. Can call indoor handsets and direct conversation. Analogue 4 wires connections to D45 system internal unit. Surface mounting installation. NO configuration required.

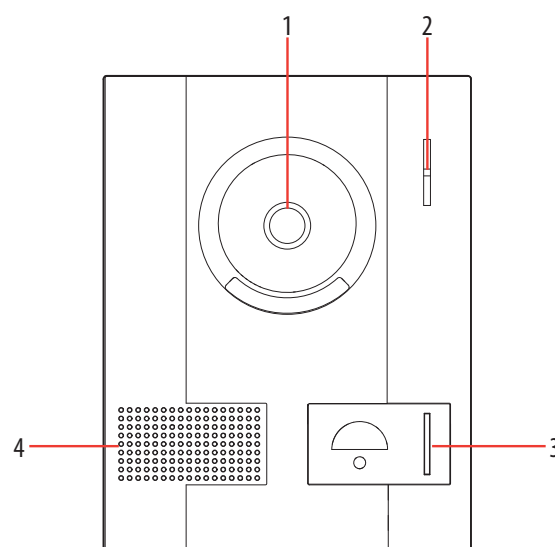
Technical data

Power supply :	12 Vdc
Stand by absorption:	N/A.
Max. operating absorption:	≤ 250 mA@12 V
Camera resolution:	512 x 582
Camera diagonal view angle:	70°
Camera distance up to clear picture:	40 – 50 cm
Camera minimum lux level visibility:	0.5 Lux
Operating temperature:	(-25)-(+55)°C
Protection index:	IP 54
Protection against mechanical impact:	IK 07

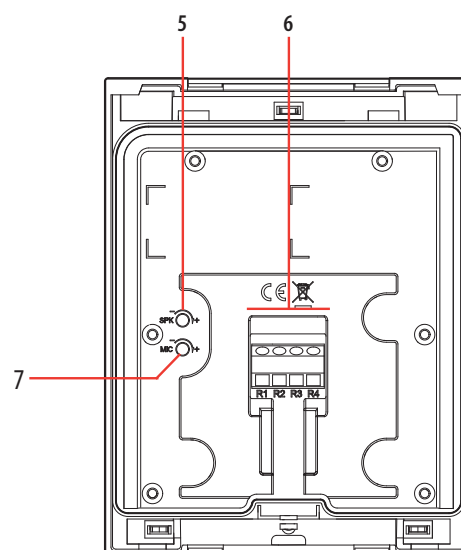
Dimensional data



Front view



Rear view



Legend

1. Colour camera
2. Microphone
3. Call key with signalling LED
4. Loudspeaker
5. SPK knob to adjust audio volume coming from handset
6. R1: to connect R1 terminal of internal unit
R2: to connect R2 terminal of internal unit
R3: to connect R3 terminal of internal unit
R4: to connect R4 terminal of internal unit
7. MIC knob to adjust audio volume from EP to handset

10 Pushbuttons colour video entrance panel

322030

Description

D45 System entrance panel (EP) with colour camera and 10 backlit call pushbuttons with possibility to direct call to the porter switchboard.

Possibility to send an alarm message to the switchboard when opening over 2 minutes of the associated lock or when trying to remove the device.

Setup key functions via programming, physical configurators insertion or through the dedicated software supplied with the product. Flush mounting installation with dedicated box (supplied with the product).

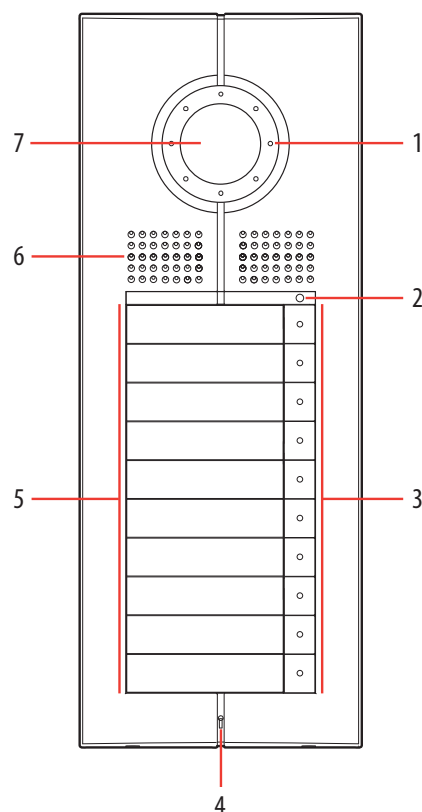
Related items

322032 additional 16 pushbuttons panel

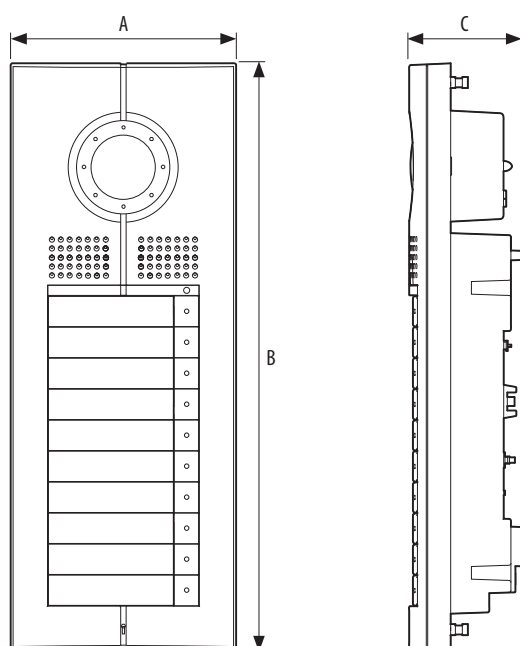
Technical data

Power supply:	30 Vdc
Stand by absorption:	≤ 14 mA @ 30 V
Max. operating absorption:	≤ 230 mA @ 30 V
Camera sensor:	1/3"
Camera resolution:	540 TV lines (horizontal)
Lens:	F3.6 mm
Illumination of the viewing field:	white LEDs
Operating temperature:	(-25) – (+55) °C
Protection index:	IP54
Protection index against mechanical impact:	IK07

Front view



Dimensional data

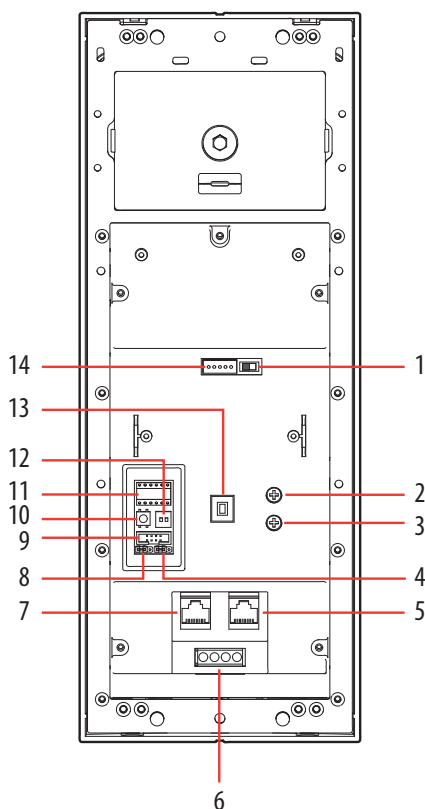


Legend

1. LEDs for night lighting of the shooting field
2. Light sensor for automatic switching on of the night backlighting
3. Call pushbuttons (n° 10)
4. Microphone
5. Nameplates (n° 10)
6. Loudspeaker
7. Colour camera

A (mm)	B (mm)	C (mm)
125	325	63

Rear view

**Legend**

1. Switch (ON - OFF) - enable/disable anti removal (tamper) function
2. SPK : loudspeaker volume adjust
3. MIC : microphone volume adjust
4. Status jumper socket
5. RJ45 system BUS connector
6. 4 poles connector (GND /DAS/LOCK-/LOCK+). GND/DAS = electrical door lock status connector - LOCK-/LOCK+ = electrical door lock connector
7. RJ45 additional pushbuttons panel connector
8. Mode jumper socket
9. ISP : entrance panel software upgrade connector
10. Room number reset/door lock status setting pushbutton
11. Configurations socket
12. DIP-SWITCH for video gain setting - see specific section
13. Anti-theft switch
14. VIDEO-IN/GND/NC/+12V/LED : entrance panel camera and compensation lamp connector

Entrance panel status setting

Entrance panel have two status, one is work status, another is setting status. In **work status**, entrance panel can call internal unit and work with internal unit. Entrance panel usually is in this status. In **setting status**, entrance panel can't call and work with internal unit, but can set room number or SCS address of corresponding pushbutton. After finished set, exit setting status by jumper insertion (NA).

By inserting jumper (NA), entrance panel is in work status. By inserting jumper (CF), entrance panel is in setting status.

Call mode

D45 system have two call modalities, one is **room number mode**, another is **SCS address mode** (direct call mode). In room number mode, internal unit can be set according to the room number; visitor type room number in entrance panel to call resident. **Factory default is in room number mode.**

In SCS address mode (direct call mode), internal unit can be set according to SCS address. Visitor just type SCS address to call resident, for example just type 1.

For pushbuttons entrance panel, must be defined each pushbutton math a room number or SCS address.

Configuration

○	○	○	○	○	○
N #1	N #1	F	F	I	I
○	○	○	○	○	○

Configuration define in setting status as for below table:

	ROOM NUMBER MODE	SCS ADDRESS MODE
#I#I	maximum apartment quantity per floor	Don't use
FF	floor number of corresponding pushbutton	SCS address high digit of corresponding pushbutton
II	apartment number corresponding pushbutton	SCS address low digit of corresponding pushbutton

Configuration define in work status as for below table:

	DEFINE
NN	Entrance panel number
FF	Don't use
II	Don't use


Two different configuration ways available:

Configuration by inserting physical configurators - **WAY 1**


Configuration by using SF2 software and PC connection - **WAY 2**

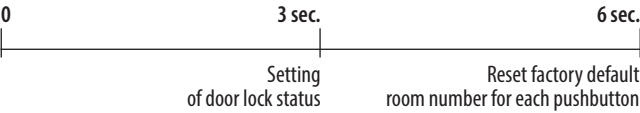
Configuration

Setting of door lock status:

device in stand by status - press and maintain for about 3 seconds the key  located on the back of the entrance panel. A short tone indicates that device detect the actual door lock status (always ON or OFF - this status will be signalled to porter switchboard).

Reset of factory default room number for each pushbutton

device in stand by status - press and maintain for about 6 seconds the key  located on the back of the entrance panel until one long tone is heard. This indicates that the reset has been successfully completed.



Setting of anti removal (tamper) function:

This function indicates the removal of the device from the wall. If someone try to remove the device from the wall, an alarm message will be sent to the porter switchboard. On the back of the entrance panel, there are two ON - OFF switches : one is the anti tampering function enable switch; the other is to set ON or OFF this function.



Video gain setting

The entrance panel has two video compensation gears, we can let the video signal output adapt to different transmission distance. See followings:

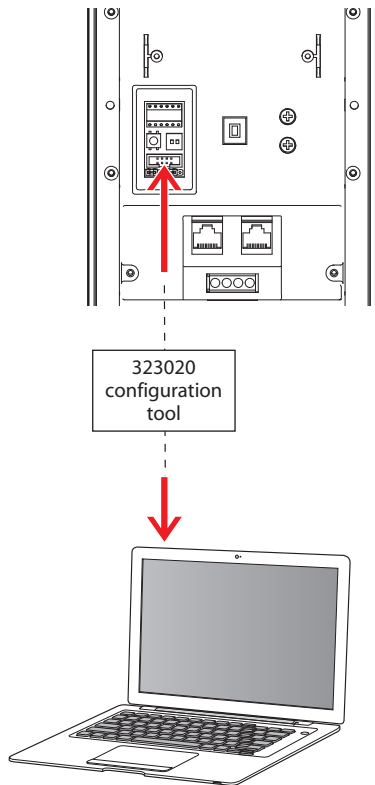


DIP SWITCH SETTINGS FOR B/W. AND COLOUR SYSTEM

Distance	1	2
0 – 300 m	OFF	OFF
300 – 700 m	ON	OFF
700 – 1000 m	ON	ON

Configuration by using SF2 Software and PC connection- WAY 2 :

This is the enhanced way to download the device configuration to entrance panel previously created by using SF2 configuration software and a personal computer. To transfer use the configuration hardware tool 323020 serial interface



WARNING : to ensure that the communication is successful, entrance panel must be powered and NOT phisically configured.

Configuration

Configuration settings by inserting physical resistor configuration - WAY 1:

Factory default is room number, see pushbutton corresponding room number as follows:

	○	→ 302
	○	→ 301
	○	→ 204
	○	→ 203
	○	→ 202
	○	→ 201
	○	→ 104
	○	→ 103
	○	→ 102
	○	→ 101

Assign room number or SCS address for each pushbutton

Room mode number

First select (CF) entering setting status, then select (RM) entering room number mode, insert configurators, last press the pushbutton which you want to set in the front of the panel until a long tone be heard. A long tone will indicates that room number has been successfully completed.

Repeat configurators insertion to set all room number corresponding pushbutton.

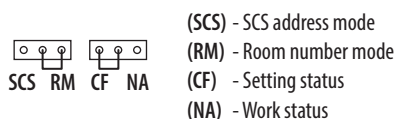
After finished to set all room number, jumper must select (NA) to exit setting status.

Example - set the 1st. right pushbutton as 203 - number of apartments per floor = 06 :

- jumper select (CF) enter setting status, jumper select (RM) enter room number mode
- insert configurators 02 in FF sockets and configurators 03 in II sockets and insert configurators 06 in #I #I

- press the 1st. pushbutton left on the front of the panel. A long tone indicates setting well done. If you heard three short tones it means that setting is wrong. (We cannot set FF and II as 00).

- repeat this setting sequence for all pushbuttons. At the end, insert a jumper between (NA pins). The setting procedure is finished.



POSITION	VALUE FOR CONFIGURATOR
N	0
N	6
F	0
F	2
I	0
I	3

SCS address mode (direct call mode)

First, jumper select (CF) entering setting status, then jumper select (SCS) entering SCS address mode. Insert configurators, last press the pushbutton which you want to set in the front of panel until a long tone be heard. A long tone will indicates SCS address has been successfully completed.

Repeat configurators insertion to set all SCS address corresponding pushbutton.

After finished to set all SCS address, jumper must select (NA) to exit setting status.

Example - set the 1st. right pushbutton as 0123:

- jumper select (CF) enter setting status, jumper select (CF) enter SCS address mode
- insert configurators 0123 in FFII sockets

- press the 1st. pushbutton left on the front of the panel. A long tone indicates setting well done. If you heard three short tones it means that setting is wrong. (Max. SCS configuration address is 4000).

- repeat this setting sequence for all pushbuttons. At the end, insert a jumper between (NA pins). The setting procedure is finished.

Setting of porter switchboard call :

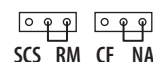
same procedure as for the SCS address mode setting but porter switchboard address is fixed to 4000. Means that FFII must be set as 4000.



POSITION	VALUE FOR CONFIGURATOR
N	
N	
F	0
F	1
I	2
I	3

Setting of entrance panel number :

Jumper select (NA) enter work status - inserting the jumper between (NA pins), NN configurators indicates the entrance panel number (range from 01 to 80).



Example - set the entrance panel number as 03:

while entrance panel power supply is OFF, insert a jumper between NA pins, put configurators 03 in NN sockets. Then put power supply ON, the entrance panel will save the 03 number.

NOTE (A) : physical configurator insertion has higher priority. If NO configurator inserted, the EP number is the last value we got by configurators or by SF2 software. Default number is 01.

NOTE (B) : the entrance panel number MUST BE the same as for the associated additional pushbutton panel.

Description

D45 System entrance panel (EP) with colour camera and 20 backlit call pushbuttons with possibility to direct call to the porter switchboard.

Possibility to send an alarm message to the switchboard when opening over 2 minutes of the associated lock or when trying to remove the device.

Setup key functions via programming, physical configurators insertion or through the dedicated software supplied with the product. Flush mounting installation with dedicated box (supplied with the product).

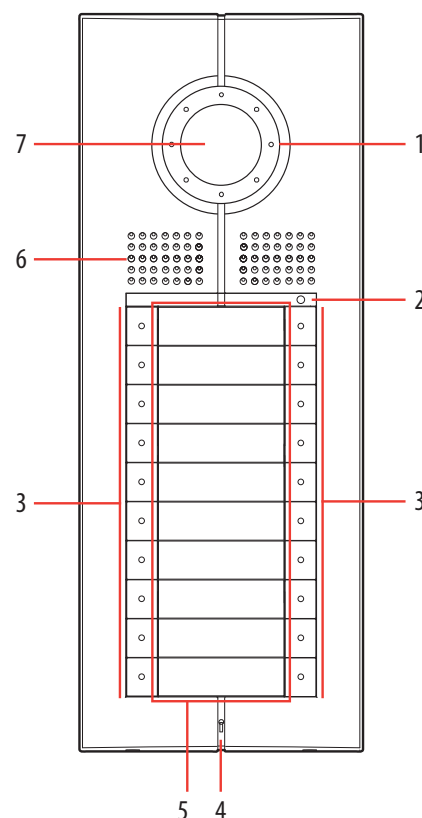
Related items

322033 additional 32 pushbuttons panel

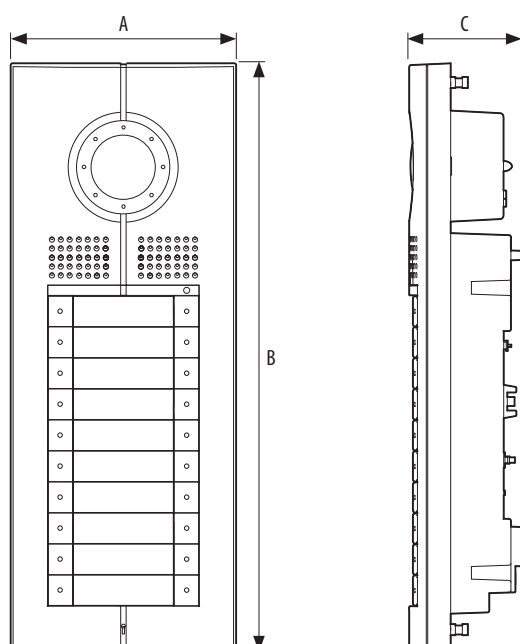
Technical data

Power supply:	30 Vdc
Stand by absorption:	≤ 14 mA @ 30 V
Max. operating absorption:	≤ 230 mA @ 30 V
Camera sensor:	1/3"
Camera resolution:	540 TV lines (horizontal)
Lens:	F3.6 mm
Illumination of the viewing field:	white LEDs
Operating temperature:	(-25) – (+55) °C
Protection index:	IP54
Protection index against mechanical impact:	IK07

Front view



Dimensional data

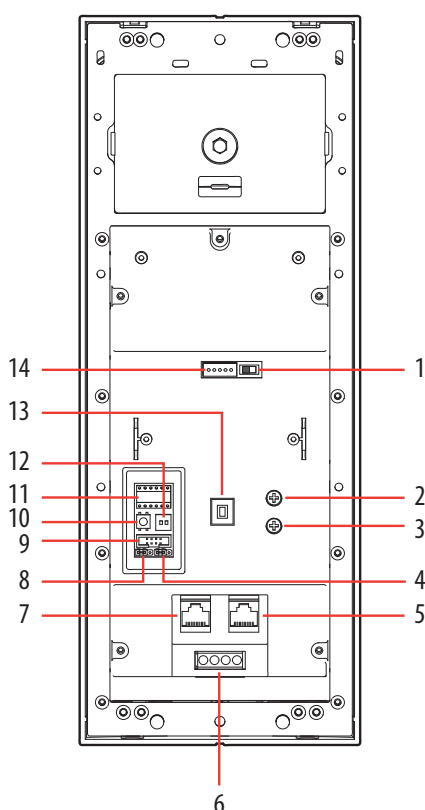


A (mm)	B (mm)	C (mm)
125	325	63

Legend

1. LEDs for night lighting of the shooting field
2. Light sensor for automatic switching on of the night backlighting
3. Call pushbuttons (n° 20)
4. Microphone
5. Nameplates (n° 20)
6. Loudspeaker
7. Colour camera

Rear view

**Legend**

1. Switch (ON - OFF) - enable/disable anti removal (tamper) function
2. SPK : loudspeaker volume adjust
3. MIC : microphone volume adjust
4. Status jumper socket
5. RJ45 system BUS connector
6. 4 poles connector (GND /DAS/LOCK-/LOCK+). GND/DAS = electrical door lock status connector - LOCK-/LOCK+ = electrical door lock connector
7. RJ45 additional pushbuttons panel connector
8. Mode jumper socket
9. ISP : entrance panel software upgrade connector
10. Room number reset/door lock status setting pushbutton
11. Configurations socket
12. DIP-SWITCH for video gain setting - see specific section
13. Anti-theft switch
14. VIDEO-IN/GND/NC/+12V/LED : entrance panel camera and compensation lamp connector

Entrance panel status setting

Entrance panel have two status, one is work status, another is setting status.

In **work status**, entrance panel can call internal unit and work with internal unit. Entrance panel usually is in this status.

In **setting status**, entrance panel can't call and work with internal unit, but can set room number or SCS address of corresponding pushbutton.

After finished set, exit setting status by jumper insertion (NA).

By inserting jumper (NA), entrance panel is in work status. By inserting jumper (CF), entrance panel is in setting status.

Call mode

D45 system have two call modalities, one is **room number mode**, another is **SCS address mode** (direct call mode). In room number mode, internal unit can be set according to the room number; visitor type room number in entrance panel to call resident. **Factory default is in room number mode.**

In SCS address mode (direct call mode), internal unit can be set according to SCS address. Visitor just type SCS address to call resident, for example just type 1.

For pushbuttons entrance panel, must be defined each pushbutton math a room number or SCS address.

Configuration

○	○	○	○	○	○
N #1	N #1	F	F	I	I
○	○	○	○	○	○

Configuration define in setting status as for below table:

	ROOM NUMBER MODE	SCS ADDRESS MODE
#I#I	maximum apartment quantity per floor	Don't use
FF	floor number of corresponding pushbutton	SCS address high digit of corresponding pushbutton
II	apartment number corresponding pushbutton	SCS address low digit of corresponding pushbutton

Configuration define in work status as for below table:

	DEFINE
NN	Entrance panel number
FF	Don't use
II	Don't use

Two different configuration ways available:

Configuration by inserting physical configurators - **WAY 1**

Configuration by using SF2 software and PC connection - **WAY 2**

Configuration

Configuration settings by inserting physical resistor configuration - WAY 1:

Factory default is room number, see pushbutton corresponding room number as follows:

503 ←	○	II	○	→ 504
501 ←	○		○	→ 502
403 ←	○		○	→ 404
401 ←	○		○	→ 402
303 ←	○		○	→ 304
301 ←	○		○	→ 302
203 ←	○		○	→ 204
201 ←	○		○	→ 202
103 ←	○		○	→ 104
101 ←	○		○	→ 102

Assign room number or SCS address for each pushbutton

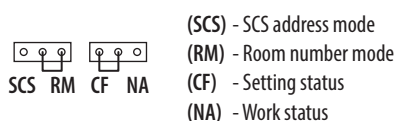
Room mode number

First select (CF) entering setting status, then select (RM) entering room number mode, insert configurators, last press the pushbutton which you want to set in the front of the panel until a long tone be heard. A long tone will indicate that room number has been successfully completed.

Repeat configurators insertion to set all room number corresponding pushbutton. After finished to set all room number, jumper must select (NA) to exit setting status.

Example - set the 1st. right pushbutton as 203 - number of apartments per floor = 06 :

- jumper select (CF) enter setting status, jumper select (RM) enter room number mode
- insert configurators 02 in FF sockets and configurators 03 in II sockets and insert configurators 06 in #I #I
- press the 1st. pushbutton left on the front of the panel. A long tone indicates setting well done. If you heard three short tones it means that setting is wrong. (We cannot set FF and II as 00).
- repeat this setting sequence for all pushbuttons. At the end, insert a jumper between (NA pins). The setting procedure is finished.



POSITION	VALUE FOR CONFIGURATOR
N	0
N	6
F	0
F	2
I	0
I	3

SCS address mode (direct call mode)

First, jumper select (CF) entering setting status, then jumper select (SCS) entering SCS address mode. Insert configurators, last press the pushbutton which you want to set in the front of panel until a long tone be heard. A long tone will indicate SCS address has been successfully completed.

Repeat configurators insertion to set all SCS address corresponding pushbutton.

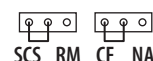
After finished to set all SCS address, jumper must select (NA) to exit setting status.

Example - set the 1st. right pushbutton as 0123:

- jumper select (CF) enter setting status, jumper select (CF) enter SCS address mode
- insert configurators 0123 in FFII sockets
- press the 1st. pushbutton left on the front of the panel. A long tone indicates setting well done. If you heard three short tones it means that setting is wrong. (Max. SCS configuration address is 4000).
- repeat this setting sequence for all pushbuttons. At the end, insert a jumper between (NA pins). The setting procedure is finished.

Setting of porter switchboard call :

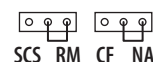
same procedure as for the SCS address mode setting but porter switchboard address is fixed to 4000. Means that FFII must be set as 4000.



POSITION	VALUE FOR CONFIGURATOR
N	
N	
F	0
F	1
I	2
I	3

Setting of entrance panel number :

Jumper select (NA) enter work status - inserting the jumper between (NA pins), NN configurators indicates the entrance panel number (range from 01 to 80).



Example - set the entrance panel number as 03:


while entrance panel power supply is OFF, insert a jumper between NA pins, put configurators 03 in NN sockets. Then put power supply ON, the entrance panel will save the 03 number.

NOTE (A) : physical configurator insertion has higher priority. If NO configurator inserted, the EP number is the last value we got by configurators or by SF2 software. Default number is 01.


NOTE (B) : the entrance panel number MUST BE the same as for the associated additional pushbutton panel.

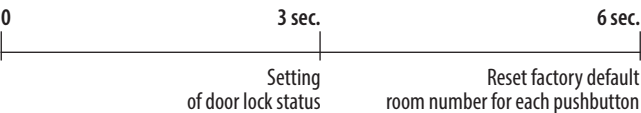
Configuration

Setting of door lock status:

device in stand by status - press and maintain for about 3 seconds the key  located on the back of the entrance panel. A short tone indicates that device detect the actual door lock status (always ON or OFF - this status will be signalled to porter switchboard).

Reset of factory default room number for each pushbutton

device in stand by status - press and maintain for about 6 seconds the key  located on the back of the entrance panel until one long tone is heard. This indicates that the reset has been successfully completed.



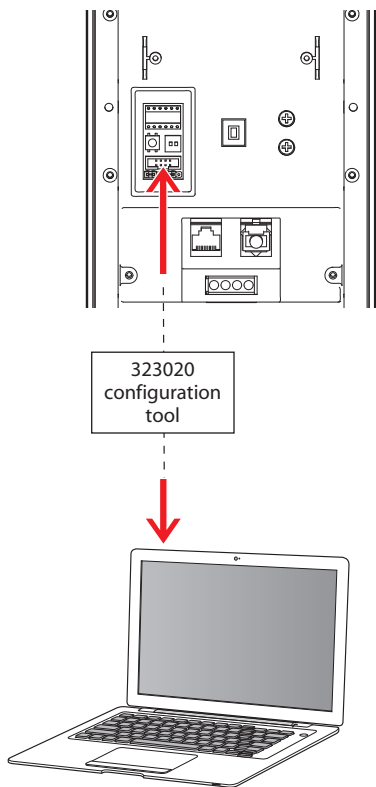
Setting of anti removal (tamper) function:

This function indicates the removal of the device from the wall. If someone try to remove the device from the wall, an alarm message will be sent to the porter switch-board. On the back of the entrance panel, there are two ON - OFF switches : one is the anti tampering function enable switch; the other is to set ON or OFF this function.



Configuration by using SF2 Software and PC connection- WAY 2 :

This is the enhanced way to download the device configuration to entrance panel previously created by using SF2 configuration software and a personal computer. To transfer use the configuration hardware tool 323020 serial interface



WARNING : to ensure that the communication is successful, entrance panel must be powered and NOT phisically configured.

Video gain setting

The entrance panel has two video compensation gears, we can let the video signal output adapt to different transmission distance. See followings:



DIP SWITCH SETTINGS FOR B/W. AND COLOUR SYSTEM

Distance	1	2
0 – 300 m	OFF	OFF
300 – 700 m	ON	OFF
700 – 1000 m	ON	ON

Additional 16 call pushbuttons panel

322032

Description

D45 System additional 16 pushbuttons panel. Equipped with 16 backlighted call pushbuttons and possibility to direct call to the porter switchboard. Setup key functions via programming, physical configurators insertion or through the dedicated software supplied with the product. Flush mounting installation with dedicated box (supplied with the product).

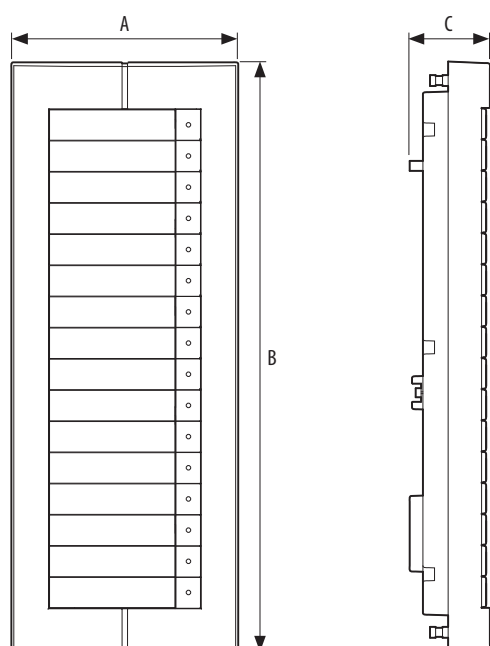
Related items

322030 10 pushbuttons colour video entrance panel

Technical data

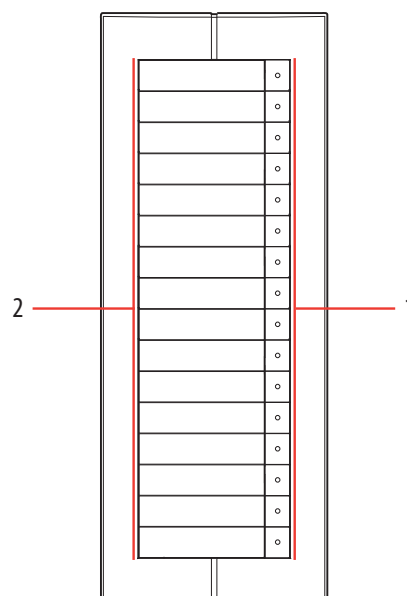
Power supply: 30 Vdc
 Stand by absorption: $\leq 5 \text{ mA @ } 30 \text{ V}$
 Max. operating absorption: $\leq 28 \text{ mA @ } 30 \text{ V}$
 Operating temperature: $(-25) - (+55) ^\circ\text{C}$
 Protection index: IP54
 Protection index against mechanical impact: IK07

Dimensional data

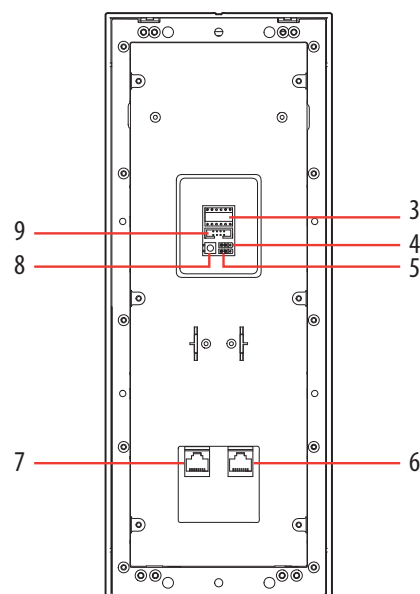


A (mm)	B (mm)	C (mm)
125	325	44,5

Front view



Rear view



Legend

1. Call pushbuttons
2. Backlighted nameplates
3. Configurators socket
4. Mode jumper socket
5. Status jumper socket
6. RJ45 main entrance panel connection
7. RJ45 additional pushbuttons panel connection
8. Room number reset pushbutton
9. ISP : device software upgrade connector

Additional pushbuttons panel status setting

Pushbuttons panel have two status, one is work status, another is setting status. In **work status**, pushbuttons panel can call internal unit and work with internal unit. Pushbuttons panel usually is in this status.

In **setting status**, can't call and work with internal unit, but can set room number or SCS address of corresponding pushbutton.

After finished set, exit setting status by jumper insertion (NA).

By inserting jumper (NA), pushbuttons panel is in work status. By inserting jumper (CF), pushbuttons panel is in setting status.

Call mode

D45 system have two call modalities, one is **room number mode**, another is **SCS address mode** (direct call mode). In room number mode, internal unit can be set according to the room number; visitor type room number in entrance panel to call resident.

Factory default is in room number mode.

In SCS address mode (direct call mode), internal unit can be set according to SCS address. Visitor just type SCS address to call resident, for example just type 1.

For pushbuttons panel, must be defined each pushbutton math a room number or SCS address.

Configuration

○	○	○	○	○	○
N #I	N #I	F	F	I	I
○	○	○	○	○	○

Configuration define in setting status as for below table:

	ROOM NUMBER MODE	SCS ADDRESS MODE
#I	maximum apartment quantity per floor	Don't use
FF	floor number of corresponding pushbutton	SCS address high digit of corresponding pushbutton
II	apartment number corresponding pushbutton	SCS address low digit of corresponding pushbutton

Configuration define in work status as for below table:

	DEFINE
NN	Entrance panel number
FF	Don't use
II	Don't use

Two different configuration ways available :

Configuration by inserting physical configurators - WAY 1

Configuration by using SF2 software and PC connection - WAY 2


Configuration settings by inserting physical resistor configuration - WAY 1:

Factory default is room number.

See pushbutton corresponding room number as follows:

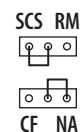
	○	→ 702
	○	→ 701
	○	→ 604
	○	→ 603
	○	→ 602
	○	→ 601
	○	→ 504
	○	→ 503
	○	→ 502
	○	→ 501
	○	→ 404
	○	→ 403
	○	→ 402
	○	→ 401
	○	→ 304
	○	→ 303

Reset of factory default pushbutton correspondance:

device in stand by status - press and maintain for about 6 seconds the key  located on the back of the entrance panel until one long tone is heard. This indicates that the reset has been successfully completed.

Setting of additional pushbuttons panel number:

Jumper select (NA) enter in work status - inserting the jumper between (NA pins), NN configurators indicates the additional pushbuttons panel number (range from 01 to 80).



Example - set the additional pushbuttons panel number as 03:

while additional pushbuttons panel power supply is OFF, insert a jumper between NA pins, put configurators 03 in NN sockets. Then put power supply ON, the entrance panel will save the 03 number.

POSITION	VALUE FOR CONFIGURATOR	REMARKS
N	0	NN is 01 (default)
N	3	When no jumper on "CF"

NOTE (A) : physical configurator insertion has higher priority. If NO configurator inserted, the device number is the last value we got by configurators or by SF2 software. Default number is 01.

NOTE (B) : the additional pushbuttons panel number MUST BE the same as for the associated main entrance panel.

Configuration

Setting of ROOM NUMBER or SCS ADDRESS for each pushbutton

Room mode number

First select (CF) entering setting status, than select (RM) entering room number mode, insert configurators, last press the pushbutton which you want to set in the front of the panel until a long tone be heard. A long tone will indicates that room number has been successfully completed.

Repeat configurators insertion to set all room number corresponding pushbutton.

After finished to set all room number, jumper must select (NA) to exit setting status.

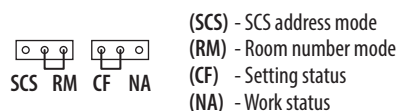
Example - set the 1st. right pushbutton as 203 - number of apartments per floor = 06 :

- jumper select (CF) enter setting status, jumper select (RM) enter room number mode

- insert configurators 02 in FF sockets and configurators 03 in II sockets and insert configurators 06 in #I #I

- press the 1st. pushbutton left on the front of the panel. A long tone indicates setting well done. If you heard three short tones it means that setting is wrong. (We cannot set FF and II as 00).

- repeat this setting sequence for all pushbuttons. At the end, insert a jumper between (NA pins). The setting procedure is finished.



POSITION	VALUE FOR CONFIGURATOR
N	0
N	6
F	0
F	2
I	0
I	3

SCS address mode (direct call mode)

First, jumper select (CF) entering setting status, than jumper select (SCS) entering SCS address mode. Insert configurators, last press the pushbutton which you want to set in the front of panel until a long tone be heard. A long tone will indicates SCS address has been successfully completed.

Repeat configurators insertion to set all SCS address corresponding pushbutton.

After finished to set all SCS address, jumper must select (NA) to exit setting status.

Example - set the 1st. right pushbutton as 0123:

- jumper select (CF) enter setting status, jumper select (CF) enter SCS address mode

- insert configurators 0123 in FFII sockets

- press the 1st. pushbutton left on the front of the panel. A long tone indicates setting well done. If you heard three short tones it means that setting is wrong. (Max. SCS configuration address is 4000).

- repeat this setting sequence for all pushbuttons. At the end, insert a jumper between (NA pins). The setting procedure is finished.

Setting of porter switchboard call :

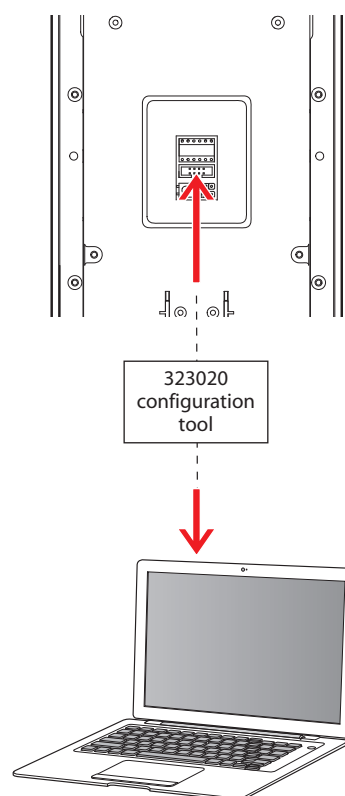
same procedure as for the SCS address mode setting but porter switchboard address is fixed to 4000. Means that FFII must be set as 4000.



POSITION	VALUE FOR CONFIGURATOR
N	
N	
F	0
F	1
I	2
I	3

Configuration by using SF2 Software and PC connection- WAY 2 :

This is the enhanced way to download the device configuration to additional pushbuttons panel previously created by using SF2 configuration software and a personal computer. To transfer use the configuration hardware tool 323020 serial interface



WARNING : to ensure that the communication is successful, additional pushbuttons panel must be powered and NOT physically configured.

Additional 32 call pushbuttons panel

322033

Description

D45 System additional 32 pushbuttons entrance panel. Equipped with 32 backlighted call pushbuttons and possibility to direct call to the porter switchboard. Setup key functions via programming, physical configurators insertion or through the dedicated software supplied with the product. Flush mounting installation with dedicated box (supplied with the product).

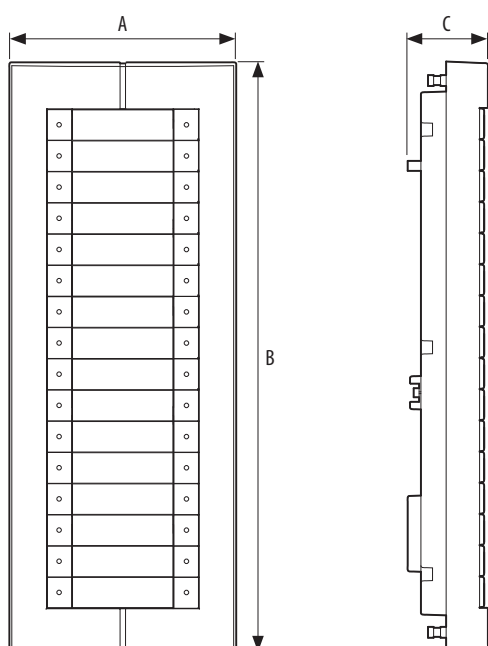
Related items

322031 20 pushbuttons colour video entrance panel

Technical data

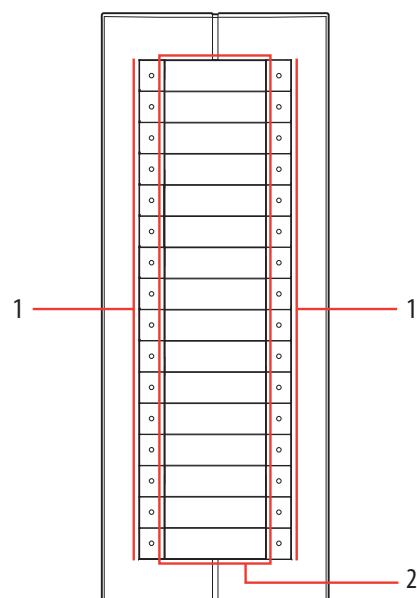
Power supply: 30 Vdc
 Stand by absorption: $\leq 5 \text{ mA @ } 30 \text{ V}$
 Max. operating absorption: $\leq 28 \text{ mA @ } 30 \text{ V}$
 Operating temperature: $(-25) - (+55) ^\circ\text{C}$
 Protection index: IP54
 Protection index against mechanical impact: IK07

Dimensional data

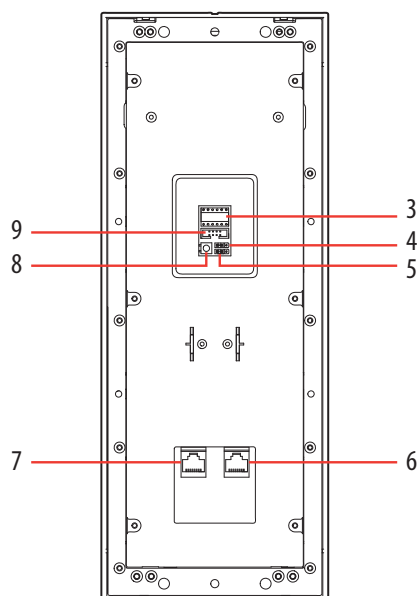


A (mm)	B (mm)	C (mm)
125	325	44,5

Front view



Rear view



Legend

1. Call pushbuttons
2. Backlighted nameplates
3. Configurators socket
4. Mode jumper socket
5. Status jumper socket
6. RJ45 main entrance panel connection
7. RJ45 additional pushbuttons panel connection
8. Room number reset pushbutton
9. ISP : device software upgrade connector

Additional pushbuttons panel status setting

Pushbuttons panel have two status, one is work status, another is setting status. In **work status**, pushbuttons panel can call internal unit and work with internal unit. Pushbuttons panel usually is in this status.

In **setting status**, can't call and work with internal unit, but can set room number or SCS address of corresponding pushbutton.

After finished set, exit setting status by jumper insertion (NA).

By inserting jumper (NA), pushbuttons panel is in work status. By inserting jumper (CF), pushbuttons panel is in setting status.

Call mode

D45 system have two call modalities, one is **room number mode**, another is **SCS address mode** (direct call mode). In room number mode, internal unit can be set according to the room number; visitor type room number in entrance panel to call resident.

Factory default is in room number mode.

In SCS address mode (direct call mode), internal unit can be set according to SCS address. Visitor just type SCS address to call resident, for example just type 1.

For pushbuttons panel, must be defined each pushbutton math a room number or SCS address.

Configuration

⊙	⊙	⊙	⊙	⊙	⊙
N	N	F	F	I	I
#I	#I				
⊙	⊙	⊙	⊙	⊙	⊙

Configuration define in setting status as for below table:

	ROOM NUMBER MODE	SCS ADDRESS MODE
#I	maximum apartment quantity per floor	Don't use
FF	floor number of corresponding pushbutton	SCS address high digit of corresponding pushbutton
II	apartment number corresponding pushbutton	SCS address low digit of corresponding pushbutton

Configuration define in work status as for below table:

	DEFINE
NN	Entrance panel number
FF	Don't use
II	Don't use

Two different configuration ways available :

Configuration by inserting physical configurators - **WAY 1**

Configuration by using SF2 software and PC connection - **WAY 2**


Configuration settings by inserting physical resistor configuration - WAY 1:

Factory default is room number.

See pushbutton corresponding room number as follows:

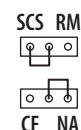
1303 ←	⊙		⊙	→ 1304
1301 ←	⊙		⊙	→ 1302
1203 ←	⊙		⊙	→ 1204
1201 ←	⊙		⊙	→ 1202
1103 ←	⊙		⊙	→ 1104
1101 ←	⊙		⊙	→ 1102
1003 ←	⊙		⊙	→ 1004
1001 ←	⊙		⊙	→ 1002
903 ←	⊙		⊙	→ 904
901 ←	⊙		⊙	→ 902
803 ←	⊙		⊙	→ 804
801 ←	⊙		⊙	→ 802
703 ←	⊙		⊙	→ 704
701 ←	⊙		⊙	→ 702
603 ←	⊙		⊙	→ 604
601 ←	⊙		⊙	→ 602

Reset of factory default pushbutton correspondance:

device in stand by status - press and maintain for about 6 seconds the key  located on the back of the entrance panel until one long tone is heard. This indicates that the reset has been successfully completed.

Setting of additional pushbuttons panel number:

Jumper select (NA) enter in work status - inserting the jumper between (NA pins), NN configurators indicates the additional pushbuttons panel number (range from 01 to 80).



Example - set the additional pushbuttons panel number as 03:

while additional pushbuttons panel power supply is OFF, insert a jumper between NA pins, put configurators 03 in NN sockets. Then put power supply ON, the entrance panel will save the 03 number.

POSITION	VALUE FOR CONFIGURATOR	REMARKS
N	0	NN is 01(default)
N	3	When no jumper on "CF"

NOTE (A) : physical configurator insertion has higher priority. If NO configurator inserted, the device number is the last value we got by configurators or by SF2 software. Default number is 01.

NOTE (B) : the additional pushbuttons panel number **MUST BE** the same as for the associated main entrance panel.

Configuration

Setting of ROOM NUMBER or SCS ADDRESS for each pushbutton

Room mode number

First select (CF) entering setting status, then select (RM) entering room number mode, insert configurators, last press the pushbutton which you want to set in the front of the panel until a long tone be heard. A long tone will indicates that room number has been successfully completed.

Repeat configurators insertion to set all room number corresponding pushbutton.

After finished to set all room number, jumper must select (NA) to exit setting status.

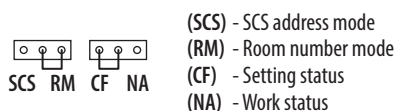
Example - set the 1st. right pushbutton as 203 - number of apartments per floor = 06 :

- jumper select (CF) enter setting status, jumper select (RM) enter room number mode

- insert configurators 02 in FF sockets and configurators 03 in II sockets and insert configurators 06 in #I #I

- press the 1st. pushbutton left on the front of the panel. A long tone indicates setting well done. If you heard three short tones it means that setting is wrong. (We cannot set FF and II as 00).

- repeat this setting sequence for all pushbuttons. At the end, insert a jumper between (NA pins). The setting procedure is finished.



(SCS) - SCS address mode
(RM) - Room number mode
(CF) - Setting status
(NA) - Work status

POSITION	VALUE FOR CONFIGURATOR
N	0
N	6
F	0
F	2
I	0
I	3

SCS address mode (direct call mode)

First, jumper select (CF) entering setting status, then jumper select (SCS) entering SCS address mode. Insert configurators, last press the pushbutton which you want to set in the front of panel until a long tone be heard. A long tone will indicates SCS address has been successfully completed.

Repeat configurators insertion to set all SCS address corresponding pushbutton.

After finished to set all SCS address, jumper must select (NA) to exit setting status.

Example - set the 1st. right pushbutton as 0123:

- jumper select (CF) enter setting status, jumper select (CF) enter SCS address mode

- insert configurators 0123 in FFII sockets

- press the 1st. pushbutton left on the front of the panel. A long tone indicates setting well done. If you heard three short tones it means that setting is wrong. (Max. SCS configuration address is 4000).

- repeat this setting sequence for all pushbuttons. At the end, insert a jumper between (NA pins). The setting procedure is finished.

Setting of porter switchboard call :

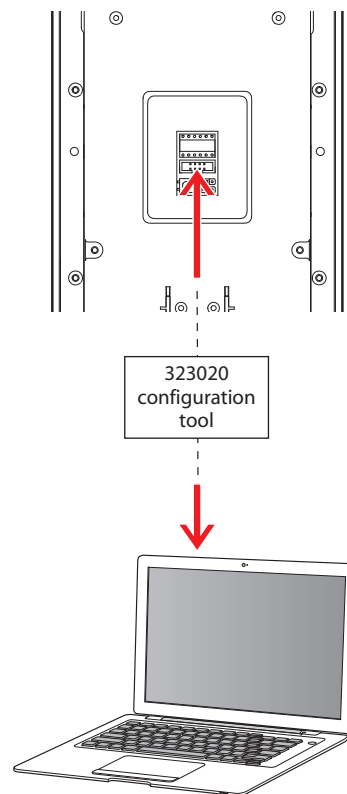
same procedure as for the SCS address mode setting but porter switchboard address is fixed to 4000. Means that FFII must be set as 4000.



POSITION	VALUE FOR CONFIGURATOR
N	
N	
F	0
F	1
I	2
I	3

Configuration by using SF2 Software and PC connection- WAY 2 :

This is the enhanced way to download the device configuration to additional pushbuttons panel previously created by using SF2 configuration software and a personal computer. To transfer use the configuration hardware tool 323020 serial interface



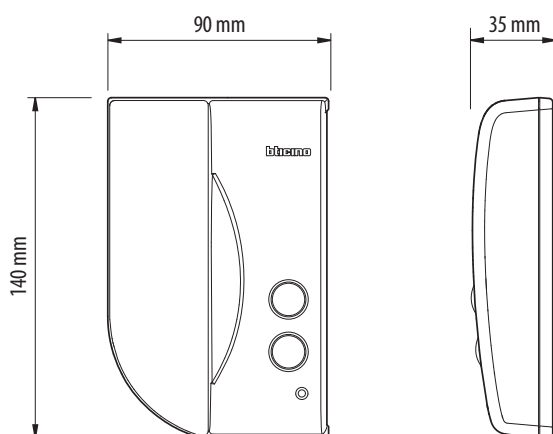
WARNING : to ensure that the communication is successful, additional pushbuttons panel must be powered and NOT phisically configured.

Description

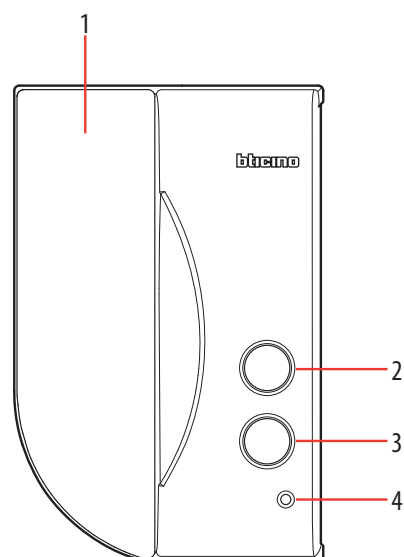
D45 System indoor traditional audio handset equipped with door lock pushbutton. Surge protection. Compact size and low power consumption. An external SOS switch can be connected. Wall mount installation.

Technical data

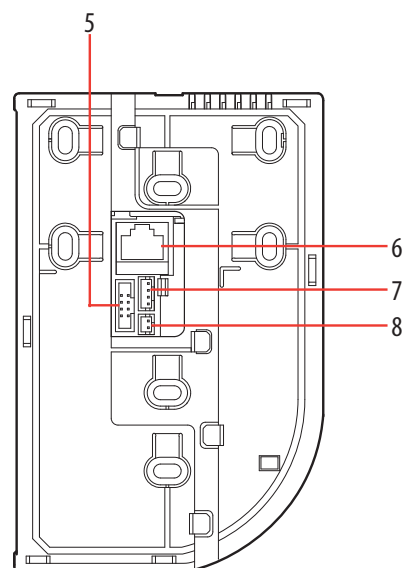
Power supply :	30 Vdc
Stand by absorption:	≤ 30 mA @ 30 V
Max. operating absorption:	≤ 70 mA @ 30 V
Operating temperature:	(-10)-(+40)°C

Dimensional data

Front view



Rear view

**Legend**

1. Handset
2. Door lock activation key
3. Call to switchboard key
4. Communication status LED
5. Serial interface connector
6. RJ45 system BUS connector
7. Analogue small entrance panel connector
8. External SOS alarm switch connector

Configuration**How to enter in installation setup status:**

with the handset in stand-by, long press the door lock release pushbutton until a long beep is heard. Connection status LED must be off.

Set installation parameters - Room number (FFII):

FUNCTIONS	OPERATION	REMARKS
Enter the room number setup submenu	While in the initial installation setup status press and hold down the switchboard pushbutton once to enter the household number setup submenu. Note: the first number to set after entering the submenu is the thousand position.	Household number range is 101-9999. Default number is 101. The two numbers after 101 cannot be higher than the number of households per floor.
Set the parameter	Press the switchboard pushbutton to add 1 unit to the relevant position. If the pushbutton is pressed after the input parameter has reached 10, 3 short beeps will indicate wrong operation and the device will exit the household number setup submenu automatically and return to the initial installation setup status.	
Select the setting and exit the setup submenu	Press the door lock release pushbutton to move to next setting position, the order is: thousands, hundreds, tens and units. Note: 1) If no number is entered in a position, the default 0 will apply. 2) After setting the units position press the door lock release key to exit household number setup and return to the initial installation setup status. If the household number is set correctly, a long beep will be heard when exiting the menu, and the number will be saved; otherwise, 3 short beeps will be heard and the number will be not saved	
Exit	1) Press the door lock release pushbutton to move to the last item. Press the door lock release pushbutton again to exit household number setup and return to the initial installation setup status. 2) If the operation is performed wrongly, 3 short beeps will be heard the unit will automatically return to the initial installation setup status.	

Example 1:

If the room number must be set to 403, then the relative parameter should be:

0 for thousands, 4 for hundreds, 0 for tens and 3 for units.

While in the initial installation setup status press and hold down the switchboard pushbutton once to enter the household number setup submenu.

The current position is thousands. Since the parameter for thousands is 0, press the door lock release pushbutton to move to the hundreds position.

The parameter for the hundreds is 4, press the switchboard pushbutton 4 times, then press door lock release pushbutton to move to the tens. Since the parameter for tens is 0, there no need to press the switchboard pushbutton, just press the door lock release pushbutton to move to the units. Since the parameter for the units is 3, press the switchboard pushbutton 3 times. Then press the door lock release key to return to the initial installation setup status and check at the same time if the settings entered are correct. If they are correct, 1 long beep will be heard. Otherwise 3 short beeps will be heard. Once in the initial installation setup status press and hold the door lock release pushbutton to exit setup status and return to standby status.

Set maximum apartments quantity per floor in a riser (#1 #1)

FUNCTIONS	OPERATION	REMARKS
Enter setup submenu for number of households per floor	While in the initial installation setup status, press and hold the switchboard pushbutton twice to enter the setup submenu for the apartments quantity per floor. Note: the first number to set after entering the submenu is the tens position.	The number of households per floor cannot be less than the household number. the range is 1-99. The default number is 4.
Set the parameter	Press the switchboard pushbutton to add 1 unit to the relevant position. If the pushbutton is pressed after the input parameter has reached 10, 3 short beeps will indicate wrong operation and the device will exit the apartments quantity setup submenu automatically and return to the initial installation setup status.	
Select setting item and exit the submenu	Press the door lock release pushbutton to move to the next setting position, the order is: tens- units-exit current setting item, back to initial installation setup status. After moving to that position, the parameter of that position will be 0. Before exiting, please check if the setting parameter is correct. If correct, a long beep will be heard and the set parameter will be saved. Otherwise, 3 short beeps will be heard and the parameter will not be saved.	
Exit	1) Press the door lock release pushbutton to move to the last item. Press the door lock release pushbutton again to exit the current submenu and return to the initial installation setup status. 2) If the operation is performed wrongly, 3 short beeps will be heard the unit will automatically return to the initial installation setup status.	

Set external SOS contact to be NO/NC

FUNCTIONS	OPERATION	REMARKS
Select the setup submenu for SOS NO/NC	While in the initial installation setup status, press and hold the switchboard pushbutton five times to enter the setup submenu for SOS NO/NC. Read the current parameter. If it's NO, the parameter is 1 and the message light will be on. If it's NC, the parameter is 0 and the message light will be off.	Default: always on
Set the parameter	Press the call to the switchboard pushbutton to increase the parameter by 1. The parameter will return to 0 after it reaches to 2. When parameter is 1, SOS is NO type, and the message light is also on. When parameter is 0, SOS is NC type, and message light is also off. During setup the parameter will be saved automatically.	
Exit	1) Press the door lock release pushbutton to exit the current submenu and return to the initial installation setup status. 2) If the operation is performed wrongly, 3 short beeps will be heard the unit will automatically return to the initial installation setup status.	

Example 2:

Once in the initial installation setup status press and hold call to the switchboard 5 times. If SOS status is the default parameter, the message light will be ON, which means the SOS is always ON. Press the switchboard pushbutton once, message light will go OFF, which means SOS will be always OFF. Press the switchboard pushbutton once, message light will go ON, which means SOS will be always ON. Other operation may be deducted by analogy. Finally, press the door lock release pushbutton to exit the initial installation setup status. Once in the initial installation setup status press and hold the door lock release pushbutton to exit the installation setup status and return to standby status.

Set MASTER/SLAVE indoor handset:

FUNCTIONS	OPERATION	REMARKS
Select the "Set master and slave handsets" setup submenu	While in the initial installation setup status, press and hold the switchboard pushbutton 8 times to enter the setup submenu "Set master and slave handsets". Read the current parameter. For master handsets the parameter is 1 and the message light will be on. For slave handsets the parameter is 0 and the message light will be off.	Note: only one master handset per household number is allowed. All the other handsets should be set to slave. Default: slave handset
Set the parameters	Press the switchboard pushbutton to increase the parameter by 1. The parameter will return to 0 after it reaches to 2. When parameter is 1, the handset is a slave handset, and the message light is on. When the parameter is 0, the handset is a master handset and the message light will be off. During setup the parameter will be saved automatically.	
Exit	1) Press the door lock release pushbutton to exit the current submenu and return to the initial installation setup status. 2) If the operation is performed wrongly, 3 short beeps will be heard the unit will automatically return to the initial installation setup status.	

To install doorbell function the two steps below need to be completed:

1. Connect SMALL EP connections R2 and R3 to the doorbell switch.
2. Before using doorbell function, the setup procedure must be completed.

FUNCTIONS	OPERATION	REMARKS
Select setup submenu for the doorbell function	While in the initial installation setup status, press and hold the switchboard pushbutton six times to enter the setup submenu for enabling the doorbell function. Read the current parameter. If it's enabled, the parameter is 1 and the message light will be on. If it's disabled, the parameter is 0 and the message light will be off.	Default: disabled. This apply to the Small EP function and not to the doorbell function.
Set the parameter	Press the switchboard pushbutton to increase the parameter by 1. The parameter will return to 0 after it reaches to 2. When parameter is 1, the handset able to use the doorbell function, and the message light is on. When the parameter is 0, the handset is unable to use the doorbell function, and the message light is off. During setup the parameter will be saved automatically.	
Exit	1) Press the door lock release pushbutton to exit the current submenu and return to the initial installation setup status. 2) If the operation is performed wrongly, 3 short beeps will be heard the unit will automatically return to the initial installation setup status.	

FUNCTIONS	OPERATION	REMARKS
Select setup submenu for enabling connection to 323009	While in initial installation setup status, press and hold the switchboard pushbutton three times to enter the setup submenu for enabling connection to 323009. Read the current parameter. If it's enabled, the parameter is 1 and the message light will be on. If it's disabled, the parameter is 0 and the message light will be off.	Default: disable. this means that the handset is not set to connect to 323009
Set the parameter	Press the switchboard pushbutton to increase the parameter by 1. The parameter will return to 0 after it reaches to 2. When parameter is 1, the handset is set to connect to the apartment interface, and the message light is on. When parameter is 0, the handset is not set to connect to the apartment interface, and the message light is off. During setup the parameter will be saved automatically.	
Exit	1) Press the door lock release pushbutton to exit the current submenu and return to the initial installation setup status. 2) If the operation is performed wrongly, 3 short beeps will be heard the unit will automatically return to the initial installation setup status.	

Note: The handset can communicate with the 323009 device when powered up or set to do so. Based on the communication result, the handset can change the setting parameter. If the handset is to be connected to 323009, then the handset number will be changed to 101 automatically.

Recovering all the default parameters:

FUNCTIONS	OPERATION	REMARKS
Select setup submenu of "recover all the default parameters"	While in the initial installation setup status, press and hold the switchboard pushbutton nine times to enter the setup submenu "recover all the default parameters".	Default: disable. this means that the handset is not set to connect to the apartment interface
Set the parameter	Press the switchboard pushbutton to recover all the installation setup parameters. The message light will be on.	
Exit	1) Press the door lock release pushbutton to exit the current submenu and return to the initial installation setup status. 2) If the operation is performed wrongly, 3 short beeps will be heard the unit will automatically return to the initial installation setup status.	

Exit installation setting:

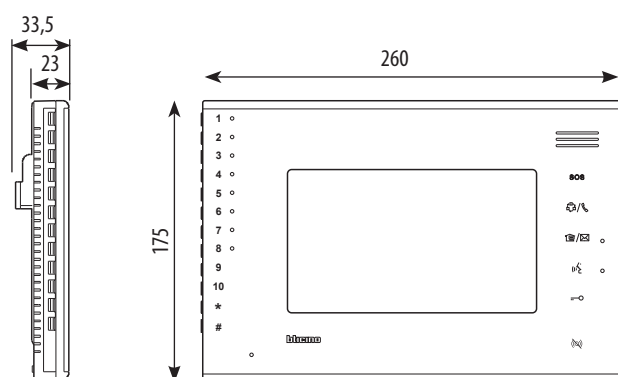
Press and hold the door lock release pushbutton until 1 long beep is heard. Release to exit setup status. If while in setup status no operation is performed for 10 s, the handset will automatically return to standby.

Description

D45 System indoor handsfree video handset with 7" analogue LCD LED backlit display. Complete door entry functions with alarms management. International standard SOS pushbutton and keyboard for intercom function and programming device. Direct call to switchboard function. 12 ring tones selectable for different call types. Surge protection. Wall mount installation.

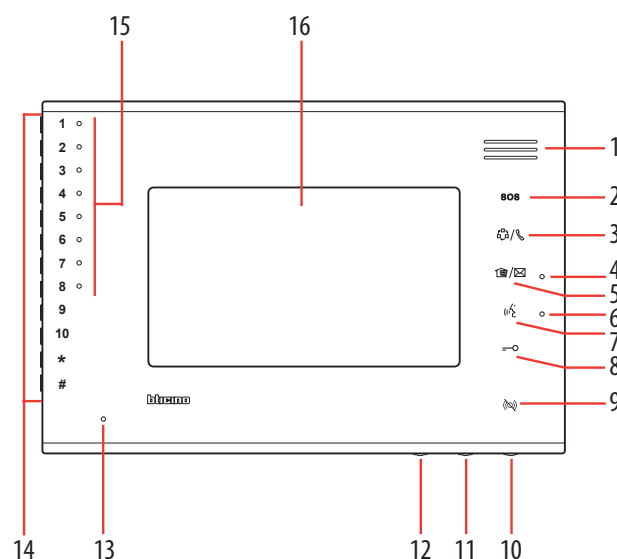
Technical data

LCD display resolution: 480 x 234
 Power supply : 30 Vdc
 Stand by absorption: ≤ 20 mA @ 30 V
 Max. operating absorption: ≤ 145 mA @ 30 V
 Operating temperature: (-10)-(+40)°C

Dimensional data

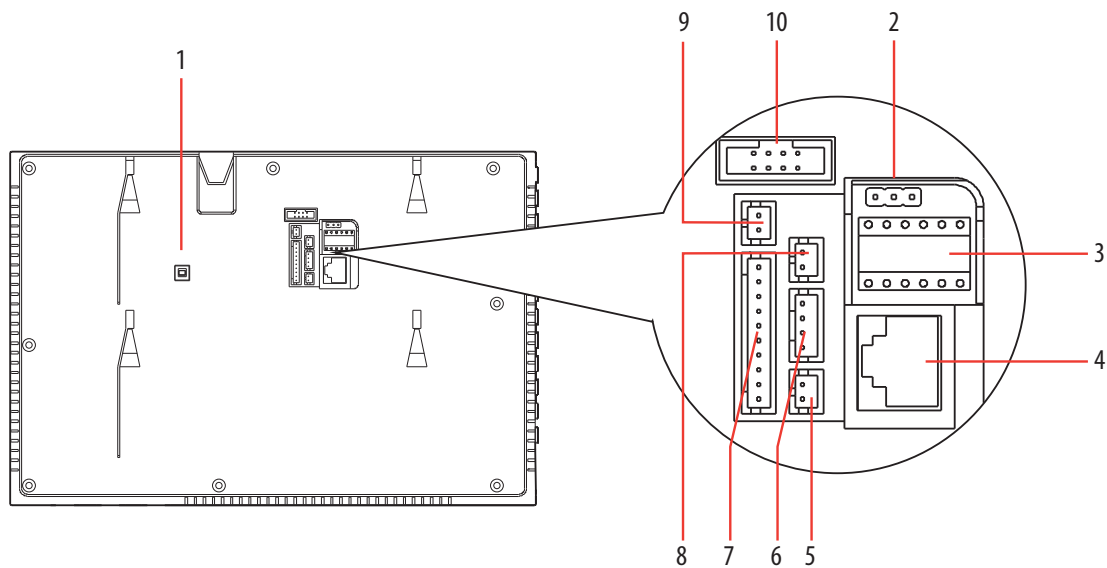
Dimensions in mm

Front view

**Legend**

1. Loudspeaker
2. SOS key
3. Monitor key
4. Information LED
5. Switchboard call key
6. Communication LED
7. Answer key
8. Unlock key
9. Shortcut key
10. Color control knob
11. Brightness knob
12. Ring volume control knob
13. Microphone
14. Numerical keys and corresponding numbers
15. Defense area LED 1 to 8
16. LCD Display

Rear view



- Legenda
1. Anti removal switch connector

2. Master and Slave selection pin

3. Configurators housing

4. RJ45 system BUS connector

5. SOS alarm connector

6. Small entrance panel (322020) connector

7. Alarm sensors connector (see specific page)

8. Door lock interface (323015) connector

9. Alarm sensor anti-removal connector

10. Serial interface connector

Configurazione

Indoor handset must be configured for following parameters:

⊙	⊙	⊙	⊙	⊙	⊙
F	F	I	I	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙

FF : Floor number

II : Apartment number

#II: Maximum apartments quantity per floor in a riser

Two different configuration modes available for whole system :
configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of #FF in whole system is ≤ 20, and the biggest number of #II is ≤4, and the total risers number is ≤ 50, we recommend to choose (MODE 1) configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use (MODE 2) configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number (#FF * #II * R) is less or equal 4000, use of (MODE 2) is suggested.

POSITION	MODE 1	MODE 2
F	FF	FF
F		
I	II	II
I		
#I	Default for #II is 04, need not connect the configurator	II (#II setup using same value for all system handsets).
#I		

Two different device configuration ways available:

WAY 1) Configuration settings by device keyboard

WAY 2) Configuration settings by inserting physical configurators

Configuration settings by device keyboard - WAY 1 :

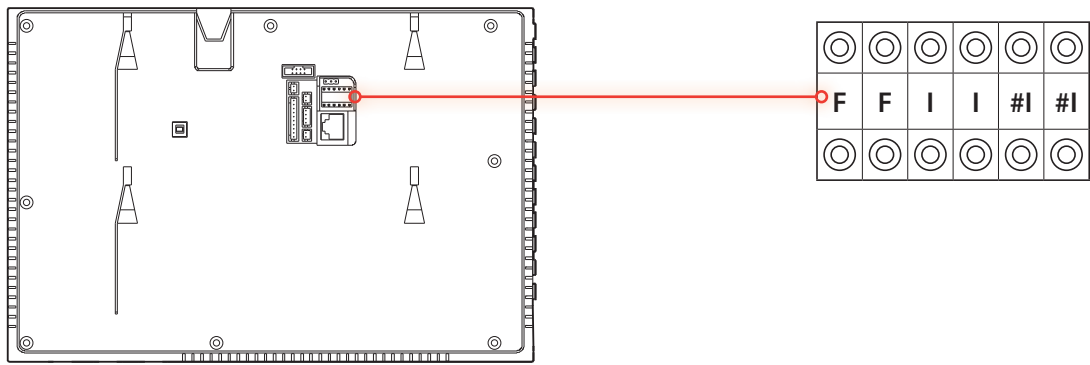
INSTALLATION SETTINGS OPERATION LIST TABLE				
SETUP	OPERATION CODE AND LIGHT STATUS	NEXT OPERATION		MEANING AND INFORMATION FOR THE OPERATION
				REMARK
Set room number for handset	11# 8 alarm lights and message light off	"FFI#"		correct parameter input: 1 long tone
		*		wrong parameter input: 3 short tones
		return to main menu of installation setup, 1 short tone		
		other		unsuccessful operation: 3 short tone
Set maximum apartments quantity per floor in a riser	12# 8 alarm lights and message light off	"II#" or "I#"		correct parameter input: 1 long tone
		*		wrong parameter input: 3 short tones
		return to main menu of installation setup, 1 short tone		
		other		unsuccessful operation: 3 short tones
Set external SOS to be always on or always off	15# message light will indicate status of this setting item	1		SOS external switch or pushbutton always open (NO): message light on, 1 long tone
		0		SOS external switch or pushbutton always close (NC): message light off, 1 long tone
		*		return to main menu of installation setup, 1 short tone
		other		unsuccessful operation: 3 short tones
Enable and disable function of monitoring Small EP	17# message light will indicate status of this setting item	1		enable: handset can monitor Small EP: message light on, 1 long tone
		0		Shielded: handset can not monitor Small EP: message light off, 1 long tone
		*		return to main menu of installation setting, 1 short tone
		other		unsuccessful operation: 3 short tones
Return all the parameters to default value	19# message light will indicate status of this setting item	1		Get all the default parameters: message light on, 1 long tone
		0		Do not get all the default parameters: message light off, 1 long tone
		*		return to main menu of installation setup, 1 short tone
		other		unsuccessful operation: 3 short tones
Enable and disable sensors	21# Message light is off. 8 alarm lights will indicate status of each alarm zone	1#	1	1 alarm zone with sensor: LED 1 on, a long tone.
			0	1 alarm zone without sensor: LED 1 off, a long tone.
			*	return to previous menu, 1 short tone
			other	Ineffective operation: 3 short tones
	
		8#	1	8 alarm zone with sensor: LED 8 on, a long tone.
			0	8 alarm zone without sensor: LED 8 off, a long tone.
			*	return to previous menu, 1 short tone
			other	unsuccessful operation: 3 short tones
		*		return to main menu of installation setting, 1 short tone
		other		unsuccessful operation: 3 short tones
Set NO and NC type of sensors	22# 8 alarm lights will indicate status of each alarm zone.	1#	1	always-open (NO) sensor for alarm area 1: LED 1 on, 1 long tone
			0	always-close (NC) sensor for alarm area 1: LED 1 off, 1 long tone
			*	return to previous menu, 1 short tone
			other	unsuccessful operation: 3 short tones
	
		8#	1	always-open (NO) sensor for alarm area 8: LED 8 on, 1 long tone
			0	always-close (NC) sensor for alarm area 8: LED 8 off, 1 long tone
			*	return to previous menu, 1 short tone
			other	unsuccessful operation: 3 short tones
		*		return to main menu of installation setup, 1 short tone
		other		unsuccessful operation: 3 short tones

Configuration

INSTALLATION SETTINGS OPERATION LIST TABLE

SETUP	OPERATION CODE AND LIGHT STATUS	NEXT OPERATION		MEANING AND INFORMATION FOR THE OPERATION	REMARK		
Set infrared sensor	23# Message light is off. 8 alarm lights will indicate status of infrared sensor. Setting: infrared sensor: light of this alarm zone will be on. Non-infrared sensor, light of this alarm defence area zone will be off.	5#	1	infrared sensor for alarm zone 5: LED 5 on, 1 long tone	Note: 1/2/3/4 alarm zone are defined as infrared alarm zones, door alarm, smoke alarm, gas alarm. They cannot be changed. 5/7 are defaulted as infrared alarm zones s. 6/8 alarm are defaulted as non-infrared alarm zones		
			0	non- infrared sensor for alarm zone 5: LED 5 on, 1 long tone			
			*	return to previous menu, 1 short tone			
			other	unsuccessful operation: 3 short tones			
				
		8#	1	infrared sensor for alarm zone 8: LED 8 on, 1 long tone			
			0	Non-infrared sensor for alarm zone 8: LED 8 on, 1 long tone			
			*	return to previous menu, 1 short tone			
			other	unsuccessful operation: 3 short tones			
		*		return to main menu of installation setup, 1 short tone			
		other		unsuccessful operation: 3 short tones			
Setting for Time delay after alarm set	24# The light of the zone indicates the parameter For example, if the parameter is 3, then LED 3 will on	1	delay 40 s: 1 long tone, only LED 1 will on		Default: 100 s only for thief area alarm		
		2	delay 100 s: 1 long tone, only LED 2 will on				
		3	delay 150 s: 1 long tone, only LED 3 will on				
		4	delay 210 s: 1 long tone, only LED 4 will on				
		5	delay 255 s: 1 long tone, only LED 5 will on				
		*	return to main menu of installation setup, 1 short tone				
		Other		unsuccessful operation: 3 short tones			
		Setting for Time delay after alarm happens	25# The light of defence area give the parameter. For example, if the parameter is 3, then LED 3 will on	1		delay 40 s: 1 long tone, only LED 1 will on	
2	delay 100 s: 1 long tone, only LED 2 will on						
3	delay 150 s: 1 long tone, only LED 3 will on						
4	delay 210 s: 1 long tone, only LED 4 will on						
5	delay 255 s: 1 long tone, only LED 5 will on						
*	return to main menu of installation setup, 1 short tone						
other				unsuccessful operation: 3 short tones			
Enable and disable sound alarm for thief	26# The Information LED indicates the setup state			1	enabled: if there is a burglar alarm, loudspeaker will emit a sound. Message light on, 1 long tone		Default: no sound
		0	disabled: if there is a burglar alarm, loudspeaker will not emit a sound. Message light off, 1 long tone.				
		*	return to main menu of installation setup, 1 short tone				
		other		unsuccessful operation: 3 short tones			
	*	exit main menu of installation setup, 1 short tone					
	other	unsuccessful operation: 3 short tones					
1) Doorbell function setup(if is doorbell function , it is not Small EP function)	16# The information LED to give setup state	1	Enable doorbell function, the information LED is on, 1 long tone.		Default: is not doorbell function, tt is Small EP function.		
		0	Disable doorbell function, the information LED is off, 1 long tone				
		*	return to main menu of installation setup, 1 short tone				
		other		unsuccessful operation: 3 short tones			
2) Handset connection to Apartment interface function setup	13# The information LED to give setup state	1	handset has connected to the Apartment interface the information LED is on, 1 long tone,		Default: Handset not connected to the Apartment interface.		
		0	handset has not connected to the Apartment interface, the information LED is off, 1 long tone.				
		*	return to main menu of installation setup, 1 short tone				
		other		unsuccessful operation: 3 short tones			

Configuration settings by inserting physical configurators - WAY 2:
Physical connection for their sockets:



Example (A):

The number of handsets is 1204, each floor has 4 handsets, the system configuration mode is Mode 1, the handset configuration should be as follows

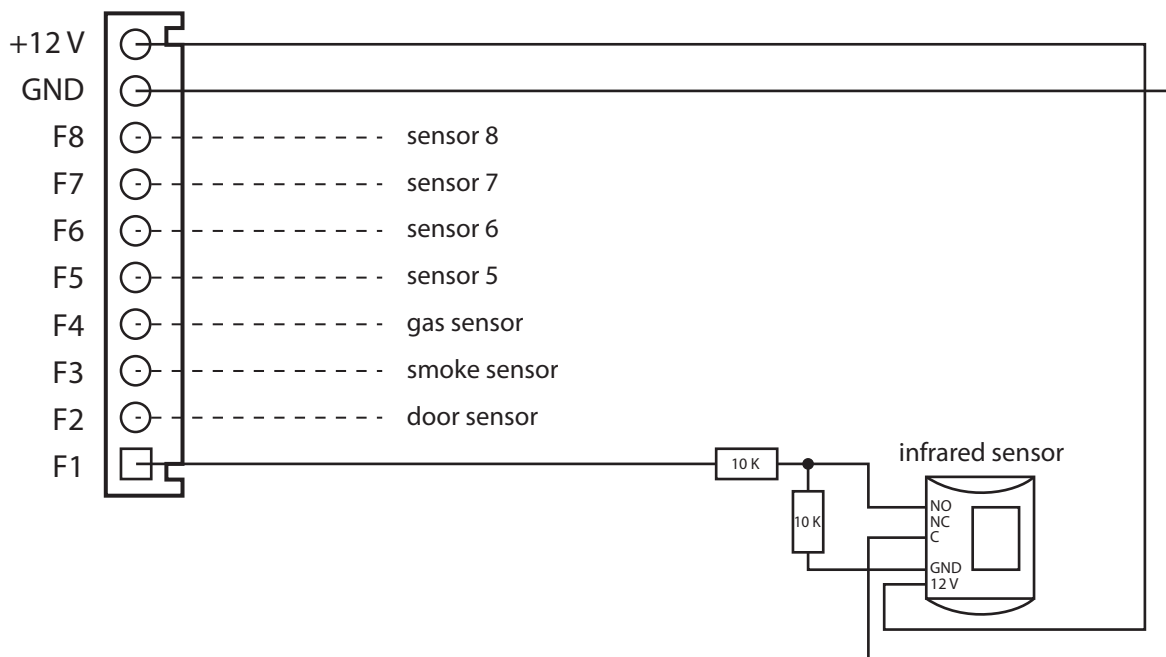
POSITION	CONFIGURATION VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	4	
#I		Because the default value of #II is 4, no configurator is needed
#I		

Example (B):

The number of handsets is 1206, each floor has 8 handsets. System configuration mode 2 is used. The handset configuration should be as follows:

POSITION	VALUE	REMARKS
F	1	
F	2	
I	0	It is ok not to insert configurator 0
I	6	
#I	0	It is ok not to insert configurator 0
#I	8	

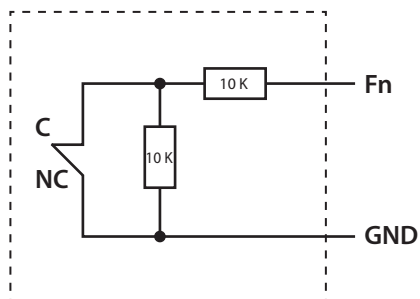
Wiring diagram - alarm sensors connections



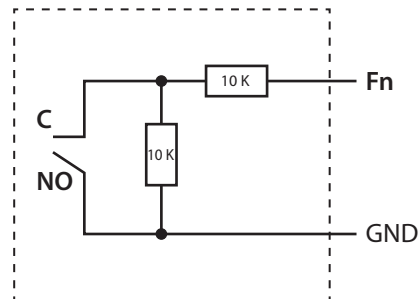
NOTE: 10 K Ω resistors used to detect cable by cut or cable short circuited to GND. Resistors must be placed near the sensor. IU can afford sensor 12 Vdc - 300 mA type.

Connection way for NC and NO contacts

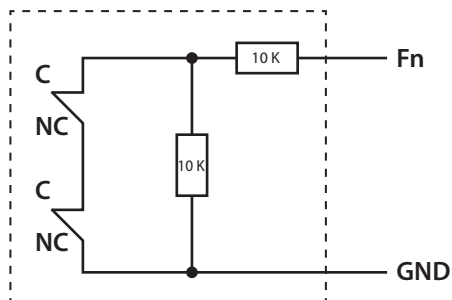
NC mode - SINGLE SENSOR



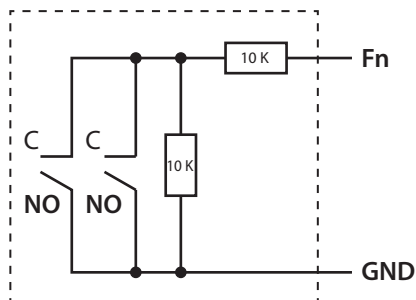
NO mode - SINGLE SENSOR



NC mode - MULTIPLE SENSORS



NO mode - MULTIPLE SENSORS



Connection way for NC and NO contacts				
PIN	ALARM AREA	SENSOR TYPE	SENSOR TYPE	REMARK
F1	SENSOR 1	THEFT ALARM	INFRARED SENSOR	Can use short key to sensor active or idle
F2	SENSOR 2		DOOR SENSOR	
F3	SENSOR 3	FIRE ALARM	SMOKE SENSOR	Can't use short key to let sensor idle
F4	SENSOR 4		GAS SENSOR	
F5	SENSOR 5	THEFT ALARM	Infrared or non-infrared; Default is infrared sensor; User can set it to be non infrared	Can use short key to sensor active or idle
F6	SENSOR 6		Infrared or non-infrared; Default is non-infrared sensor; User can set it to be non infrared	
F7	SENSOR 7		Infrared or non-infrared; Default is infrared sensor; User can set it to be non infrared	
F8	SENSOR 8		Infrared or non-infrared; Default is non-infrared sensor; User can set it to be non infrared	
GND				
+ 12 V				

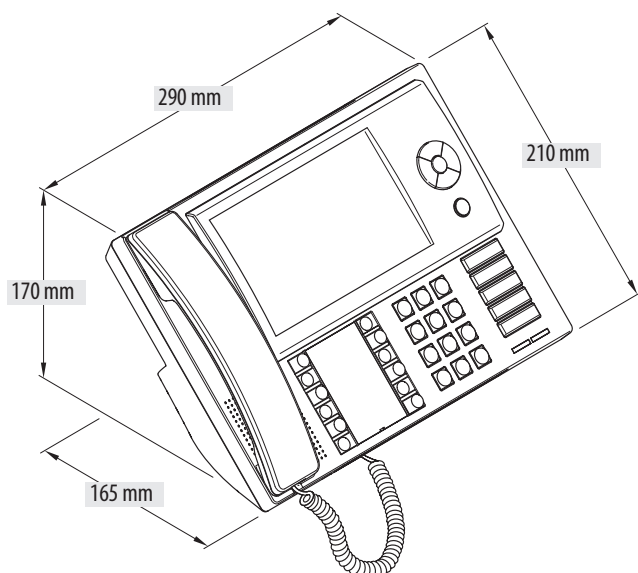
Description

D45 System table top porter switchboard device with high resolution 7" LCD display and icons menu. Able to communicate with handsets, entrance panels and other devices. It manages building incoming calls and alarms. Device can be linked by LAN to other switchboards for the management of larger system. Complete alarms management: receiving, recording and storage of alarms. Management of SOS call records. Provides quick message retrieval by using handset addresses. Possibility to directly connect a coaxial camera.

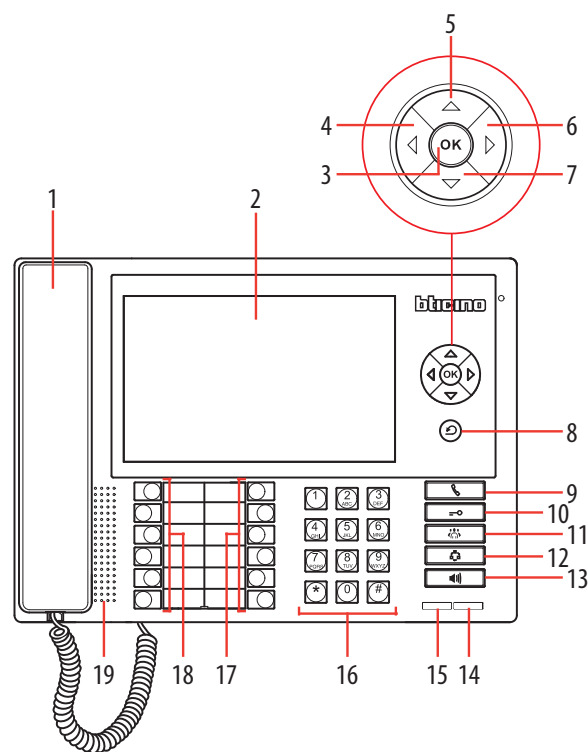
Technical data

Power supply:	30 Vdc
Stand by absorption:	≤ 160 mA @ 30 V
Max. operating absorption:	≤ 280 mA @ 30 V
Operating temperature:	(-10)-(+40)°C
LCD screen:	7" LED backlit 800 x 480 pixel

Dimensional data



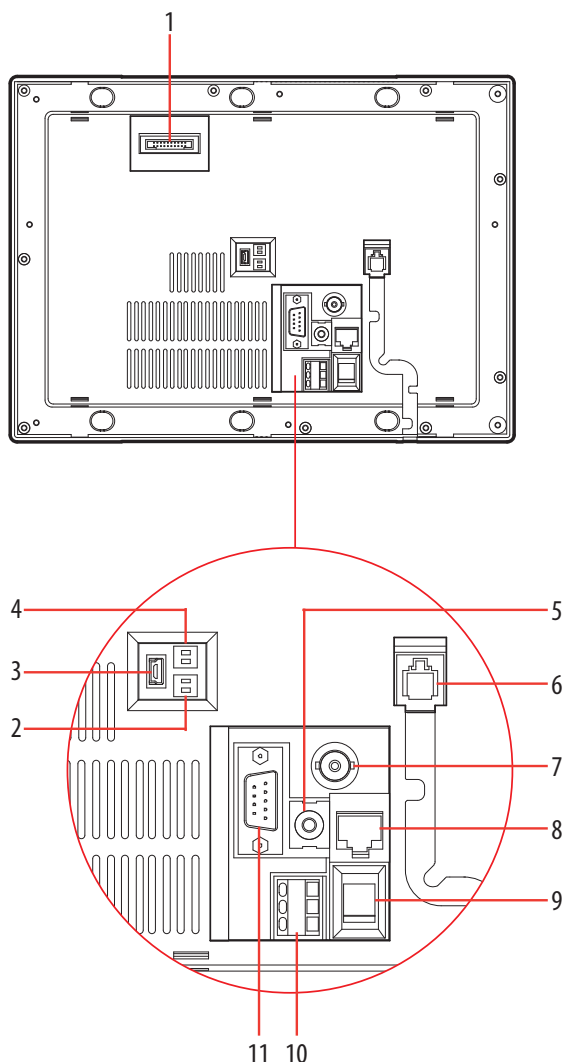
Front view



Legend

1. Handset
2. 7" LCD colour display
3. Menù confirmation key
4. Menù navigation left key
5. Menù navigation up key
6. Menù navigation right key
7. Menù navigation down key
8. Return key
9. Call pushbutton
10. Door lock opening pushbutton
11. Address book access pushbutton
12. Cameras cycling activation pushbutton
13. Handsfree pushbutton
14. SOS LED indicator
15. Communication LED indicator
16. Alphanumerical keyboard
17. User defined keys F07 to F12
18. User defined keys F01 to F06
19. Loudspeaker

Front view

**Legend**

1. JTAG standard connector
2. DIP SWITCH for video output gain setting
3. USB connector
4. DIP SWITCH for video input gain setting
5. RCA video input connector
6. RJ11 connector for dedicated handset
7. BNC video input for external coax camera connection
8. RJ45 connector for D45 system BUS connection
9. Power ON/OFF Switch
10. SOS alarm connector
11. Serial interface (COM alternate) connector

Configuration**Device must be configured for the following parameters :**

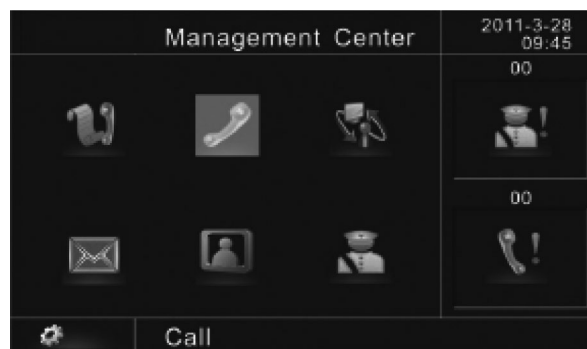
- switchboard local address (0 to 15)
- associated entrance panel address (1 to 80)
- associated handset (optional setting)

Two different device configuration ways available :

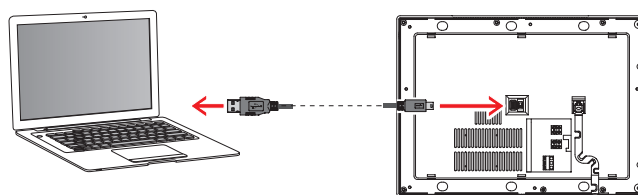
- WAY 1)** configuration settings by device icons on screen menù
WAY 2) configuration by using SF2 Software and PC connection

Configuration settings by device icons on screen menù - **WAY 1 :**

detailed information on functions menù are available on instruction sheet (supplied with the product). Access to the functions menù as for the followings screenshot example:

Configuration settings by using SF2Software and PC connection - **WAY 2 :**

This is the enhanced way to download the device configuration to entrance panel previously created by using SF2 configuration software and a personal computer. To transfer use the configuration hardware tool 323020 serial interface.



WARNING : in order for the communication to take place, device must be powered

Video gain setting

Video gain setting from BUS system to Management Center. Video input gain control. Users have three options according image performances.



Gain setting from Management Center video signal to BUS system.

DIP switch setting instruction

Distance	1	2
0 – 300 m	OFF	OFF
300 – 700 m	ON	OFF
700 – 1000 m	ON	ON

Function features

1. Digital intelligent control. Navigation pushbutton, with graphic icon menu for easy operation. Possibility of real time caller and recipient address information display. Function parameters setup using the menu and possibility of updating the software;
2. Many ways to call and monitor: calling or monitoring by input device (EP/HANDSET/ other Switchboard) address, or by address book;
3. User-defined function shortcut keys: 12 user defined key enabling the user to call handsets, EP and other Switchboard at the press of a button. Entrusted or not can also be shifted by one pushbutton etc.;
4. Management by district: The Switchboard has its own address book for saving handsets, EP, and all Switchboard of the system, providing full district management. These services can all be called using the address book. The address book can be downloaded using the 323020 software;
5. Cycle check: The handset performs real time handset alarm checks to detect any faults. The function is active and the cycle check interval can be set.
6. Sort: system classify main Switchboard and subsystem Switchboards. Main Switchboard can only be installed on backbone BUS. Subsystem Switchboards can be installed on riser BUS.
7. Communication record management: capable of recording thousands of communication records, which are easy to browse;
8. Alarm recording process: possibility of real time check of all alarm sensors with burglar, fire, gas etc. alarm notifications. Easy to view alarm info. Reminder to solve pending alarms through real time indications;
9. Power supply monitor function: capable of monitoring the system power supply;
10. Call forwarding: visitors can call Switchboard from the UEP and the main EP to check resident room number. The Switchboard can forward the UEP and main EP call to the handset. Using this function two handsets can communicate with each other.
11. Cycle monitoring function: it can monitor all main EP and riser EP in succession. No need call them individually;
12. Function transfer: when subsystem Switchboard are left unattended all calls can be transferred to the main Switchboard. When in this mode, sub-menu are unable to answer calls.

Hardware features

1. Using a standard RJ45 interface, making it easy to install and connect different systems as a network, and managed as districts;
2. Audio and video signals are differential signal, and a twisted pair is used for their transmission. The image is clear and stable. It is possible to adjust the video gain and support long distance transmission of audio and video signals;
3. The handsfree can also be connected to entrance panels. Possibility of switching from handsfree communication mode to handset communication with clear intercom effect. 7 inch colour high resolution (800x480) LCD display. It can communicate with and monitor riser and standard EP with high quality audio and video signals. Interface for external camera available. The external camera can be used for video intercom with handsets.
4. higher electronic disturbance immunity performance.

Floor shunt

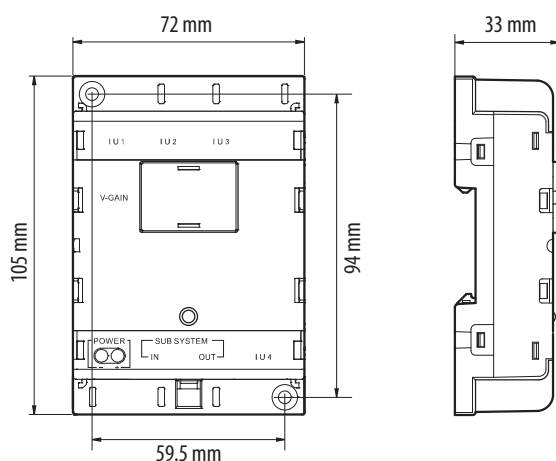
Description

D45 System interface device used to convert video signals on the BUS and then distribute them to the connected handsets. Device to be installed between floors. Each floor shunt can be connected to 4 handsets. Equipped with video gain compensation DIP SWITCH. DIN rail installation.

Technical data

Power supply:	30 Vdc
Stand by current absorption:	≤ 25 mA @ 30 V
Max operating current absorption:	≤ 130 mA @ 30 V
Stand by power consumption:	0.75 W
Operating power consumption:	3.9 W
Operating temperature:	(-10)-(+40)°C

Dimensional data



Video gain settings

Video gain setting instruction (switch up ON, switch down OFF)

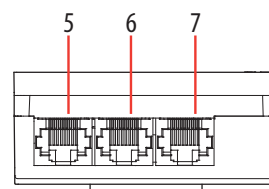


Note: users can switch the DIP switch to adjust according to the actual video conditions.

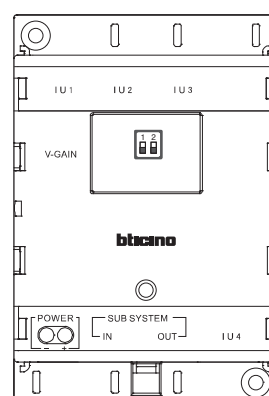
	Distance	1	2
B/W Signal	1000-1500 m	ON	OFF
	1500 - 2000 m	ON	ON

NOTE : for video colour signal ≤ 1000 m please take into account the actual image quality when setting data

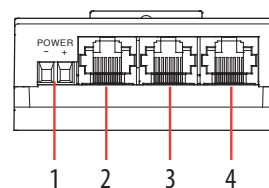
Upper view



Front view



Lower view



Legend

1. Additional Power supply connector 30 Vdc
2. Riser system BUS input connector to connect last 323002 SUB SYSTEM OUT connector or 323003 SUB SYSTEM connector
3. Riser system BUS output connector to connect next 323002 SUB SYSTEM IN connector
4. RJ45 System BUS (IU4) HANDSET connector
5. RJ45 System BUS (IU1) HANDSET connector
6. RJ45 System BUS (IU2) HANDSET connector
7. RJ45 System BUS (IU3) HANDSET connector

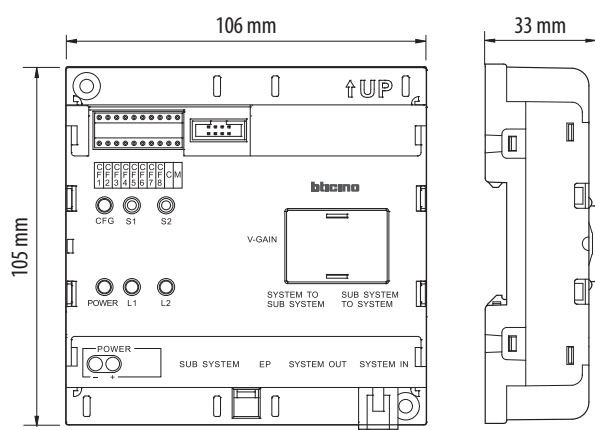
Description

D45 system interface device used to connect riser BUS and system BUS in order to separate BUS, transfer signal and switch between video and audio channels. The device has five RJ45 connectors, which are for riser BUS input/ output, system BUS input/ output. The last RJ45 and two other connectors are designed to connect the riser system to the main power supply. The device also has two 4-gear video gain DIP switches for video channel distance settings. The video transfer distance can be increased by adjusting the gain. By installing several 323003 in cascade, the riser systems can be connected as a network and managed as districts.

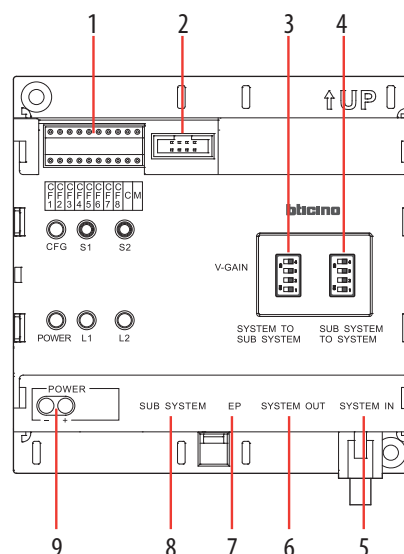
Technical data

Power supply:	30 Vdc
Stand by current absorption:	≤ 60 mA @ 30 V
Max. operating current absorption:	≤ 110 mA @ 30 V
Stand by power consumption:	1.8 W
Operating power consumption:	3.3 W
Operating temperature:	(-10)-(+40)°C

Dimensional data



Front view

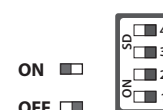


Legend

1. Configurators housing
2. Serial interface connector for PC configuration download and software update
3. Video gain settings DIP SWITCH from system BUS to riser indoor units
4. Video gain settings DIP SWITCH from riser entrance panel to system BUS
5. RJ45 System INPUT BUS connector. Connect last 323003 device system OUTPUT interface or vacancy
6. RJ45 System OUTPUT BUS connector. Connect system INPUT interface of next 323003 device or 323001 device related interface
7. RJ45 Riser entrance panel output connector
8. RJ45 Input riser system connector. SUB SYSTEM INPUT interface for 323002
9. Riser system power supply input connector

Video gain settings

DIP switch setting instruction



	Distance	1	2	3	4
COLOUR VIDEO SIGNAL	0 – 300 m	OFF	OFF	OFF	OFF
	300 – 700 m	ON	OFF	OFF	OFF
	700 – 1000 m	ON	ON	OFF	OFF
B/W VIDEO SIGNAL	1000 – 1500 m	ON	ON	ON	OFF
	1500 – 2000 m	ON	ON	ON	ON

Configuration

Device must be configured for following parameters:

CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
N	N	N	N	#F	#F	#I	#I	C	M
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

NNNN : Number of riser shunts

#FF : Floor quantity in a riser

#II : Maximum apartments quantity per floor in a riser

C : The switchboard number which is the first priority for this Riser.

If the number of switchboard is higher than 9 (from 10 to 15), this parameter can only be set by riser shunt pushbuttons or by system configuration tool software interface.

M : System configuration mode. If you choose MODE 1 or MODE 2 configuration way, this parameter is 0. If you set 2, it means this riser shunt is used inside riser to extend the maximum number of IUs (from 400 IUs to 800 IUs)

Two different configuration modes available for whole system:

configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of #FF in whole system is ≤ 20 , and the biggest number of #II is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose (**MODE 1**) configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use (**MODE 2**) configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number ($\#FF * \#II * R$) is less or equal 4000, use of (**MODE 2**) is suggested.

POSITION	MODE 1	MODE 2
CF1	NNNN	NNNN
CF2		
CF3		
CF4		
CF5	#FF is 20(default). No need for configuration	#FF (#II setup using same value for all system riser shunts).
CF6		
CF7	#II is 4(default). No need for configuration	#II (#II setup using same value for all system riser shunts).
CF8		
C	C	C
M	M	M

Two different device configuration ways available :

WAY 1) Configuration settings by inserting physical configurators

WAY 2) Configuration by using SF2 Software and PC connection

Configuration settings by inserting physical configurators - WAY 1 :

Physical connection for the configurators to their sockets

CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
N	N	N	N	#F	#F	#I	#I	C	M
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

Configuration examples :

Example (A):

The number of riser shunts is 5, each riser has 20 floors, and each floor has 4 handsets. The Switchboard that can be called directly by this riser is no. 2. System configuration mode 1 is used. The riser shunt configuration should be as follows:

POSITION	MODE 1	VALUE FOR CONFIGURATOR	REMARKS
CF1	N	0	0 no config needed
CF2	N	0	0 no config needed
CF3	N	0	0 no config needed
CF4	N	5	
CF5	#F		#FF is 20(default).
CF6	#F		No need for configuration
CF7	#I		#II is 4(default).
CF8	#I		No need for configuration
C	C	2	
M	M	0	0 no config needed

CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
N	N	N	N	#F	#F	#I	#I	C	M
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	0	0	5					2	0

Example (B):

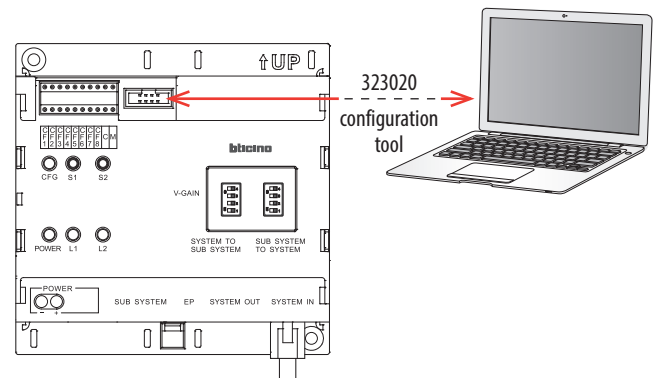
The number of riser shunts is 5, each riser has 25 floors, and each floor has 8 handsets. The Switchboard that can be called directly by this riser is no. 2 System configuration mode 2 is used. The riser shunt configuration should be as follows:

POSITION	MODE 1	VALUE FOR CONFIG.	REMARKS
CF1	N	0	It is ok not to insert configurator 0
CF2	N	0	It is ok not to insert configurator 0
CF3	N	0	It is ok not to insert configurator 0
CF4	N	5	
CF5	#F	2	
CF6	#F	5	
CF7	#I	0	It is ok not to insert configurator 0
CF8	#I	8	
C	C	0	It is ok not to insert configurator 0
M	M	0	It is ok not to insert configurator 0

CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
N	N	N	N	#F	#F	#I	#I	C	M
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	0	0	5	2	2	2	8	0	0

Configuration by using SF2 Software and PC connection - WAY2:

This is the enhanced way to download the device configuration to floor shunt device previously created by using SF2 configuration software and a personal computer. To transfer use the configurator hardware tool 323020 serial interface.



WARNING: in order for the communication to take place, device must be powered and not physically configured.

For configuration **MODE 1** and **MODE 2**, if riser shunt chooses configuration by configurator, following conditions must be met:

Number of all the riser shunt in the system should be running number (sequential).

Can not miss any one. It is a must to start from 1.

Riser shunt software version on or above V.2 added riser EP offset configuration item. This item should be downloaded by 323020 (version on V0.7 or later version have this function). This added configuration is for compatibility between D45 system and BT two-wire system. If the projects don't need these two system compatibility, you don't need to configure this item.

EP range of each cell in D45 system is 1 to 80. Main EP range is also 1 to 80, that means whole system main EP number QTY achieve 80, and riser EP number is 80*X (X means cell QTY).

But after D45 and BT two wire system compatibility, each riser EP and main EP can't separately have number 1 to 80. Main EP QTY and all riser EP total QTY can't exceed 80, that means whole system riser EP QTY+main EP QTY ≤ 80.

Example

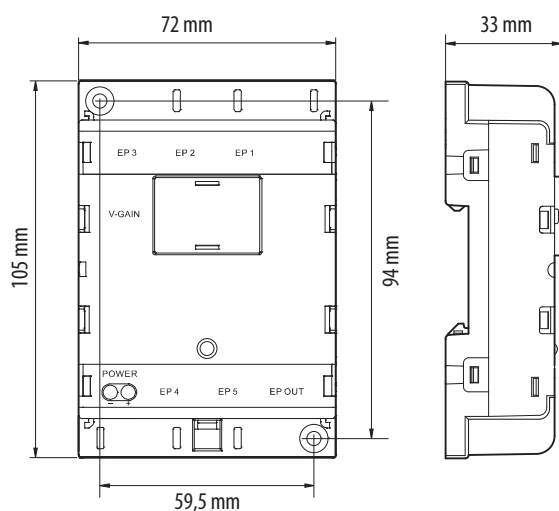
If D45 system should be compatible with BT system, there are two D45/IP interfaces used in system. First D45/IP interface-1 connect 2 main EP and 3 cells (Cell 1,2,3), each cell has one EP; second D45/IP interface-2 connect 0 main EP and 3 cells (cell 4,5,6), cell 4 and cell 6 connect 1 EP each, cell 5 connect 2 EP.

Description

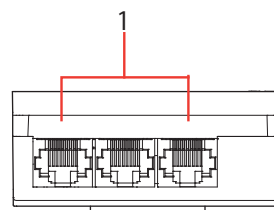
D45 System interface device used to mix signals coming from 5 entrance panels.
The video transfer distance can be adjusted by setting the gain adjustment DIP SWITCH.
DIN RAIL installation.
Possibility to connect in cascade several entrance panel video mixer.

Technical data

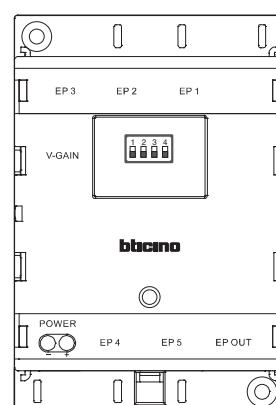
Power supply:	30 Vdc
Stand by current absorption:	≤ 20 mA @ 30 V
Max operating current absorption:	≤ 60 mA @ 30 V
Stand by power consumption:	0.6 W
Operating power consumption:	1.8 W
Operating temperature:	(-10)-(+40)°C

Dimensional data

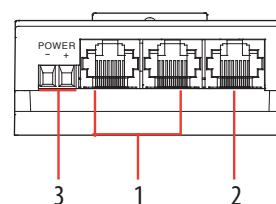
Upper view



Front view



Lower view

**Legend**

1. RJ45 System BUS entrance panels (EP1 to EP5) connections
2. RJ45 Entrance panels output connector. Connect to D45 system BUS
3. 30 Vdc power supply input connector

Video gain settings

DIP switch setting instruction



	Distance	1	2	3	4
Colour signal	0 – 300 m	OFF	OFF	OFF	OFF
	300 – 700 m	ON	OFF	OFF	OFF
	700 – 1000 m	ON	ON	OFF	OFF
B/W signal	1000 – 1500 m	ON	ON	ON	OFF
	1500 – 2000 m	ON	ON	ON	ON

Power supply

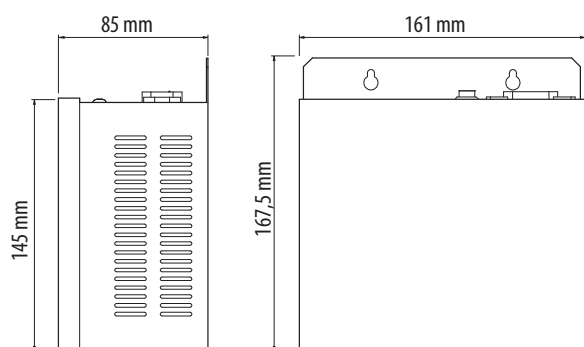
Description

D45 System power supply able to supply power on the data communication cable and simultaneously provide impedance matching for the audio channel. Protected against short circuit, if a DC output short cut occur, device will switch automatically to protected mode. Can be set to operate as main or auxiliary power supply. Wall mount installation.

Technical data

Input voltage:	100 – 265 Vac
Rated output voltage:	30.5 Vdc +/- 0.5 V
Rated output current:	2 A @ 30 V
Terminal rated output voltage:	27.6 Vdc
Terminal rated output current:	0.5 A
Operating temperature:	(-10)-(+40)°C

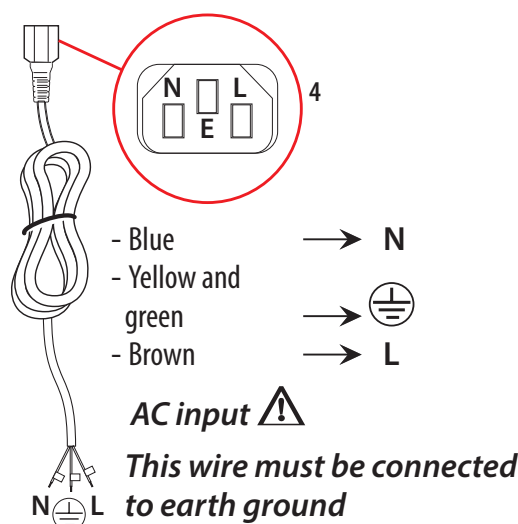
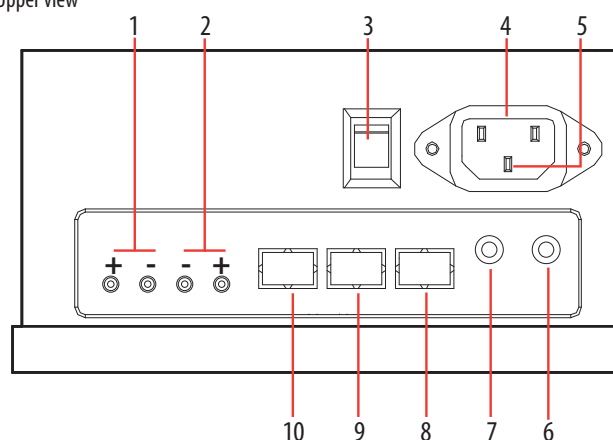
Dimensional data



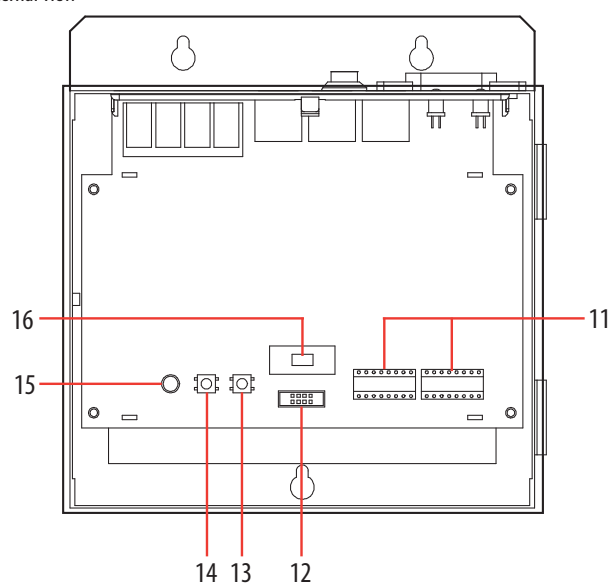
Legend

1. External battery connection (optional)
2. Power output connection
3. ON/OFF Switch
4. AC INPUT socket connector
5. Protect earth
6. Low voltage status LED: red light ON = low voltage
7. Power status LED: RED light ON = power OFF
GREEN light ON = power ON
8. RJ45 System BUS connector
9. RJ45 System BUS + power connector
10. RJ45 System BUS + power connector
11. Configurators housing
12. Serial interface connector
13. S2 configuration pushbutton (NOT USED)
14. S1 configuration pushbutton (NOT USED)
15. Configuration status LED
16. Impedance setting switch (see Impedance switch settings)

Upper view



Internal view



Impedance switch settings

- ☐ **ON** When impedance switch is **ON**, 323005 is set as **system power supply**: supply power to data communication cable and input audio impedance.
- ☐ **OFF** When impedance switch is **OFF**, 323005 is set as **additional power supply**: will not supply power to data communication cable and cut audio impedance.

Configuration

Two different configuration modes available for whole system: configuration MODE 1 and configuration MODE 2. The main characteristics for each configuration mode are listed below.

When the biggest number of #FF in whole system is ≤ 20 , and the biggest number of #II is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose **(MODE 1)** configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use **(MODE 2)** configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number ($\#FF * \#II * R$) is less or equal 4000, use of **(MODE 2)** is suggested.

Device must be configured in order to set power supply's address, address range or floor range powered by device, power supply type (system supply, additional supply), alarm current that power supply offers to each IU, enable or disable smart power supply and PW management and select system configuration mode. Only with correct configuration of power supply, system can work normally.

Power supply must be configured for following parameters:

N	N	N	CF4	CF5	CF6	CF7
⊙	⊙	⊙	⊙	⊙	⊙	⊙
N	N	N	FF min	FF min	#II	#II
⊙	⊙	⊙	⊙	⊙	⊙	⊙

CF8	CF9	CF10	CF11	TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
FF max	FF max			TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

MEANING OF EACH CONFIGURATOR SOCKET PIN

CONFIGURATION	MODE 1 (1 PWS FOR EACH FLOOR)	MODE 2
N	NNN	NNN
N		
N		
CF4	FF Min	FF Min
CF5		
CF6		#II
CF7		
CF8	FF Max	FF Max
CF9		
CF10		
CF11		
Type	Type	Type
ASR	ASR	ASR
M	M	M
LE	LE	LE

- NNN:** Power supply address (range 1 to 256), only when Type = 1 power supply address will be valid. It means when Type = 0, no need to configure NNN
- FF Min:** The floor number where this power management starts from
- FF Max:** The floor number where this power management ends (FF Max must be over or equal to FF Min)
- #II:** apartment number for each floor (at mode 1, the default number is 4, no setting is required)
- Typ:** Configuration position for power supply function. Used to enable or disable power supply management function and smart power function
- ASR:** Set how much current power supply will offer to each IU for alarm
- M:** Position to choose configuration MODE. Inserting configurator 0 means choose MODE 1 or MODE 2; inserting configurator 1 means choose MODE 3
- LE:** Configuration position for smart power supply management. Only valid when Type = 1. When Type = 0, no need to configure this position.

TYP:

configuration position for power supply function

(√ means have this function, × means do not have this function).

TYP	POWER SUPPLY MANAGEMENT FUNCTION	SMART POWER FUNCTION
0	×	×
1	√	√
2	×	√

Power supply management :

In system having standby battery (OPTIONAL), when A/C is cut, IU will be informed to enter energy-saving mode to save energy for alarm function.

For system with alarm function and battery, is suggested to set power supply management function ON.

Smart power supply :

This allows connection of the maximum quantity of working Small EP when power is normally supplied. For those projects, we suggest to use Power supply as assistant power supply and keep smart power function ON. When Type = 0, no configuration is necessary.

ASR = ALARM SINKING RESERVE OF EACH APARTMENT SUPPLIED BY THE PS	
0	300 mA (Default Max)
1	0 mA
2	50 mA
3	85 mA
4	120 mA
5	150 mA
6	180 mA
7	210 mA
8	240 mA
9	270 mA

LE : configuration position for smart power supply function :

this position manage when to enter energy-saving mode under different situations.

0 Energy saving mode

1 NO Energy saving mode

NOTE : in energy saving mode, when entrance panel, small EP (SEP) or switchboard call the internal units, the relative monitor remain OFF. Internal unit can't monitoring the entrance panel and cannot perform Intercom functions.

One different device configuration way available :

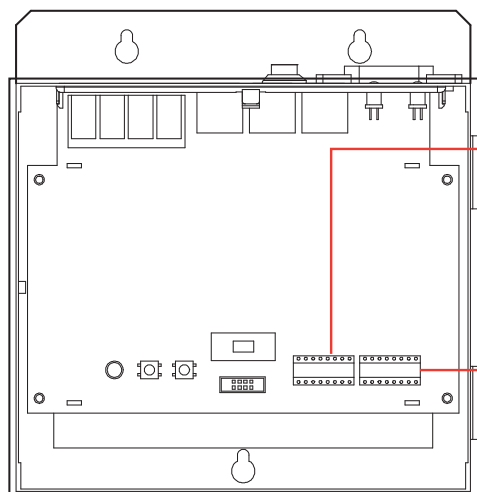
WAY 1) Configuration settings by inserting physical configurators

Configuration

Configuration settings by inserting physical configurators - WAY 1:

Physical connection for the configurators to their sockets

Example (A)



N	N	N	CF4	CF5	CF6	CF7
⊙	⊙	⊙	⊙	⊙	⊙	⊙
N	N	N	FF min	FF min	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	1	2	0	1		

CF8	CF9	CF10	CF11	TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
FF max	FF max			TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	2			1	0	0	0

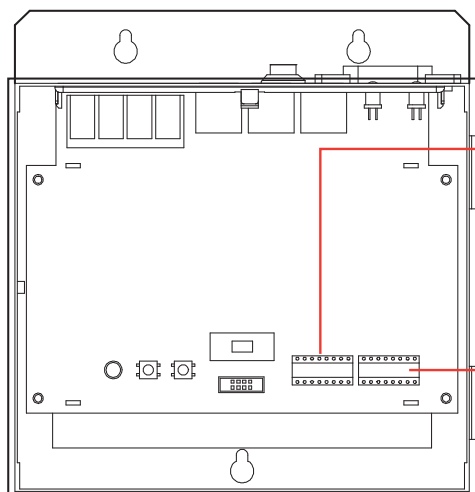
Example (A)

This riser has 20 floors, and each floor has 4 IUs. This power supply manages 1-2 floor. If need open smart power function and power management function, the power supply address is 12, max current of alarm sensor is 300 mA. System use MODE 1 configuration method. Power supply configuration should be as following:

POSITION	MODE 1	VALUE FOR CONFIGURATOR	REMARKS
CF1	N	0	
CF2	N	1	
CF3	N	2	
CF4	FF Min	0	
CF5	FF Min	1	
CF6	#I		Default is 4 apartments. 0 means 4 apartments0.
CF7	#I		
CF8	FF Max	0	
CF9	FF Max	2	
CF10	CF10		For mode 1 and mode 2, CF10 and CF11 do not apply
CF11	CF11		
CF12	Type	1	
CF13	ASR	0	
CF14	M	0	
CF15	LE	0	

Configuration

Example (B)



N	N	N	CF4	CF5	CF6	CF7
⊙	⊙	⊙	⊙	⊙	⊙	⊙
N	N	N	FF min	FF min	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	1	2	0	1	0	5

CF8	CF9	CF10	CF11	TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
FF max	FF max			TYP	ASR	M	LE
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	2			1	0	0	0

Example (B)

This riser has 20 floors, and each floor has 5 IUs. This power supply manages 1-2 floors. If need open smart power function and power management function, the power supply address is 12, max current of alarm sensor is 300 mA. System use MODE 2 configuration method. Power supply configuration should be as following :

POSITION	MODE 1	VALUE FOR CONFIGURATOR	REMARKS
CF1	N	0	
CF2	N	1	
CF3	N	2	
CF4	FF Min	0	
CF5	FF Min	1	
CF6	#I	0	
CF7	#I	5	
CF8	FF Max	0	
CF9	FF Max	2	
CF10	CF10		Here configuration is not necessary for mode 1 and mode 2
CF11	CF11		
CF12	Type	1	
CF13	ASR	0	
CF14	M	0	
CF15	LE	0	

Configuration

Choosing system power solution:

- **Solution 1:** PWS 323005 will be chosen as system power supply inside riser while auxiliary PWS (323010) will be chosen for all the assistant power supply.
- **Solution 2:** PWS 323005 will be chosen for both system power supply inside riser and assistant power supply.

Note: when the system has Small EP, solution 2 will be helpful to avoid possible damage to the power supply in the system. When the system has IU connected with Small EP, at some occasions, if several Small EPs call IU at the same time, it will make power supply overloaded.

Under this situation, the power supply is at risk to be damaged.

Suggested power supply solution and related configuration:

NO.	SYSTEM		PWS SOLUTION	CONFIGURATION WHEN PWS IS SYSTEM POWER SUPPLY (IMPEDANCE SWITCH OF PWS MUST BE ON)						CONFIGURATION OF PWS AND AUXILIARY PWS WHEN PWS IS AUXILIARY POWER SUPPLY (IMPEDANCE SWITCH OF POWER SUPPLY MUST BE OFF)					
	ALARM	SMALL EP		CF1 ~ CF3 (NNN)	CF4 ~ CF11	CF12 (TYPE)	CF13 (ASR)	CF14 (M)	CF15 (LE)	CF1 ~ CF3 (NNN)	CF4 ~ CF11	CF12 (TYPE)	CF13 (ASR)	CF14 (M)	CF15 (LE)
1	No	No	1	X	X	X	X	X	X	Here use Auxiliary Power supply, configuration is not necessary.					
2	No	No	1	X	X	X	X	X	X						
3	Yes	No	1	X	X	X	X	X	X						
4	Yes	No	1	NNN	X	1	0.2~9	1	X						
5	No	Yes	2	NNN	√	1	1	0/1	X	X	√	2	1	0/1	X
6	No	Yes	2	NNN	√	1	1	0/1	X	X	√	2	1	0/1	X
7	Yes	Yes	2	NNN	√	1	0.2~9	0/1	X	X	√	2	0.2~9	0/1	X
8	Yes	Yes	2	NNN	√	1	0.2~9	0/1	X	X	√	2	0.2~9	0/1	X

Note: X = means no need any configurator, it also means the configuring position is 0; others need configurator with requested value. √ = means need configuration here.

2 branches video splitter

Description

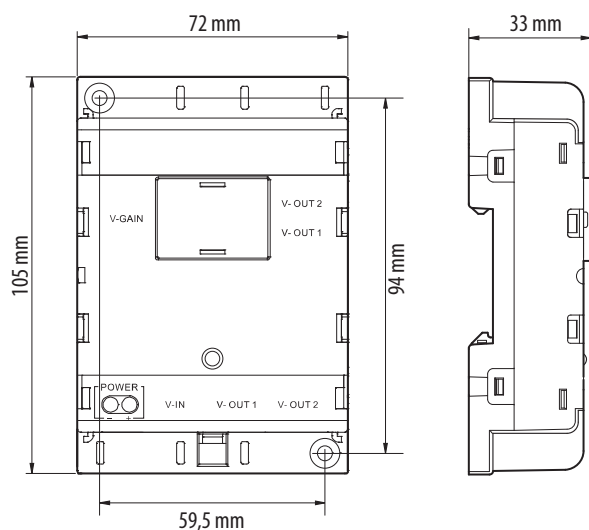
D45 System interface device used to splits the BUS signal into two channels where the video signal can only be transferred from input to output. It provides compensation to the two channels separately and adapts the video signal output from the entrance panel for different distances by video gain settings DIP SWITCH. Mainly used in riser system to divide the riser BUS into several channels. Example : one building particularly high, will use 323007 to adjust video gains by splitting in two channels. One channel is used for lower floors, the other for higher floors. Device can also be used for physically connect the porter switchboard and extend the switchboard installation (in this case, if the switchboard is fitted with a camera, the video signal cannot be transmitted to the handset).

DIN RAIL installation.

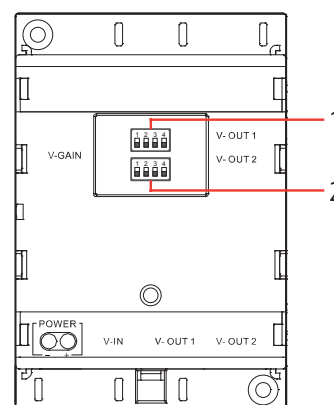
Technical data

Power supply:	30 Vdc
Stand by current absorption:	≤ 25 mA @ 30 V
Max operating current absorption:	≤ 70 mA @ 30 V
Stand by power consumption:	0.75 W
Operating power consumption:	2.1 W
Operating temperature:	(-10)-(+40)°C

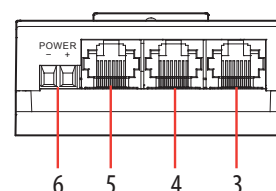
Dimensional data



Front view



Lower view



Legend

1. Branch 1 video gain setting DIP SWITCH
2. Branch 2 video gain setting DIP SWITCH
3. Branch 2 RJ45 System BUS output connector
4. Branch 1 RJ45 System BUS output connector
5. RJ45 System BUS input connector
6. Auxiliary power supply input connector (30 V)

Video gain setting



DIP switch setting instruction

	Distance	1	2	3	4
Colour signal	0 – 300 m	OFF	OFF	OFF	OFF
	300 – 700 m	ON	OFF	OFF	OFF
	700 – 1000 m	ON	ON	OFF	OFF
B/W signal	1000 – 1500 m	ON	ON	ON	OFF
	1500 – 2000 m	ON	ON	ON	ON

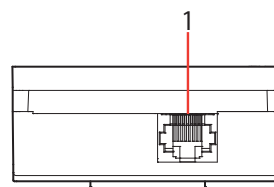
Description

D45 System interface device to be used when the apartment has 2 or 3 handsets.
The interface must be installed between floor shunt 323002 and the indoor handsets.
DIN RAIL installation.

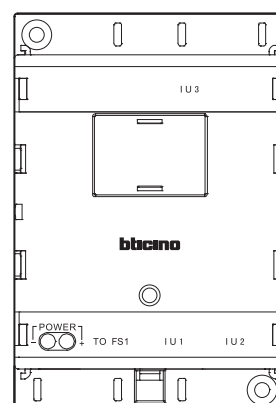
Technical data

Power supply :	30 Vdc
Stand by current absorption:	$\leq 40 \text{ mA @ } 30 \text{ V}$
Max. operating current absorption:	$\leq 140 \text{ mA @ } 30 \text{ V}$
Stand by power consumption :	1.2 W
Operating power consumption :	4.2 W
Operating temperature:	$(-10) - (+40)^\circ\text{C}$

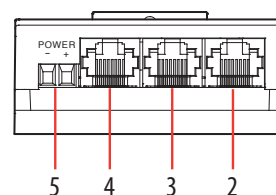
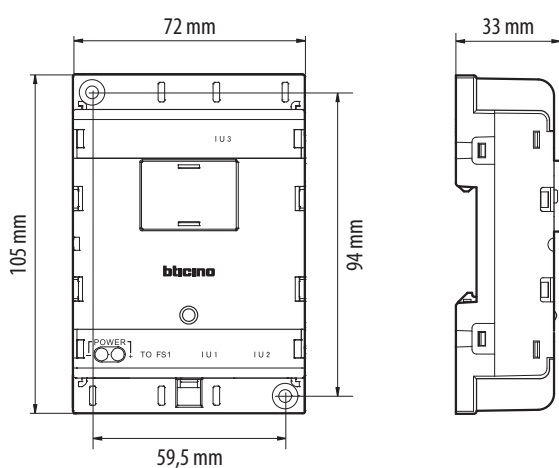
Upper view



Front view



Lower view

**Dimensional data****Legend**

1. RJ45 Internal unit handset 3 connection
2. RJ45 Internal unit handset 2 connection
3. RJ45 Internal unit handset 1 connection
4. RJ45 System BUS connector - to floor shunt device
5. Auxiliary power supply input connector (30 V)

Apartment interface

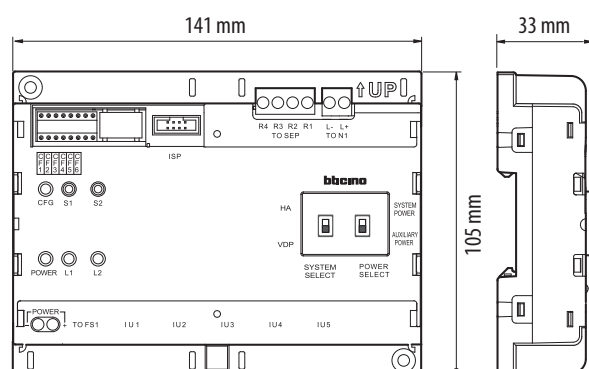
Description

D45 System interface device used to expand the number of indoor handsets and add a secondary entrance panel. Each apartment interface can connect 5 handsets and 1 entrance panel, providing the intercom function and call or monitoring function of the entrance panel. DIN rail installation. Device must be configured.

Technical data

Power supply:	30 Vdc
Stand by current absorption:	$\leq 40 \text{ mA @ } 30 \text{ V}$
Max. operating current absorption:	$\leq 140 \text{ mA @ } 30 \text{ V}$
Stand by power consumption:	1.2 W
Operating power consumption:	4.2 W
Operating temperature:	$(-10)-(+40)^{\circ}\text{C}$

Dimensional data



Configuration

Two different configuration modes available for whole system : configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

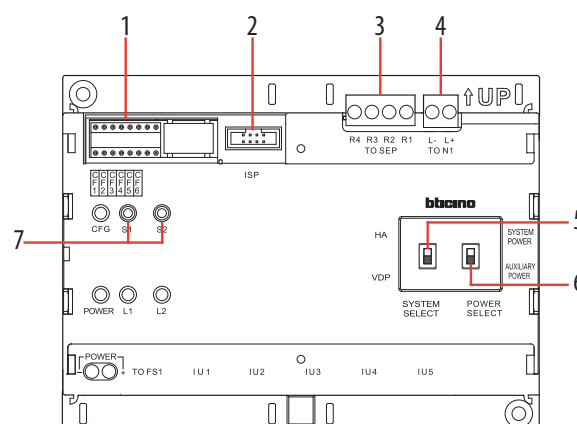
When the biggest number of #FF in whole system is ≤ 20 , and the biggest number of #II is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose (**MODE 1**) configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use (**MODE 2**) configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number ($\#FF * \#II * R$) is less or equal 4000, use of (**MODE 2**) is suggested.

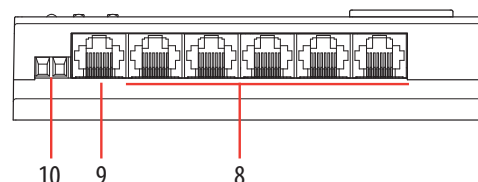
Two different device configuration ways available:

- WAY 1) Configuration settings by inserting physical configurators
- WAY 2) Configuration by using SF2 Software and PC connection

Front view



Lower view



Legend

1. Configurators housing
2. Serial interface connector for PC configuration and firmware update
3. Analogue small entrance panel connections
4. Electrical door lock connector
5. Switch for system mode selection:
 - (HA) position = home automation system
 - (VDP) position = video door entry system
6. Power supply source selection switch :
 - SWITCH UP position = system power supply power source enabled
 - SWITCH DOWN position = auxiliary power supply source enabled
7. S1 - S2 Manual device configuration pushbuttons (NOT USED)
8. IU1 to IU5 RJ45 Indoor handsets connectors
9. RJ45 floor shunt connector
10. Auxiliary power supply input connector (30 V)

Configuration by inserting physical configurators - WAY 1:

⊙	⊙	⊙	⊙	⊙	⊙
F	F	I	I	#I	#I
⊙	⊙	⊙	⊙	⊙	⊙

Code for the configuration place - meaning of the configuration place:

CONFIGURATION PLACE	MODE 1	MODE 2	DIRECTIONS
CF1	FF	FF	FF is the Device floor number (Tens at the front)
CF2			
CF3	II	II	II means the Device apartment number (Tens at the front)
CF4			
CF5		#II	#If we have four households on each floor (tens at the front): #II is for 0 (or no configuration resistor), the default is 4 households. The building is 20 floors.
CF6			





































With 4 apartments at each floor and a total of not over 20 floors, you can configure as per **MODE 1** (The floor number is from 1 to 20 and the apartment number is from 1 to 4); if not so, you must use **MODE 2** for the configuration.

Configuration examples:

EXAMPLE (A) - Apartment interface there are 20 floors in 323009 unit, with four houses at each floor. When the house number is 1204, 323009 can be configured as per **MODE 1**.

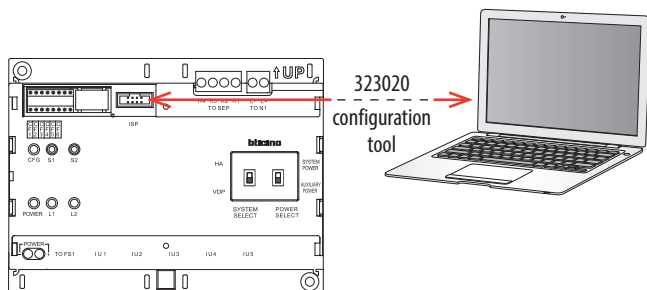
CONFIGURATION PLACE	CONFIGURATION VALUE	REMARKS	CONFIGURATION DIAGRAMS														
CF1	1	FF=12	<table><tr><td></td></tr><tr><td>F</td><td>F</td><td>I</td><td>I</td><td>#I</td><td>#I</td></tr><tr><td></td></tr><tr><td>1</td><td>2</td><td>0</td><td>4</td><td>0</td><td>0</td></tr></table>		F	F	I	I	#I	#I		1	2	0	4	0	0
F	F	I		I	#I	#I											
1	2	0		4	0	0											
CF2	2																
CF3	0	II=04															
CF4	4																
CF5	0	#II is configured as 0 and the system will default the house number at each floor as 4.															
CF6	0																

EXAMPLE (B) - If the room number is 1206 and the apartment number at each floor is 8, then device must be configured as per **MODE 2**.

CONFIGURATION PLACE	CONFIGURATION VALUE	REMARKS	CONFIGURATION DIAGRAMS																								
CF1	1	FF=12	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>F</td><td>F</td><td>I</td><td>I</td><td>#I</td><td>#I</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>2</td><td>0</td><td>6</td><td>0</td><td>8</td></tr></table>							F	F	I	I	#I	#I							1	2	0	6	0	8
																											
F	F	I		I	#I	#I																					
																											
1	2	0		6	0	8																					
CF2	2																										
CF3	0	II=06																									
CF4	6																										
CF5	0	#II=08																									
CF6	8																										

Configuration by using SF2 Software and PC connection - WAY 2:

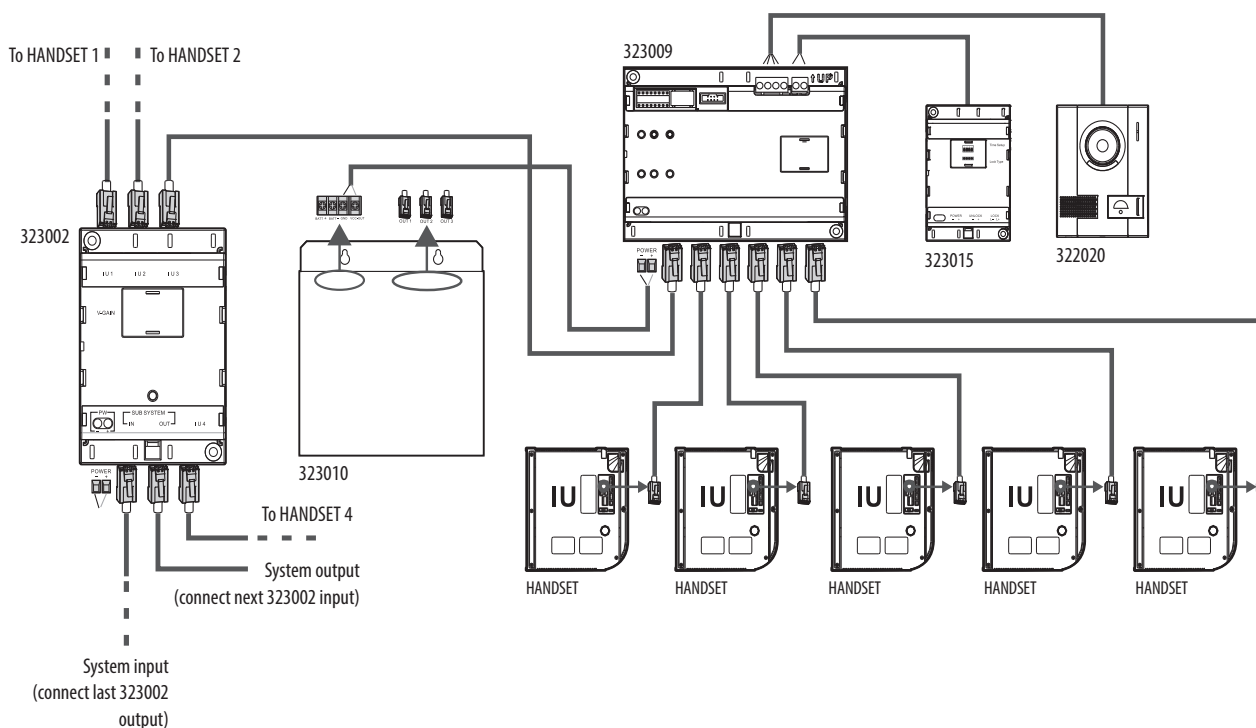
This is the enhanced way to download the device configuration to apartment interface device previously created by using SF2 configuration software and a personal computer. To transfer use the configurator hardware tool 323020 serial interface.



WARNING: in order for the communication to take place, device must be powered and not physically configured.

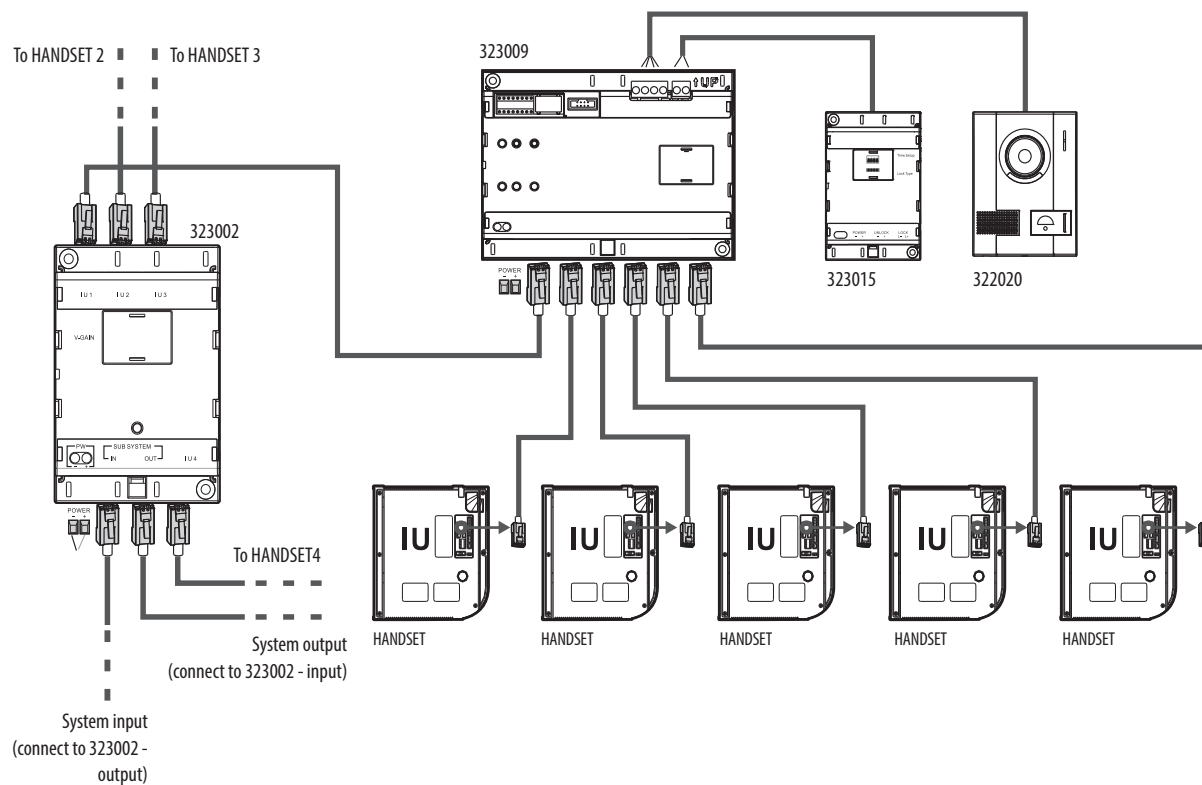
Wiring diagram**Typical Wiring Diagram 1**

Remarks: we suggest to use auxiliary power supply. If the power consumption of five indoor units is not more than the supply of one power supplier, then these five indoor units can be all set as the master indoor units.



Typical Wiring Diagram 2

Remarks : If powered through the unit BUS system, only one indoor unit can be set as the master indoor unit.



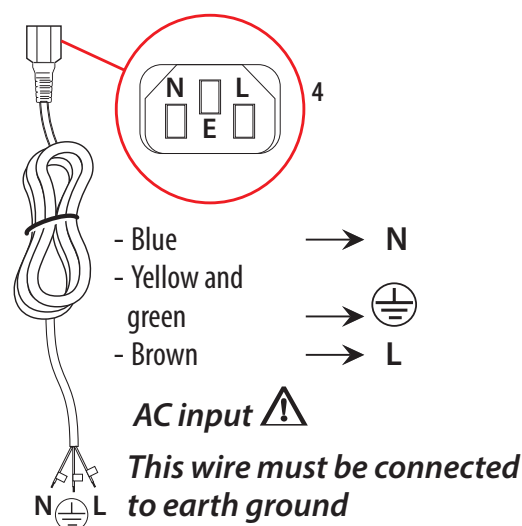
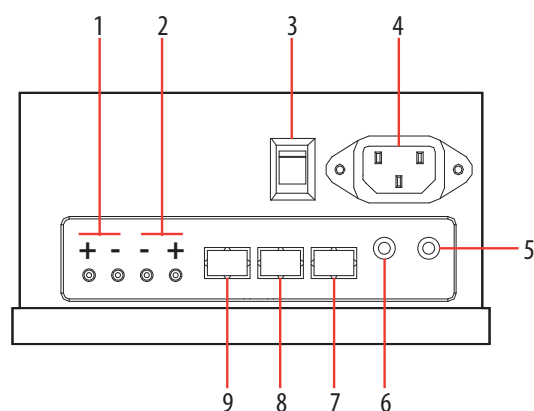
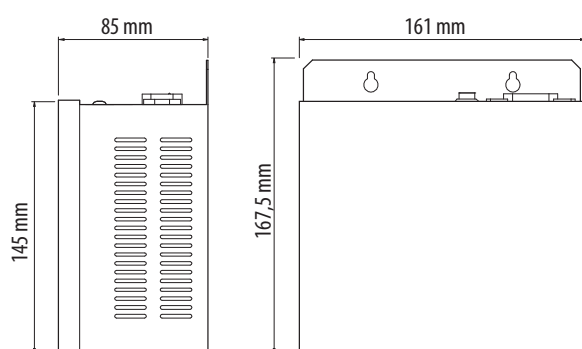
Description

D45 System auxiliary power supply. Protected against short circuit, if a DC output short cut occur, device will switch automatically to protected mode. Can be only used as additional power supply. No configuration required. Wall mount installation.

Technical data

Input voltage: 100 – 265 Vac
 Rated output voltage: 30.5 Vdc +/- 0.5 V
 Rated output current: 2 A @ 30 V
 Operating temperature: (-10)-(+40)°C

Upper view

**Dimensional data****Legend**

1. External battery connection (optional)
2. Power output connection
3. ON/OFF Switch
4. input power plug (100 - 265 Vac)
5. Low voltage status LED: red light ON = low voltage
6. Power status LED: RED light ON = power OFF
GREEN light ON = power ON
7. RJ45 System BUS connector
8. RJ45 System BUS + power connector
9. RJ45 System BUS + power connector

D45/IP interface

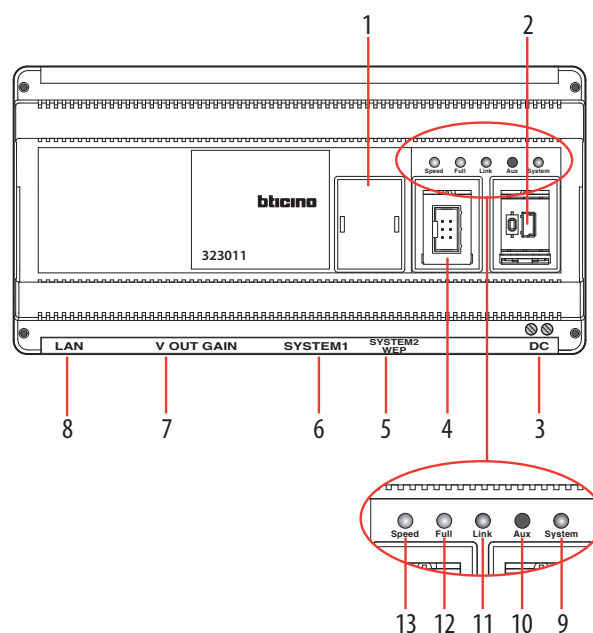
Description

D45 System interface to be used for D45 to BTicino 2 WIRE/IP system in order to realize mixed installations. Device must be configured with the special purpose configuration software D45/IP interface Config 2.0. DIN rail installation.

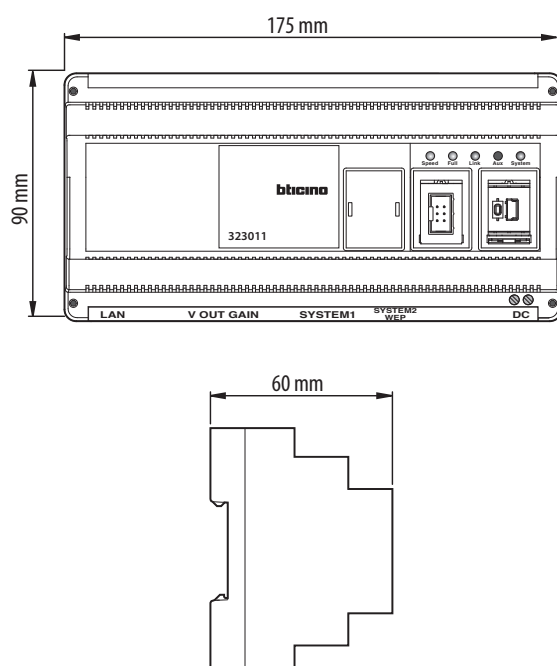
Technical data

Power supply: 30 Vdc
 Stand by absorption: $\leq 130 \text{ mA@30 V}$
 Max operating absorption: $\leq 230 \text{ mA@30 V}$
 Operating temperature: $(-10)-(+40)^{\circ}\text{C}$

Front view



Dimensional data



Legend

1. Configurators housing
2. USB interface port for configuration download and firmware update
3. Auxiliary power supply input connector 30 Vdc
4. Serial RS 232 interface port
5. SYSTEM 2 RJ45 connector for D45 main entrance panel connection
6. SYSTEM 1 RJ45 connector for D45 system BUS connection (connect to system riser shunt)
7. Video gains setting DIP SWITCH
8. RJ45 Ethernet connection for 10/100 Mbit Ethernet LAN
9. Interface working status LED - LED ON = device is working
10. NOT USED pushbutton
11. LINK indication LED - LED ON = presence of Ethernet network
12. FULL indication LED - LED ON = full duplex - LED OFF = half duplex
13. SPEED indication LED - LED ON = 100 Mbit speed connection
LED OFF = 10 Mbit speed connection

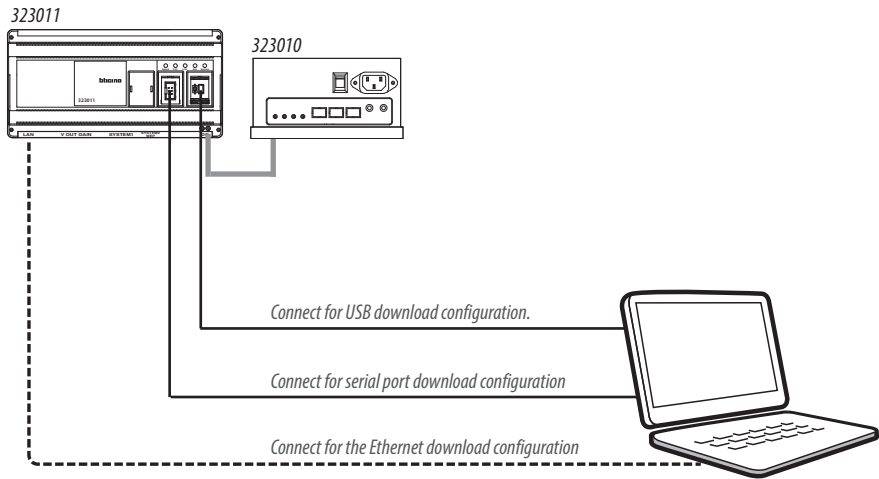
Configuration

Interface device must be configured by using the specific software and PC connection:

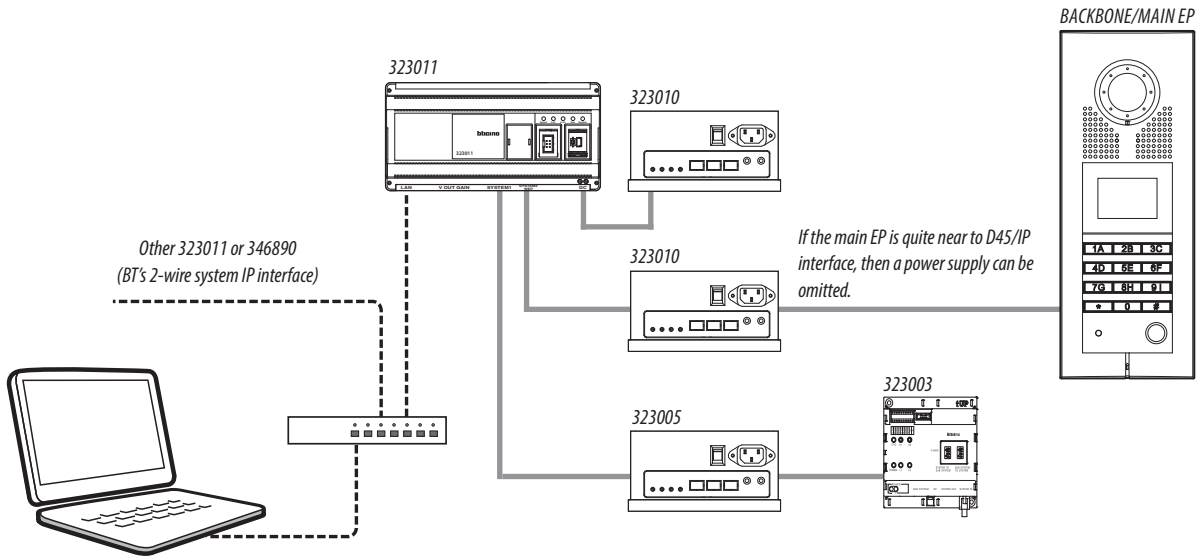
Configuration example:
If the first D45/IP interface 1 connects 3 Risers (Riser 1, Riser 2 and Riser 3), the second D45/IP interface 2 will connect 4 Risers (Riser 4, Riser 5, Riser 6 and Riser 7). Each Riser should be configured as per configuration MODE 1.

		SET THE HANDSETS OPTION OF D45/IP INTERFACE 1		
Riser Serial number	Each Riser address range	Lower address	Higher address	323011address range
Riser 1	0 - 79	0	239	0-239
Riser 2	80 - 159			
Riser 3	160 - 239			
		Set the handsets option of D45/IP interface 2		
Riser serial number	Each Riser address range	Lower address	Higher address	323011address range
Riser 4	240-319	240	559	240-559
Riser 5	320-399			
Riser 6	400-479			
Riser 7	480-559			

D45/IP interface has three ways for its download configuration, which are respectively online download, serial port download and USB download.



Wiring ways to install 323011



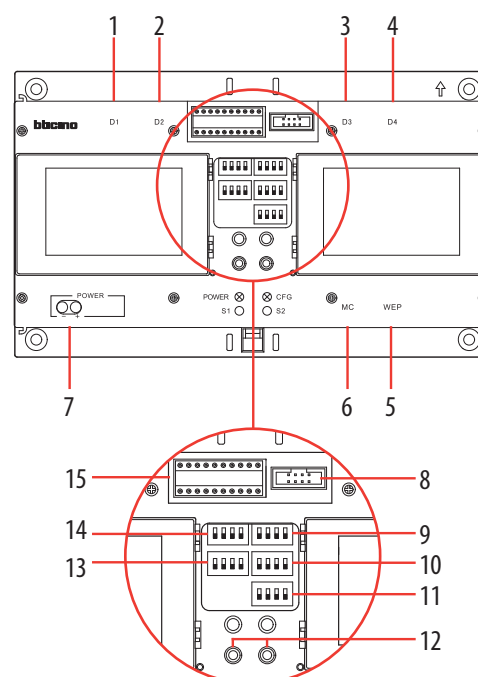
Description

D45 System hub device which can be connected with 4 riser shunt 323003 districts, one entrance panel, one switchboard and one system power supply. Device allows realization of big system network. Can be cascade connected to extend district branches. Device controls and manage video channels and give amplifying compensation for video signal. DIN rail installation.

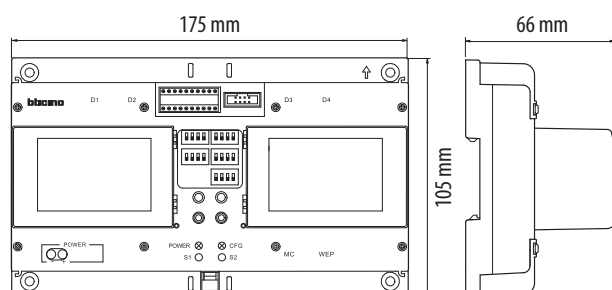
Technical data

Power supply:	30 Vdc
Stand by current absorption:	$\leq 100 \text{ mA @ } 30 \text{ V}$
Max. operating current absorption:	$\leq 300 \text{ mA @ } 30 \text{ V}$
Stand by power consumption:	3 W
Operating power consumption:	9 W
Operating temperature:	$(-10)-(+40)^{\circ}\text{C}$

Front view



Dimensional data



Legend

1. RJ45 D1 connector - riser shunt branch 1 connection
2. RJ45 D2 connector - riser shunt branch 2 connection
3. RJ45 D3 connector - riser shunt branch 3 connection
4. RJ45 D4 connector - riser shunt branch 4 connection
5. RJ45 WEP connector - main entrance panel connection
6. RJ45 MC connector - switchboard connection
7. Main 30 V power supply input connector
8. Serial interface port connector
9. BRANCH 3 video gain setting DIP SWITCH
10. BRANCH 4 video gain setting DIP SWITCH
11. Main entrance panel video gain setting DIP SWITCH
12. S1 - S2 manual configuration pushbuttons
13. BRANCH 1 video gain setting DIP SWITCH
14. BRANCH 2 video gain setting DIP SWITCH
15. Configurators housing

Video gain settings

The video gain setting can be divided into 5 branches: branch1, branch 2, branch 3, branch 4, wall EP. They can all be set according to the instruction data in following table. However, these data may be different during actual installation. To adjust and set the data take into account the actual image.



	Distance	1	2	3	4
Colour video signal	0 – 300 m	OFF	OFF	OFF	OFF
	300 – 700 m	ON	OFF	OFF	OFF
	700 – 1000 m	ON	ON	OFF	OFF
B/W video signal	1000 – 1500 m	ON	ON	ON	OFF
	1500 – 2000 m	ON	ON	ON	ON

Configuration

Two different configuration modes available for whole system:

configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of #FF in whole system is ≤ 20 , and the biggest number of #II is ≤ 4 , and the total risers number is ≤ 50 , we recommend to choose (**MODE 1**) configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use (**MODE 2**) configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number ($\#FF * \#II * R$) is less or equal 4000, use of (**MODE 2**) is suggested.

Two different device configuration ways available:

WAY 1) Configuration settings by inserting physical configurators

WAY 2) Configuration by using SF2 Software and PC connection

Configuration by inserting physical configurators - WAY 1:

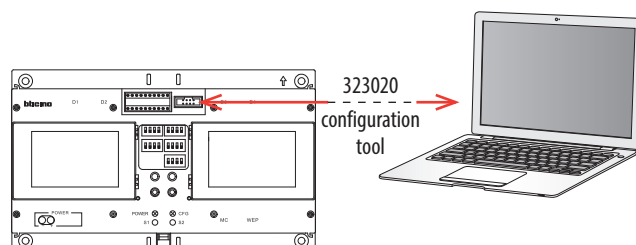
EPS	EPS	MC Min	MC Min	MC Max	MC Max	P/S	CF8	CF9	CF10
EPS	EPS	MIN	MIN	MAX	MAX	P/S			

Meaning of the configuration places:

POSITION	MODE 1	
CF1	EPS	If 323013 is primary. EPS must be set as Max WEP address on WEP port
CF2		If 323013 is secondary. EPS must be set as Max WEP address on MC port
CF3	MC	Set Switchboard address range
CF4	Min	
CF5		
CF6	MC Max	
CF7	P/S	0: primary 323013 1: secondary 323013

Configuration by using SF2 software and PC connection - WAY 2:

This is the enhanced way to download the device configuration to interface device previously created by using SF2 configuration software and a personal computer. To transfer file use the configurator hardware tool 323020 serial interface.

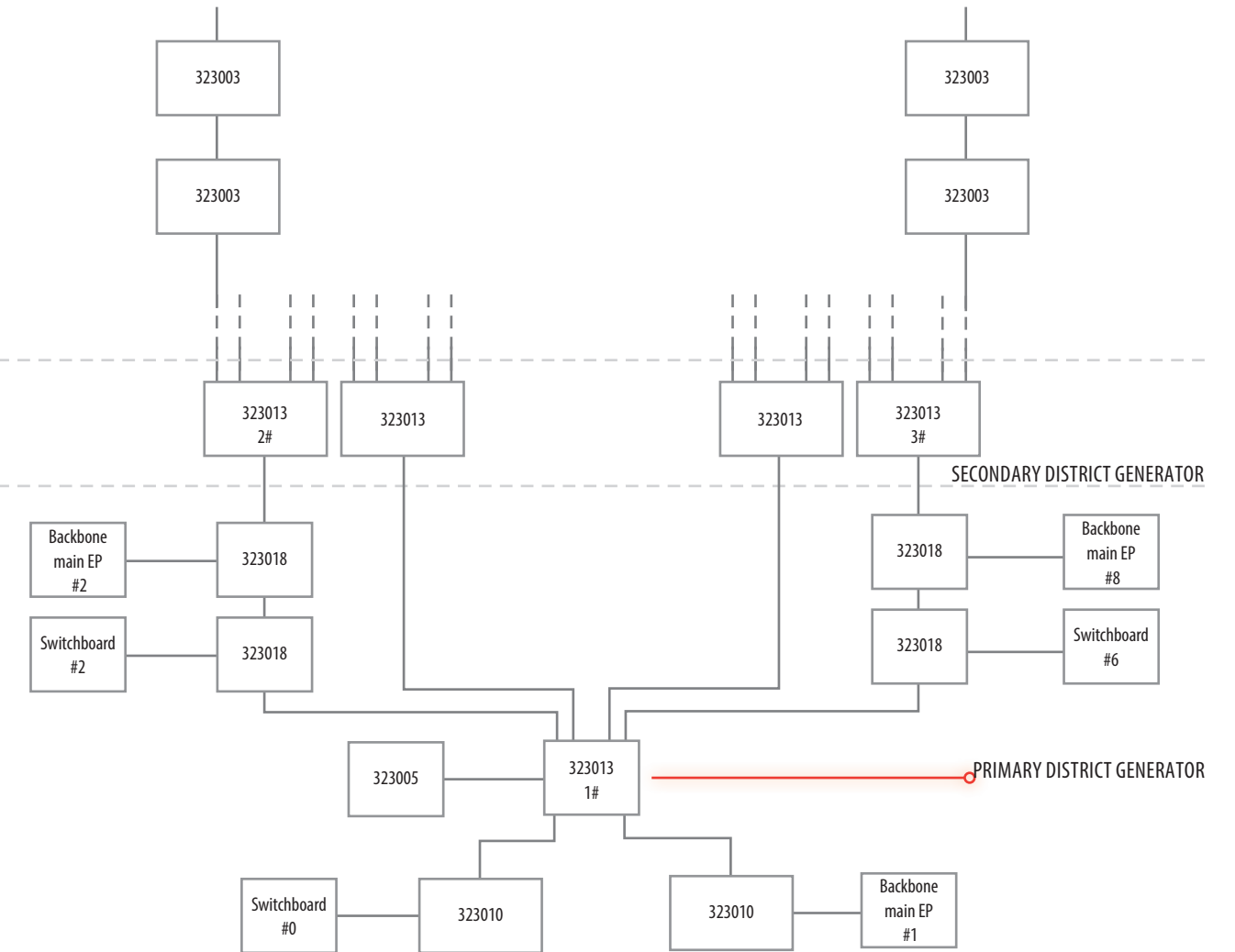


WARNING: in order for the communication to take place, district generator device must be powered and not physically configured.

Configuration examples

Example (A):

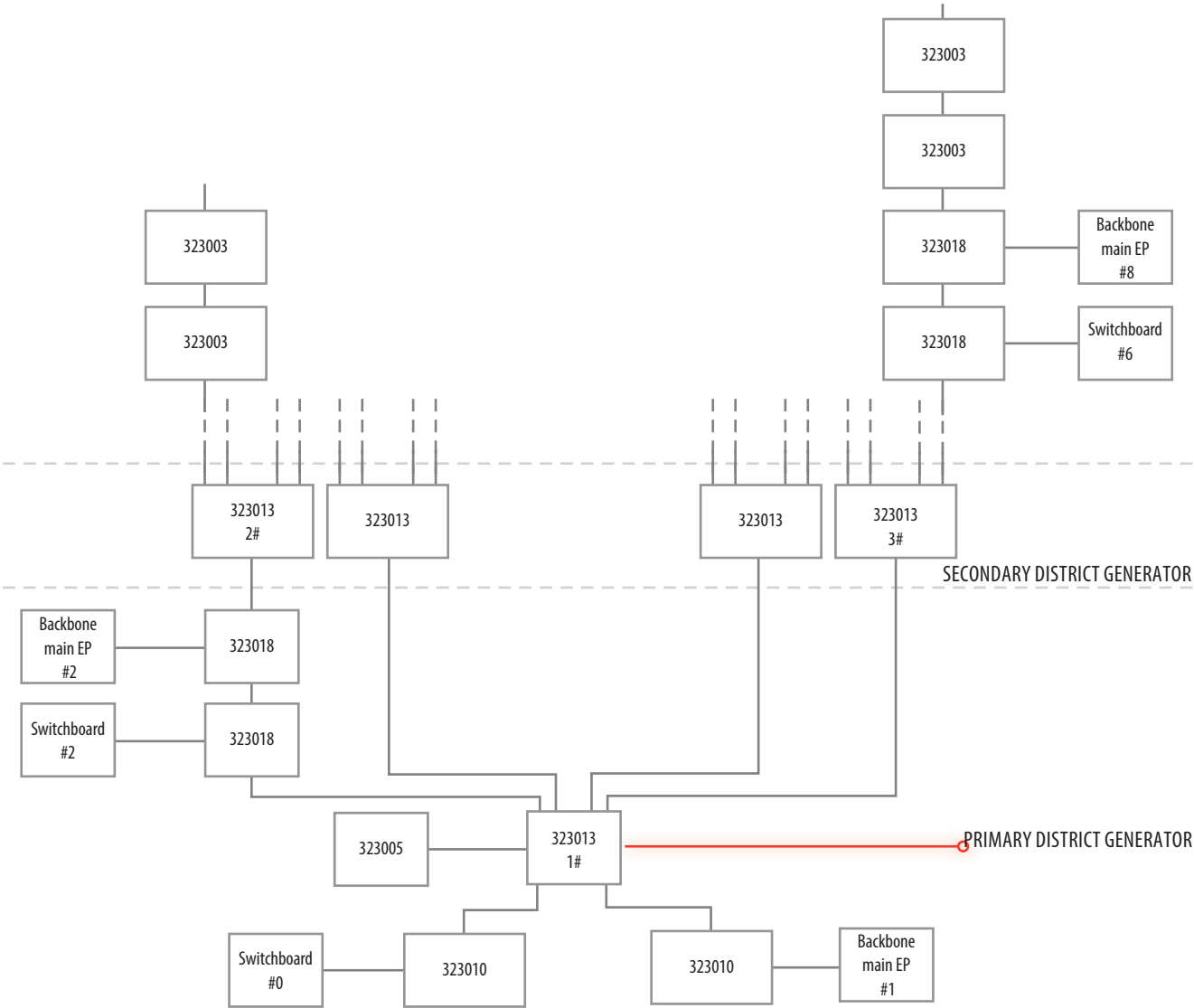
Use 323018 to extend the first district generator and the second district generator layer MC port to install the main EP and the switchboard. Below diagram 1~3# District generator configuration example:



Position	Field Name	1# DISTRICT GENERATOR	2# DISTRICT GENERATOR	3# DISTRICT GENERATOR	Remarks
CF1	EPS	0	0	0	NULL means 0
CF2		1	2	8	
CF3		0	0	0	
CF4	MC Max	0	0	0	
CF5		0	0	0	
CF6		0	0	0	
CF7	P/S	0	1	1	

Configuration examples

Example (B):
Use the EP/switchboard shunt to extend some second district generator layer MC port and fist district generator layer branch to install the main EP and switchboard.
Some second district generator layer branch could be extended to install the main EP and switchboard also using the EP/switchboard shunt.
Below diagram 1~3# District generator configuration example:

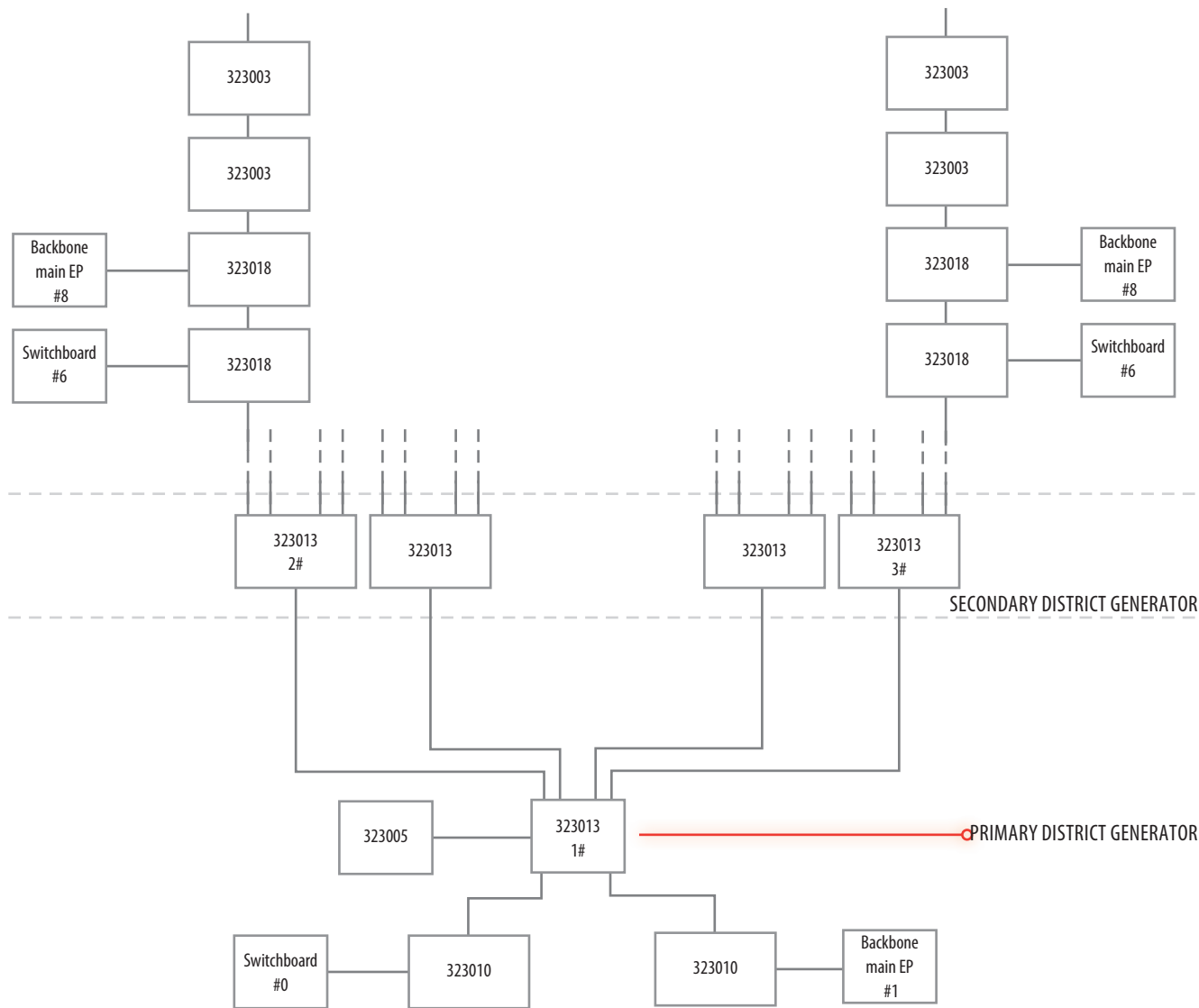


Position	Field Name	1# DISTRICT GENERATOR	2# DISTRICT GENERATOR	3# DISTRICT GENERATOR	Remarks
CF1	EPS	0	0	0	NULL means 0
CF2		1	2	1	
CF3	MC Min	0	0	0	
CF4		0	0	6	
CF5	MC Max	0	0	0	
CF6		0	0	6	
CF7	P/S	0	1	1	

Configuration examples

Example (C):

Use the EP/Switchboard shunt to extend the branch of the second district generator layer to install WEP and Switchboard. Below diagram 1~3# DH1 configuration as an example:



Position	Field Name	1# DISTRICT GENERATOR	2# DISTRICT GENERATOR	3# DISTRICT GENERATOR	Remark
CF1	EPS	0	0	0	NULL means 0
CF2		1	1	1	
CF3	MC Min	0	0	0	
CF4		0	2	6	
CF5	MC Max	0	0	0	
CF6		0	2	6	
CF7	P/S	0	1	1	

Description

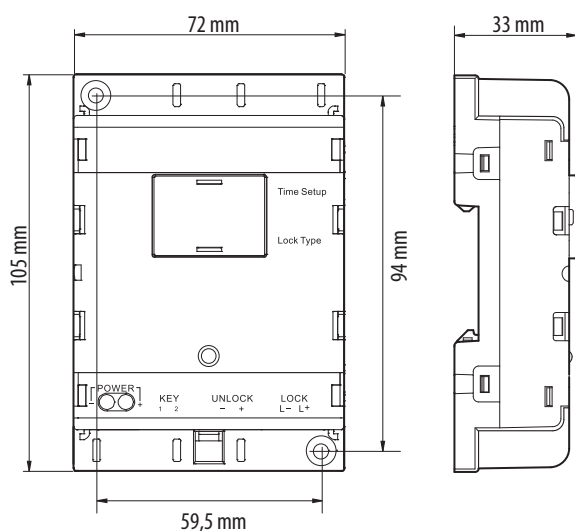
Accessory device able to drive electric door lock, used to control the commonly used 12 V negative locks. When the Positive locks' opening current is over 1 A, the device is also needed to drive positive locks. It's generally connected with the entrance panel to get the door lock release control signal.

The door lock can also be released by means of an external manual switch. Possibility to select the type of electric door lock control through the jumper line configuration. When used to drive the negative locks, device can drive two negative locks at most. The device also has a time delay function with 4 time delay steps, which can meet different types of needs. DIN RAIL installation.

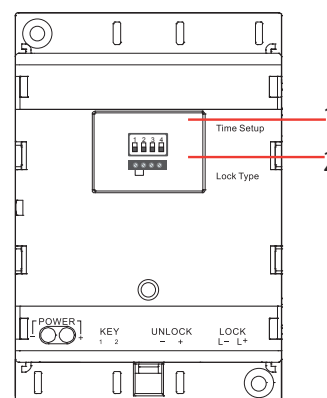
Technical data

Power supply:	30 Vdc
Stand by current absorption:	≤ 30 mA @ 30 V
Max operating current absorption:	≤ 30 mA @ 30 V
Stand by power consumption:	0.9 W
Operating power consumption:	0.9 W
Operating temperature:	(-10)-(+40)°C

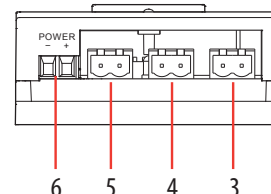
Dimensional data



Front view



Lower view



Legend

1. Open lock time delay setting DIP SWITCH
2. Lock type setting jumpers
3. 2 PIN PLUG for lock input connection (negative or positive locks)
4. 2 PIN PLUG connector for entrance panel or indoor handset control signal connection
5. 2 PIN PLUG for external manual door lock pushbutton
6. Power input connection (DC 15 - 30 V to drive positive locks), (DC 18 - 30 V to drive negative locks)

Lock-open time delay setting



STATUS	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
TIME DELAY	5 s	10 s	15 s	20 s

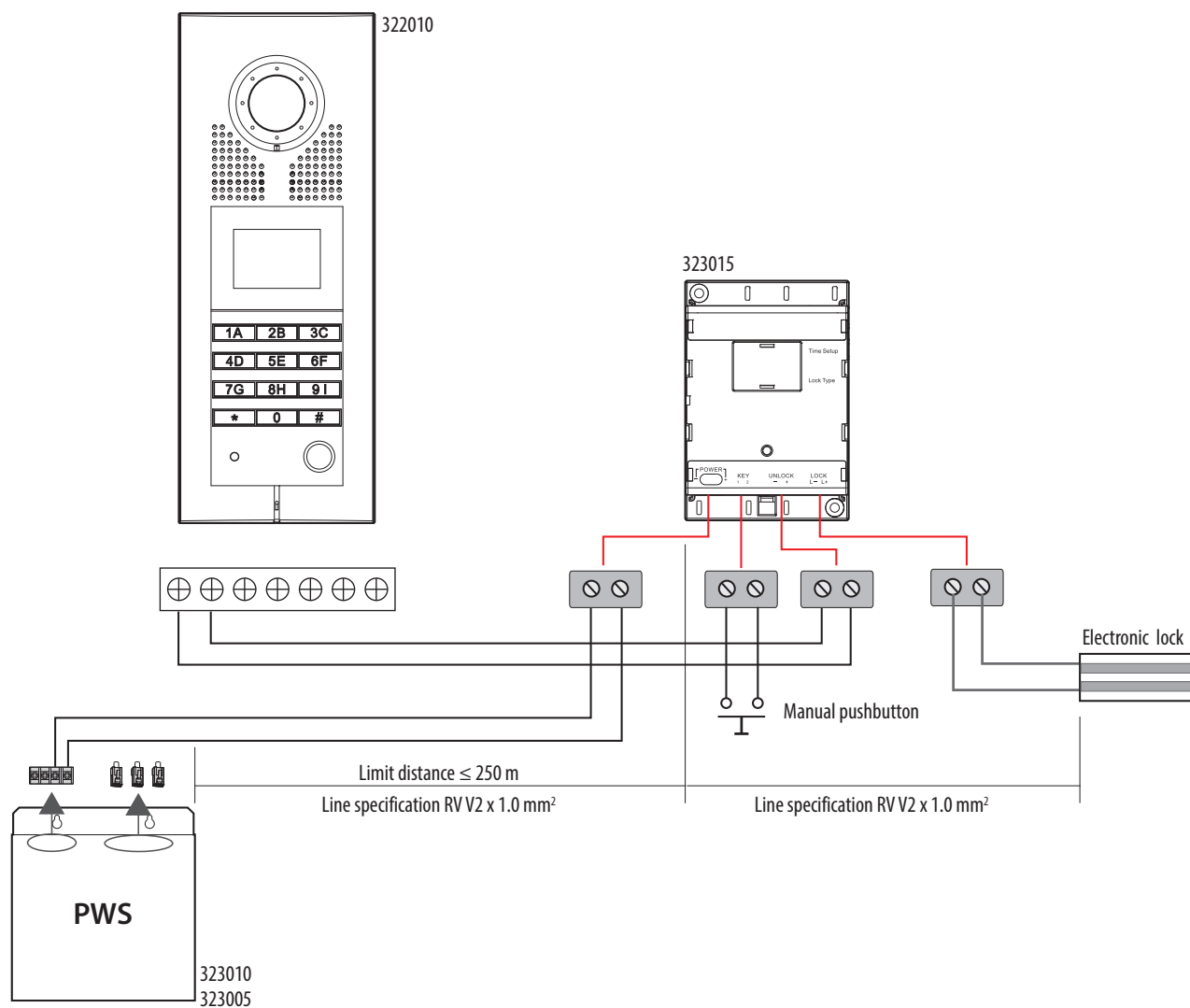
Lock type setting



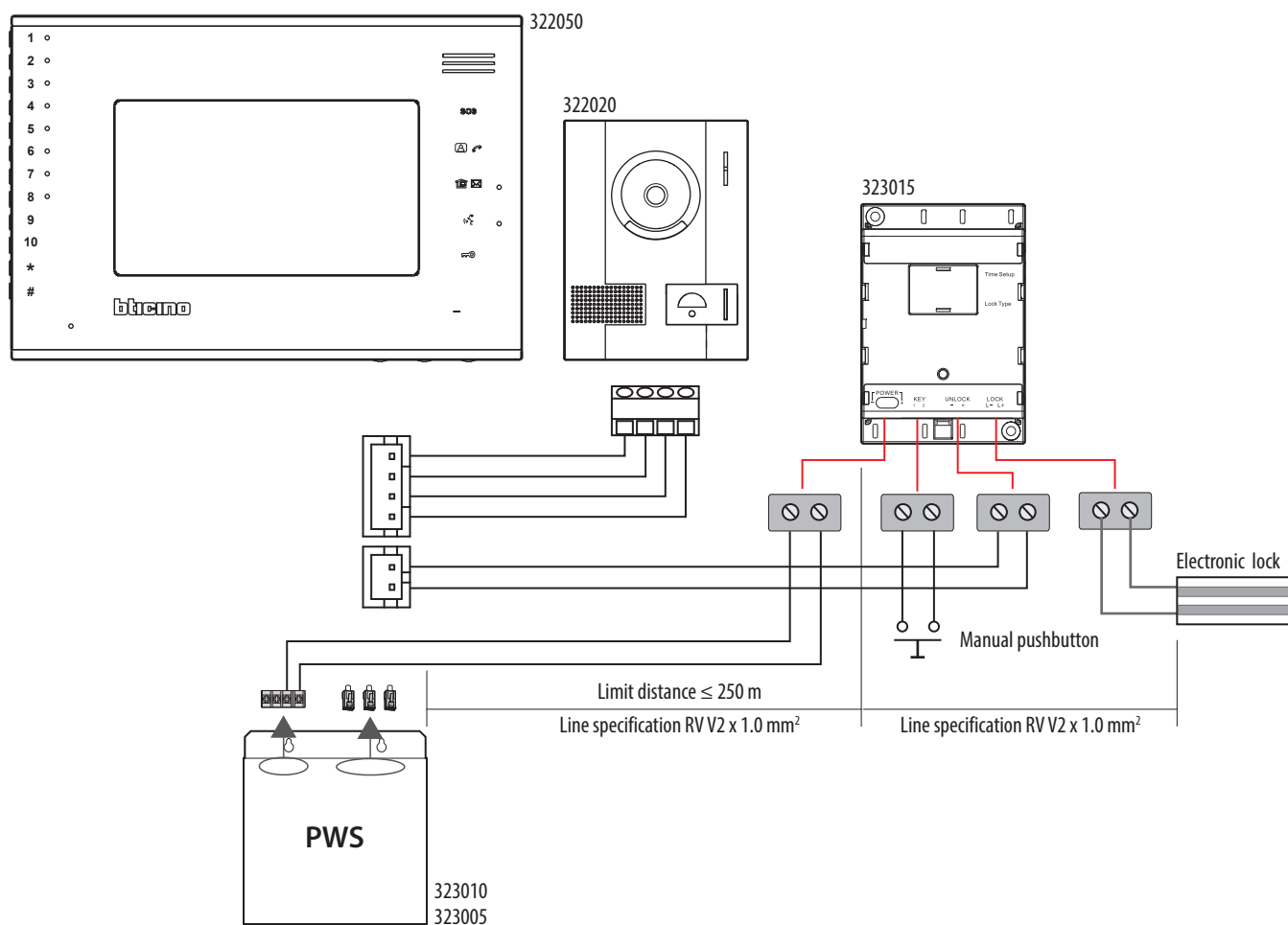
Positive anode lock - Negative cathode lock.

Device is Factory set to drive negative cathode lock. Can drive two negative cathode locks at the same time.

Wiring connection with digital call entrance panel



Wiring connection with small entrance panel



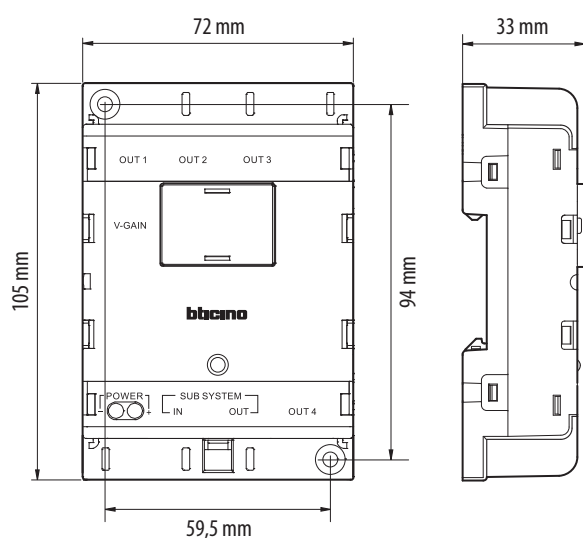
Description

D45 System interface device able to distribute video signal, audio signal, data signal of the BUS to floor shunt distributor 323002 connected with it. In this way the signals from the unit BUS can reach the maximum distance of 200 metres, meeting special needs of villas. Device should be installed in the public weak power box in the villas area. DIN rail installation.

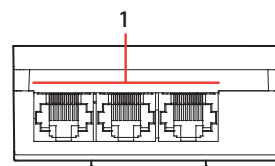
Technical data

Power supply :	30 Vdc
Stand by current absorption:	≤ 20 mA @ 30 V
Max. operating current absorption:	≤ 160 mA @ 30 V
Stand by power consumption :	0.6 W
Operating power consumption :	4.8 W
Operating temperature:	(-10)-(+40)°C

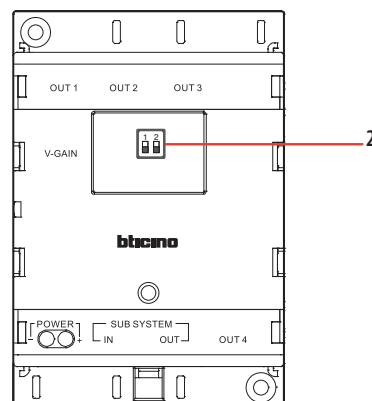
Dimensional data



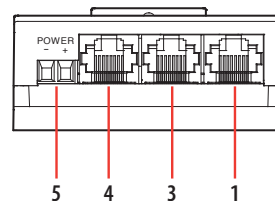
Upper view



Front view



Lower view



Legend

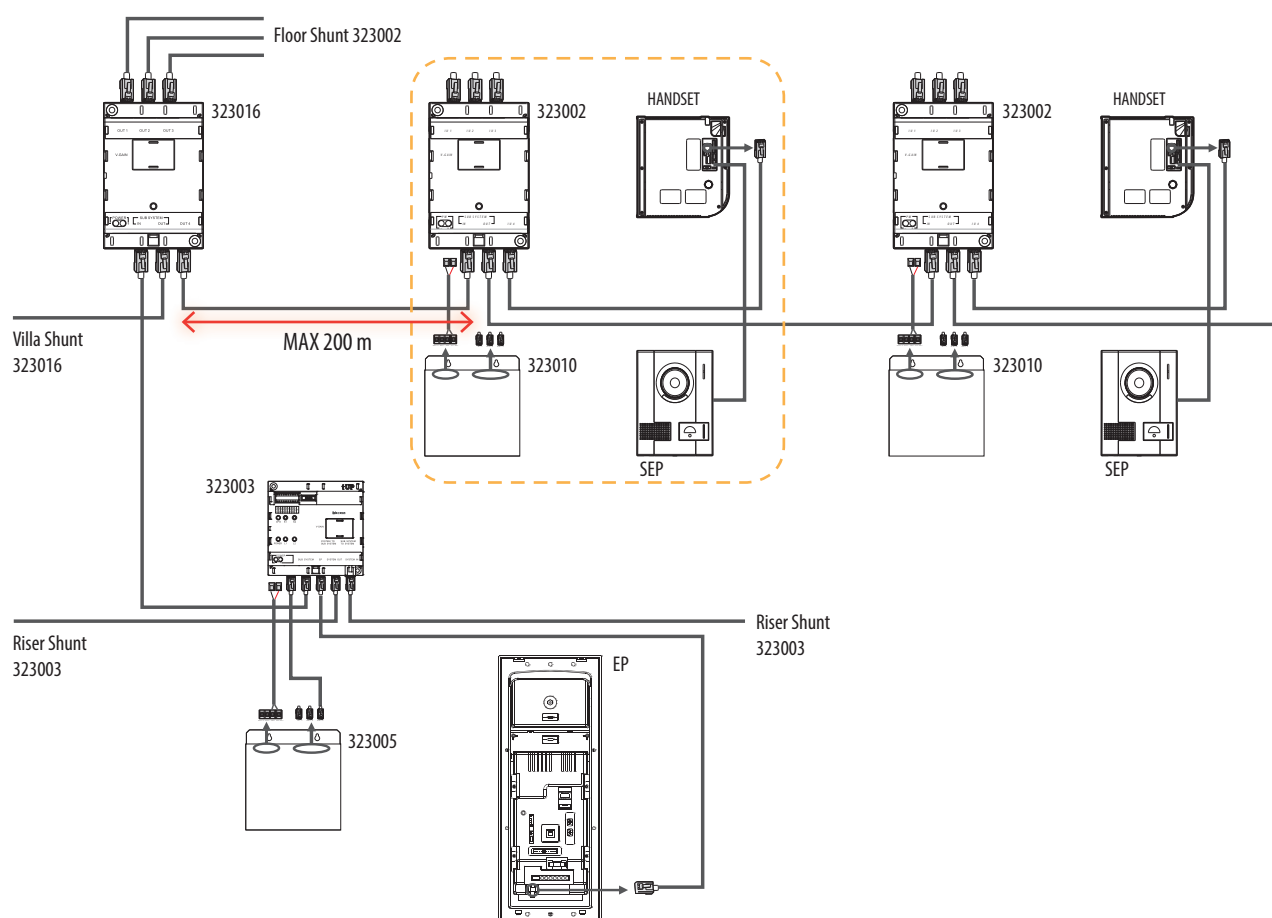
1. RJ45 connectors OUT1 to OUT4 for floor shunt 323002 connections
2. Video gain setting DIP SWITCH
3. RJ45 system BUS OUT connector
4. RJ45 system BUS IN connector
5. Auxiliary power supply 30 V input connector

Video gain setting



	Distance	1	2
B/W and colour video signal	200 m	OFF	OFF
	200 – 400 m	ON	OFF
		OFF	ON
	400 – 500 m	ON	ON

System wiring diagram of townhouse villas:



Description

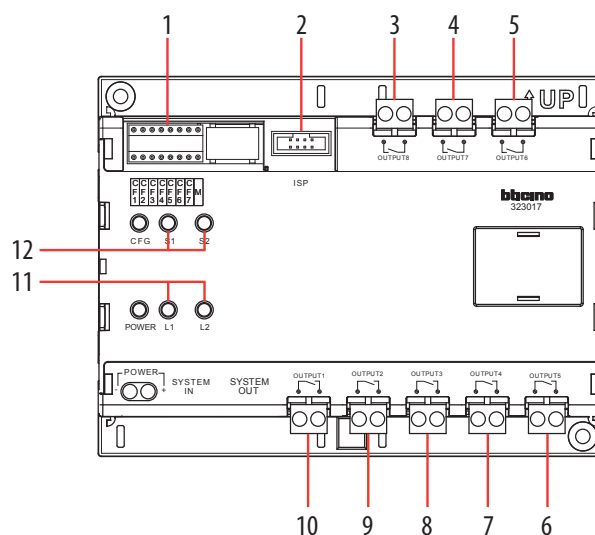
Lift control device suitable to interface D45 VDE system with the building elevator system in order to control the lift call to the floor directly from the apartment internal unit. Device must be configured.

NOTE : INSTALLATION AND CONNECTIONS MUST BE ALWAYS PERFORMED ACCORDINGLY TO THE ELEVATOR MANUFACTURER SPECIFICATION.

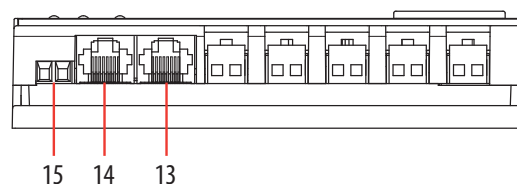
Technical data

Power supply:	30 Vdc
Stand by current absorption:	< 15 mA @ 30 V
Max. operating current absorption:	< 30 mA @ 30 V
Stand by power consumption:	0.45 W
Operating power consumption:	0.9 W
Operating temperature:	(-10)-(+40)°C

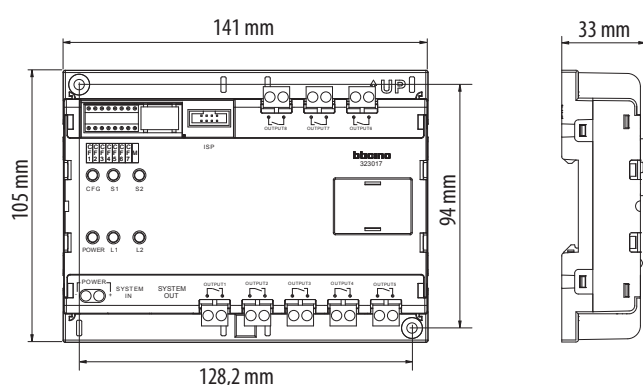
Front view



Lower view



Dimensional data



Legend

1. Configurators housing
2. Serial interface connector for PC configuration and firmware update
3. Relay **OUTPUT 8** (connect to the corresponding key of lift)
4. Relay **OUTPUT 7** (connect to the corresponding key of lift)
5. Relay **OUTPUT 6** (connect to the corresponding key of lift)
6. Relay **OUTPUT 5** (connect to the corresponding key of lift)
7. Relay **OUTPUT 4** (connect to the corresponding key of lift)
8. Relay **OUTPUT 3** (connect to the corresponding key of lift)
9. Relay **OUTPUT 2** (connect to the corresponding key of lift)
10. Relay **OUTPUT 1** (connect to the corresponding key of lift)
11. L1 - L2 Lift control status LEDs (see specific section)
12. S1 - S2 Manual device configuration pushbuttons (**NOT USED**)
13. RJ45 System OUT connection
14. RJ45 System IN connection
15. Auxiliary power supply input connector (30V)

Configuration

Lift control interface can be configured in 9 different modes (M = 1 to 9), depending on the following main requested features :

(M = 1) - suggested in case of floor with 1 entrance panel and total system entrance panel number less than 9.

(M = 2 to 9) - suggested in case of floor with more than 1 entrance panel or total system entrance panels higher than 8.

Indication lights instruction for the corresponding lift control.	(L1) LED	(L2) LED
EP call IU and IU unlock	Flash	Flash
EP unlock with card or password	Flash	No action
IU unlock in idle	No action	Flash
Stand by	No action	No action

Two different device configuration ways available:

WAY 1) Configuration settings by inserting physical configurators

WAY 2) Configuration by using SF2 Software and PC connection

CONFIGURATION SETTINGS BY INSERTING PHYSICAL CONFIGURATORS - WAY 1 :

CF1	CF2	CF3	CF4	CF5	CF6	CF7	M
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

MODE (M = 1) meaning of the configurators :

CONFIGURATOR	MODE 1	DESCRIPTION
CF1 CF2	FF	FF is corresponding to the 1st. PRIVATE floor (IU floor) managed by the device
CF3 CF4	#II	Apartment number for each floor
CF5 (*1)		Quantity of PRIVATE floor (IU floor) managed by the device
CF6 (*1)		Quantity of PUBLIC floor (EP floor) managed by the device
CF7 (*2)		Delay time setting (see specific table below)
M		Mode selection (1)

WARNINGS :

(*1) - CF5 + CF6 must be ≤ 8

(*2) - Entrance panel calls internal unit and internal unit unlock, the output relay connected to the floor entrance panel act, after delay time, the output relay connected to the floor internal unit act.

CF7 Delay time selection table

CF7 Configurator	0	1	2	3	4	5	6	7	8	9
Delay time (sec.)	1"	10"	20"	30"	40"	50"	60"	70"	80"	90"

Configuration

(M = 1) Configuration example 1 :

8 floors building. Floors 4 to 8 are "PRIVATE" floors and each floor has 4 apartments. Floors 1 to 3 are "PUBLIC" floor and each floor has 1 entrance panel. The entrance panel addresses are 1 to 3 in correspondance with the 1 to 3 floor number. By setting delay time to 20 seconds (CF7 = 2), the interface configuration value and the correspondance between device OUTPUT and Entrance panel/Internal unit floor will be as follows

CONFIGURATION PLACE	CONFIGURATION VALUE	OUTPUT (N)	EP address/IU floor
CF1	0	OUTPUT1	IU floor 4
CF2	4	OUTPUT2	IU floor 5
CF3	0	OUTPUT3	IU floor 6
CF4	4	OUTPUT4	IU floor 7
CF5	5	OUTPUT5	IU floor 8
CF6	3	OUTPUT6	EP address 1
CF7	2	OUTPUT7	EP address 2
M	1	OUTPUT8	EP address 3

WARNINGS :

- OUTPUT 1 to 5 will manage the corresponding "PRIVATE" floors 4 to 8.
- OUTPUT 6 to 8 will manage the "PUBLIC" floors 1 to 3.

(M = 1) Configuration example 2 :

14 floors building. Floors 2 to 14 are "PRIVATE" floors and each floor has 4 apartments. The 1.st floor is the "PUBLIC" floor and has 1 entrance panel. N°2 lift control interface are requested to manage this system. By setting delay time to 10 seconds (CF7 = 1), the configuration values of the two interfaces will be as follows :

CONFIGURATION PLACE	CONFIGURATION VALUE	
	DEVICE 1	DEVICE 2
CF1	0	0
CF2	2	9
CF3	0	0
CF4	4	4
CF5	7	6
CF6	1	0
CF7	1	1
M	1	1

WARNING

- By this configuration method, DEVICE 1 (OUTPUT 8) will manage the 1.st floor (PUBLIC floor).
OUTPUT 1 to 7 will manage floors 2 to 8 (PRIVATE floors). DEVICE 2 (OUTPUT 1 to 6) will manage floors 9 to 14 (PRIVATE floors).

Configuration

(M = 2 to 9) meaning of the configurators :

CONFIGURATION PLACE	CONFIGURATION VALUE
CF1 (N=1)	The corresponding OUTPUT channel
CF2 (N=2)	The corresponding OUTPUT channel
CF3 (N=3)	The corresponding OUTPUT channel
CF4 (N=4)	The corresponding OUTPUT channel
CF5 (N=5)	The corresponding OUTPUT channel
CF6 (N=6)	The corresponding OUTPUT channel
CF7 (N=7)	The corresponding OUTPUT channel
M	M=2-9

WARNING

- The relationship between CF(N) and CF(N+1) should meet the rule : $CF(N+1) = CF(N)$ or $CF(N+1) = CF(N) + 1$
- The configuration value indicate the output channel of the entrance panel address
- Using configuration MODE (M=2 to 9), each channel correspond to one entrance panel address. The entrance panel address can be calculated by the following rule : $A = (M-2) \times 7 + N$. A means Entrance Panel address, M means MODE, N means configuration place such as CF1 means N=1. The physical configuration value means the channel number.

	CF1	CF2	CF3	CF4	CF5	CF6	CF7
M=2	1	2	3	4	5	6	7
M=3	8	9	10	11	12	13	14
M=4	15	16	17	18	19	20	21
M=5	22	23	24	25	26	27	28
M=6	29	30	31	32	33	34	35
M=7	36	37	38	39	40	41	42
M=8	43	44	45	46	47	48	49
M=9	50	51	52	53	54	55	56

(M = 2 to 9) Configuration example 3 :

System with : 2 entrance panels in the underground floor, 3 entrance panels in the 1.st floor. Floors 2 to 9 are "PRIVATE" floors and each floor has 4 apartments.
By setting delay time to 20 seconds (CF7 = 2), the configuration values of the two interfaces will be as follows :

CONFIGURATION PLACE	CONFIGURATION VALUE	
	DEVICE 1	DEVICE 2
CF1	1	0
CF2	1	2
CF3	2	0
CF4	2	4
CF5	2	8
CF6	0	0
CF7	0	2
M	2	1

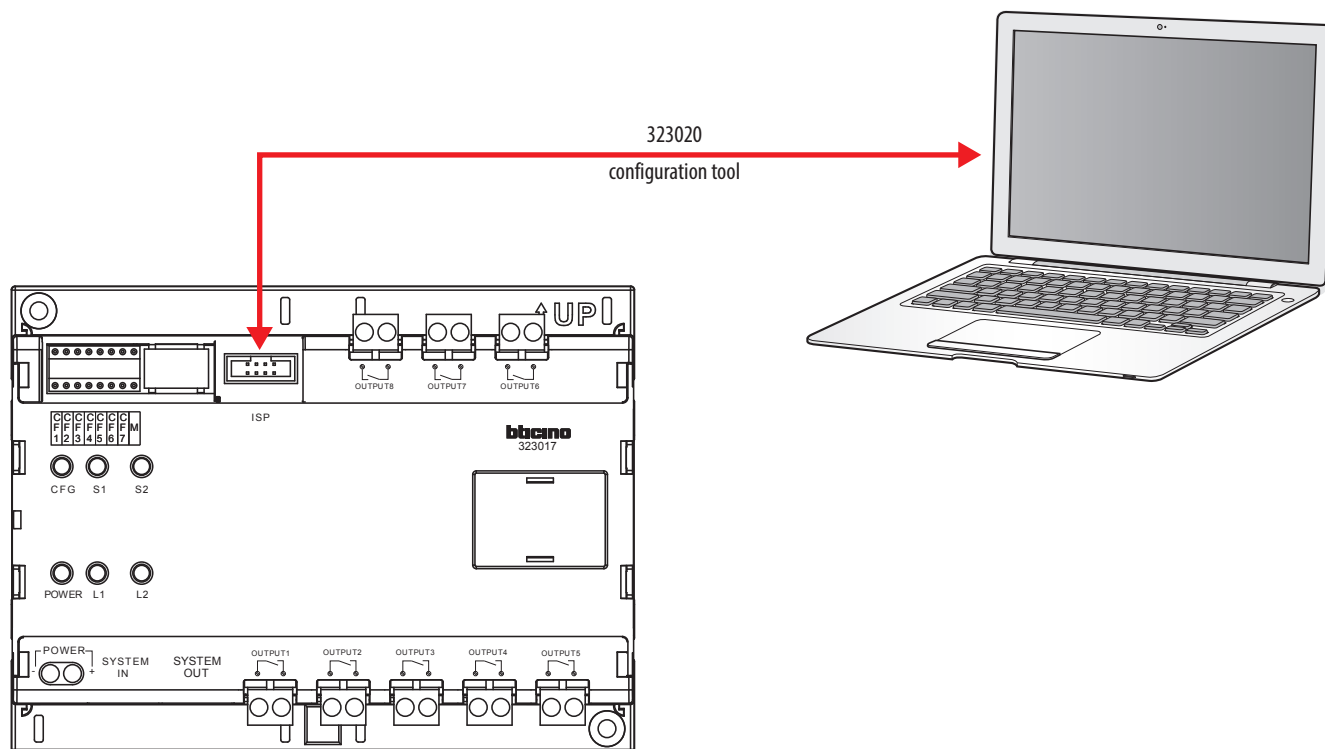
WARNING

By this configuration method, DEVICE 1 (OUTPUT 1) will manage the 2 entrance panels (EP with address 1 and 2) of the underground floor; DEVICE 1 (OUTPUT 2) will manage the 3 entrance panels (EP with address 3 to 5) of the 1.st floor; DEVICE 2 (OUTPUTS 1 to 8) will manage the "PRIVATE" floors 2 to 9.

Configuration

CONFIGURATION BY USING SF2 SOFTWARE AND PC CONNECTION - WAY2:

This is the (**SUGGESTED**) enhanced way to download the device configuration to the lift control interface device previously created by using SF2 configuration software and a personal computer. To transfer use the configurator hardware tool 323020 serial interface.



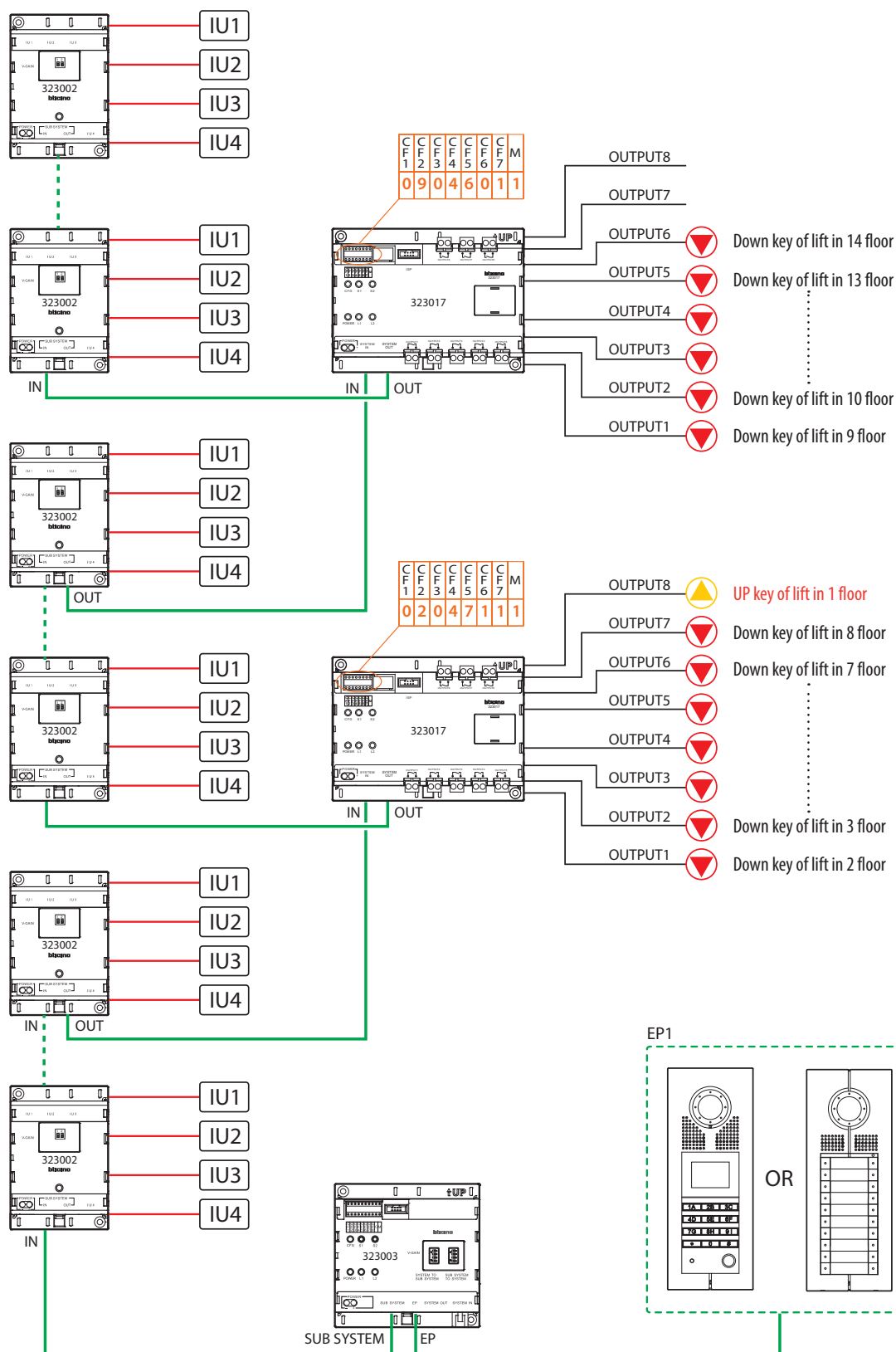
WARNING

In order for the communication to take place, device must be powered and not physically configured.

Wiring diagram

Wiring diagram example 1:

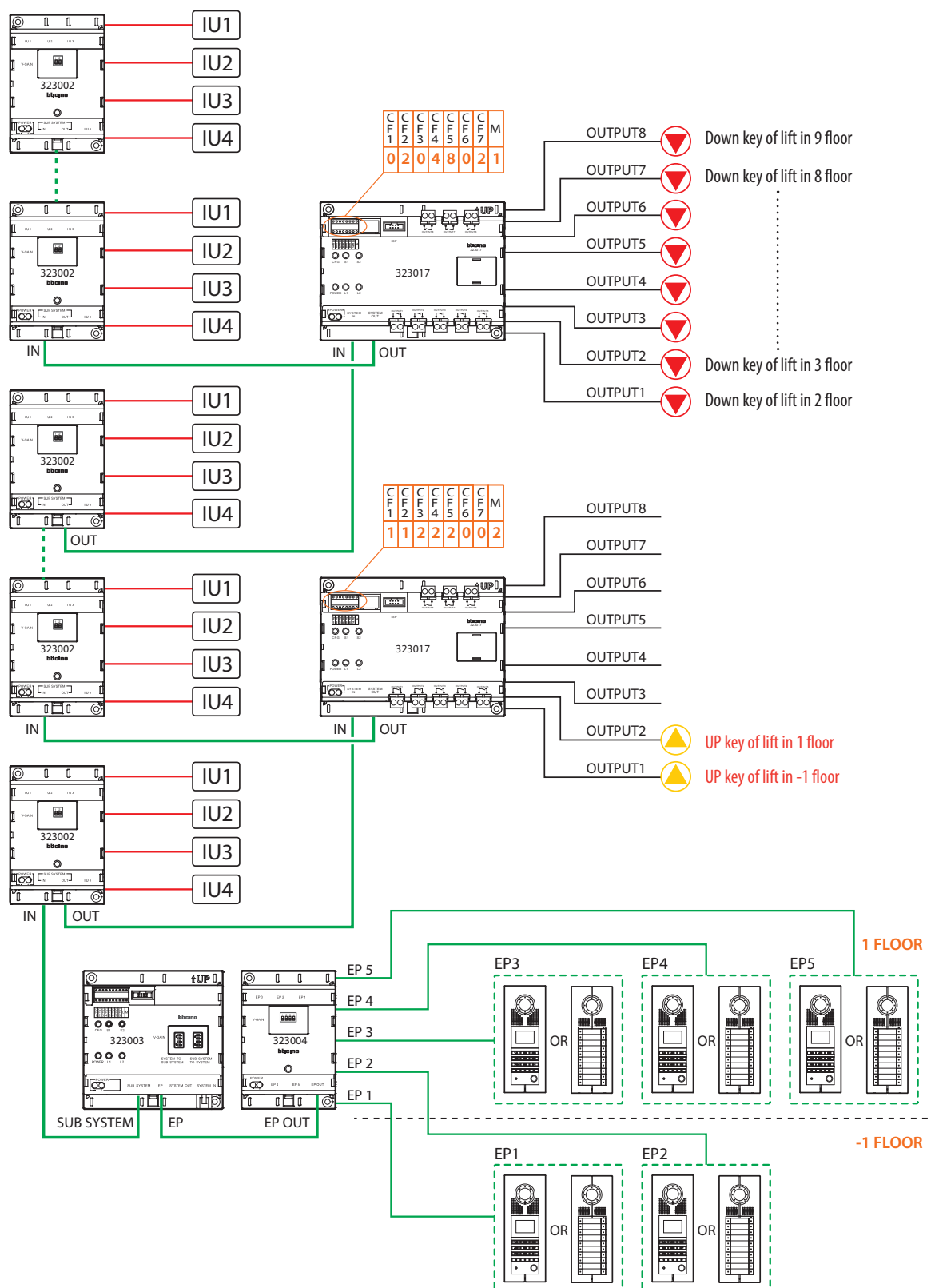
Building with 14 floors : floors 2 to 14 are PRIVATE floors and every floor has 4 apartments. Floor 1 is a PUBLIC floor with one entrance panel. Delay time set as 10 sec. (CF7 = 1). This system needs N° 2 lift control interfaces.



Wiring diagram

Wiring diagram example 2:

Building with 10 floors: floors 2 to 9 are PRIVATE floors and every floor has 4 apartments. Floor 1 is a PUBLIC floor with three entrance panels (EP address 3 to 5). The underground floor (-1 floor) has two entrance panels (EP address 1 and 2). Delay time set as 20 sec. (CF7 = 2). This system needs N° 2 lift control interfaces.



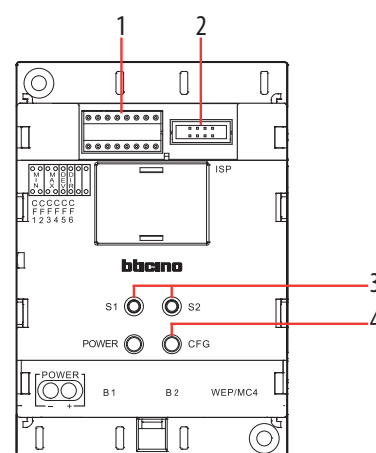
Description

D45 System interface device used to connect the entrance panel and the switchboard to the system. This device automatically switches over the video channels. Must be configured. DIN RAIL installation.

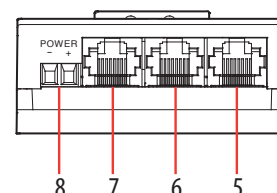
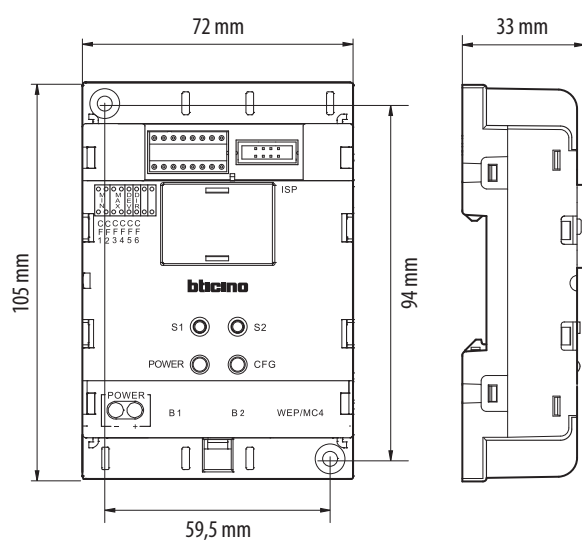
Technical data

Power supply:	30 Vdc
Stand by current absorption:	$\leq 70 \text{ mA @ } 30 \text{ V}$
Max. operating current absorption:	$\leq 70 \text{ mA @ } 30 \text{ V}$
Stand by power consumption:	2.1 W
Operating power consumption:	2.1 W
Operating temperature:	$(-10)-(+40)^{\circ}\text{C}$

Front view



Lower view

**Dimensional data****Legend**

1. Configurators housing
2. Serial port interface for configuration download and firmware update
3. S1 - S2 keys for pushbuttons device configuration (NOT USED)
4. LED indicator for configuration status
5. RJ45 connector for digital entrance panel or switchboard connection
6. B2 RJ45 connector for main system BUS connection
7. B1 RJ45 connector for main system BUS connection
8. Auxiliary power supply input connector (30 V)

Configuration

Two different device configuration ways available:

WAY 1) Configuration settings by inserting physical configurators

WAY 2) Configuration by using SF2 Software and PC connection

Configuration by inserting physical configurators - WAY 1:

CF1	CF2	CF3	CF4	CF5	CF6
⊙	⊙	⊙	⊙	⊙	⊙
MC min	MC min	MC max	MC max	DEV	DIR
⊙	⊙	⊙	⊙	⊙	⊙

Meaning of the configuration places:

CONFIGURATION PLACE	MODE 1	MODE 2
CF1	Min*	Same as Mode 1
CF2		
CF3	Max**	
CF4		
CF5	DEV	
CF6	DIR	

*Min: the minimal number connected to the Backbone/main EP or to the switchboard at main EP/Switchboard of interface.

**Max: the maximal number connected to the Backbone/main EP or to the switchboard at main EP/Switchboard of interface.

DEV = options of main EP/Switchboard types:

DEV	
0	Switchboard
1	Backbone/main EP

DIR: options of main EP/Switchboard wiring directions:

DIR	
0	The Switchboard is connected to the B1 interface and backbone/main EP to the B2 interface
1	The backbone/main EP is connected to B1 and the Switchboard to B2

The DIR configuration for the device wiring direction must satisfy the following rules or they will lead to irregular working of the system :

1. Riser shunt must be connected at the B1 connector interface of all interface in the relevant zone.
2. The wiring direction of the switchboard and the main EP can be set through the DIR configuration place, but all of interfaces wiring directions must be identically configured in the project.
3. Pushbutton-configuration operation (it will be invalid when the configurator is inserted).

CF1	CF2	CF3	CF4	CF5	CF6
⊙	⊙	⊙	⊙	⊙	⊙
MC min	MC min	MC max	MC max	DEV	DIR
⊙	⊙	⊙	⊙	⊙	⊙
1	2	3	4	5	6

Value of the configuration place (from 0 – 9)

Code of the configuration place (1 to 6)

Configuration examples:

Example (A):

323018 is used to extend one switchboard. The switchboard address range is 4; all main EP are installed in the B1 port of 323018, configuration as follows:

CF1	CF2	CF3	CF4	CF5	CF6
⊙	⊙	⊙	⊙	⊙	⊙
MIN	MIN	MAX	MAX	DEV	DIR
⊙	⊙	⊙	⊙	⊙	⊙
0	4	0	4	0	1

POSITION	MODE 1	VALUE FOR CONFIG.	REMARKS
CF1	MIN	0	x
CF2	MIN	4	x
CF3	MAX	0	x
CF4	MAX	4	x
CF5	DEV	0	x
CF6	DIR	1	x

Configuration examples:

Example (B):

323018 used to extend the main EP. The main EP address range is 4 to 5; all switchboards are installed in the B1 port of 323018, configuration as follows:

CF1	CF2	CF3	CF4	CF5	CF6
⊙	⊙	⊙	⊙	⊙	⊙
MIN	MIN	MAX	MAX	DEV	DIR
⊙	⊙	⊙	⊙	⊙	⊙
0	4	0	5	1	0

POSITION	MODE 1	VALUE FOR CONFIG.	REMARKS
CF1	MIN	0	x
CF2	MIN	4	x
CF3	MAX	0	x
CF4	MAX	5	x
CF5	DEV	1	x
CF6	DIR	0	x

Configuration examples:

Example (C):

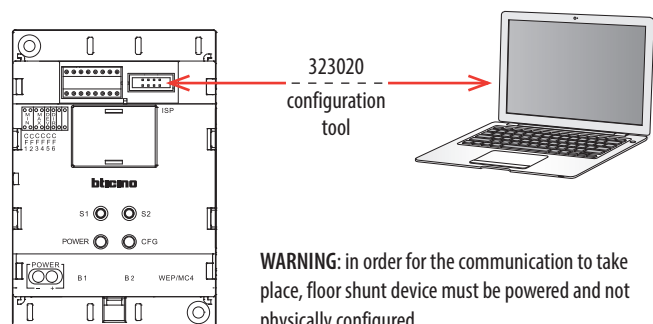
323018 is used to extend one Switchboard, Switchboard address range is 4; all main EP are installed in the B1 port of 323018, configuration as follows:

CF1	CF2	CF3	CF4	CF5	CF6
⊙	⊙	⊙	⊙	⊙	⊙
MIN	MIN	MAX	MAX	DEV	DIR
⊙	⊙	⊙	⊙	⊙	⊙
0	4	0	5	1	1

POSITION	MODE 1	VALUE FOR CONFIG.	REMARKS
CF1	MIN	0	x
CF2	MIN	4	x
CF3	MAX	0	x
CF4	MAX	5	x
CF5	DEV	1	x
CF6	DIR	1	x

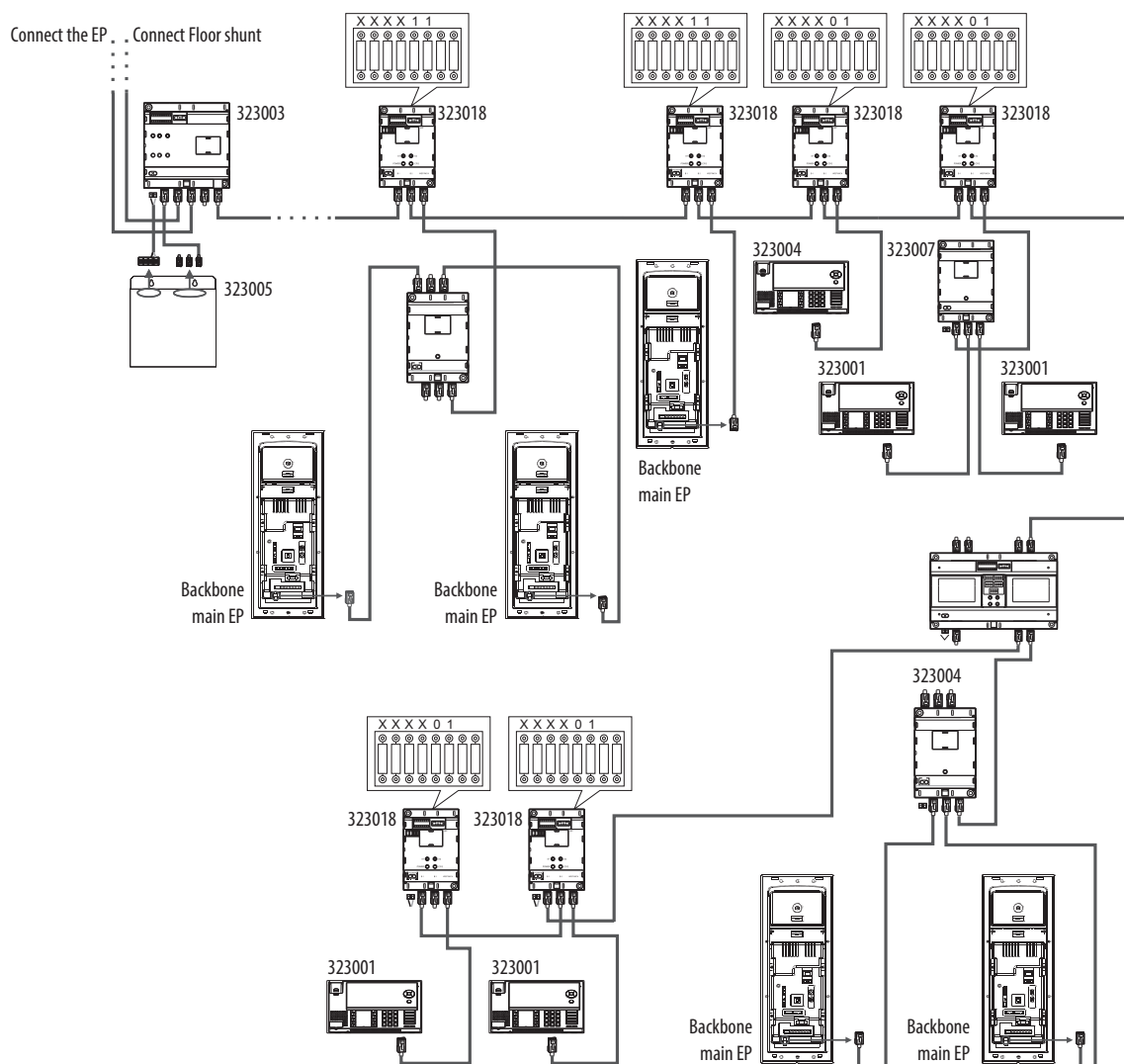
Configuration by using SF2 software and PC connection - WAY 2:

This is the enhanced way to download the device configuration to interface device previously created by using SF2 configuration software and a personal computer. To transfer file use the configurator hardware tool 323020 serial interface.



WARNING: in order for the communication to take place, floor shunt device must be powered and not physically configured.

Wiring diagram

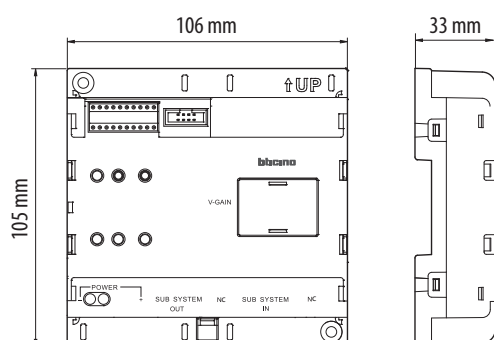


Description

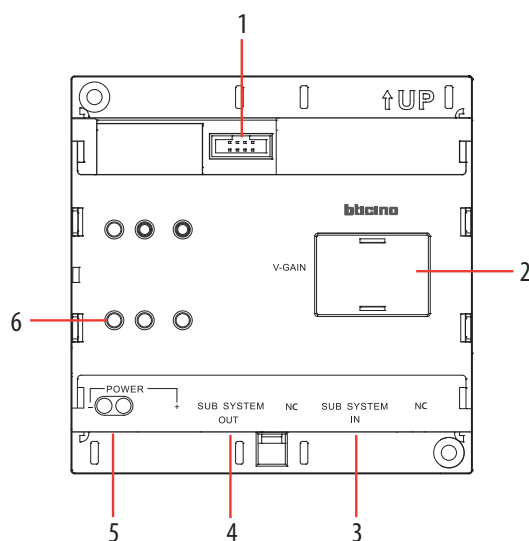
D45 System interface device used to extend the riser system when there are more than the limit of 400 handsets on the riser. The interface allow to increase this limit to 800 handsets. Device is also used to adjust video gains and improve video transmission quality on long distances. DIN RAIL installation.

Technical data

Power supply:	30 Vdc
Stand by current absorption:	≤ 50 mA @ 30 V
Max. operating current absorption:	≤ 80 mA @ 30 V
Stand by power consumption :	1.5 W
Operating power consumption :	2.4 W
Operating temperature:	(-10)-(+40)°C

Dimensional data

Front view

**Legend**

1. Serial port interface for device firmware update
2. Video gain setting DIP SWITCH
3. RJ45 SUB SYSTEM input connector - connect to floor shunt
4. RJ45 SUB SYSTEM output connector - connect to floor shunt
5. Power supply input connector (30 V)
6. Power supply LED indicator

Video gain setting**DIP switch setting instruction**

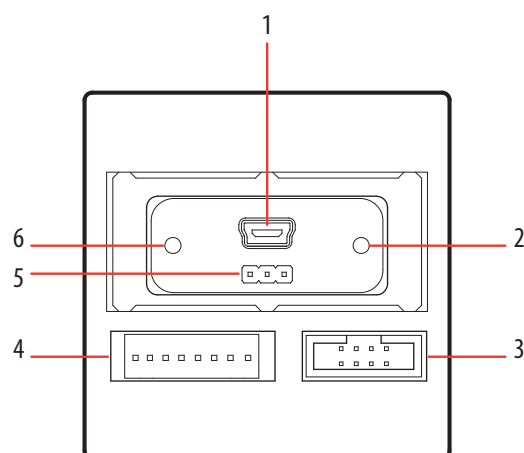
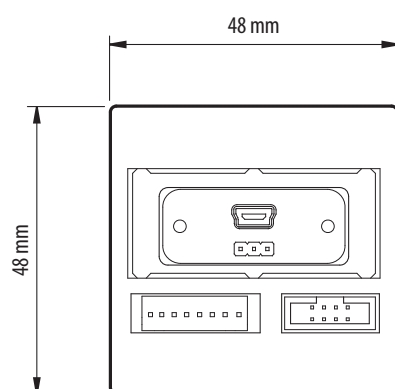
	Distance	1	2	3	4
COLOUR SIGNAL	0 – 300 m	OFF	OFF	OFF	OFF
	300 – 700 m	ON	OFF	OFF	OFF
	700 – 1000 m	ON	ON	OFF	OFF
B/W SIGNAL	1000 – 1500 m	ON	ON	ON	OFF
	1500 – 2000 m	ON	ON	ON	ON

Description

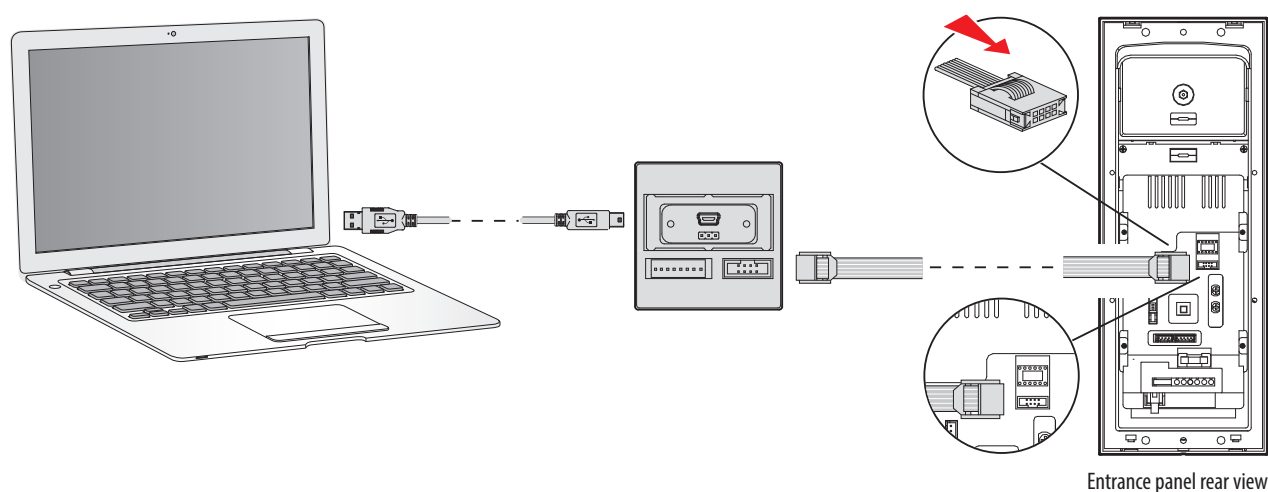
D45 System configuration tool kit composed by :

- USB to UART tool
- USB cable
- IDC 8 pole flat cable
- CD ROM containing SF2 devices configuration and driver softwares.

Front view

**Dimensional data****Legend**

1. USB 2.0 connector
2. TX LED - Green flashing = transmitted data
3. UART connector
4. Not used
5. Jumper to select level type
6. Power LED - Red light on = power ON
light off = power OFF

Wiring diagram

One output floor shunt

323022

Description

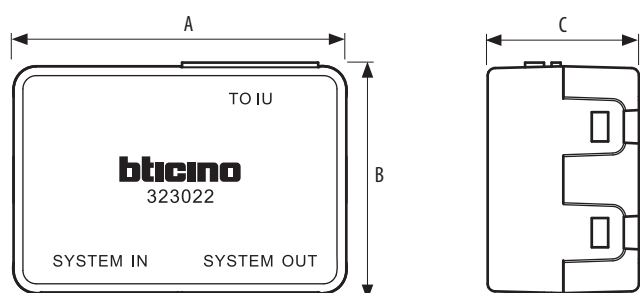
D45 System one output floor shunt is an interface installable between floors. Connects all the system BUS adapting video signal from difference ended into a single ended and distribute the BUS to the extensions indoor unit. Build in a small plastic case easy installable inside the system junction boxes.

RJ45 adapter is supplied with the device.

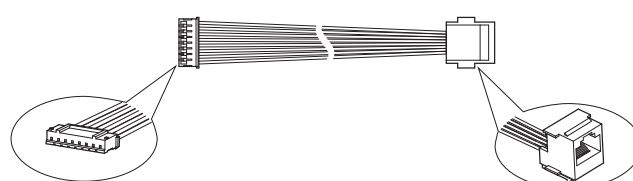
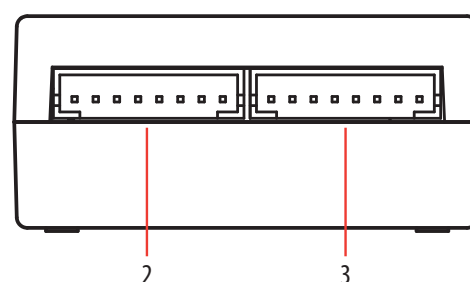
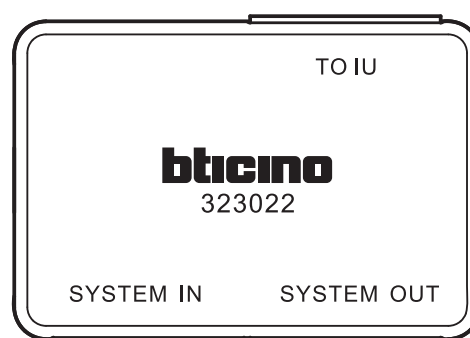
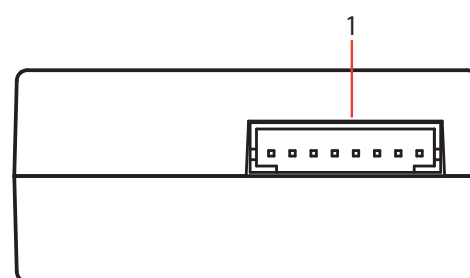
Technical data

Power supply:	18 - 30 Vdc
Stand by absorption:	≤ 10 mA @ 30 V
Max operating absorption:	≤ 100 mA@30 V
Operating temperature:	(-10) – (+40) °C
Power consumption:	<3 W

Dimensional data



A (mm)	B (mm)	C (mm)
44	30	20



Legend

1. Internal unit connector
2. Riser system **BUS input** connector : connect last 323022 SUB SYSTEM OUT connector or 323003 (riser shunt) SUB SYSTEM connector
3. Riser system **BUS output** connector : connect the next 323022 SUB SYSTEM IN connector

Small entrance panel video mixer

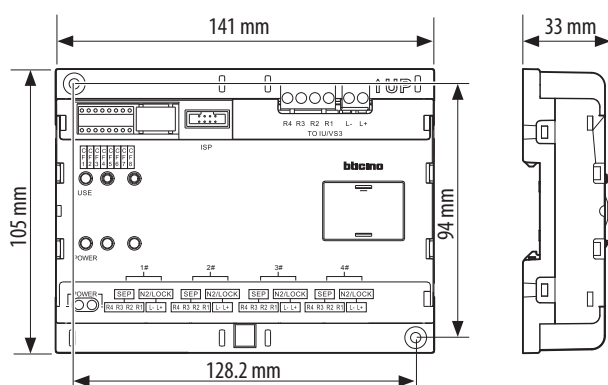
Description

D45 System interface device to be used to connect and switch multiple SEP (Small Entrance Panel). Generally is possible to connect 4 SEPs but in some special cases you can connect (by cascade connection - max. 2 levels) up to 16 SEPs. Settings by an 8 positions DIP SWITCH.

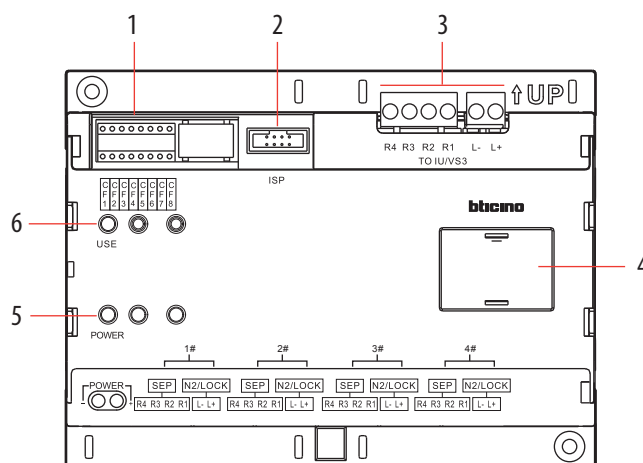
Technical data

Power supply:	18 - 30 Vdc
Stand by absorption:	≤ 15 mA @ 30 V
Max operating absorption:	≤ 1 A@30 V
Stand by power consumption:	≤ 0.45 W
Operating power consumption:	≤ 30 W
Door lock maximum current :	400 mA
Operating temperature :	(-10) - (+40)°C

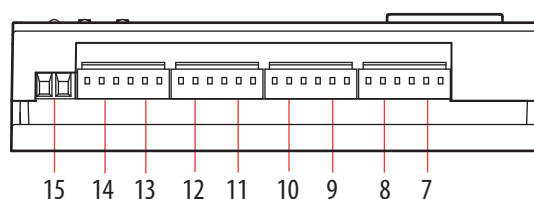
Dimensional data



Front view



Lower view



Legend

1. Configurators housing
2. (ISP) serial interface connector for PC configuration and firmware update
3. Internal unit or (323009) apartment interface connector
4. 8 positions SETTINGS DIP SWITCH
5. Power supply LED
6. Conversation status LED
7. (SEP 4) SEP 4 door lock (L- L+) or (323015) door lock accessory connection
8. (SEP 4) small entrance panel 4 (R1-R2-R3-R4) input connector
9. (SEP 3) SEP 3 door lock (L- L+) or (323015) door lock accessory connection
10. (SEP 3) small entrance panel 3 (R1-R2-R3-R4) input connector
11. (SEP 2) door lock (L- L+) or (323015) door lock accessory connection
12. (SEP 2) small entrance panel 2 (R1-R2-R3-R4) input connector
13. (SEP 1) door lock (L- L+) or (323015) door lock accessory connection
14. (SEP 1) small entrance panel 1 (R1-R2-R3-R4) input connector
15. Auxiliary power supply input connector (30 V)

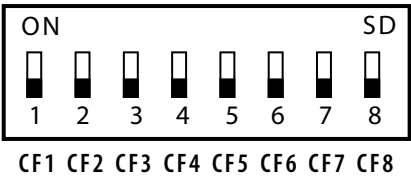
Number of Small Entrance Panel (SEP) SETTINGS

During the installation, the real number of Small Entrance Panel (SEP) must be set. Settings must be performed by DIP SWITCH (**CF1 - CF2 - CF3 - CF4**) as for **8421 BCD CODE**. CF1 is the high-order place and CF4 is the low-order place. When the switch is turned to **ON**, it's **1** and when to **OFF**, it's **0**. The number of SEP to be monitored is equals to the set number plus 1 - as for the following formula :
(**CF1 x 8 + CF2x 4 + CF3x 2 + CF4 x 1**) + (**1**).

For example, when (CF1=0), (CF2 = 0), (CF3 = 1) and (CF4= 1), **the number of connected SEPs is** : (0 x 8)+(0 x 4)+(1 x 2)+(1 x 1)+1 = **4 (units)**

Code switches (CF1 - CF2 - CF3 - CF4) are also used to **set the SEPs extension number** as for the following table :

SEP EXTENSION NUMBER	CF1	CF2	CF3	CF4
1 SEP	OFF	OFF	OFF	OFF
2 SEPs	OFF	OFF	OFF	ON
3 SEPs	OFF	OFF	ON	OFF
4 SEPs (Factory settings)	OFF	OFF	ON	ON
5 SEPs	OFF	ON	OFF	OFF
6 SEPs	OFF	ON	OFF	ON
7 SEPs	OFF	ON	ON	OFF
8 SEPs	OFF	ON	ON	ON
9 SEPs	ON	OFF	OFF	OFF
10 SEPs	ON	OFF	OFF	ON
11 SEPs	ON	OFF	ON	OFF
12 SEPs	ON	OFF	ON	ON
13 SEPs	ON	ON	OFF	OFF
14 SEPs	ON	ON	OFF	ON
15 SEPs	ON	ON	ON	OFF
16 SEPs	ON	ON	ON	ON



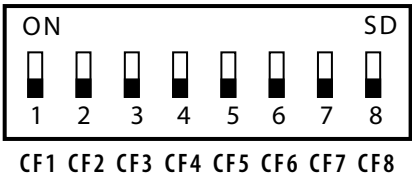
Electronic DOOR LOCK type SETTINGS

Device can operate/open both positive and negative door locks.
Positive lock = no power supply in stand by than powered ON to open the door lock.
Negative lock = powered in stand by than powered OFF to open the door lock.

Door lock number and type settings must be performed by DIP SWITCH (CF5 - CF6 - CF7 - CF8) as for the following table :

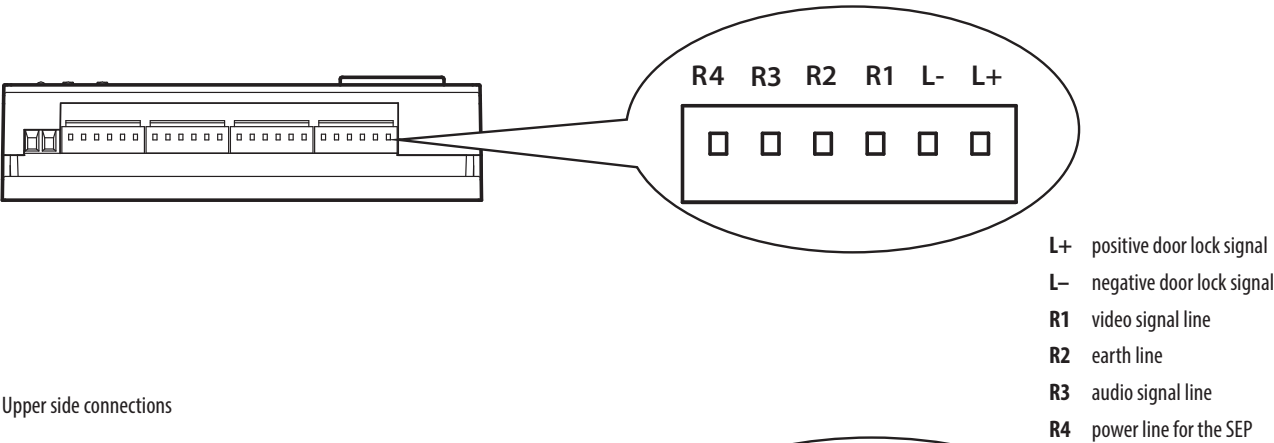
DIP position	CF5 (First lock)	CF6 (Second lock)	CF7 (Third lock)	CF8 (Fourth lock)
ON	Negative lock	Negative lock	Negative lock	Negative lock
OFF	Positive lock	Positive lock	Positive lock	Positive lock

NOTE : if (N2/LOCK) is connected by using door lock accessory (323015) or is connected to another SEP Video mixer 323023, the corresponding switch must be set to OFF.

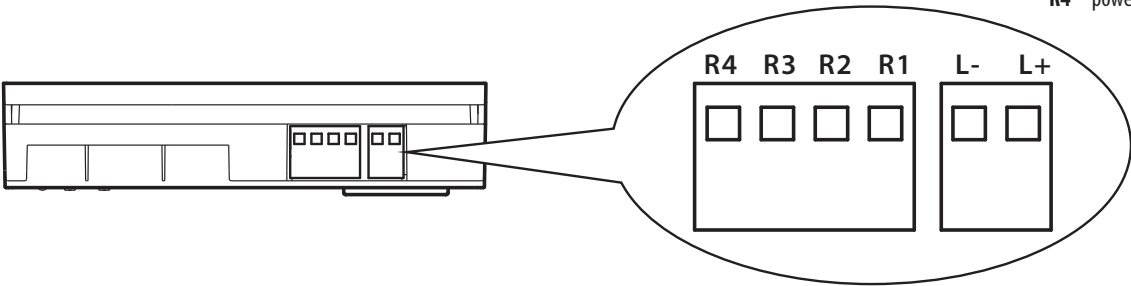


Device connection details

Lower side connections



Upper side connections

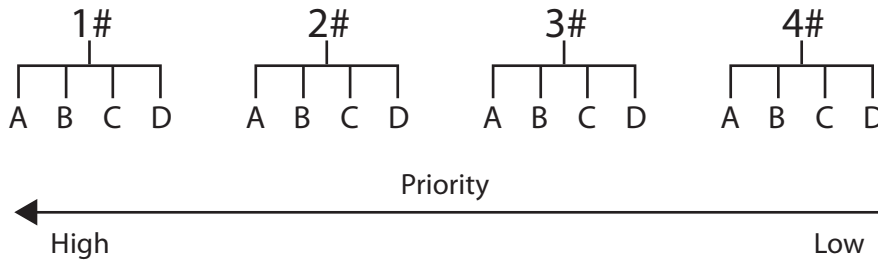


Small Entrance Panels (SEP) monitoring details

When several Small Entrance Panels (SEP) are connected to the system by 323023 device, from the video internal unit you can monitoring each SEP by pressing the monitor key. Double press on the monitor key to monitor the first SEP (1#), than hang up and double press the monitor key again to monitor the second SEP (2#) and so on.

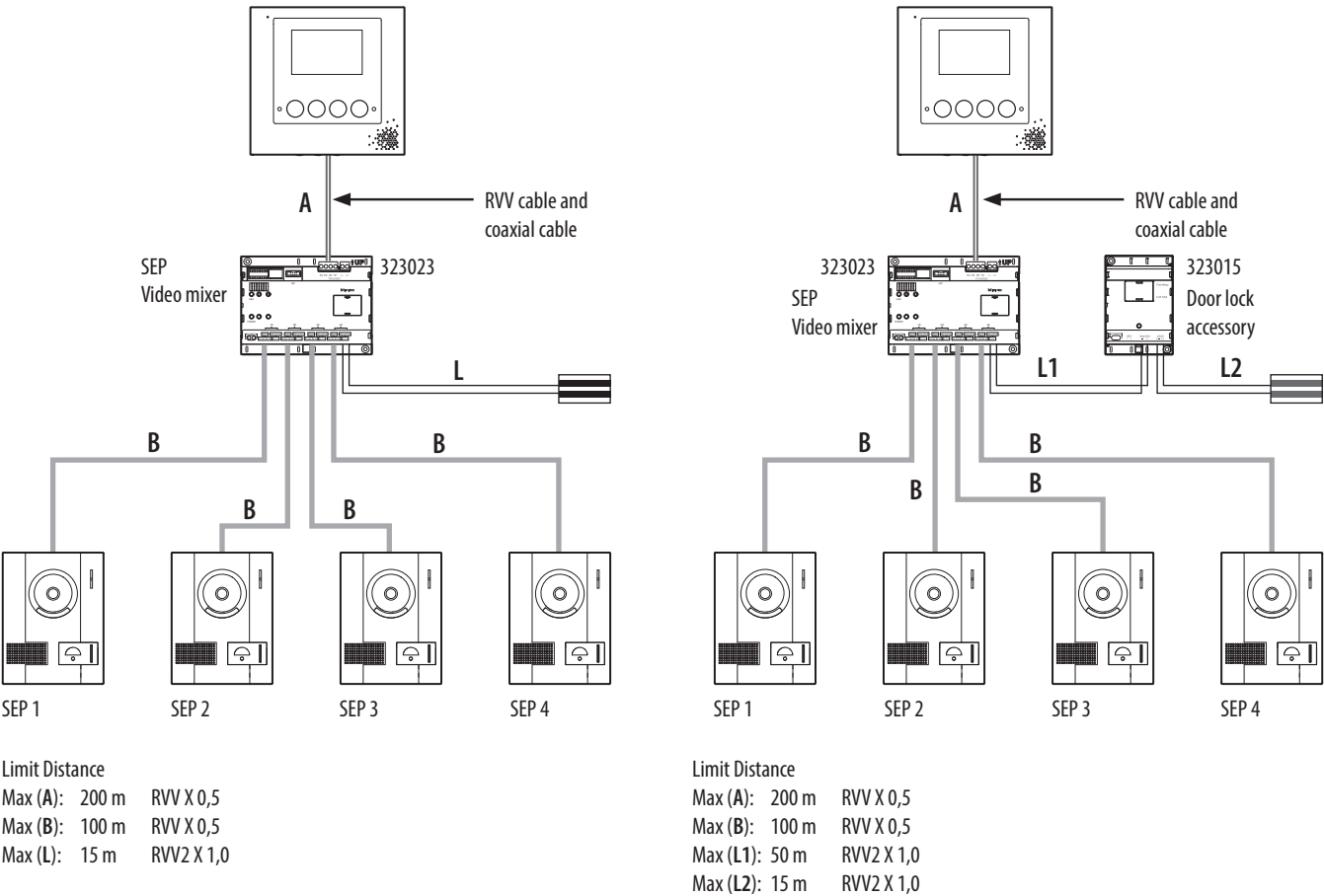
Monitoring sequence as follows :

1#A > 1#B > 1#C > 1#D > 2#A > 2#B > 2#C > 2#D > 3#A > 3#B > 3#C > 3#D > 4#A > 4#B > 4#C > 4#D



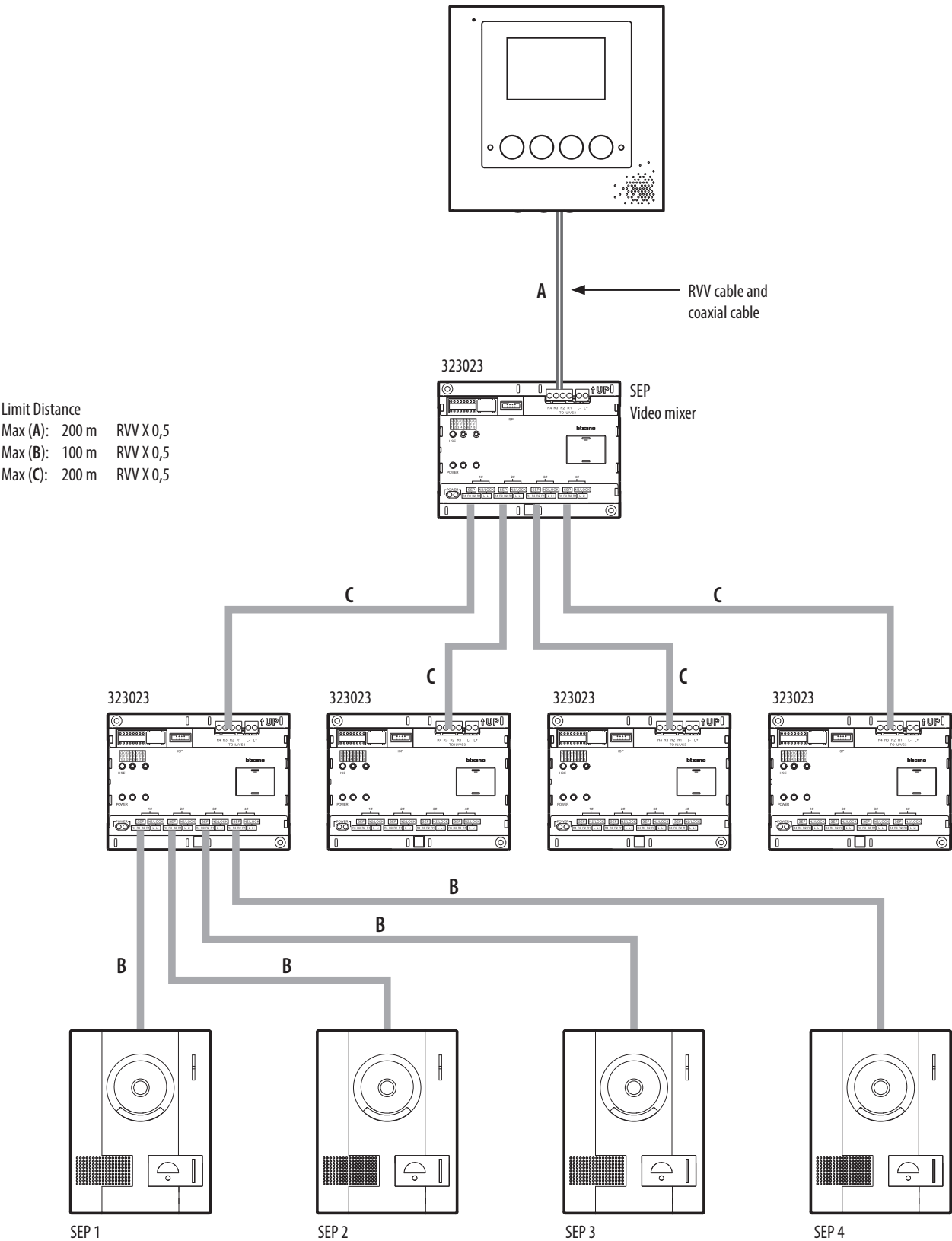
ONE LEVEL SYSTEM CONNECTION SEQUENCE: 1# > 2# > 3# > 4#
TWO LEVELS SYSTEM CONNECTION SEQUENCE: 1#A > 1#B > 1#C > 1#D > 2#A > 2#B > 2#C > 2#D > 3#A > 3#B > 3#C > 3#D > 4#A > 4#B > 4#C > 4#D

Wiring diagram - 1

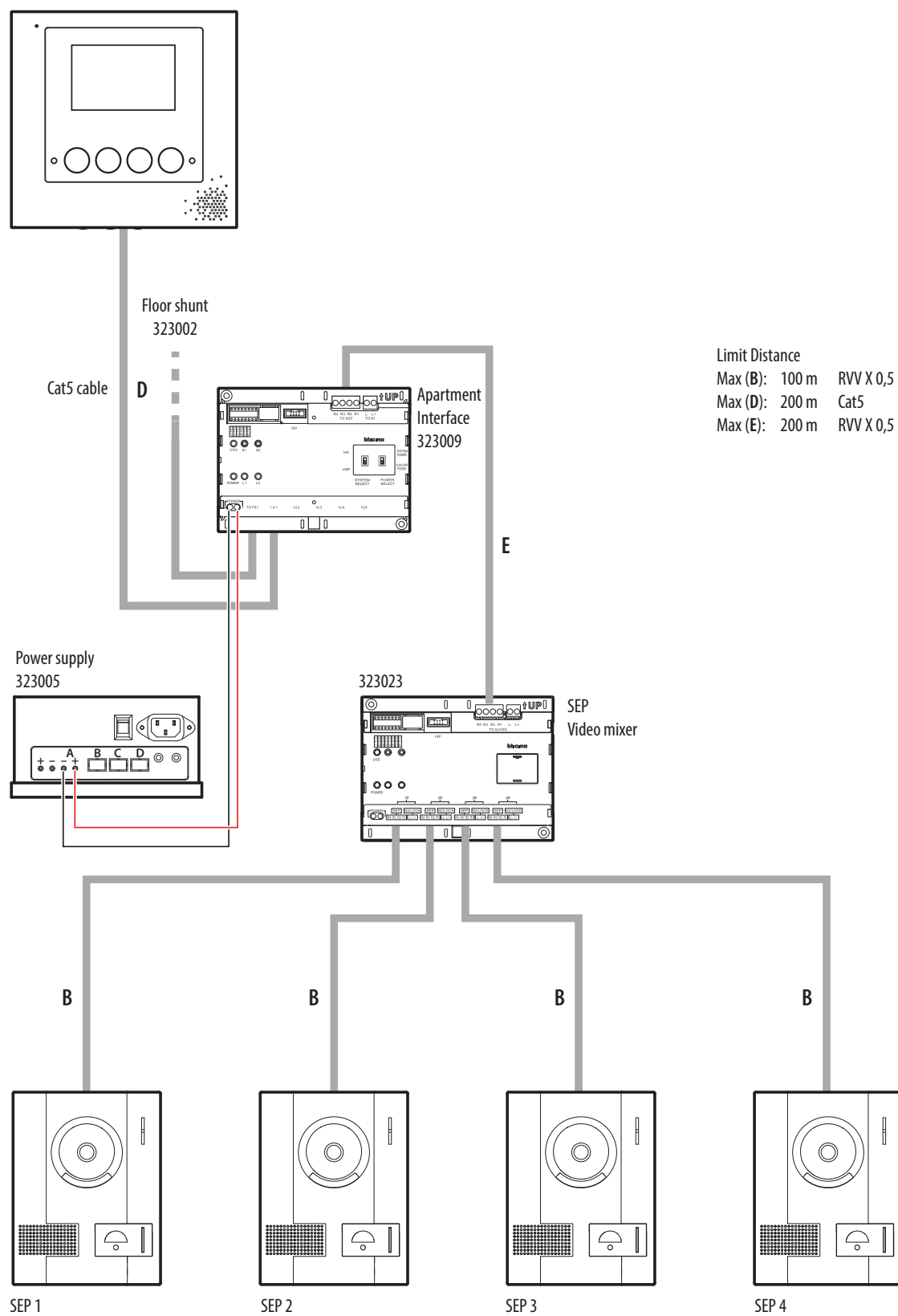


Wiring diagram - 2

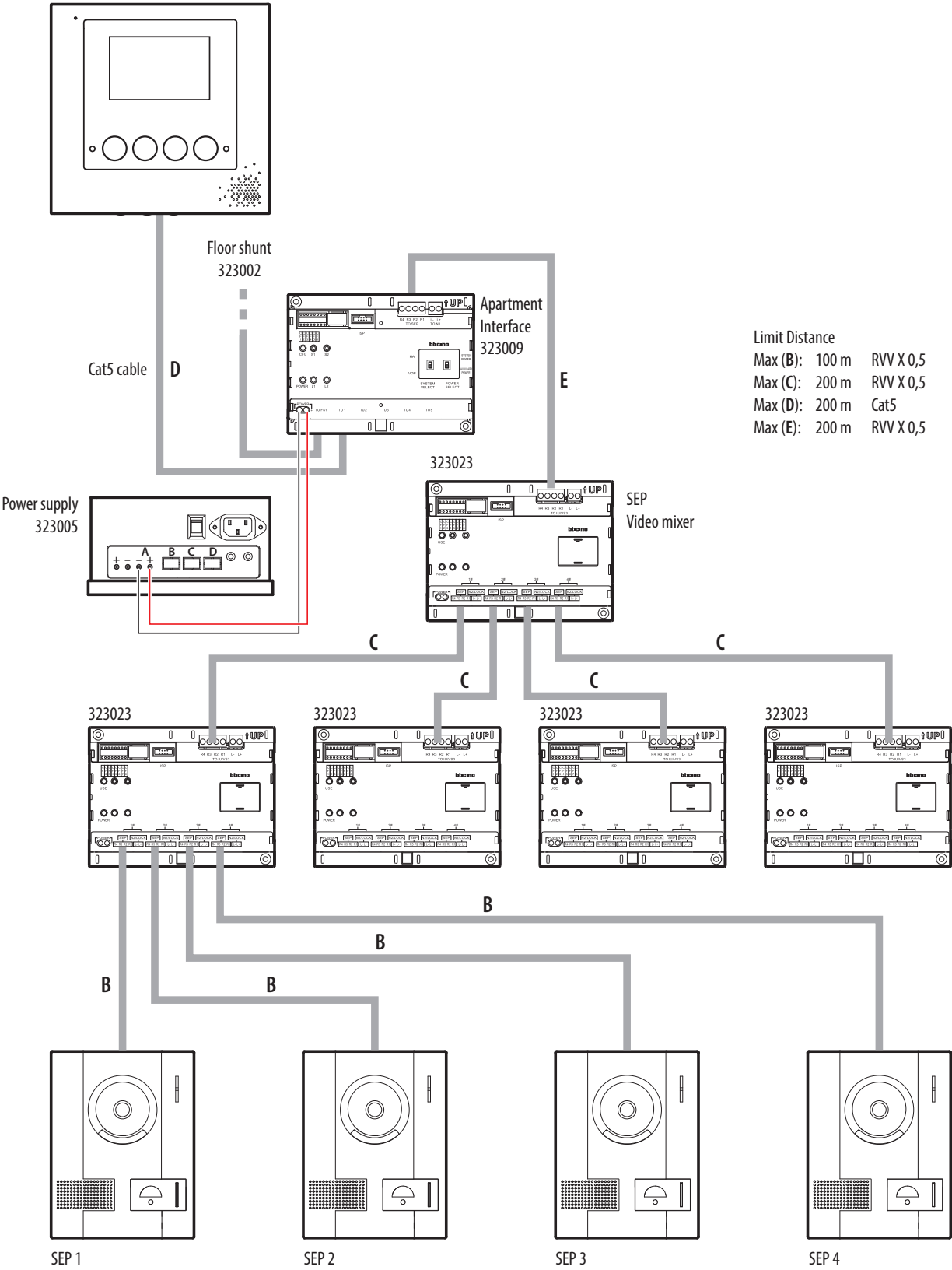
SEP Video mixer cascade connections



Wiring diagram - 3



Wiring diagram - 4



D45 to 2 WIRE interface

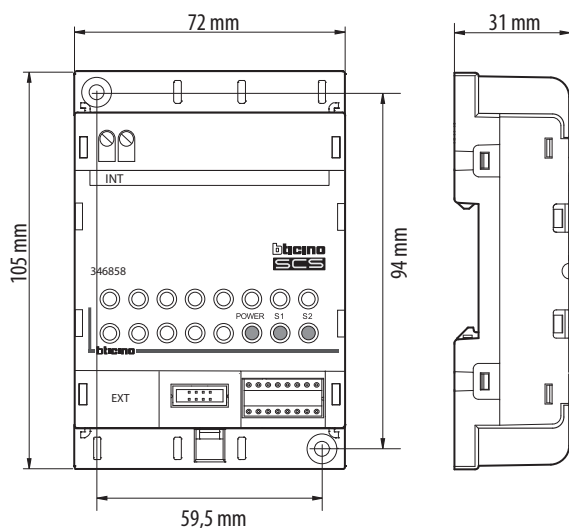
Description

D45 System switch over interface through which we can install (inside the apartment) the BTicino 2 WIRE door entry system. Interface allow to integrate and combine 2 WIRE and home automation systems in order to create 2 wire technology risers and install the BTicino enhanced colour video handsets. DIN rail installation.

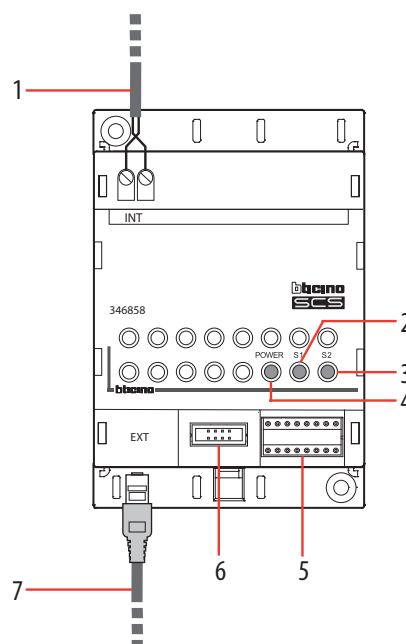
Technical data

Power supply: 30 Vdc
 Stand by absorption: $\leq 1 \text{ mA @ } 30 \text{ V}$
 Max. operating absorption: $\leq 20 \text{ mA @ } 30 \text{ V}$
 Operating temperature: $(-10)-(+40)^{\circ}\text{C}$

Dimensional data



Front view



Legend

1. INT connection, is the device external communication port. Connect to BTicino 2 WIRE system plant (inside the apartment)
2. S1 internal status LED indicator. LED ON = internal end engaged
3. S2 external status LED indicator. LED ON = external end engaged
4. Power supply status LED indicator. Red LED ON = power supply ON
5. Physical configurators socket
6. Serial interface connector
7. RJ45 connector for D45 System connection

NOTE : during communication, both S1 and S2 LEDs will flash.

Configuration

CF1	CF2	CF3	CF4	CF5	CF6	CF7	
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
F		I		#I		MC	
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

Two different configuration modes available for device :

- Simple configuration (**MODE 1**)
- Flexible configuration (**MODE 2**)

FF II = number of the indoor unit (FF refers to the first two places of the IP number and II refers to the last two places, namely the room number at the floor).

CONFIGURATION PLACE	SIMPLE CONFIGURATION MODE 1	FLEXIBLE CONFIGURATION MODE 2
CF1	FF= the floor number relevant to the HANDSET (01≤FF≤20)	FF= the floor number relevant to the IP (01≤FF≤99)
CF2		
CF3	II=the room number relevant to the IP floor (01≤II≤04)	II=the room number relevant to the IP floor (01≤II≤#II)
CF4		
CF5	#II (Mode 1, default 04, no need to set)	#II=household number of the unit (01≤#II≤99)
CF6		
CF7	MC (no need to set, relying on the setting of the Riser shunt)	MC (no need to set, relying on the setting of the Riser shunt)

Configuration examples:

Example 1

If the unit building relevant to 346858 has 18 floors, 4 households at each floor, then D45 system can adopt MODE 1 for the system configuration. When the 346858 floor is 17/F and the second household, then its configuration can be made like follows :

CONFIGURATION PLACE	SIMPLE CONFIGURATION MODE 1
CF1	FF=17
CF2	
CF3	II=02
CF4	
CF5	Default 04, no need to set
CF6	
CF7	No need to set, relying on the setting of the Riser shunt

Example 2

If the unit building relevant to 346858 has 28 floors, 3 households at each floor, then D45 system can adopt MODE 2 for the system configuration. When the 346858 floor is 10/F and the first household, then its configuration can be made like follows :

CONFIGURATION PLACE	FLEXIBLE CONFIGURATION MODE 2
CF1	FF=10
CF2	
CF3	II=01
CF4	
CF5	#II=03
CF6	
CF7	No need to set, relying on the setting of the Riser shunt



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