2-WIRES DOOR ENTRY SYSTEM

DESIGN AND INSTALLATION TECHNICAL GUIDE

THE **WORLD SPECIALIST** IN THE VIDEO DOOR ENTRY SYSTEM

bticino

2-WIRES DOOR ENTRY SYSTEM

DESIGN AND INSTALLATION TECHNICAL GUIDE

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PRE-SALE SERVICE

BTICINO supports the creation of 2 WIRES door entry and video door entry systems with a dedicated estimate software.

YouDiagram software, for the design of the system and the preparation of estimates - free to download from the **www.bticino.com website**

With YouDiagram, just a few steps are enough to design a system diagram, configure the devices, and check the absorptions on the system BUS.

For further **TECHNICAL INFORMATION** see the 2-Wires Door Entry System technical guide

AFTER SALE SERVICE

For after sales TECHNICAL ASSISTANCE, please refer to the **www.bticino.com** and **www.legrand.com** - **WORLD PRESENCE** Web Sites in order to find your nearest subsidiaries :
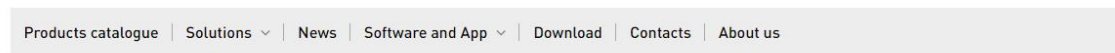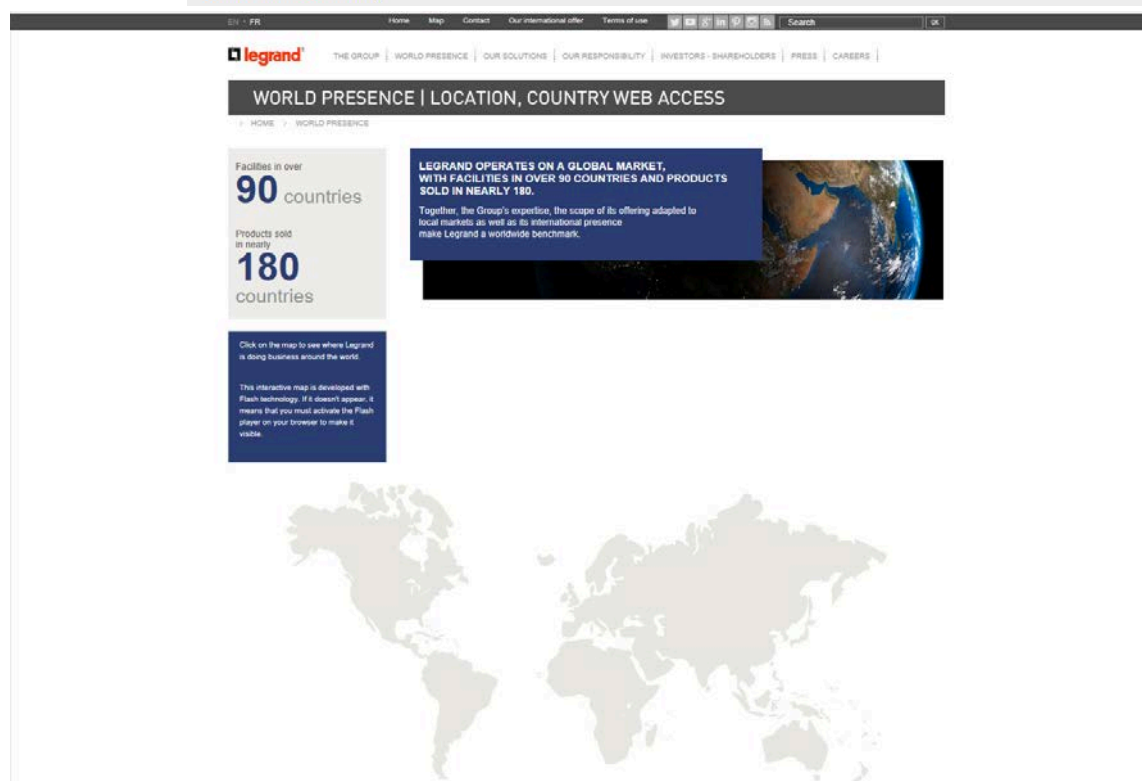
GLOSSARY

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.

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

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).

CONNECTED INTERNAL UNIT
It is an internal unit which embeds a wi-fi module able to connect to a wi-fi network.

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

FLOOR CALL
Term used to indicate the call from an out of the door bell. Usually referred to an internal unit which has an additional contact for a direct connection with an out of the door door bell.

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

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

INTERCOM
Function that provides audio communication between two internal units.

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.

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

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

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).

Call

The internal unit rings and the monitor turns on

CONVERSATION SECRECY

Communication

Apartment 1

The person rings us...

The conversation cannot be heard

OUS SWITCHING ON

Call

All the Internal Units ring and switch the monitor on in the same call

STATUS FUNCTION

Flashing

Off
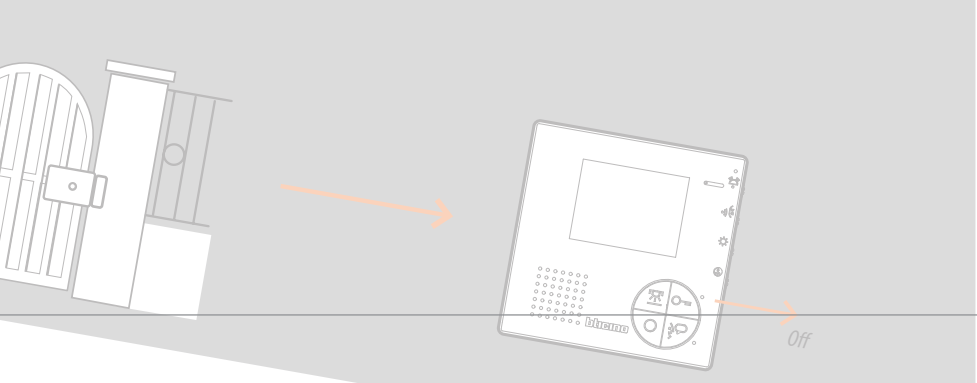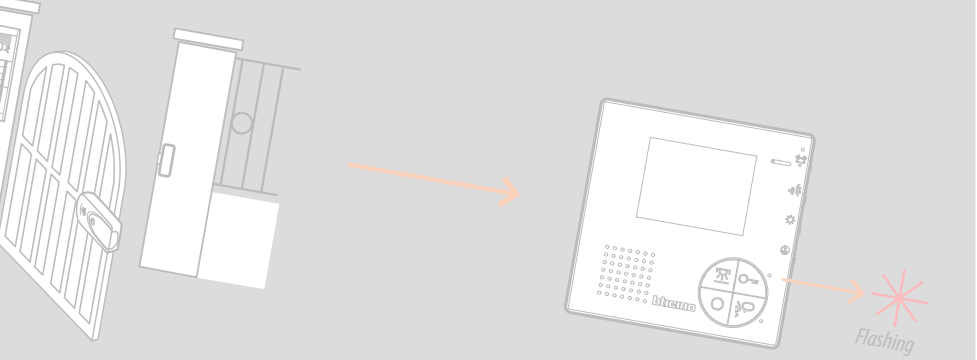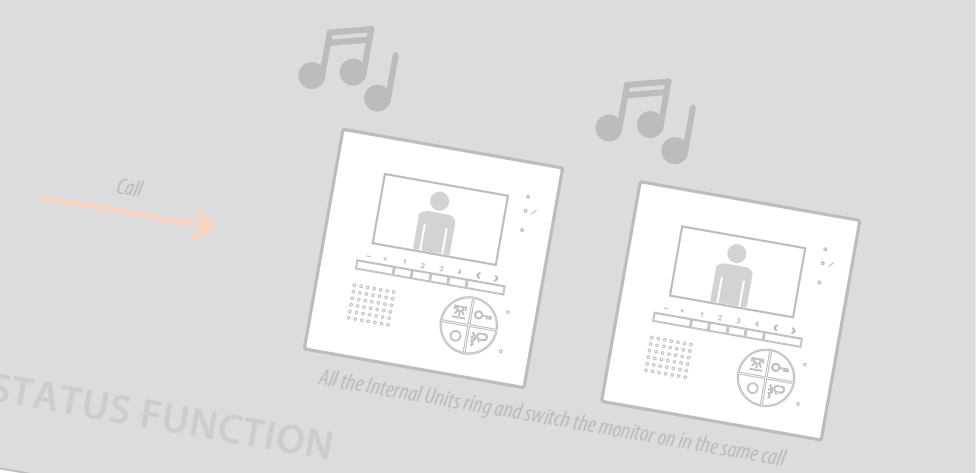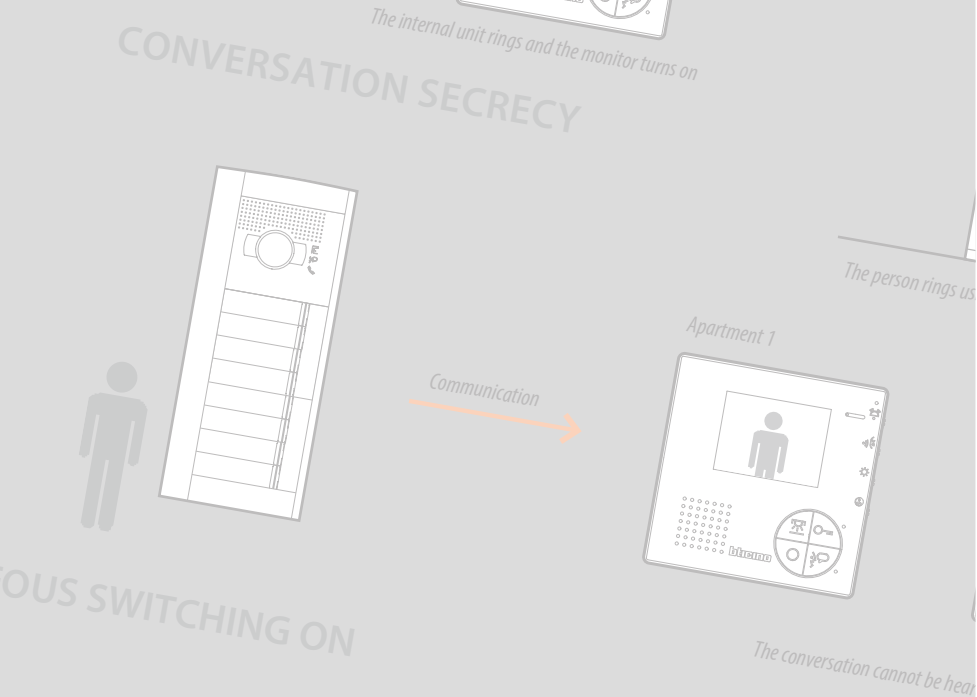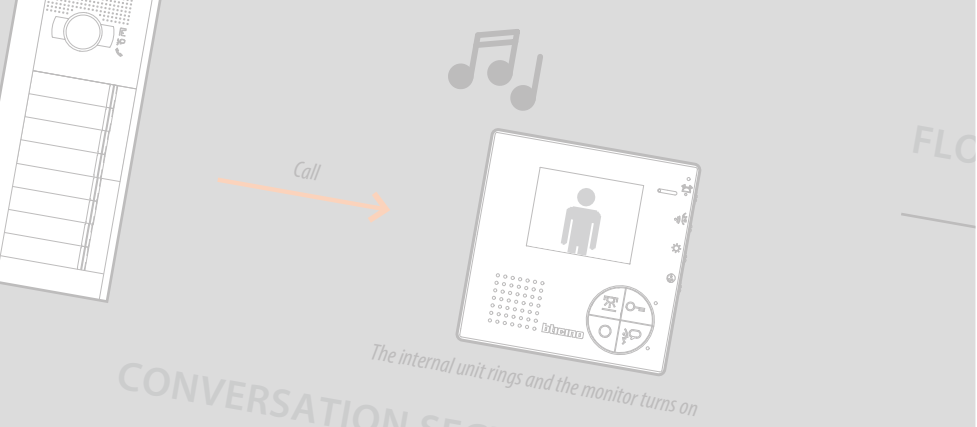
2 WIRES systems, the simplest solution for each installation

YOUR WORK IS EASIER

The 2 WIRES system is easy to use. Thanks to the NON-POLARISED 2 wires wiring of each part of the system, connection is simple, easy and fault-proof.

There will be no more mistakes and time lost due to subsequent interventions.

HIGH PERFORMANCE

The 2 WIRES technology makes it possible to install all types of systems, from villa to the apartment complex systems, with the same ease. Moreover, the possibility of using the existing cables make it an ideal solution in refurbishments.

THE SYSTEM CAN HAVE:

3900	Apartments	**3900**	Apartment video entrance panels
3	Internal Units for apartment	**39**	Risers with independent sound
96	Common video Entrance Panels	**16**	Switchboards

Entrance Panel

The furthest internal unit

600 metres

The villa | The apartment | The apartment block | The small house block

MAXIMUM VERSATILITY

The 2 WIRES system is designed to guarantee high versatility and adaptation to the needs of every customer.
The 2 WIRES technology allows you to have a door entry system ready for the subsequent addition of the video function, and is ideal in mixed audio/ video systems, to meet the needs of the individual residents. It also offers a wide range of entrance panels and internal units to fit the individual users: from basic door entry functions to the forwarding of calls to a smartphone.

INTEGRATION WITH IP TECHNOLOGY

The 2 WIRES and IP technologies may be integrated for the installation of large systems. Thanks to the dedicated LAN network, with the IP technology it is possible to obtain high system performance levels: long distances, multichannel functions, software switchboard, reception and central management of alarms.

Software IP switchboard

THE SYSTEM CAN HAVE:

1000	*Video Entrance Panels*	**10,000**	*Video Internal Units*
100	*IP devices*	**10 Km**	*Distance from the Entrance Panel to the last Internal Unit*
5	*Simultaneous calls on the IP backbone*		

IP/2 WIRES interface

GENERAL FEATURES

Ideal for refurbishments and the renewal of the old door entry system

The 2 wires system offers many advantages for the refurbishment of existing systems: reduced intervention times, ease of execution and consequential cost reduction. The customer will be able to enjoy aesthetically advanced devices and a wide range of new functions.

▷ REUSE OF EXISTING CABLES

Removal of the existing entrance panel

Use of an existing pair of wires to connect the new entrance panel

No need to remove the existing cables and lay the new ones

▷ REUSE OF FLUSH-MOUNTED BOXES

Example: Tersystem or SFERA Classic 2-module flush mounted box

SFERA NEW

SFERA Robur

Or

Linea 3000

No masonry works required to replace the existing flush mounted box

⟩ SWITCHING TO VIDEO IS EASY AND IMMEDIATE
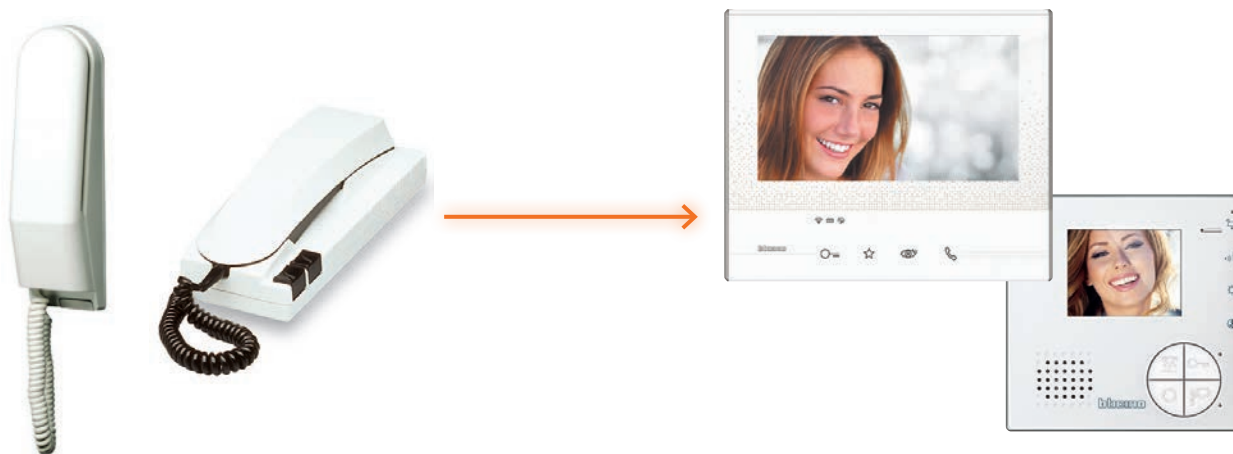
Easy shift from the old analogue audio system to the new 2 WIRES colour video system

⟩ BETTER APPEARANCE AND FUNCTIONS

In addition to the modern look of the device, the system also offers some additional functions:

- **Intercom**
- **staircase light control**
- **release of the additional door lock**
- **call repetition on smartphone**
- **additional activations**

The main devices

ENTRANCE PANEL

Audio or video outdoor pushbutton panel with colour camera. Possibility of calling audio/video internal units and activate an associated lock. The call can be sent using the keys, by selecting the name on the display, or by entering a code on the keypad. The lock can also be operated using a proximity reader (RFID) or by entering a numerical code on the keypad (only available with preset pushbutton panels).
Available in different styles, finishes, and installation types (wall mounted, flush mounted, with anti-tampering protection and with rainshield).

Sfera new

Video with 1 module

Video with 2 pushbutton call modules

Video with 3 digital call modules and door lock release reader

Sfera robur

Video with 2 pushbutton call modules

Video with 3 digital call modules, numerical keypad and nameplate modules

Linea 3000

Audio

Video

Linea 100

Pushbuttons call

Digital call

Linea 2000

Audio

Video

Linea 300

Pushbuttons call

Digital call

INTERNAL UNIT (AUDIO AND VIDEO INTERNAL UNITS)

Colour video and audio internal units for the reception of calls from the external pushbutton panel and activation of the corresponding lock. Available in different styles and installation types (wall mounted, table top, flush mounted, tilted display). Using specific keys or the menu (preset video internal units only), they give the possibility of managing the video door entry functions (e.g. activation of any cameras, locks, intercom calls, etc.).
Handsfree communication or with handset.

Classe 300X
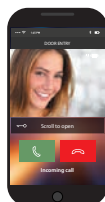
7" Touch Screen handsfree video internal units with integrated Wi-Fi connectivity

Classe 300X13E is a video internal unit that gives the possibility of forwarding the video door entry call to a mobile device. The integrated Wi-Fi connectivity allows connection with your smartphone. Thanks to the dedicated App, both while in your home and when away your will be able to manage video door entry calls, the video door entry answering machine functions, the activation of door locks and cameras, or the timed activation of lights / garden watering systems. DOOR ENTRY is the free APP for Android and iOS smartphones which can be downloaded from the respective digital stores. Configuring the App needs just a few steps and, thanks to the BTicino Cloud, the connection is totally automated and managed with the maximum level of security.

Classe 300

7" Touch Screen handsfree video internal units

Classe 100   ## Sprint L2

Video internal units   Handsfree audio   Internal unit   Internal unit
                              internal unit   with handset   with handset

The main devices

POWER SUPPLIES

They generate the system 2 wires BUS and power the devices of the system. The power supplies are SELV double insulation safety devices. Three types of power supplies are available:

▷ **346040** Power supply for 2 wires audio systems in 6 DIN modular enclosure. Power supply PRI 110 – 240 Va.c.@50 – 60 Hz. It supplies a maximum output current of 600 mA.

▷ **346050** Power supply for 2 wires audio and video systems (with integrated video adapter) in 6 DIN modular enclosure. Power supply PRI 110 – 240 Va.c.@50 – 60 Hz. It supplies a maximum output current of 1.2 A distributed on the three outputs, (BUS PI), (BUS TK) and (SCS).

▷ **346030** Compact power supply for 2 wires audio and video systems (with integrated video adapter) in 2 DIN modular enclosure. Suitable for small audio or video one-family systems.
Power supply PRI 230 Va.c.@50 – 60 Hz. It supplies a maximum output current of 600 mA.

▷ **346020** Additional power supply in 2 DIN modular enclosure. It gives the possibility of locally powering entrance panels and internal units fitted with connection clamps (1 - 2). Power supply PRI 220 – 240 Va.c. It supplies a maximum output current of 600 mA.

Audio power supply
346040

Audio and video power supply
346050
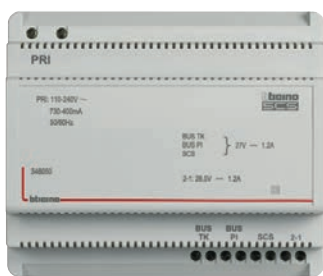
Audio and video
compact power supply
346030

Additional
power supply
346020

AUDIO VIDEO NODE

It gives the possibility of mixing audio / video signals for the connection to the system of external pushbutton panels and/or 2 wires cameras. It gives the possibility of connecting up to four 2 wires external pushbutton panels / cameras and the generation of four 2 wires risers.
It must be used in conjunction with the system power supply, item 346050. Device in 6 DIN modular enclosure.

In order to avoid jeopardising the possibility of future system expansions, the use of the audio video node is recommended with this system setup.

Audio video node
F441
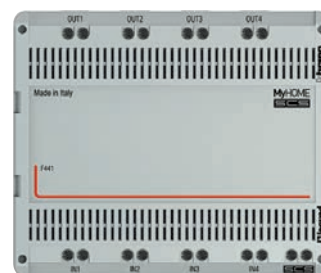
FLOOR SHUNT

Can make 2 wires video door entry systems with star wiring distribution. It automatically adapts the video signal. Its small size means it can also be placed inside the flush-mounted box.
Device in Basic enclosure with 4 outputs.

Floor shunt
346841

ACTUATORS

They give the possibility of controlling / activating additional electric locks, or activating generic loads (e.g. staircase lights, lamp for the illumination of the field of vision of the camera, call forwarding to external devices, etc.) directly from preset video internal units.
Three types of actuators are available:

▷ **346210** Relay actuator for generic loads in 2 DIN modular enclosure.

▷ **346230** Relay actuator for door lock in 2 DIN modular enclosure.

▷ **346260** Timed relay actuator for door lock in 4 DIN modular enclosure.

Generic actuator
346210

Door lock actuator
346230

Timed actuator
346260

APARTMENT INTERFACE

It gives the possibility of installing a dedicated apartment system, independent from the apartment block riser. In the apartment, it will therefore be possible to install a video door entry system with dedicated private external pushbutton panels / cameras, possibly also integrated with the home automation system. Device in 4 DIN modular enclosure.

Apartment interface
346850

SYSTEM EXPANSION INTERFACE

It gives the possibility of increasing the number of devices connected to the 2 wires system, of reaching the maximum installation distances, of generating risers with independent audio, and expanding the apartment system performance.

System expansion interface
346851

The accessory devices

RELAY MODULE

It gives the possibility of operating "non-standard" door locks.
The device must be connected to the (S+/S-) clamp of the speaker module of the entrance panel.

Relay module
346250

INDOOR AND OUTDOOR 2 WIRES CAMERAS

Colour 2 wires camera that can be directly connected to the 2 wires BUS of the system. Images can be displayed directly on the video internal units, or the smartphone trough the App. Indoor cameras are fitted with a microphone for the room monitoring function. Available in the Livinglight and Axolute versions, they are flush mounted and must be completed with the corresponding finishing cover plates.
The outdoor camera has an IP65 protection index and a CMOS colour 1.3" sensor with 6 mm fixed optics.

Indoor camera

Outdoor camera

COAX / 2 WIRES INTERFACE

Can connect the cameras with 12 Vd.c. power supply (consumption 150 mA max) and coaxial video output (1 Vpp @ 75ohm) to the video 2 wires BUS. The interface directly powers the camera. The device may be used as separate camera interface. In order to associate a camera to an audio entrance panel, it will be enough to configure the interface and the entrance panel with the same configurator in the P position.

Coax / 2 wires interface
347400

ADDITIONAL BELLS

Can repeat the audio/video door entry call in several rooms. The connection is completed with 2 wires directly connected to the clamps (1 - 5/5M) of the preset internal units (336910 bell), or through the 2 wires BUS (melodic bells).
Available in LIVINGLIGHT or neutral (336910) finish. Wall-mounted installation with LIVINGLIGHT series accessories and finishing cover plates.

Melodic bell
346982
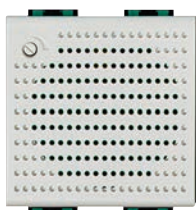
Melodic bell
346983
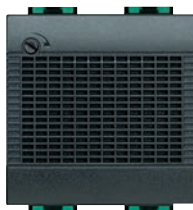
Melodic bell
346984
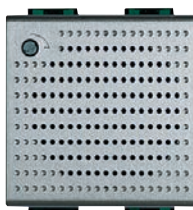
Neutral additional bell
336910

SWITCHBOARD

It's a table-top device suitable for 2 wires multi-family systems that provides access to the various apartment block video door entry system services: intercommunication among apartments, management of door locks and staircase lights, monitoring of cameras installed in common areas and of technical alarms. It has a large 7" LCD colour display with icon menu, handset and handsfree.
It gives the possibility of creating an internal unit, external pushbutton panel and switchboard address book.
It is possible to connect to the system up to 16 switchboards.

Switchboard
346310
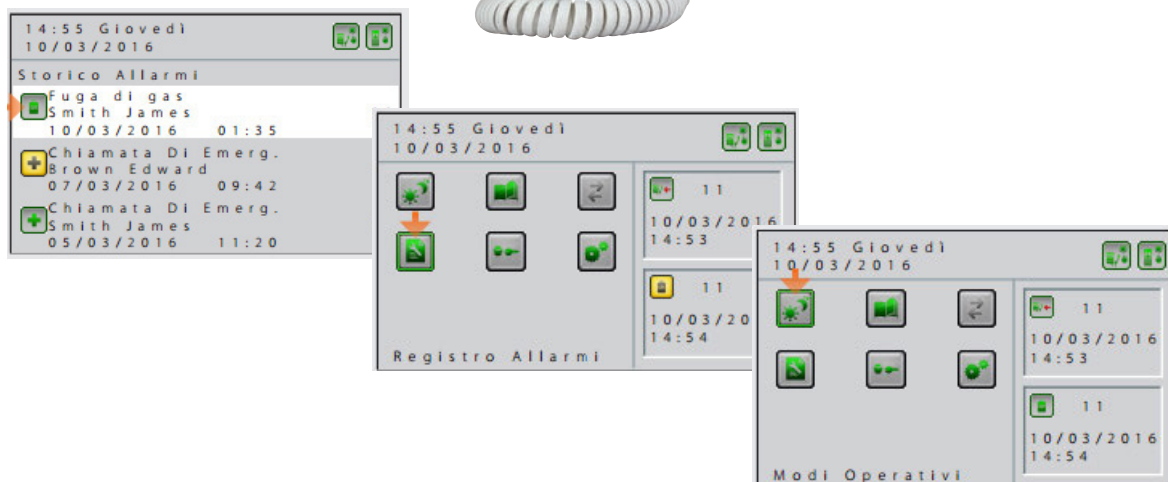
The system functions

THE CALL

When the call key of the entrance panel is pressed, the system generates a signal that is only recognised by the intended recipient's internal unit/s (a period of 30 seconds is allowed to answer the call after the pressure of the key). The internal units are uniquely configured. When the call is received, the internal unit rings and the monitor (if present) turns on. When the connection key is pressed, or the handset is lifted, the communication with the entrance panel is established (maximum conversation time 1 minute). When the communication key is pressed again, or the handset is replaced, communication is interrupted and the monitor turns off.

Video door entry call

The internal unit rings and the monitor turns on
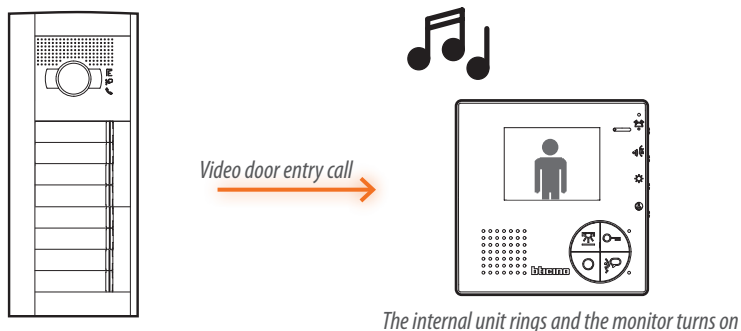
CONVERSATION SECRECY

During the conversation between the entrance panel and the internal unit, any other entrance panels and internal units not involved in the communication are temporarily excluded, therefore ensuring the privacy of the conversation. When a call is made from a temporarily excluded entrance panel an engaged sound will indicated to the user that the internal line is momentarily busy.

Communication

Apartment 1   *Apartment 2*

The conversation cannot be heard.
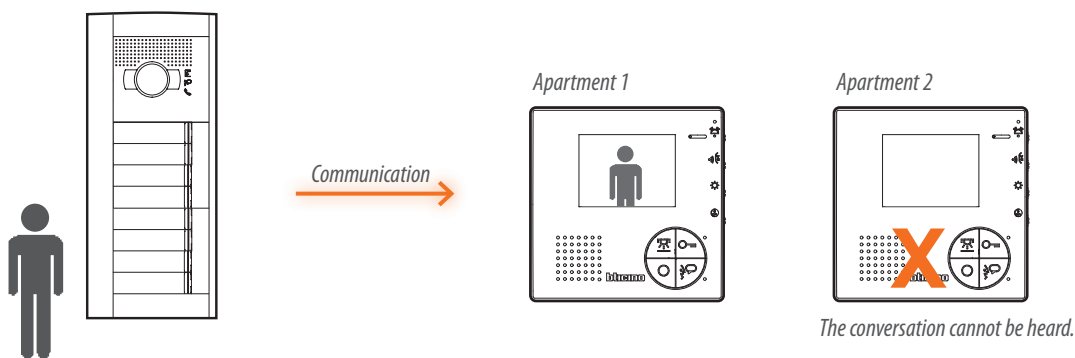
SIMULTANEOUS SWITCHING ON

With preset video internal units, simultaneous switching on of the monitors is also possible: when the call is received, all the internal units ring and the monitors of all video internal units turn on. When the call is answered, only the monitor of the video internal unit that has established communication with the entrance panel will stay on. For this function to be possible, all the video internal units with the exception of one must be powered locally through the additional power supply unit, item 346020.

Video door entry call

All the internal unit rings and their monitors switch on for the same call.
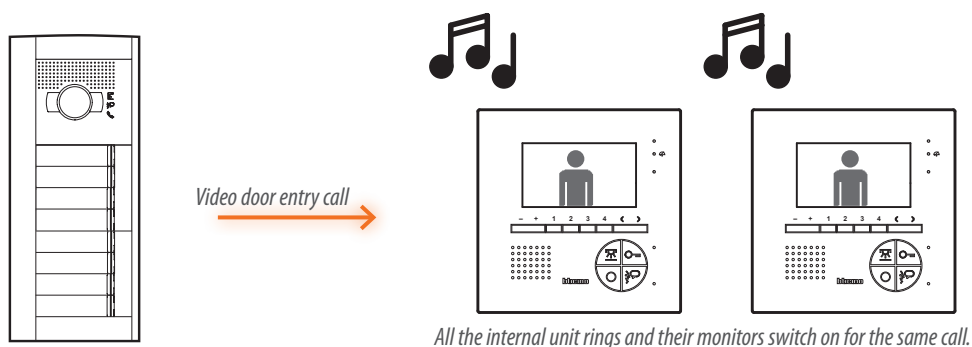
MASTER-SLAVE FUNCTION

All video internal units have a MASTER-SLAVE function: when the call is received, all the internal units ring but only the monitor of the video internal unit set as MASTER switches on. When the auto-switching on key is pressed on a SLAVE, the monitor of the MASTER internal unit switches off and the monitor of the SLAVE switches on (without necessarily establishing communication with the entrance panel). When the connection key is pressed, or the handset is lifted, the communication with the entrance panel is established (maximum conversation time 1 minute).

Video door entry call

Master   *Slave*

When a call is received, the MASTER switches on and rings, while the slave only rings.
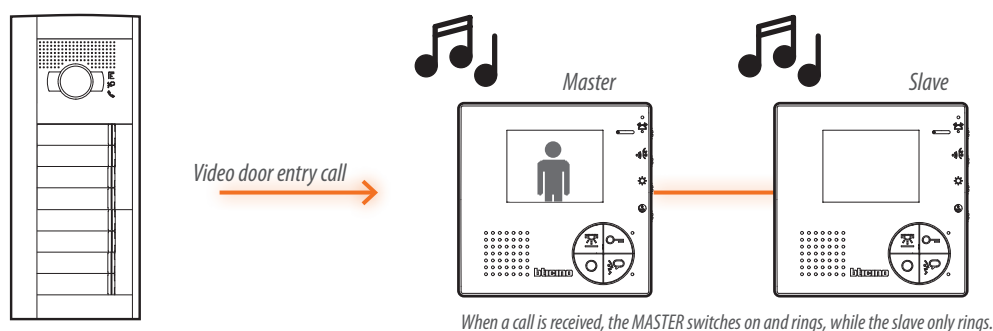
DOOR LOCK RELEASE

All internal units have a door lock key, which can be pressed to order the opening of one of the system locks. With the system idle, pressing the key opens the door lock of the associated entrance panel (the association is completed using the **P** configurator of the internal unit). In case of active call, it opens the door lock/actuator associated to the entrance panel that has made the call.

Video door entry call

The pressure of the door lock key opens the gate associated to the Internal unit
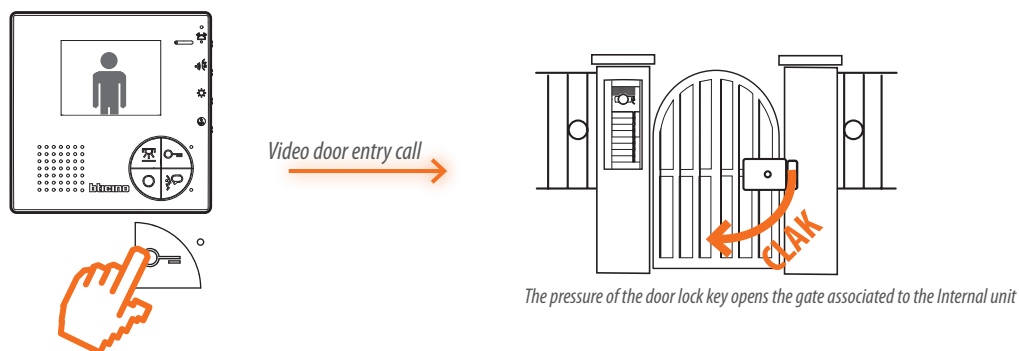
RELEASE OF THE ADDITIONAL DOOR LOCK

In case of request of opening of one or more door locks in addition to the main one (directly connected to the speaker module of the entrance panel), it will be necessary to use a specific actuator: generic actuator item 346210, or door lock actuator item 346230 or 346260 (the latter offers better door lock timing flexibility when compared with item 346230). The correctly configured actuator is controlled by the dedicated internal unit pushbutton. Critical electric locks may be powered using an auxiliary transformer.

Door lock of the main entrance   *Door lock of the secondary entrance*
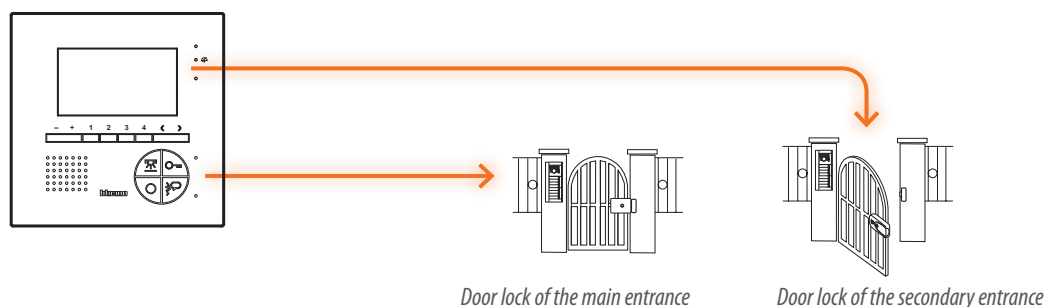
In order to use this function, a generic actuator, item 346210 (2 DIN), or a door lock actuator, 346230 (2 DIN) / 346260 (4 DIN), are required.

The system functions

RELEASE OF 2 DOOR LOCKS WITH CODE-LOCK

By using the Sfera 353000 keypad module configured with M=3 - (and integrated in the external pushbutton panel with the speaker module), it is possible to control the activation of 2 separate door locks with a numerical code. The device manages both the door lock connected to the speaker module / AV module of the entrance panel, and any door locks directly connected to the clamps of the 353000 local relay (the latter requires dedicated power supply).

Door lock of the main entrance

Door lock of the secondary entrance
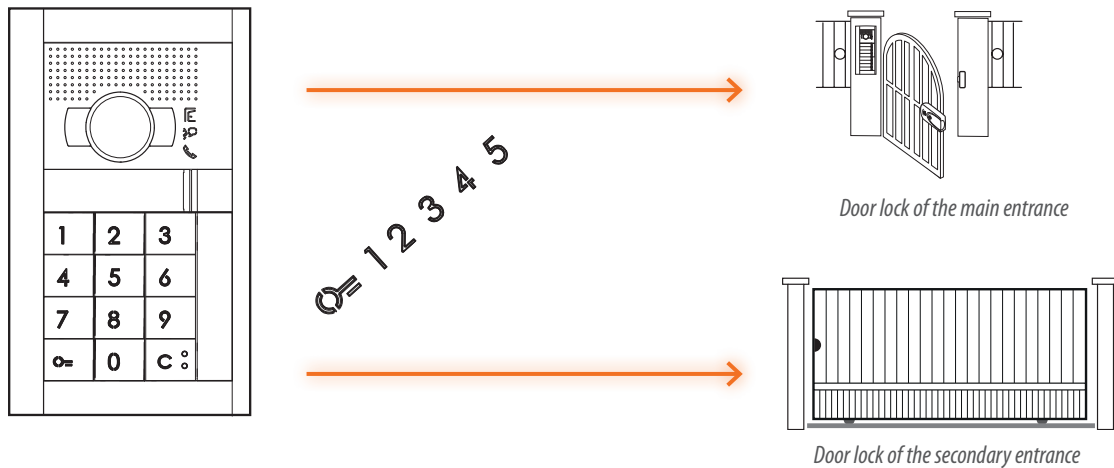
ACTIVATION

Audio and video internal units have a dedicated key that controls (by default) an actuator item 346210 configured in staircase light mode. The key may also be configured for other functions.

The staircase light function switches on the lamps of the system connected to a certain actuator.
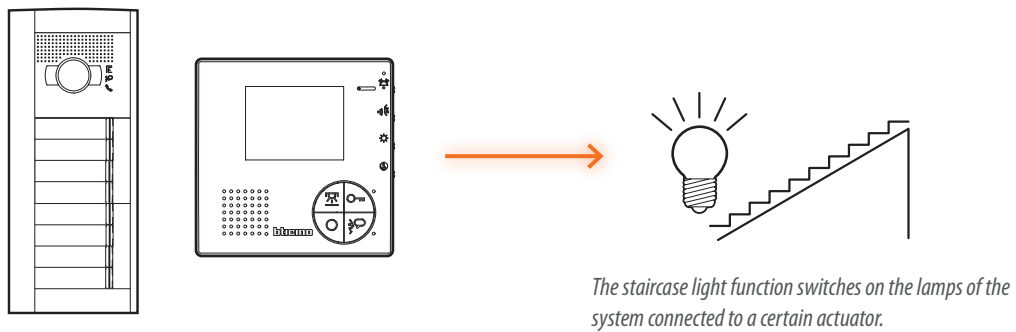
In order to use this function, a generic actuator, item 346210 (2 DIN) is required.

AUTO-SWITCHING ON

Pressing the auto-switching on key with the video internal unit idle will establish communication with the entrance panel associated through the P configuration of the internal unit. Continue pressing the auto-switching on key to cycle through the various entrance panels/cameras connected to the system.
The auto-switching on function is not available when the system is already "engaged" in a conversation between entrance panel and internal unit.
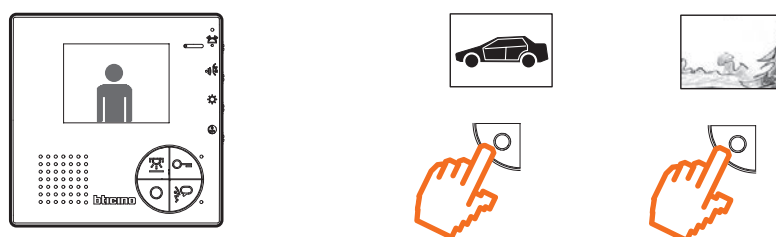
Every time that the auto-switching on key is pressed, the images displayed change.

INTERCOM CALL

The system offers an INTERCOM function, for communications of 3 min. maximum between video internal units:

▷ of different apartments

▷ of the same apartment.

If the apartment has an apartment interface 346850 or is a single-family unit, it is possible to separately call the individual apartment video internal units. In this case, the INTERCOM connection can take place while other connections to the outside of the apartment are also active. However, if the apartment has no apartment interface 346850, an apartment internal unit can call all the internal units of the apartment itself, but the INTERCOM connection cannot take place while other connections to the outside of the apartment are active. Any calls from the entrance panel or other apartments will take priority, therefore stopping the INTERCOM communication.

Apartment 1

Video door entry call

Apartment 2

GENERAL INTERCOM CALL

The general intercom call is only possible inside the apartment (therefore with interface 346850) or in a single-family context. By appropriately configuring the video internal unit, with a specific device it will be possible to make an intercom call to the other internal units of the apartment itself. The general intercom connection cannot be active at the same time as other connections. Calls from the entrance panel will take priority, therefore stopping the INTERCOM connection.

APARTMENT XX
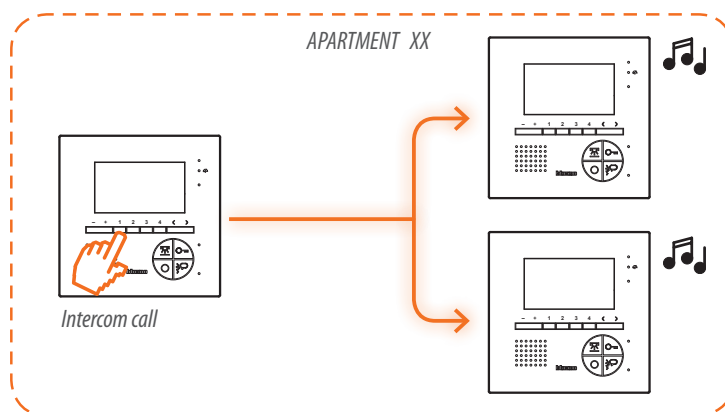
Intercom call

PRESET INTERCOM CALL

From the preset internal units of the apartment block system it is possible to send an INTERCOM call to one single internal unit (for example the caretaker's internal unit). This internal unit receives intercom calls but CAN NOT send them.
Calls from the entrance panel will take priority, therefore stopping the intercom connection.

*Preset
intercom call*

CARETAKER
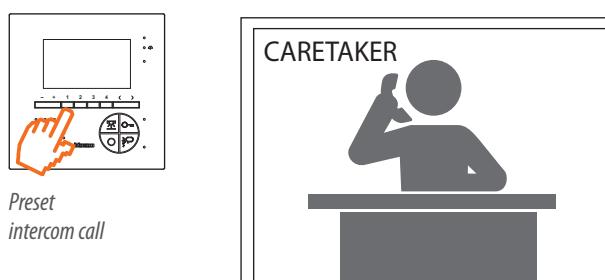
The system functions

PAGER FUNCTION (NOTIFICATION)

This function (only available with handsfree devices) gives the possibility of broadcasting a voice message from the microphone of the audio/video internal unit (preset internal units only) to the loudspeakers of the sound system. To activate briefly press the "Connection" key while the device is in the idle condition. The activation of the function is confirmed by the green LED coming on. If the interested party connects through an internal unit, an intercom connection is established. Calls from the entrance panel will take priority, therefore stopping the intercom connection.

Mr. Jones is wanted in the office

To disable the function press the "Connection" key again.
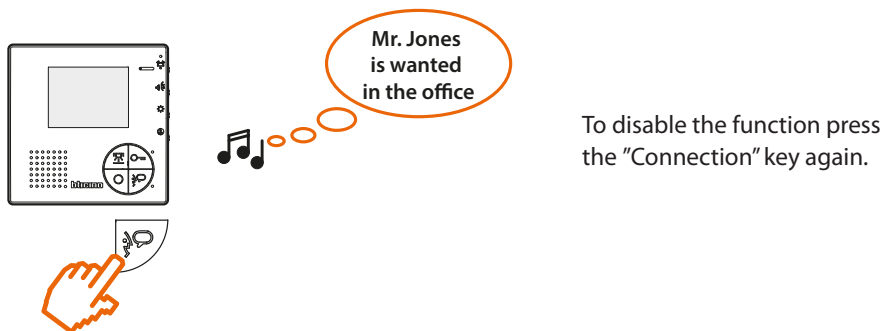
CALL REPETITION ON SMARTPHONE

In single and multi family systems with Classe 300X13E video internal units it is possible to set the forwarding of the video call to a smartphone (android and Ios). The video internal unit integrated Wi-FI connectivity allows connection with a mobile device. The dedicated Door Entry App can be downloaded free from the digital stores (Google Play & Apple Store). The Classe 300X13E internal unit gives the possibility of managing the system both while at home and when out: taking video/ audio entrance panel calls, electric door lock control and activation of any cameras connected to the video/audio door entry system using a smartphone.

Wi-Fi router modem

App dedicated to iOs and Android

Legrand Cloud
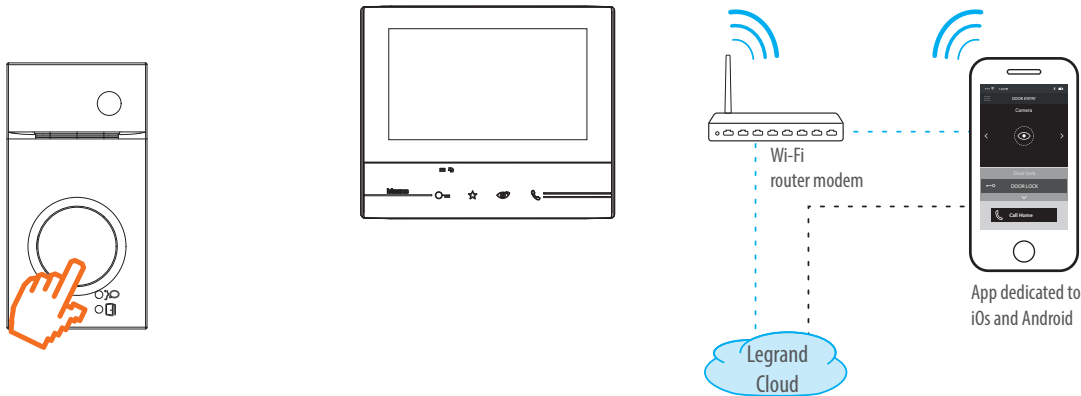
PROFESSIONAL STUDIO (OFFICE) FUNCTION

This function is used mainly in the service sector (offices, GP Doctors surgeries, professionals), and in all those situations when the opening of the gate or the entrance door is required without physical interaction with the internal unit. When a person rings from the entrance panel, the internal unit rings, the video if present switches on and the associated door lock is activated without the need for anyone to press the internal unit door lock key.
- In order to use this function, the internal unit must be configured appropriately, after which it can be enabled/disabled as needed.
- It cannot be activated together with the DOOR STATUS function.

The person rings using the entrance panel.

The internal unit rings and automatically opens the associated door lock

CLAK

The gate opens
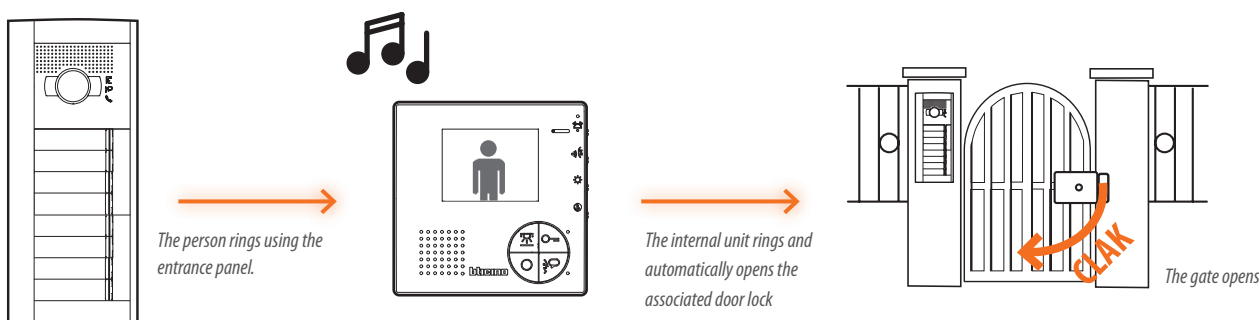
DOOR STATUS FUNCTION

Using internal units equipped with a specific notification LED and the door lock actuator item 346260 installed in the system, it is possible to control the status of doors and gates. When the gate is open, the notification red LED flashes; when the gate is closed the LED is off. In case of control of 2 or more entrances, the LED is off when all of them are closed, and is on when at least one of them is open.

It cannot be activated together with the PROFESSIONAL STUDIO (OFFICE) function..

Flashing

OFF
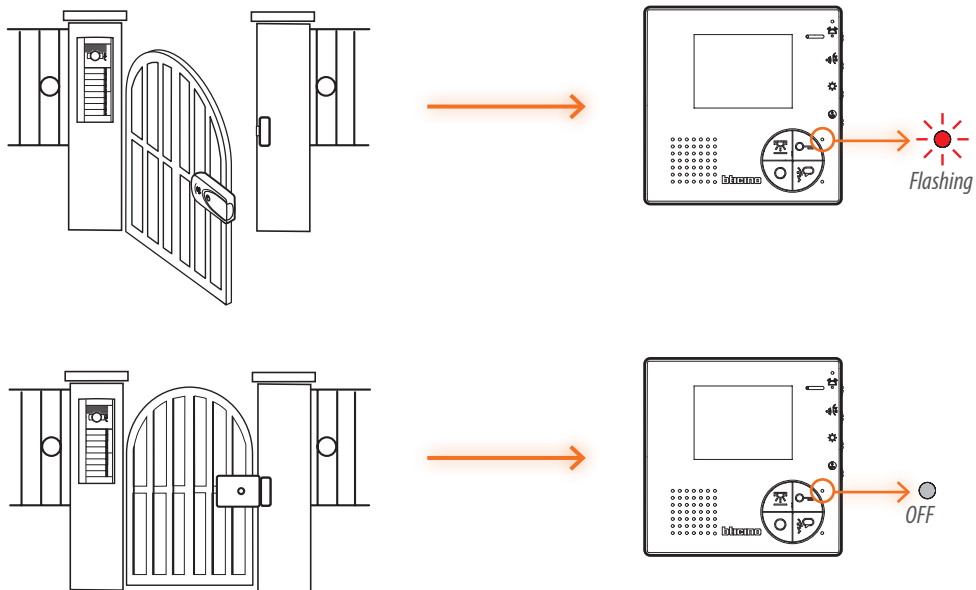
FLOOR CALL FUNCTION

The internal units (audio and video) of the 2 WIRES system make it possible to take advantage of the CALL TO THE floor function; by connecting a pushbutton to the clamps (ET / ⎓), it is possible to use the own bells of the devices to make calls from 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.

The person rings using the pushbutton outside the door.

The internal unit operates as a bell for the call from outside the door.
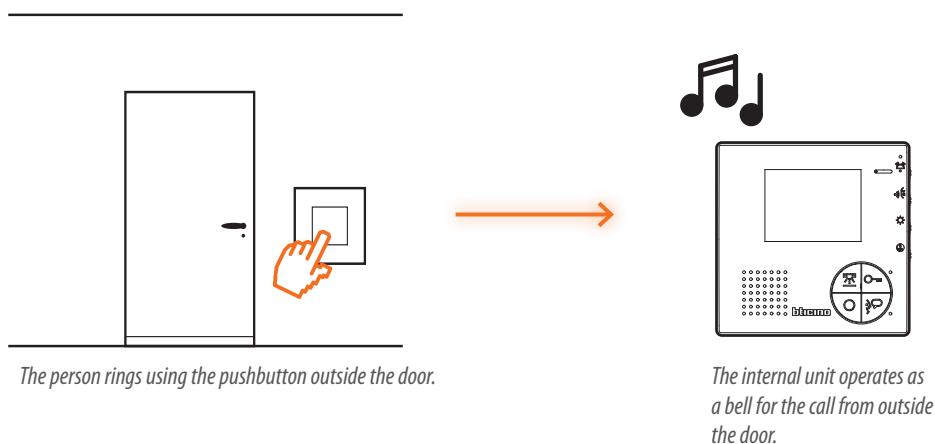
The system functions

VIDEO DOOR ENTRY ANSWERING MACHINE FUNCTION

Function only available when using the Classe 300X13E (344642 / 344643) video internal unit. Activate the answering machine to record a film clip of the visitor who was looking for you. Each message is allocated a progressive number shown on the video internal unit screen, together with date and time.
It is also possible to record an audio message to play back on the entrance panel in case of unanswered call.

Answering machine

We are temporarily absent
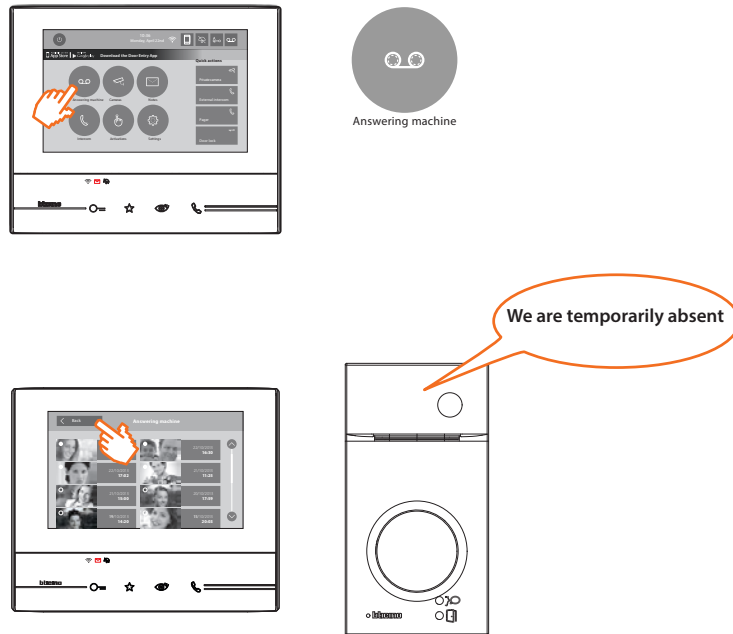
PUSH TO TALK FUNCTION

If the entrance panel is in a particularly noisy zone/position, during the communication it will be possible to enable the PUSH TO TALK function (it can be activated only from the preset handsfree internal units), which will provide a better quality of communication.
The function can be enabled / disabled directly from the internal units (enabling / disabling procedure available on the individual technical specifications).

SWITCHBOARD

Available for multi-family installation, the 2 WIRES switchboard offers central management and supervision of the various apartment block video door entry system services. Using this device, it is possible to communicate with the apartments, manage the door lock control, switch on the staircase lights, monitor the cameras connected to the common sections of the system, and any alarms from apartments or common areas. It is possible to connect to the switchboard an additional bell type ringtone for call forwarding purposes. The device has a customisable address book for internal units, entrance panels and any other connected switchboards.

The internal unit calls the switchboard using the AUTO-SWITCHING ON key. In case of handsfree internal units, when the switchboard operator lifts the handset the internal unit rings, and when the CONNECTION key is pressed it is possible to speak with the switchboard operator.

With internal units with handset, 2 different situations can occur:
- Call with the handset down (same behaviour as handsfree internal units)
- Call with the handset lifted: when the switchboard operator lifts the handset, on the internal unit it will be necessary to put down and then lift the handset again to communicate. With Classe 100A12M audio internal units, the call from the switchboard is notified by a flashing connection LED.

If the switchboard is engaged, the call is placed into a queue and will be managed by the switchboard operator, who will select it from the call list.

Alarm management

Camera display

Receiving a call from the entrance panel

Staircase light switching on

Door lock release

CLAK

Intercom calls
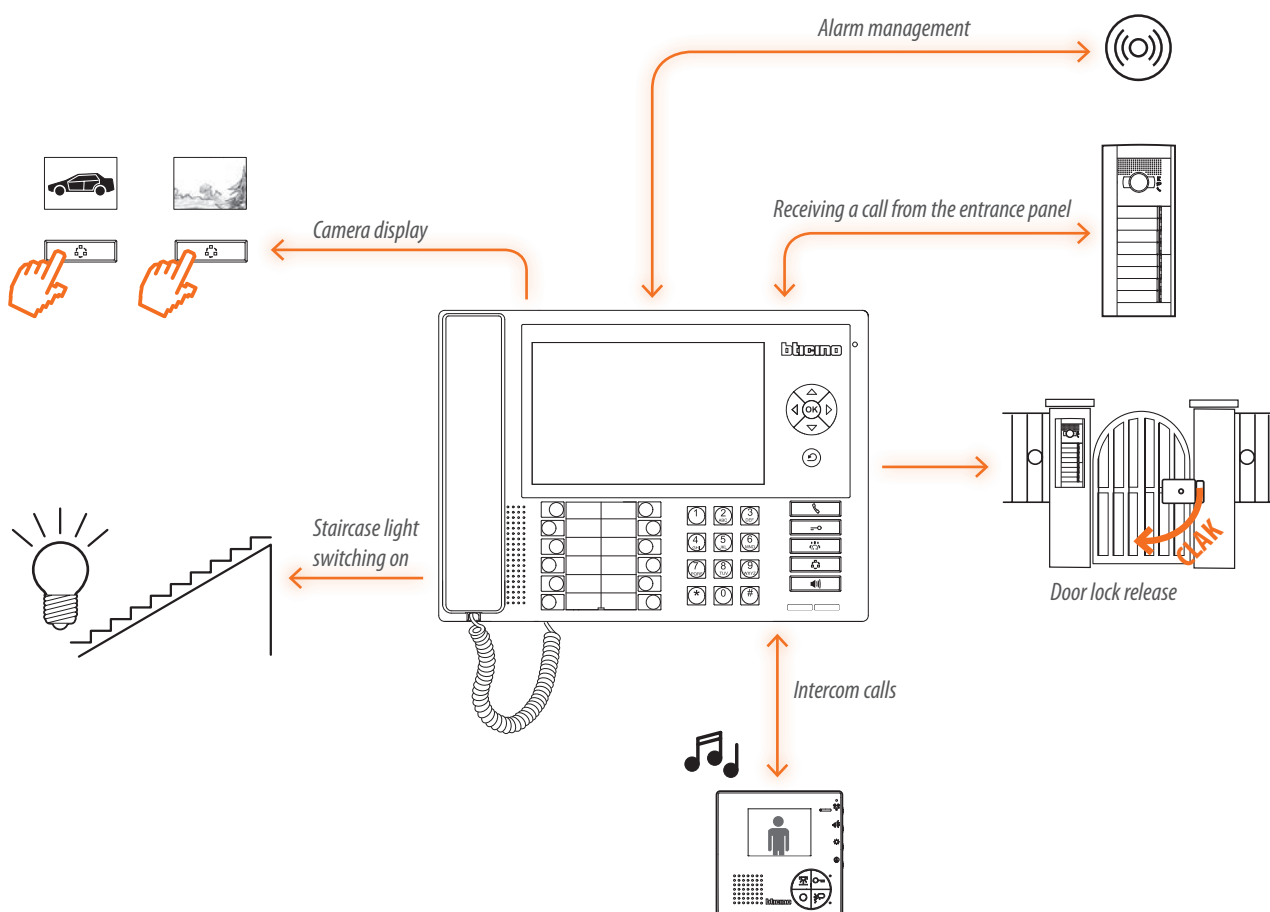
SERVICE INTERNAL UNIT (Only systems with Switchboard)

The service internal unit is an internal unit associated to the switchboard that allows the operator, for example caretaker or receptionist, to also answer entrance panel calls. This could be the internal unit of their own apartment or office.

2 WIRES SYSTEM
Range of pushbutton panels and functions

	Linea Sfera New	Linea Sfera Robur	Linea 3000	Linea 2000	Linea 300	Linea 100
Audio	■	■	■	■		■
Colour video	■	■	■	■	■	
Finishes / Colours	Allmetal Allwhite Allstreet	Zamak Robur	Zamak	Aluminium	Stainless steel Aluminium	Stainless Steel
Wall-mounted installation	■	■	■	■	■	■
Flush-mounted installation	■	■	■		■	
Pushbutton call	■	■	■	■	■	■
Digital call	■	■			■ (Item 308040 only)	■ (Item 343100 only)
Wide angle camera (1)	■	■	■			
Night & Day camera (2)	■	■				
Control speech synthesis (3)	■	■				■
Door lock release with keypad	■	■				
Door lock release with key card	■	■	■			
Rainshield	■	■	■ (only for wall mounted installation)			■
Anti-tampering					■	
Protection index	IP54	IP54	IP54	IP54	IP54	IP44
Protection index against mechanical impact	Up to IK08	IK10	IK10	IK07	IK07	IK08
Max. number of calls	100 with pushbuttons 4000 with digital call	100 with pushbuttons 4000 with digital call	2	2 (with video pushbutton panels) 4 (with audio pushbutton panels)	32	8 with pushbuttons 4000 with digital call

(1) Horizontal and vertical wide viewing field. Easy to use for children and differently-abled people.
(2) Night lighting thanks to the IR LED with automatic IR filter. Sharp, perfect images even in limited light conditions.
(3) Inductive loop and control speech synthesis Use by people wearing hearing aids. Easy to use for visually impaired people.

Range of internal units and functions

	Classe 300X13E	Classe 300V13E	Classe 100V12E	Classe 100V12B	Classe 100A12B	Classe 100A12M	Classe 100A12C	Sprint L2
Audio					■	■	■	■
Colour video	■	■	■	■				
Handsfree	■	■	■	■	■			
Finishes / Colours	Light finish Dark finish	Light finish Dark finish	White	White	White	White	White	White
Display	LCD 7" Touch Screen	LCD 7" Touch Screen	LCD 4.3"	LCD 3.5"				
Video door entry answering machine	■							
Call repetition on smartphone	■							
Door lock release	■	■	■	■	■	■	■	■
Staircase light control	■	■	■	■	■	■	■	
Floor call	■	■	■	■	■	■		■ (item 344232 only)
EP/scrolling activation	■	■	■	■	■	■	■	
Intercom (1)	■	■	■			■		
Inductive loop (2)	■	■	■					
Professional studio (office) function	■	■	■			■		
Note function	■	■						
Home Automation integration (MyHome_UP)								
Type of installation	Wall mounted Table-top installation	Wall mounted Table-top installation	Wall mounted Flush-mounted Table-top installation	Wall mounted Table-top installation	Wall mounted Table-top installation	Wall mounted Table-top installation	Wall mounted Table-top installation	Wall mounted

(1) The intercom function allows for up to 3-minute communication between and among video door entry systems in the same apartment / in different apartments.
(2) Use by people wearing hearing aids fitted with (T) selector.
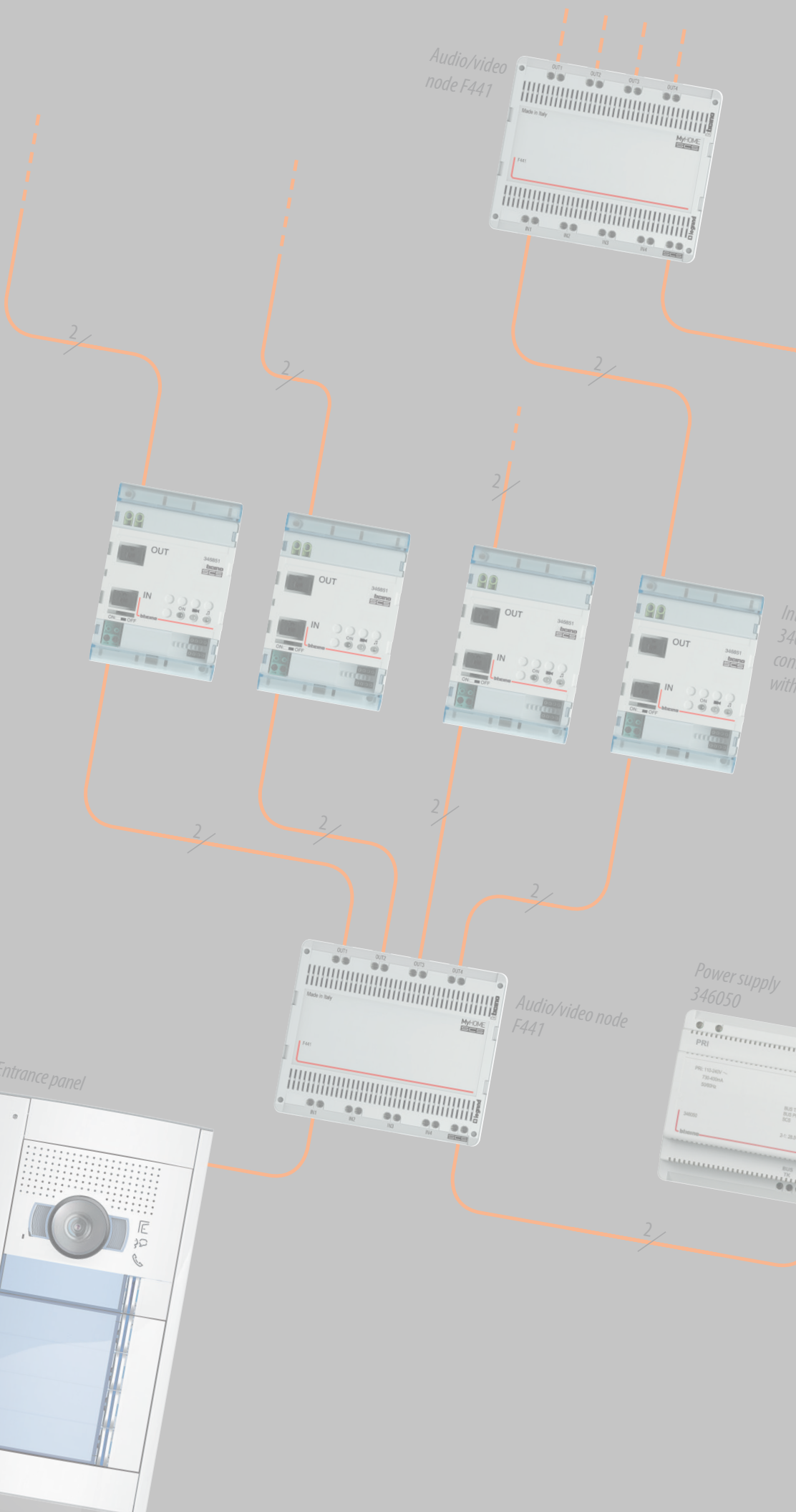
Audio/video node F441

OUT
IN
346851

Entrance panel

Audio/video node F441

Power supply 346050

System layout

GENERAL INFORMATION

The first step for the installation of an electric/audio or video door entry system is to design and complete a good basic setup. Appropriate arrangement of cables, conduits, boxes, technical rooms and control points, all make the installation and the future addition of new devices, and system expansions easier. Irrespective of the type of system and the required applications, it is necessary for the installer to have available a map of the premises and a summary idea of the furniture arrangement. It is also important to check that the expectations of the estimate match the reality of the site. The realisation of the system must take into account factors that depend on the installation characteristics of a "BUS" system:

1. Marking of conduits;
2. The type of wiring;
3. Coexistence of cables inside conduits.

1

200 cm

90 cm

2

internal unit 2

apartment 2

junction box

internal unit 1

apartment 1

power supply

entrance panel

3

BUS cable for audio/ video door entry system
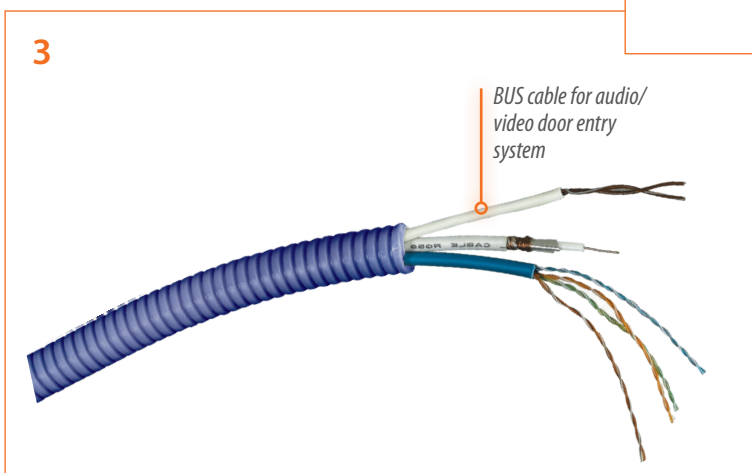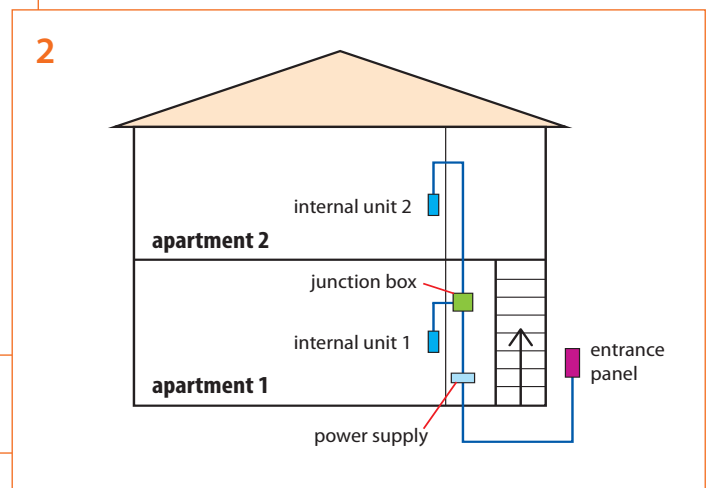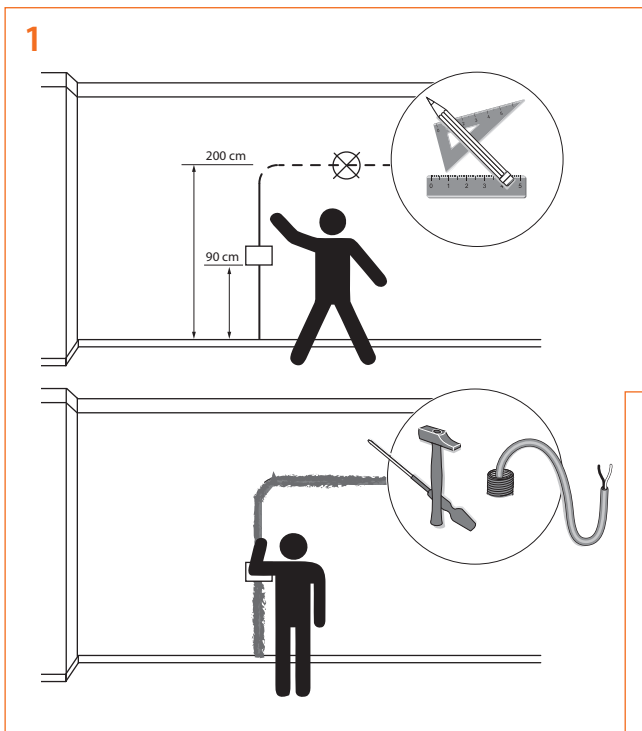
SELECTION AND POSITIONING OF THE ELECTRIC PANEL

The arrangement of the electric systems inside the building brings the need to group in one single central point all the active devices (power supply units, interfaces, switchboards, etc.) that contribute to the control and the management of all functions. This position must be sized taking into account the following general rules:

1. allow enough extra space for the installation of further devices that may be needed in the future;

2. install the power supply units in the lowest switchboard position, to facilitate the dispersion of any heat;

3. The switchboard must be capable of dissipating a power higher than the sum of powers dissipated by all the devices that it will house.

BTicino offers a wide range of switchboards suitable for all kinds of needs, depending on capacity and installation requirements (flush or wall mounted). For installation in new or existing buildings (restorations), on one or several floors, for which the creation of a technical room for the electric panel of the home is planned, it will be possible to choose either wall or flush mounted control panels or switchboards.

For the purpose of the calculation of the dissipated power, **all BTicino switchboards and control panels meet the requirements of the CEI 23-51 standard.**

Wall mounted and flush mounted switchboards

SELV double insulation safety devices

In addition to entrance panels and internal units, the system also requires a few accessories, also connected using the 2 WIRES system.
The "2 wires" system meets the **SELV (Safety Extra Low Voltage)** class, as it is powered with double safety insulation independent power supply units without earth connection, with maximum operating voltage of 25 Vac (effective), or 60 Vdc, non-sinuous.

All BTicino devices have double insulation. Compliance with **SELV** classification is only guaranteed subject to **FULL COMPLIANCE** with current installation standards, and with the **GENERAL INSTALLATION RULES** for the individual devices and cables making up the system outlined by BTicino.
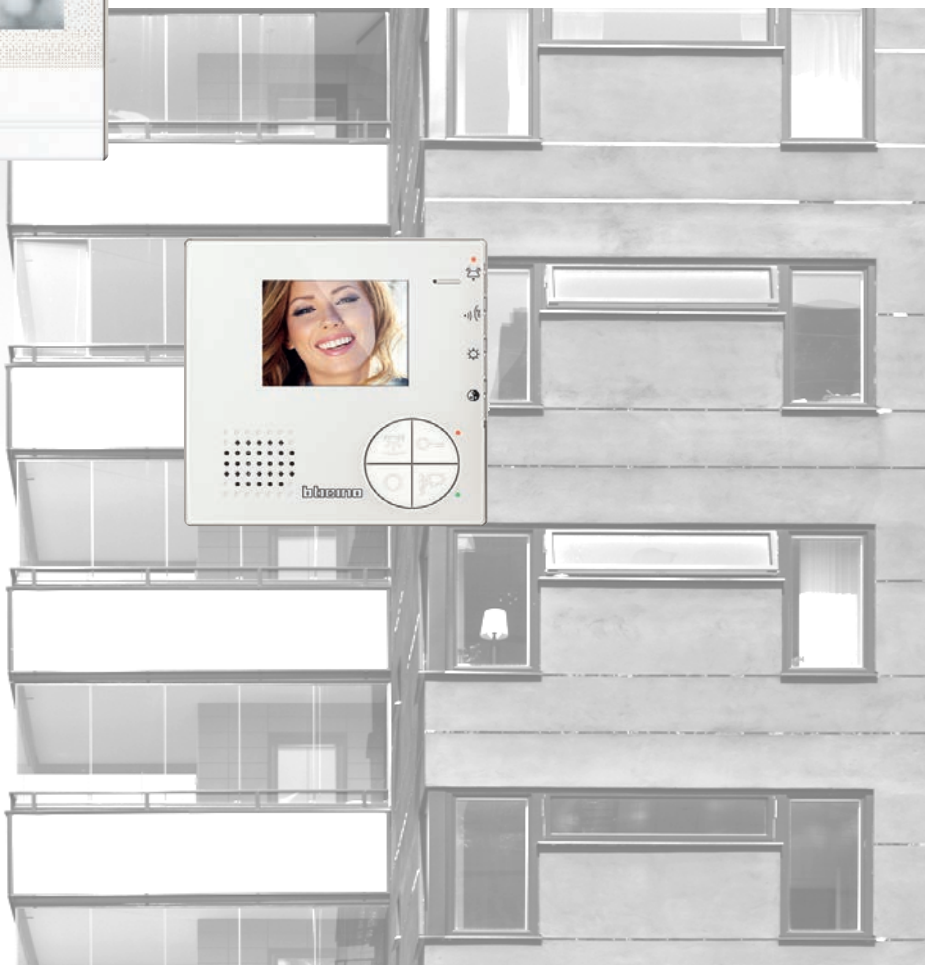
Installation of entrance panels

ENTRANCE PANEL HEIGHT

When installing the entrance panel, the pushbutton panel should be positioned at a height of 160 - 165 cm (top wire).

The camera must not be installed facing light sources, or in locations where the area being shot is very backlit.

If this condition cannot be met, the image will show low contrast in the darker areas. This is due to the fact that the brightness is adjusted on the light area of the image.

In order to resolve these problems, we recommend that the camera is installed at a height of 180 cm, instead of the usual 160-165 cm, with the lens pointing down. This will improve image quality.

In low lit rooms, the installation of an additional light source is recommended.

Note: For the use of external pushbutton panels by people with disabilities, the recommended height is 120 - 125 cm (top wire).

Recommended installation height, unless different regulations are specified.

160 – 165 cm

NO

160 cm

(60 cm) - (60°)
(351200)

(115 cm) - (96°)
(351300)
(352400)

(85 cm) - (80°)
(343081/91)

50 cm

(105 cm)
(92°)
(351200)

(140 cm)
(105°)
(343081/91)

(240 cm)
(135°)
(351300)
(352400)
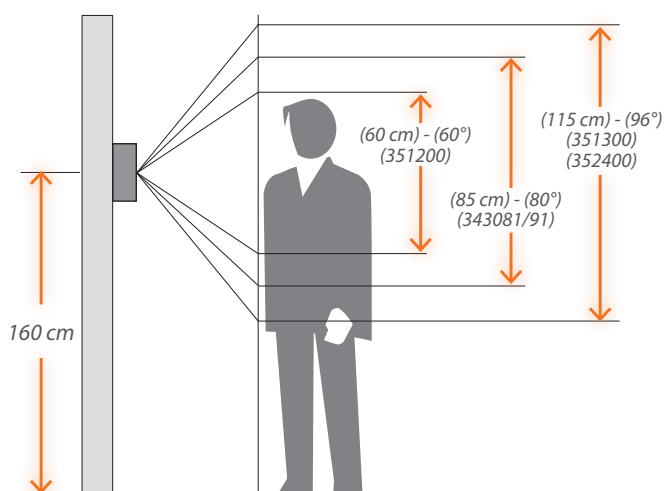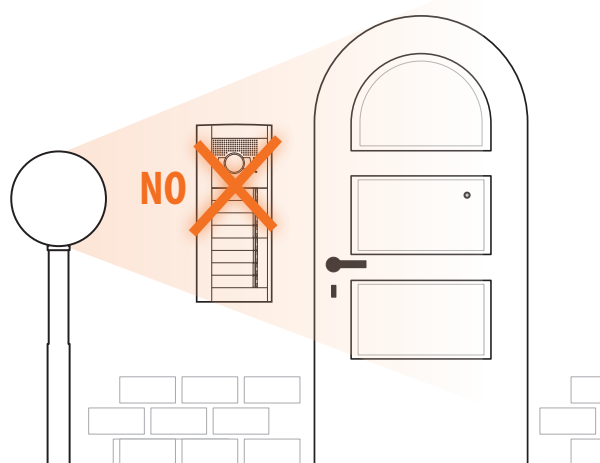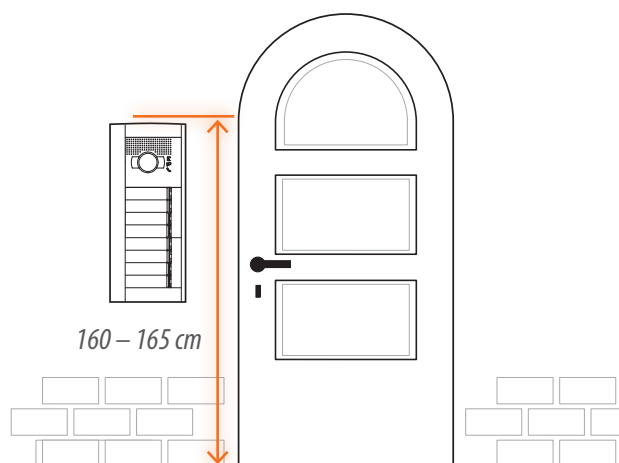
The use of Sfera and Linea 3000 entrance panels with wide angle camera makes it possible to expand the shooting field, increasing the security of your home.
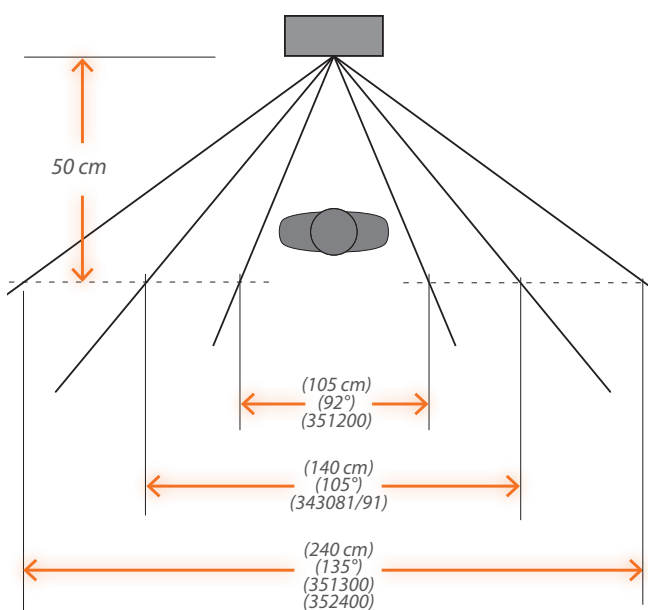
Installation of internal units and DIN devices

INTERNAL UNIT HEIGHT

When installing the audio or video internal unit, we recommend a height of 160 - 165 cm (top wire).

160 – 165 cm
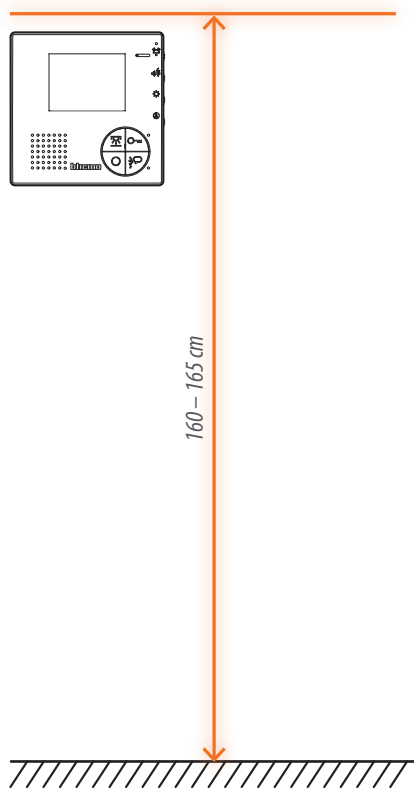
Note: For the use of audio or video internal units by people with disabilities, the recommended height is 120 – 125 cm (top wire)

Recommended installation height, unless different regulations are specified.

DIN DEVICES

DIN rail interfaces and devices cannot be installed in wells. An appropriate sealed frame with DIN rail is required for their installation (DIN switchboard).
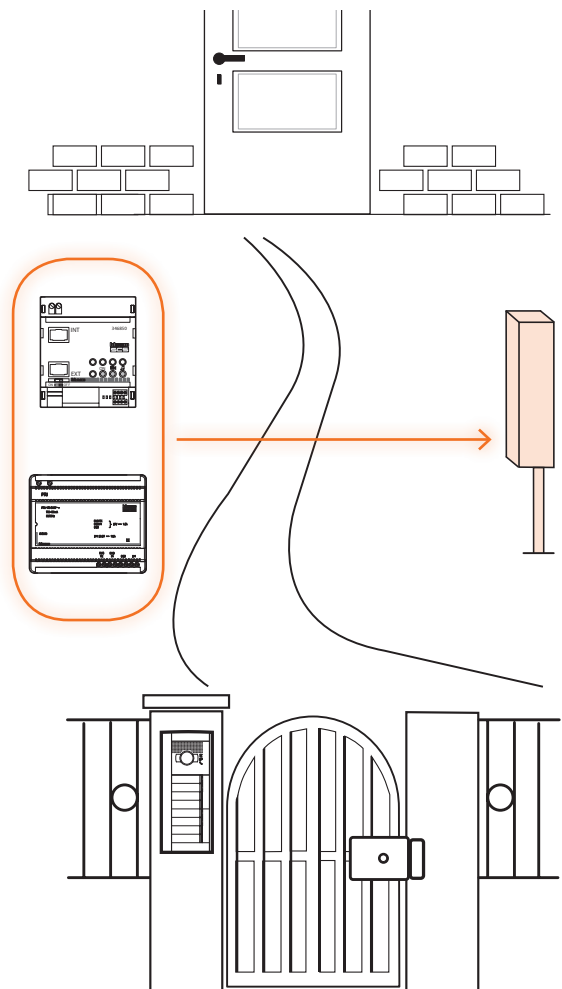
The cable

The 2 wires system is easy to wire. Thanks to the **NON-POLARISED** 2 wires wiring of each part of the system, connection is simple, easy and fault-proof. The 336904 white BUS-SCS cable has purposely been designed and manufactured for the installation of SCS video door entry systems. This cable is used for the distribution of the power supplies and the operating signals to all BUS devices.
It consists of a white external sheath with two brown and brown/white flexible twisted conductors (0.50 mm^2 section). It is sold in a 200 m coil.

Therefore, it is suitable to be used in:

❯ Free air installation, inside trunking, trays, and conduits;

❯ Inside masonry walls, in appropriate conduits;

❯ Underground, in appropriate conduits

Cable channels, trays and conduits must meet the regulatory requirements for the specific type of installation.
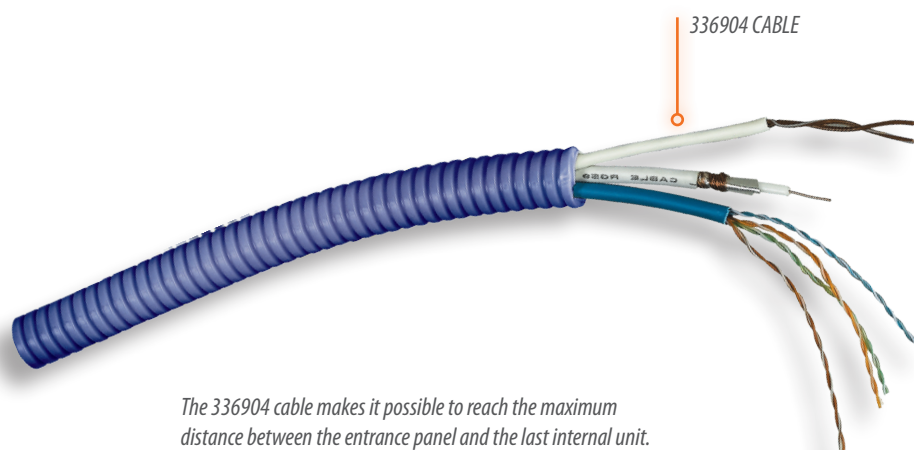
336904 CABLE

The 336904 cable makes it possible to reach the maximum distance between the entrance panel and the last internal unit.

Cohabitation with other cables

Although the construction of the cable guarantees the necessary electrical insulation for cohabitation with 400 W system cables, there is no guarantee of immunity from electromagnetic disturbance, which may occur when the cable is installed inside the same conduits as the energy cables. It is recommended that the BUS/SCS cable and the power cables are installed in different conduits.

Cable underground installation

The 336940 BUS/SCS cable can be installed underground (protected inside appropriate conduits), together with other signal cables, for voltages <50V. Installation of cable 336904 together with power cables with energies >50V is strictly forbidden. Failure to comply with the installation requirements shall entitle BTicino to reject all liabilities on the operation of the systems installed.

The cable

THE CABLES THAT CAN BE USED

BTicino recommends the use of the 336904 cable for reaching the maximum installation distances, and to ensure a good quality of the video signal.

Other types of cables may be used, provided that the following requirements are met:

	CABLES USED				
	Type of cable	Item	Can be installed underground	Audio systems	Video systems
	BTicino twisted cable - section = 0.50 mm^2	**336904**	**YES**	**Recommended**	**Recommended**
	BTicino twisted cable - section = 0.35 mm^2	L4669	NO	Can be used	Can be used
	Telephone twisted pair - section = 0.28 mm^2 < 1mm^2		NO	Can be used	Can be used
	Normal sheathed not twisted cables - section = ≥ 0.28 mm^2 < 1mm^2.		NO	Can be used	Can be used
	Normal sheathed not twisted cables - section = 1mm^2		NO	Can be used	Can be used
	BTicino (CAT5E or above) cable	0327 51	NO	Can be used	Can be used
	(CAT5E or above) Multi-pair cable		NO	Can be used	Can be used
	BTicino multi-pair green cable (pair of cables: green/white-green) ● Green ◐ White-green	336900 336903	NO	Can be used	Can be used

During the **restructurings** and **refurbishments of old door entry systems**, it will be possible to use a pair of existing cables, therefore significantly reducing costs and installation times:

Removal of the existing entrance panel

Use of an existing pair of wires to connect the new 2 wires entrance panel

Physical configuration - general information

Configuring means programming the system; this is done by allocating ID numbers and operating modes to the devices.

This is done by inserting configurators (with numbers from 0 to 9) in the appropriate sockets, using an extractor (3502) found in the configurator bag or purchased separately, or **by completing the configuration through the software (recommended).**

When no configurator is inserted, the configuration is zero.

In the system there are two different numbering systems, to identify the entrance panels (EP) and the internal units (IU) respectively.

The numbering system of the entrance panels (0-95) is normally indicated with P, while the internal unit address (0-99) is normally indicated with N.

In addition to the P address, on the entrance panels it is also necessary to configure the N address of the internal unit from which to start to call.

In addition to the N address, on each internal unit it is also necessary to configure in P the associated entrance panel, which is the entrance panel to which the door lock and auto-switching on command will be sent when the internal unit is off.

Should it become necessary to change the configuration of a device, in addition to removing the configurators also disconnect the power supply to the whole system, wait one minute and then reconnect the power supply. There are also specific configurations for every device, which are discussed in details in the technical data sheets of the individual items.

The configurators can be purchased in kit

3501K   3502

or individually

1	2	3	4	5	6
3501/1	3501/2	3501/3	3501/4	3501/5	3501/6

7	8	9	0	SLA	JMP
3501/7	3501/8	3501/9	3501/0	3501/SLA	3501/JMP
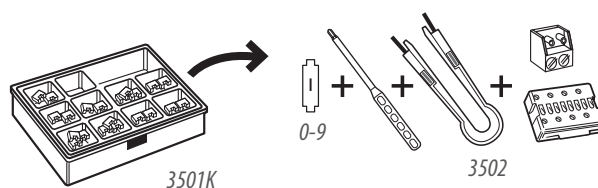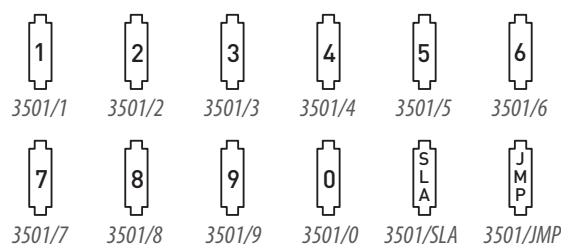
Example of a configured system and its operation

Apartment 1   Apartment 5

Idle door lock release and auto switching on, apartment 1

Call to the apartment 1

Call to the apartment 5

Idle door lock release and auto switching on, apartment 5
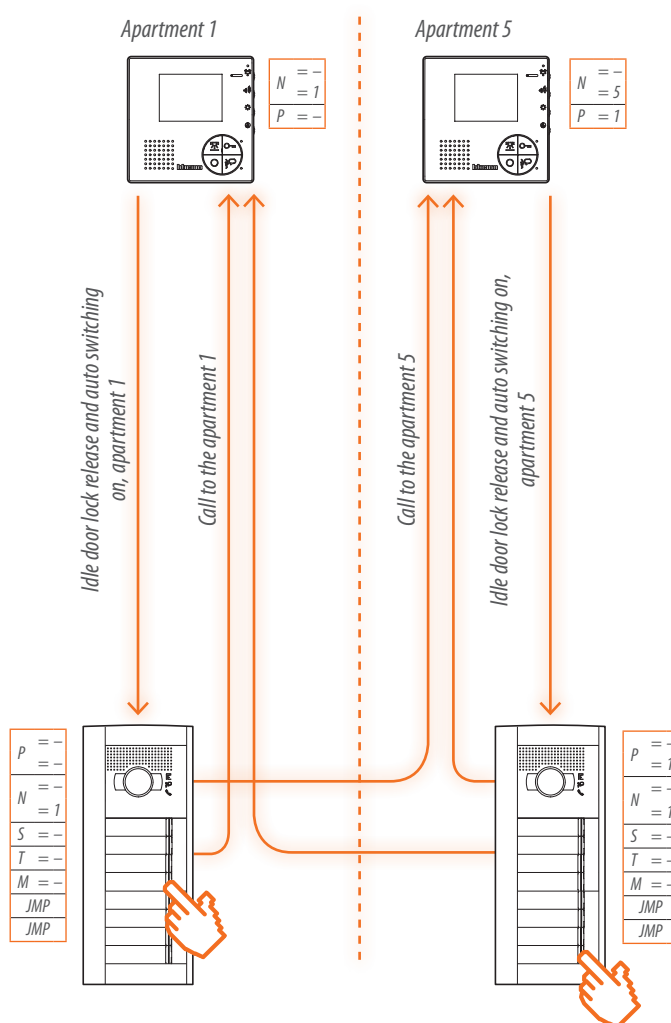
Configuration of entrance panels

All the entrance panels must be physically configured by inserting configurators. Sfera entrance panels can also be configured in advanced mode (using the PC and the specific TiSferaDesign configuration software). WARNING : the configuration of the device completed using physical configurators CANNOT BE MODIFIED in advanced mode.

The sockets of the internal units where the configurators must be inserted are normally the following:

P - entrance panel number
The configurator in socket P of the EP assigns to this a recognition number inside the system. The numbering of the entrance panels must always start from P=0. The entrance panel configured with P=0 must be a common (or main) entrance panel.

N - call number
Assigns the correspondence between the entrance panel pushbuttons and the audio internal units or video internal units. In common entrance panels made using pushbutton modules, 1 must be inserted in N of the speaker module.

T - door lock time control
The configuration of T defines the door lock release activation time.

S - type of call signal
The configuration of S determines the call tone of internal units. One can thus differentiate the calls from different entrance panels.

Only for Sfera New/Robur entrance panels:

M - enabling/disabling of call tones and door lock release tones, and management of night lighting always ON
The M configurations gives the possibility of managing the entrance panel call and door lock release tones . It also gives the possibility of enabling night backlighting always ON (light sensor disabled).

J1 - activation of call pushbutton columns
The J1 configurator gives the possibility of managing the Call pushbuttons of the speaker module as follows:

JMP CONNECTED = Only the right pushbutton column is enabled

JMP DISCONNECTED = Both pushbutton columns are enabled (right + left)

J2 - additional EP power supply
Configurator J2 gives the possibility of enabling the additional power supply (1-2) of the speaker module in the following mode :

JMP CONNECTED = Additional power supply disabled

JMP DISCONNECTED = Additional power supply enabled

NOTE: the above are general indications. We recommend that you refer to the device configuration sections in the corresponding technical data sheets for the individual devices.

Linea 3000
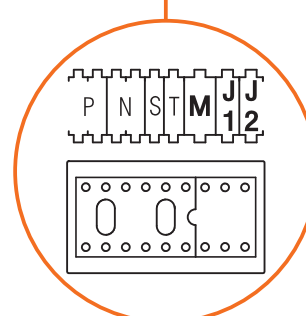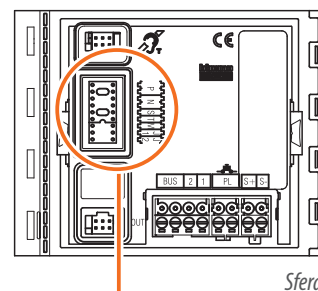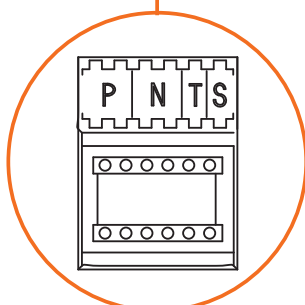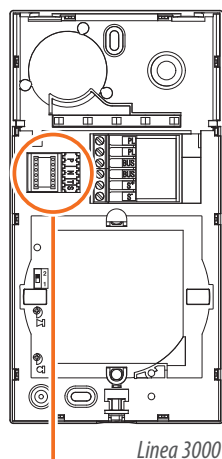
Sfera

ADVANCED CONFIGURATION OF THE SFERA NEW/ROBUR ENTRANCE PANELS

The Sfera New/Robur entrance panels may be configured in advanced mode using the PC and the specific configuration software (TiSferaDesign).

The advanced configuration offers a high level of customisation of the device in terms of: flexible menu composition, text customisation, apartment call / direct switchboard call (if present) key position customisation. Residents' contact address book, including the details of the door badges assigned and the access codes.

For the connection to the PC, use a standard USB - mini USB cable. The software configures, programs, and updates the device Firmware. Sfera entrance panels have mini USB front connection, making it possible to carry out all operations without having to remove the pushbutton panel.

The TiSferaDesign programming software can be downloaded free of charge from the website:
www.homesystems-legrandgroup.com

USB Connection
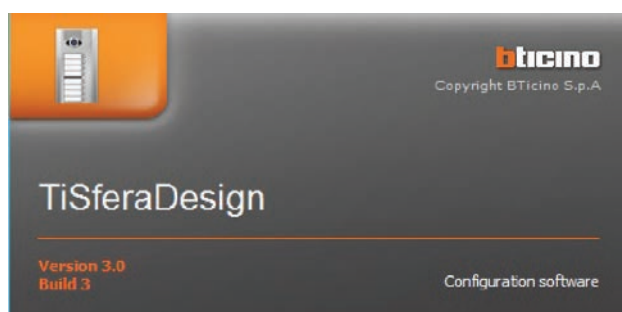
Internal unit configuration

All the internal units (audio and video) must be physically configured by inserting configurators. Classe 300 and Hometouch 7" video internal units can also be configured in advanced mode (directly from the touch screen), through the appropriate configuration section available on the device.

WARNING: the device configuration made with physical configurators CANNOT BE MODIFIED using the menu.

The sockets of the internal units where the configurators must be inserted are normally the following:

N - internal unit number
The configurators connected to the N sockets of the internal units assign an identification number within the system to each audio and video internal unit. The internal units must be configured in progressive order.

P – entrance panel association
The configurators connected to the P sockets of the internal units identify the associated EP, which is the first entrance panel that switches itself on when the pushbutton is pressed the first time, as well as which door lock is activated when pressing the door lock pushbutton while the audio internal unit is idle.

M / MOD – operating mode
The configurators in the M / MOD sockets of the internal units assign the operating modes to the configurable device keys.

J1 – additional power supply
The (JMP) configurator in J1 is used to enable/disable the additional power supply according to the following mode:

JMP CONNECTED = Additional power supply disabled

JMP DISCONNECTED = Additional power supply enabled

J2 - MASTER/SLAVE function
The (JMP) configurator in J2 is used to activate/deactivate the MASTER / SLAVE function according to the following mode:

JMP CONNECTED = MASTER

JMP DISCONNECTED = SLAVE

NOTE: the above are general indications. We recommend that you refer to the device configuration sections in the corresponding technical data sheets for the individual devices.

Classe 300 video internal unit

Audio internal unit

BUS

Audio internal unit

Audio internal unit

Audio internal unit

46040

2

2

2

2

2
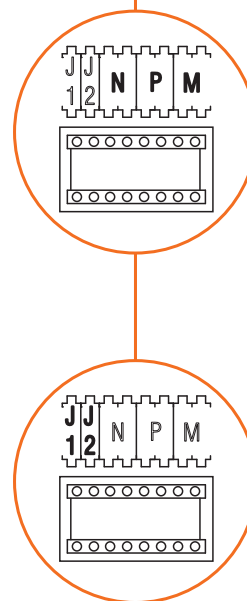
Entrance panel 2

Entrance panel 3

Audio systems

GENERAL LIMITS

Below are the maximum limits that can be reached by an AUDIO 2 wires system when using apartment interfaces (346850) and system expansion interfaces (346851).

96 Entrance panels

39 Risers with independent sound

100 Audio internal units for riser (without interface 346851)

3900 Apartments (100 interfaces 346850 for riser)

3 Internal units for each apartment

5 Internal units for each apartment (with interface 346850)

20 Internal units for each apartment (with interface 346850 + interfaces 346851)

AUDIO 2 WIRES WIRING

2 wires systems are obtained by shunting the 2 wires BUS to connect internal units and entrance panels.

The connection of the devices can be at any position in the system. Twisted cables are not necessary when connecting the devices.
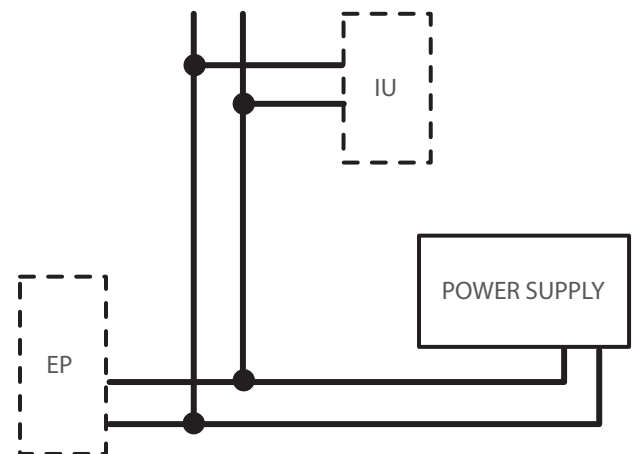
Audio system connection mode

AUDIO SYSTEMS

EXAMPLE OF TYPE 1 SYSTEM

To complete an audio system, it is necessary to purchase:

> Entrance panel

> Internal unit

> Power supply

> Configurators

Notes:
- connections with 2 non-polarised wires;

- devices that can be connected at any positions on the system.

Audio internal unit

Power supply 346040

Entrance panel

BUS

2

2
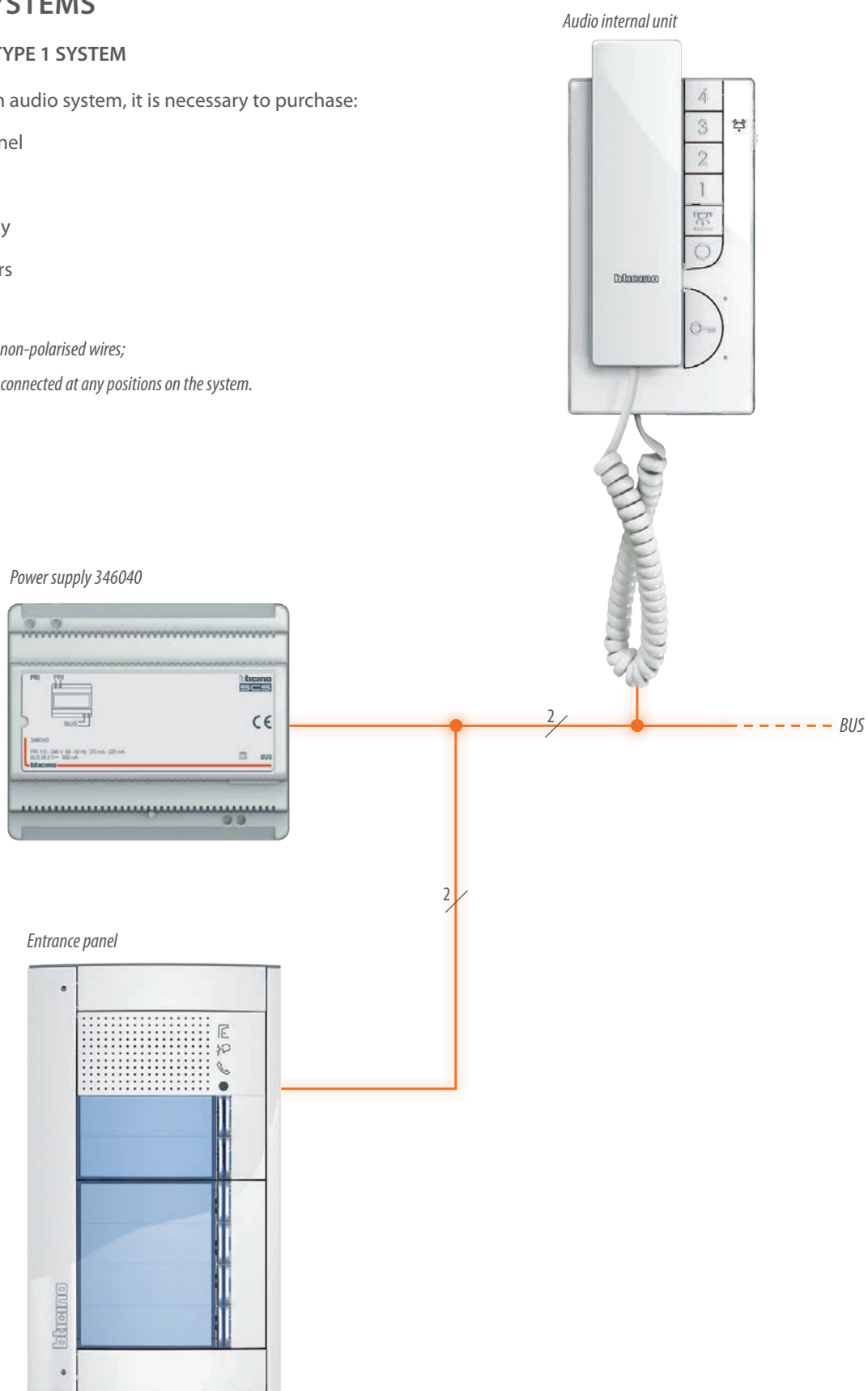
Audio systems

EXAMPLE OF TYPE 2 SYSTEM

To complete an audio system, it is necessary to purchase:

- ▶ Entrance panel
- ▶ Internal unit
- ▶ Power supply
- ▶ Configurators

Notes:
- connections with 2 non-polarised wires;

- devices that can be connected at any positions on the system.

Audio internal unit

BUS

Audio internal unit

2

Audio internal unit

Audio internal unit

Power supply 346040

2

2

2

Entrance panel 1

Entrance panel 2
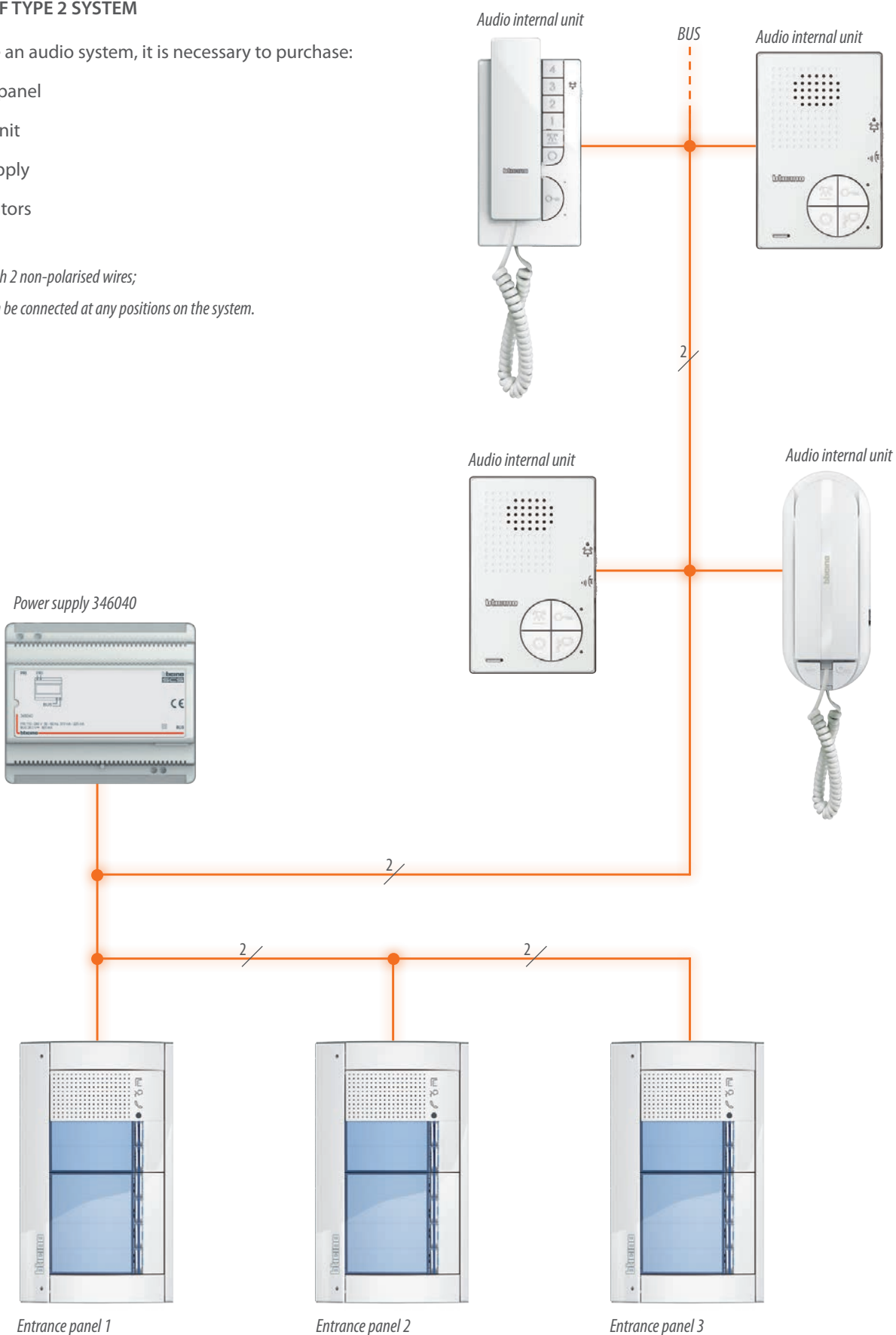
Entrance panel 3

POSSIBLE AUDIO SYSTEMS

AUDIO SYSTEM WITH POWER SUPPLY 346040
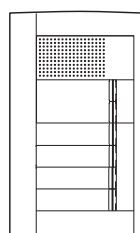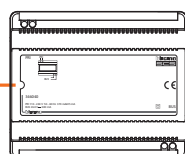
Entrance Panel

Power supply 346040
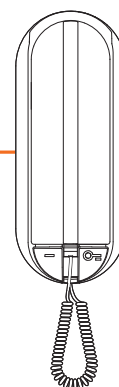
Audio internal unit

- (only 1 entrance panel)
- For the different installation combinations refer to the general installation rules.

AUDIO SYSTEM WITH POWER SUPPLY 346050
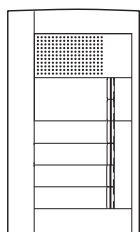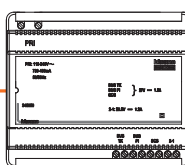
Entrance Panel

Power supply 346050
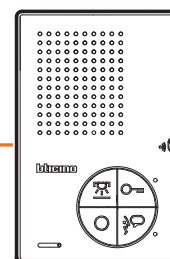
Audio internal unit
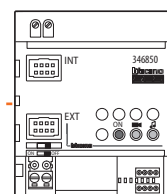
Apartment interface

- (only 1 entrance panel)
- For the different installation combinations refer to the general installation rules.

EXAMPLES OF AUDIO SYSTEMS:

Up to **100** internal units maximum may be connected in audio system with **1** entrance panel. For example it is possible to connect:

- **100** Apartments with **1** IU (or apartment interface 346850)

- **80** Apartments with **1** IU (or apartment interface 346850); **10** Apartments with **2** IU (80 + (10x2)= 100).

- **71** Apartments with **1** IU (or apartment interface 346850), **10** Apartments with **2** IU, 2 apartments with **3** IU and **1** actuator for generic loads (71 + (10x2) + (2x3) + 3 = 100).

Audio systems

POSSIBLE COMBINATIONS – AUDIO SYSTEMS

AUDIO SYSTEMS MAX. 72 INTERNAL UNITS (with system power supply 346040)

SFERA ENTRANCE PANELS WITH KEY MODULES / EXPANSION KEY 346993 / UNIVERSAL PORTER 346991

	SFERA			SFERA + KEY EXPANSION 346993	UNIVERSAL PORTER 346991
Max. No. of entrance panels	Max. No. of internal units	Max. No. of nameplate modules		Max. No. of internal units	Max. No. of internal units with 346991 + 346992
1	72	1		72	56
2	60	2		64	56
3	52	3		56	40
4	44	4		48	32
1 main + 2 secondary	52	3		64	48
1 main + 3 secondary	48	4		56	48
1 main + 4 secondary	40	5		48	48

NOTES:

- All the combinations are calculated with **entrance panels** (both main and secondary) with **modules with 8 call keys**.

- The main entrance panels are those that can call all the internal units, while secondary entrance panels can only call some internal units.

- Systems with "main and secondary" entrance panels HAVE NO **independent audio** (this means **that only 1 communication session at the time is guaranteed**).

- The number of call keys for each secondary EP is calculated by dividing the total number of IU that can be installed by the total number of secondary EP (secondary EP consisting of modules with 8 keys, like the main EP).

- In sizing the systems, it will be necessary to also take into account the introduction of other components: these will take away further IU from the system:

⯈ for each **additional plate module** (in addition to the already indicated ones), it will be necessary to **remove 1 IU**;

⯈ for each **generic load** actuator **346210** or **call repeater**, it will be necessary to **remove 1 IU**;

⯈ for each **door lock actuator 346230**, it will be necessary to **remove 3 IU**;

⯈ for each **floor call interface 346833**, it will be necessary to **remove 1 IU**;

⯈ for each **special control**, it will be necessary to **remove 1 IU**.

⚠ **In view of the many installation possibilities, the values shown on the table are only indicative.**
For correct sizing of the system, we recommend the use of the YouDiagram **software**
- which can be downloaded free of charge from www.bticino.com

POSSIBLE COMBINATIONS – AUDIO SYSTEMS

AUDIO SYSTEMS MAX. 100 INTERNAL UNITS (with system power supply 346050)

SFERA ENTRANCE PANELS WITH KEY MODULES / EXPANSION KEY 346993 / UNIVERSAL PORTER 346991

Max. No. of entrance panels	SFERA			SFERA + KEY EXPANSION 346993	UNIVERSAL PORTER 346991
	Max. No. of internal units	Max. No. of nameplate modules		Max. No. of internal units	Max. No. of internal units with 346991 + 346992
1	100	1		96	100 (*)
2	92	2		96	64 (*)
3	84	3		96	50
4	76	4		96	38
5	64	5		96	30
6	56	6		88	22
1 main + 2 secondary	92	1		96	76
1 main + 3 secondary	84	1		96	48
1 main + 4 secondary	76	1		96	48

(*) in systems with more than 56 keys, allow for 2 separate pushbutton panels.

NOTES:

- All the combinations are calculated with **entrance panels** (both main and secondary) with **modules with 8 call keys**.

- The main entrance panels are those that can call all the internal units, while secondary entrance panels can only call some internal units.

- Systems with "main and secondary" entrance panels HAVE NO **independent audio** (this means **that only 1 communication session at the time is guaranteed**).

- The number of call keys for each secondary EP is calculated by dividing the total number of IU that can be installed by the total number of secondary EP (secondary EP consisting of modules with 8 keys, like the main EP).

- In sizing the systems, it will be necessary to also take into account the introduction of other components: these will take away further IU from the system:

❯ for each **additional plate module** (in addition to the already indicated ones), it will be necessary to **remove 1 IU**;

❯ for each **generic load** actuator **346210** or **call repeater**, it will be necessary to **remove 1 IU**;

❯ for each **door lock actuator 346230**, it will be necessary to **remove 3 IU**;

❯ for each **floor call interface 346833**, it will be necessary to **remove 1 IU**;

❯ for each **special control**, it will be necessary to **remove 1 IU**.

> ⚠ **In view of the many installation possibilities, the values shown on the table are only indicative.**
> **For correct sizing of the system, we recommend the use of the YouDiagram software**
> **- which can be downloaded free of charge from www.bticino.com**

Audio systems

POSSIBLE COMBINATIONS – AUDIO SYSTEMS

AUDIO SYSTEMS MAX. 100 INTERNAL UNITS (with system power supply 346050)

SFERA ENTRANCE PANELS WITH DISPLAY MODULES					LINEA 100
	SFERA includes: speaker module (351100) + display module (352500)	SFERA includes: speaker module (351100) + display module (352500) + keypad module (353000)			LINEA 100 module (343100)
Max. No. of entrance panels	Max. No. of internal units	Max. No. of internal units	Max. No. of nameplate modules	Max. No. of internal units without nameplate modules	Max. No. of internal units
1	100	100	13	100	100
2	100	80	20	100	100
3	100	64	24	95	100
4	95	48	24	80	100
5	85	32	20	60	95
6	75	24	18	45	85
1 main + 2 secondary with pushbuttons	100	88	11	100	NA.

NOTES:

– Each nameplate module manages 8 names/calls;

- The main entrance panels are those that can call all the internal units, while secondary entrance panels can only call some internal units.

- Systems with "main and secondary" entrance panels HAVE NO **independent audio** (this means **that only 1 communication session at the time is guaranteed**).

– The number of call keys for each secondary EP is calculated by dividing the number of IU that can be installed by the total number of secondary EP (secondary EP consisting of modules with 8 keys).

- In sizing the systems, it will be necessary to also take into account the introduction of other components: these will take away further IU from the system:

▶ for each **additional plate module** (in addition to the already indicated ones), it will be necessary to **remove 1 IU**;

▶ for each **generic load** actuator **346210** or **call repeater**, it will be necessary to **remove 1 IU**;

▶ for each **door lock actuator 346230**, it will be necessary to **remove 3 IU**;

▶ for each **floor call interface 346833**, it will be necessary to **remove 1 IU**;

▶ for each **special control**, it will be necessary to **remove 1 IU**.

⚠ In view of the many installation possibilities, the values shown on the table are only indicative.
For correct sizing of the system, we recommend the use of the YouDiagram software
- which can be downloaded free of charge from www.bticino.com

System performance - audio systems

The following pages give a general indication of the maximum distances that can be reached depending on the type of cable used.

For situations or installation conditions other than the ones listed in this document, the current consumptions can be calculated using the YouDiagram software (which can be downloaded free of charge from: www.bticino.com

AUDIO SYSTEMS- MAX. 72 INTERNAL UNITS

The device connection is non polarised.

The use of conductors with sections other than the prescribed ones does not guarantee correct performance of the system.

(DISTANCE LINE A = LINE B + LINE C)

The furthest internal unit

LINE C *

346040

LINE A *

LINE B *

Entrance panel

(*)LINE D   Door lock
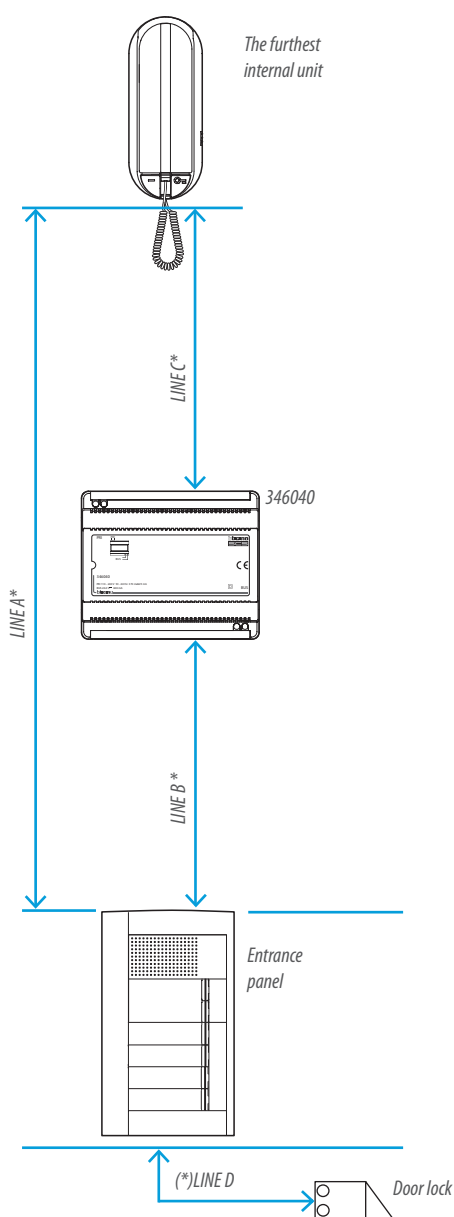
System made with audio modules:
- SFERA or LINEA 100 (343100)
- Power supply 346040

System with existing pushbutton panel:
- Universal speaker unit 346991
- Additional pushbutton module 346992
- Power supply 346040

(*) max variable distance

MAX DISTANCE - LINE C - FURTHEST INTERNAL UNIT - POWER SUPPLY

Cable section mm^2	0.28 mm^2	BTicino cable L4669 0.35 mm^2	BTicino cable 336904 0.5 mm^2	1 mm^2
72 Internal units	105 m	115 m	165 m	335 m
60 Internal units	125 m	135 m	195 m	395 m
52 Internal units	140 m	155 m	220 m	450 m
44 Internal units	160 m	170 m	240 m	490 m

MAX DISTANCE - LINE B - POWER SUPPLY - ENTRANCE PANEL

Cable section mm^2	0.28 mm^2	BTicino cable L4669 0.35 mm^2	BTicino cable 336904 0.5 mm^2	1 mm^2
72 Pushbuttons	130 m	140 m	190 m	365 m
60 Pushbuttons	135 m	145 m	200 m	385 m
52 Pushbuttons	145 m	155 m	225 m	435 m
44 Pushbuttons	155 m	175 m	235 m	455 m

MAX DISTANCE - LINE D - SPEAKER MODULE - DOOR LOCK

Cable section mm^2	0.28 mm^2	BTicino cable L4669 0.35 mm^2	BTicino cable 336904 0.5 mm^2	1 mm^2
S+ S- clamps	30 m	30 m	50 m	100 m

NOTE: with EP made using universal speaker unit 346991, manage the door lock control using actuator 346230.

System performance - audio systems

AUDIO SYSTEMS - MAX. 100 INTERNAL UNITS

The device connection is non polarised.

The use of conductors with sections other than the prescribed ones does not guarantee correct performance of the system.

The furthest internal unit

The furthest apartment interface 346850

The furthest system expansion module 346851

(*) Line A

(*) Line C

346050

(*) Line B

Apartment interface 346850

System expansion module 346851

(*) Line D

Door lock
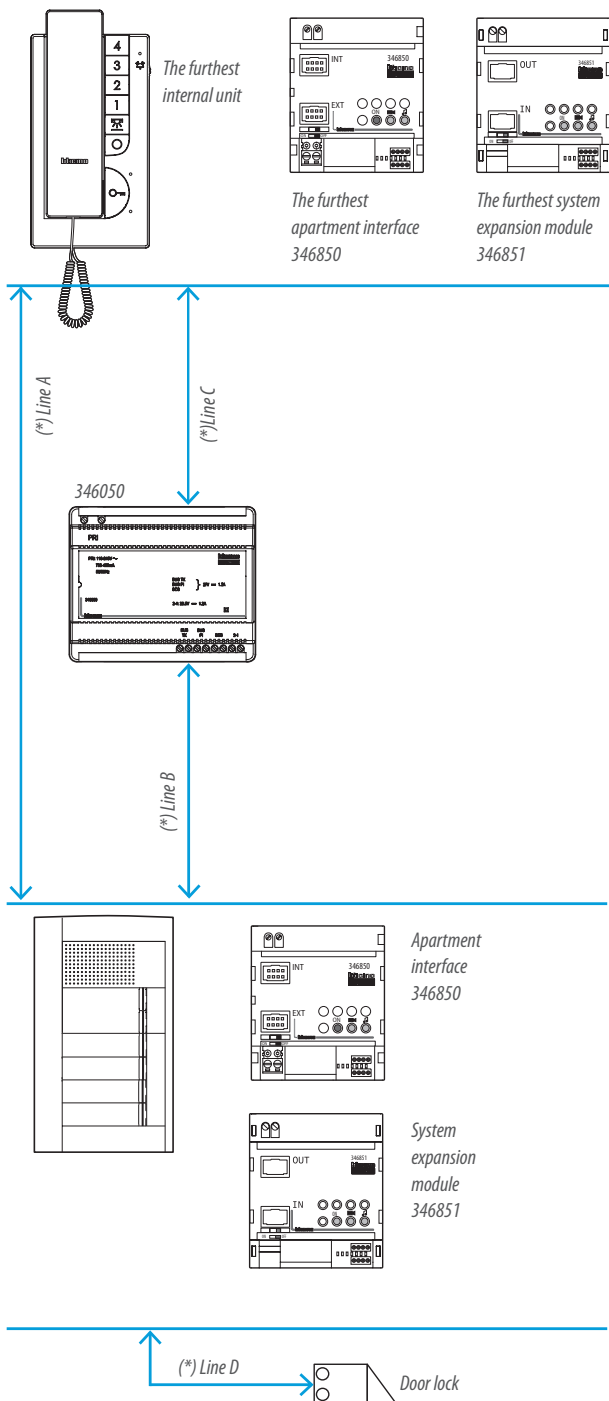
System made with AUDIO modules:
- *SFERA*
- *Power supply 346050*

System with existing pushbutton panel:
- *universal speaker unit 346991*
- *additional pushbutton module 346992*
- *Power supply 346050*

The tables show the distances for an audio system **with at least one interface (in bold)**, and for the audio system without interfaces.

MAX DISTANCE - LINE C - FURTHEST INTERNAL UNIT - POWER SUPPLY

Cable section mm²	0.28 mm²		BTicino cable L4669 0.35 mm²		BTicino cable 336904 0.5 mm²		1 mm²	
100 Internal units	**100 m**	100 m	**110 m**	110 m	**150 m**	150 m	**320 m**	320 m
66 Internal units	**120 m**	120 m	**130 m**	130 m	**190 m**	190 m	**380 m**	380 m
50 Internal units	**140 m**	150 m	**150 m**	160 m	**200 m**	250 m	**450 m**	450 m
26 Internal units	**140 m**	180 m	**150 m**	190 m	**200 m**	320 m	**450 m**	560 m

MAX DISTANCE - LINE B - POWER SUPPLY - ENTRANCE PANEL

Cable section mm²	0.28 mm²		BTicino cable L4669 0.35 mm²		BTicino cable 336904 0.5 mm²		1 mm²	
100 pushbuttons	**100 m**	100 m	**110 m**	110 m	**180 m**	180 m	**310 m**	310 m
66 pushbuttons	**130 m**	130 m	**140 m**	110 m	**200 m**	240 m	**420 m**	420 m
50 pushbuttons	**140 m**	150 m	**150 m**	160 m	**200 m**	250 m	**450 m**	450 m
26 pushbuttons	**140 m**	200 m	**150 m**	210 m	**200 m**	290 m	**450 m**	580 m

Line A = line B+line C with line A max = 1000m without interfaces 346850 and 346851

MAX DISTANCE - LINE A WITH INTERFACES 346850 AND 346851

Cable section mm²	0.28 mm²	BTicino cable L4669 0.35 mm²	BTicino cable 336904 0.5 mm²	1 mm²
	140 m	150 m	200 m	450 m

MAX DISTANCE - LINE D - SPEAKER MODULE - DOOR LOCK

Cable section mm²	0.28 mm²	BTicino cable L4669 0.35 mm²	BTicino cable 336904 0.5 mm²	1 mm²
S+ S- clamps	30 m	30 m	50 m	100 m

NOTE: with EP made using universal speaker unit 346991, manage the door lock control using actuator 346230.

(*) max variable distance

Riser 1

APARTMENT 2

Video internal unit

2

Video internal unit

2

APARTMENT 1

Video internal unit

panel

Power supply 346050

PRI

TK BUS

IU BUS

2

2

2

2
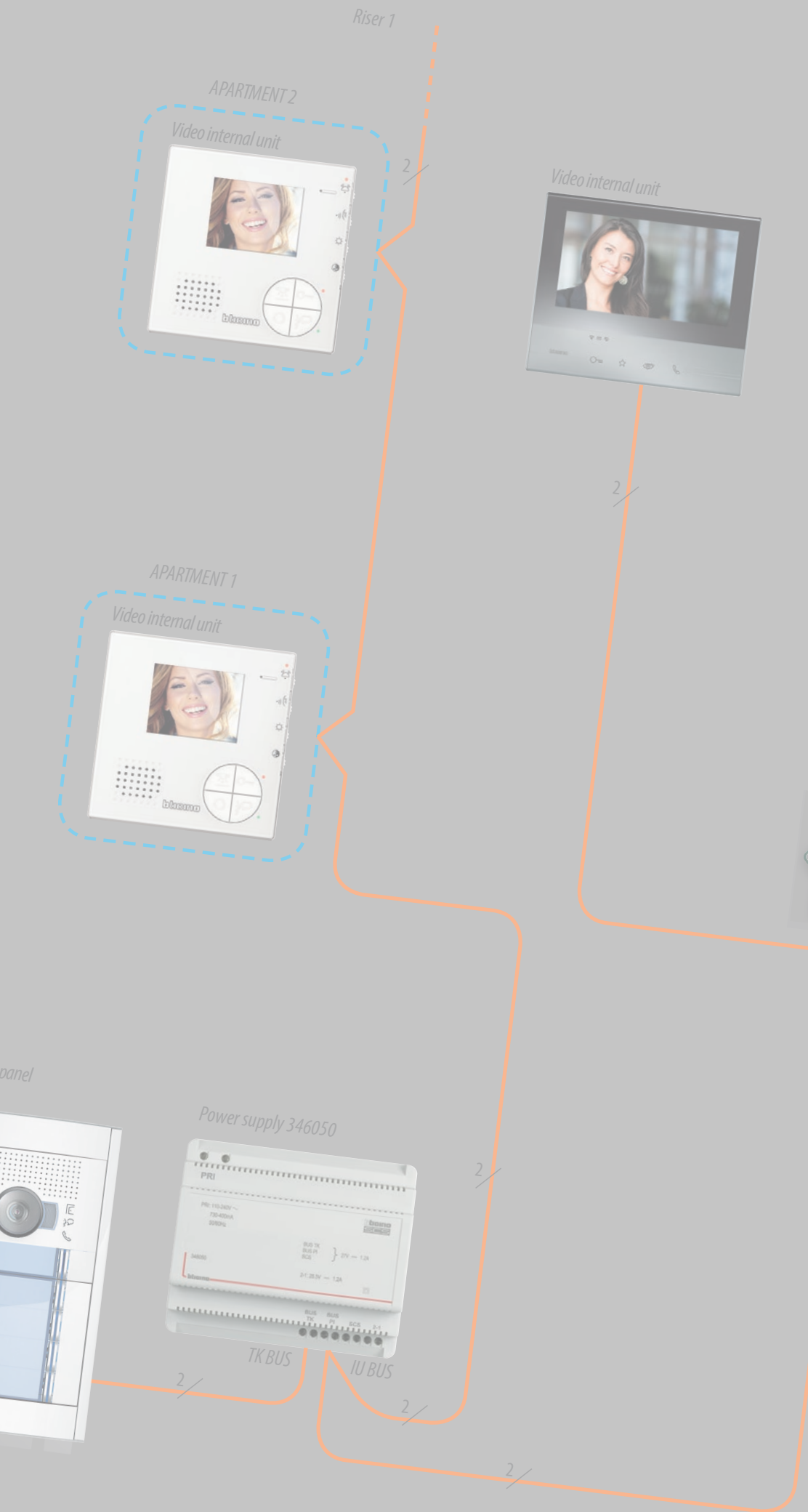
Video systems

GENERAL LIMITS

Below are the maximum limits that can be reached by a VIDEO 2 wires system when using apartment interfaces (346850) and system expansion interfaces (346851).

96(*) Main video entrance panels

39 Risers with independent sound

100 Audio internal units for riser (without interface 346851)

3900 Apartments (100 interfaces 346850 for riser)

15 Entrance panels or cameras for apartment (16 in the one-family system)

3 Internal units for each apartment

5 Internal units for each apartment (with interface 346850)

20 Internal units for each apartment (with interface 346850 + interfaces 346851)

(*) Limit that can be reached with the use of IP/2 wires interfaces (346891).

The distance between the entrance panel and the furthest internal unit must not exceed 200 metres.

Floor shunt

200 m

Video entrance panels
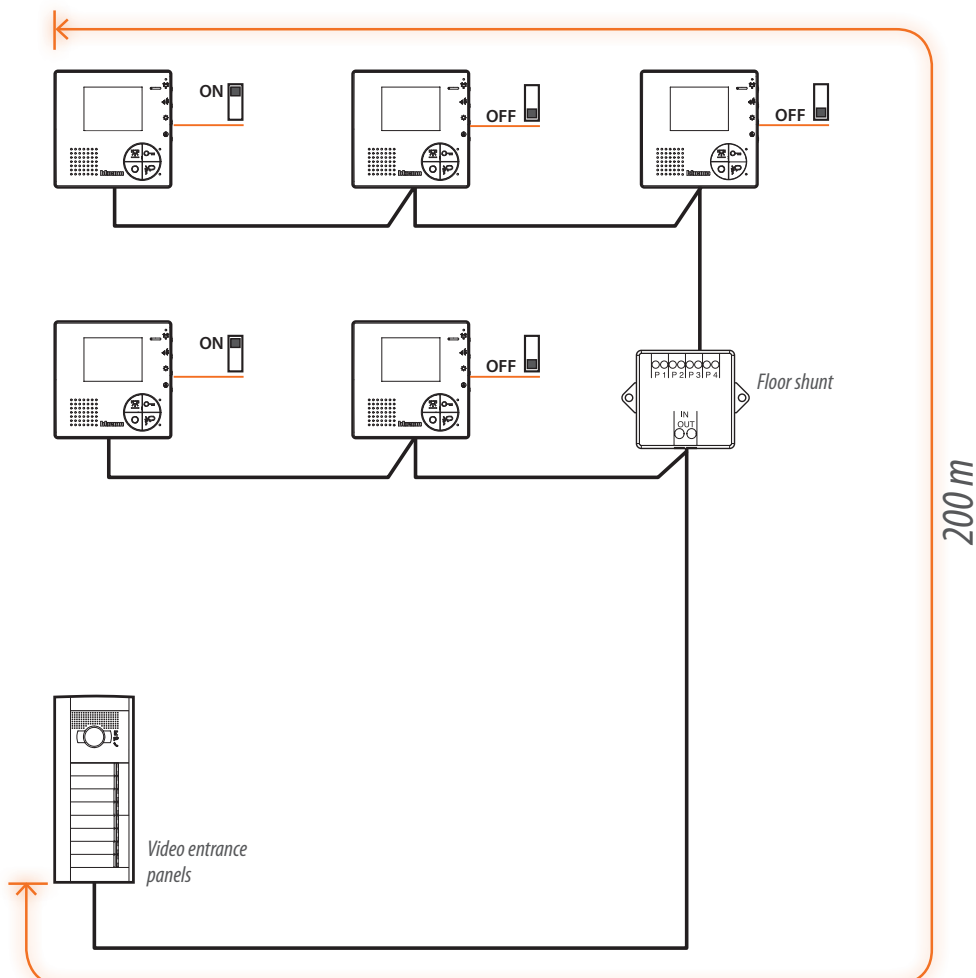
VIDEO 2 WIRES WIRING

2 wires video systems can be installed with star wiring using floor shunt 346841; in-out or mixed wiring is also possible as an alternative.

STAR WIRING

Star wiring is completed by connecting the individual apartment to an output of floor shunt 346841.

Each line must be terminated by positioning the micro-switch of the last device to ON.

Star wiring is particularly suited to multifamily systems with several dwellings on the same floor, and to multifamily systems where maximum distance between entrance panel and all internal units is required.

Up to 3 internal units can be connected to each output of the floor shunt.

Allocate an output of the floor shunt to each internal unit with simultaneous switching on, or installed with table-top base.

IN-OUT WIRING

- IN-OUT wiring is completed directly on the clamp of the devices connected to the system. Each riser must be terminated by positioning the microswitch of the last internal unit to ON.

IN-OUT wiring is particularly indicated for one and two family systems, and for vertical or horizontal multi-family systems (dwellings in rows).

STAR wiring

Internal unit BUS

ON — Apartment 1
ON — Apartment 2
ON — Apartment 3
ON — Apartment 4

P 1 P 2 P 3 P 4
IN OUT
346841

ON — Apartment 5
ON — Apartment 6
ON — Apartment 7
ON — Apartment 8

P 1 P 2 P 3 P 4
IN OUT
346841

Internal unit BUS
(from the video adapter)

IN-OUT wiring

ON — Apartment n
OFF — Apartment 2
OFF — Apartment 3
OFF — Apartment 4

2 WIRES BUS
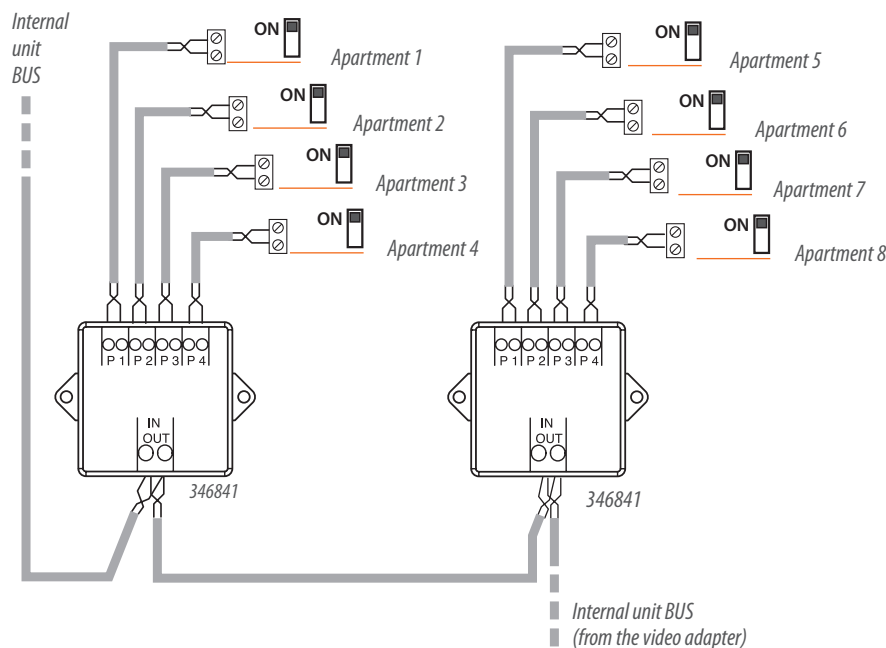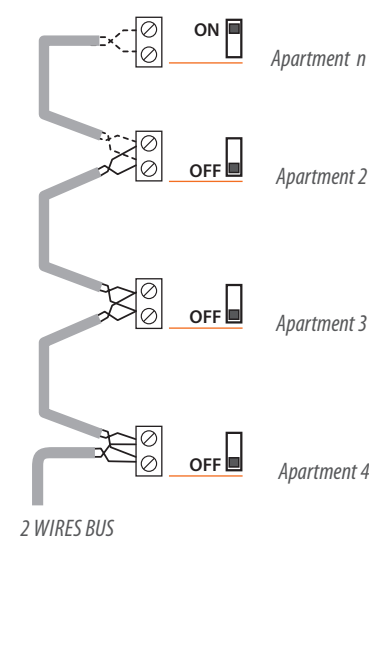
Video systems

VIDEO 2 WIRES WIRING

MIXED WIRING

The two previously described wiring methods can be combined for the realisation of more complex systems. Mixed wiring (IN-OUT and Star) makes it possible to wire systems in a way that meets most installation requirements.

The outputs of the floor shunts may be used to connect an individual device, or to generate an apartment line (on which it will be possible to connect up to 3 devices without apartment interface 346850).

Using the IN-Out method, it will be possible to connect floor shunts or internal units to the internal unit BUS.

The allocation of the internal units to the apartments is completed through the configuration.
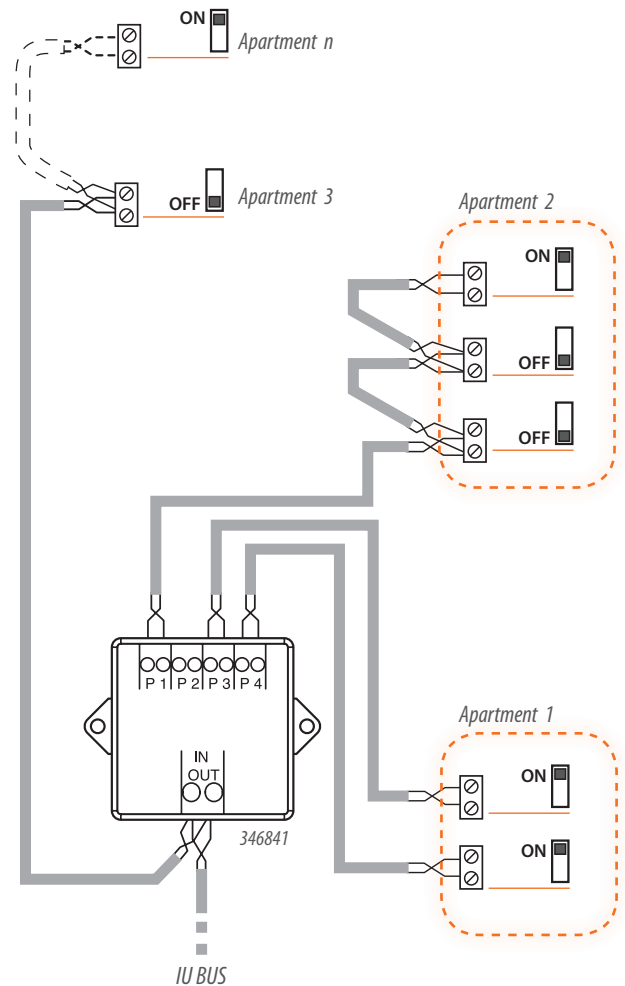
VIDEO SYSTEMS

EXAMPLE OF A SYSTEM WITH POWER SUPPLY 346050

IU BUS

Notes:

- Connection with 2 non-polarised wires

- *A maximum of 3 connections are possible on the (BUS PI) and (BUS TK) clamps of power supply unit 346050 (2 entrance panels + 1 riser, or 1 entrance panel + 2 risers).*

Video internal unit

Power supply 346050

2

Entrance panel

BUS TK   *BUS PI*

2   2
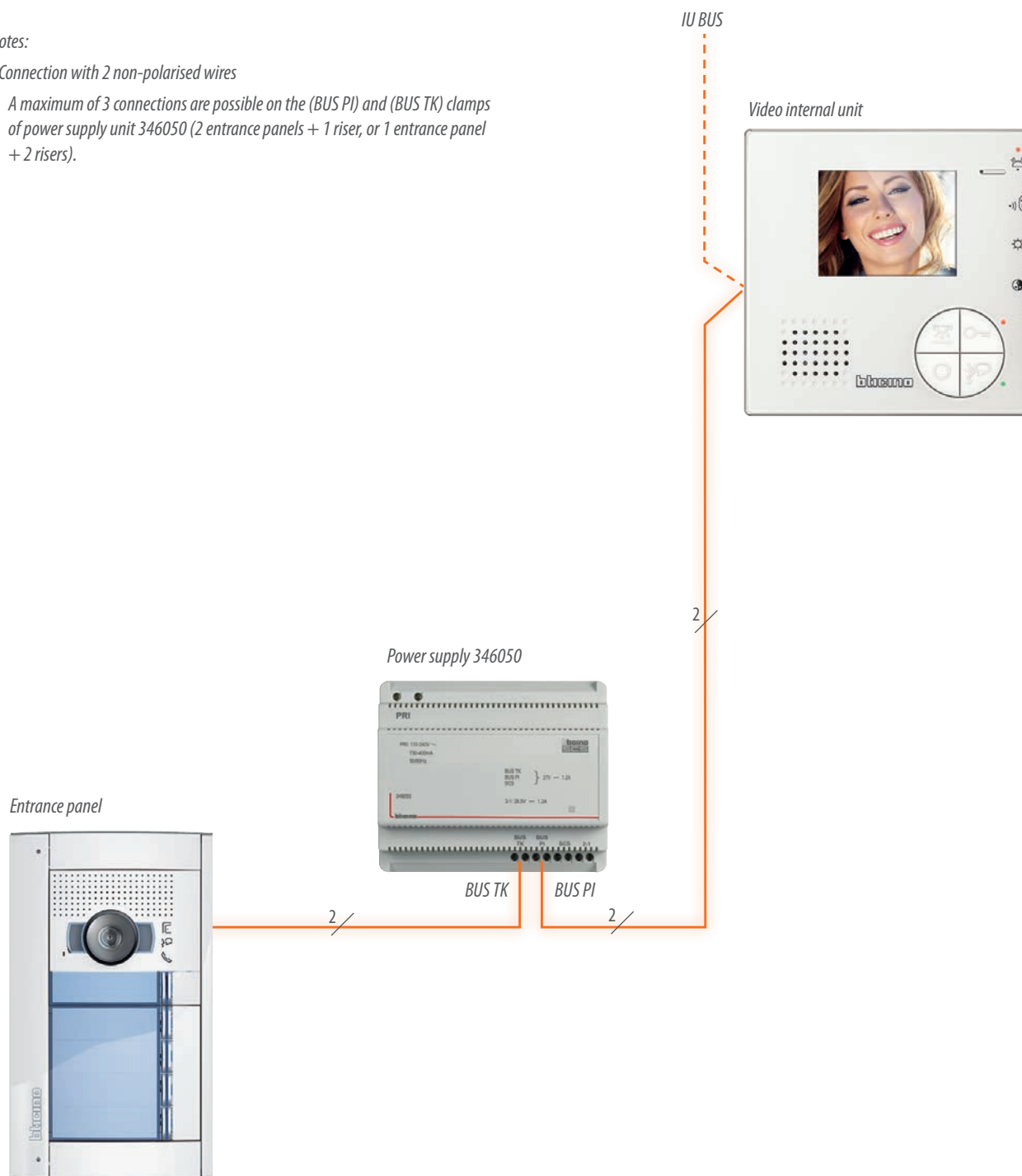
Video systems

EXAMPLE OF A SYSTEM WITH AUDIO VIDEO NODE F441

The F441 audio/video node must be used in conjunction with power supply unit 346050 when the system includes more than 2 entrance panels or when more than 2 risers are required.

In case of table-top installation or internal units with simultaneous switching on, assign a dedicated audio/video output to each video internal unit.

Notes:

- Connection with 2 non polarised wires.

Up to 26 internal units and 6 floor shunts, item 346841, may be connected to each riser connected to the output of the F441 audio/video node.

Video internal unit

Risers

Entrance panel

A/V node F441

Power supply 346050

SCS
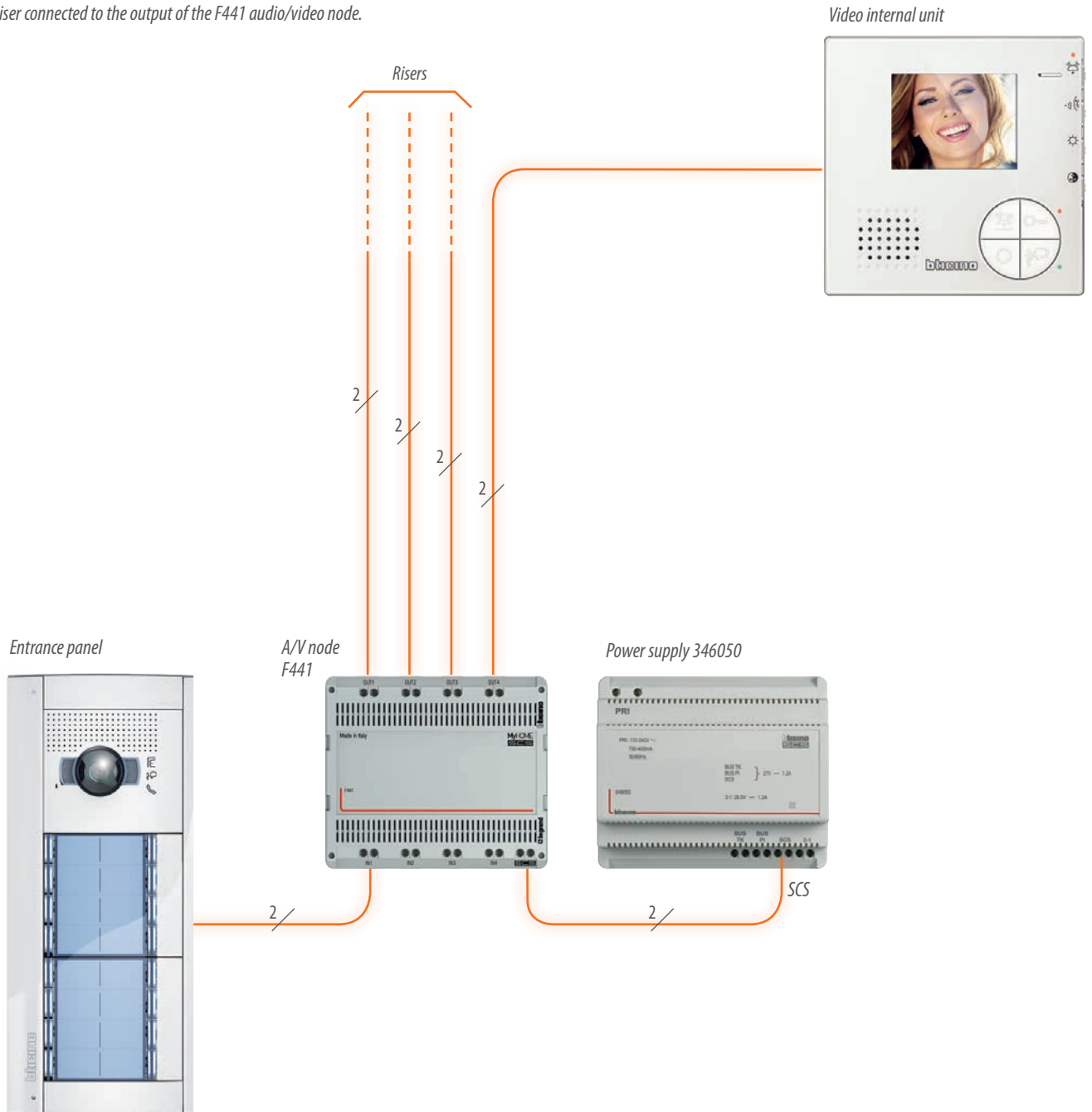
EXAMPLE OF APARTMENT BLOCK SYSTEM WITH 2 RISERS

For the installation of multifamily video systems, it is possible to use the floor shunt item 346841.

It allows significant savings on the cable being used.

It is particularly suited to multifamily systems with several dwellings on the same floor, and to multifamily systems with high distance between entrance panel and internal units.

Using the star connection method, the floor shunt makes it possible to connect up to 3 apartment internal units (max 1 internal unit for each output with simultaneous switching on).

Riser 1   Riser 2

APARTMENT 2
Video internal unit

APARTMENT Y
Video internal unit

Apartment X+2
Apartment X+1
Apartment X

APARTMENT 1
Video internal unit

346841

Entrance panel
Power supply 346050

BUS TK   BUS PI
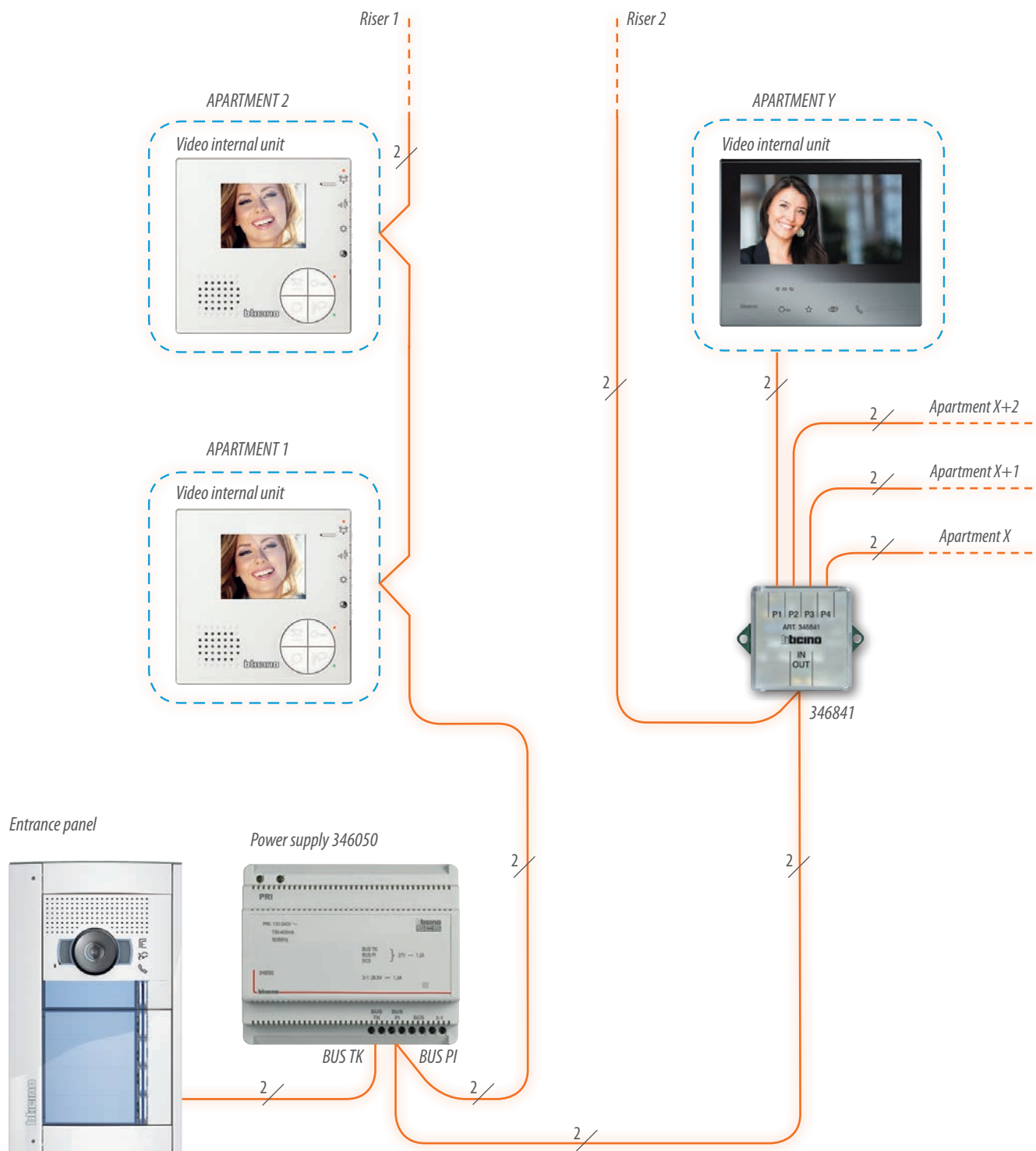
Video systems

VIDEO SYSTEM WITH POWER SUPPLY 346050

Audio / video node

Power supply 346050

Video Internal Units

Entrance Panel

OUT

IN

Apartment interface

MAX.64 CLASSE 100 INTERNAL UNITS or MAX. 100 APARTMENT INTERFACES
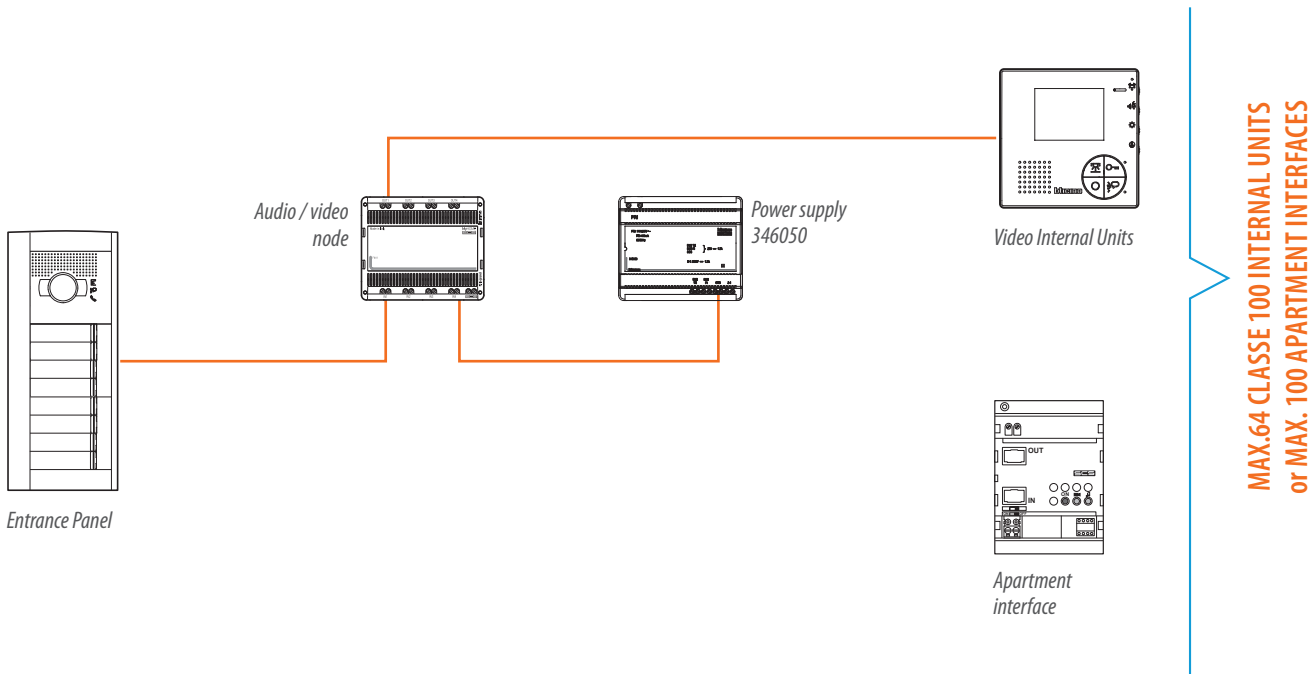
- **(only 1 entrance panel)**
- **For different installation combinations refer to the general installation rules.**

GENERAL CONSIDERATIONS:

For the sizing of the system when using interfaces 346850 and 346851, galvanically insulated systems must be separated. Interface 346850 is a galvanically insulated device. It therefore requires double power supply (1 device downstream and 1 device upstream the device).

For each galvanically insulated system, the indication of the tables of the following pages apply, considering, as first approximation, interfaces 346850 and 346851 in the same way as an EP (for the part connected to the TK / IN BUS, F441 audio/video node) and as an IU (for the part connected to the PI / OUT BUS, F441 audio/video node).

However, we always recommend the use of the YouDiagram software to ascertain the feasibility of the system and calculate absorptions.

The number of internal units varies depending on the number of entrance panels and actuators of the system. When calculating the number of internal units that can be connected, also consider any devices (audio/video internal units, bells/melodic bells) connected in parallel.

EXAMPLES OF VIDEO SYSTEMS:

In a video system with 1 entrance panel, it will be possible to connect up to 64 entrance panels (Classe 100). For example it is possible to connect:

- **64** Apartments with 1 IU (or **100** apartments with apartment interface 346850).

- **50** Apartments with 1 IU (or apartment interface 346850); **7** Apartments with 2 IU (50 + (7x2)= 64)

- **38** Apartments with 1 IU (or apartment interface 346850), **10** apartments with 2 IU, 1 apartment with 3 IU and 1 actuator for generic loads (38 + (10x2) + (1x3) + 3 = 64).

SYSTEM WITH AUDIO VIDEO NODE F441

In systems with more than 2 video entrance panels, audio/video node F441 must be used.
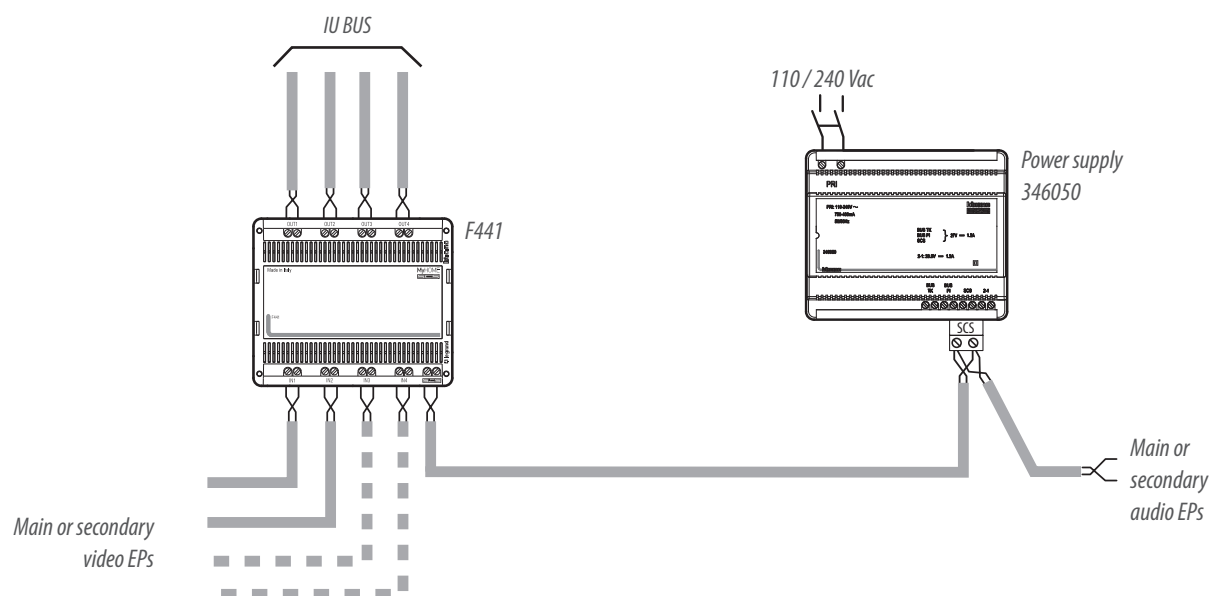
Using the F441 audio/video node, it is possible to connect **up to 4 video entrance panels and 4 risers**. Audio entrance panels can be connected to both the SCS clamp or the IN clamp of the audio/video node. The absorption of the devices connected to the outputs of the audio/video node **MUST be ≤ 720 mA**.

In systems requiring a high number of internal units, it will be possible to use an additional power supply for local powering of video Sfera entrance panels. Or it will be possible to expand the riser with system expansion interface 346851 and corresponding power supply unit.

In alternative to the video entrance panels (without local power supply), it is also possible to use native 2 wires cameras and / or interfaces (347400) for the connection of cameras with COAX output.

The tables of the following pages show the video systems completed with the different types of internal units, classed as follows:

- **Classe 100 internal units;**

- **Classe 300 internal units;**

- **Classe 300 connected internal units.**
(Consider that in multi-family systems, the connected Classe 300 internal units MUST ALWAYS be used with local power supply (346020).

Video systems

POWER SUPPLY 346050 CONNECTION RULES
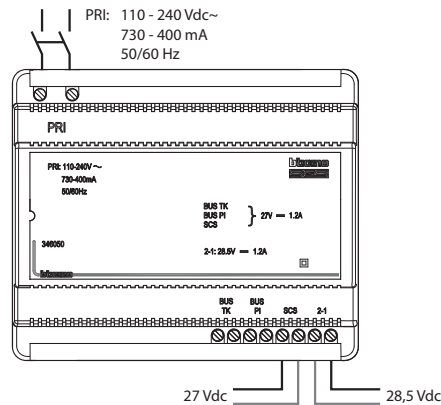
6 DIN power supply for audio, video or audio video mixed 2 wires systems. The output provides two power supplies in low safety voltage (one on the 3 BUS TK, BUS PI and SCS clamps, one on the 1 - 2 clamp) to be used alternately and NOT at the same time.

The (BUS TK), (BUS PI) ans (SCS) outputs can be used at the same time respecting the total maximum absorption of 1.2 A.

Up to a maximum of 3 connections/shunts are possible on the (BUS TK) and (BUS PI) clamps (2 IU risers + 1 TK maximum or 1 IU riser and 2 TK maximum).

The device can also be used as additional power supply (1 - 2 output) for the local power supply of the preset internal units or entrance panels - in this case, it is NOT possible to use other outputs.

EXAMPLE OF THE CONNECTION 1 EP + 1 IU RISER
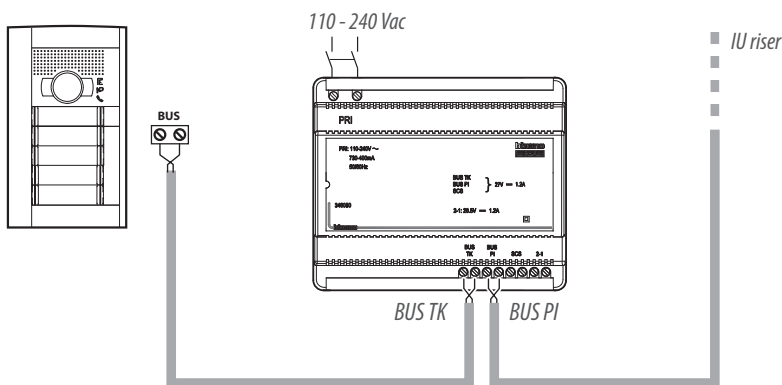
EXAMPLE OF THE CONNECTION 1 EP + 2 IU RISERS
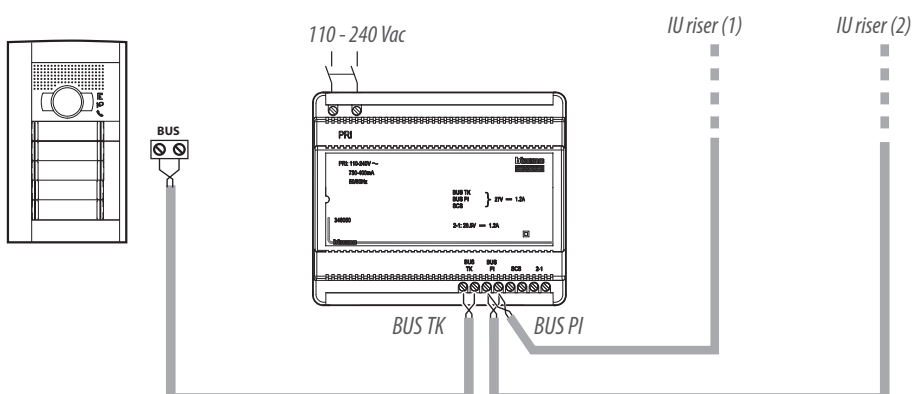
POWER SUPPLY 346050 CONNECTION

EXAMPLE OF THE CONNECTION 2 EPS + 1 IU RISER

IU riser

110 - 240 Vac

346050

BUS

BUS

PRI

PRI: 110-240V ~
730-400mA
50/60Hz

BUS TK
BUS PI   27V ⎓ 1.2A
SCS

346050

2-1: 28.5V ⎓ 1.2A

BUS   BUS
TK   PI   SCS   2-1

BUS TK   *BUS PI*
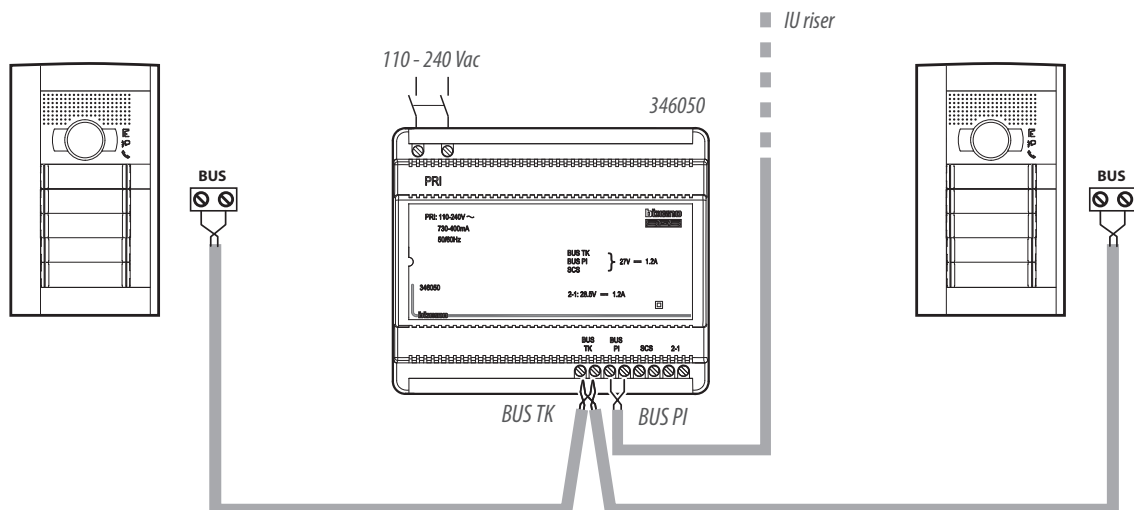
EXAMPLE OF THE CONNECTION AUDIO VIDEO NODE F441

IU riser

110 - 240 Vac

F441   *346050*

OUT1 OUT2 OUT3 OUT4

Made in Italy   MyHOME

F441

IN1 IN2 IN3 IN4

BUS

PRI

PRI: 110-240V ~
730-400mA
50/60Hz

BUS TK
BUS PI   27V ⎓ 1.2A
SCS

346050

2-1: 28.5V ⎓ 1.2A

BUS BUS
TK   PI   SCS 2-1

SCS

Other Entrance panels
possible connection

Video systems

POSSIBLE COMBINATIONS (WIRING WITH FLOOR SHUNT)

MULTIFAMILY COLOUR BASIC VIDEO SYSTEMS
MAX NUMBER OF INTERNAL UNITS FOR SYSTEMS WITH SFERA NEW / ROBUR ENTRANCE PANELS

No.of video colour entrance panels	System power supply	Additional power supplies	SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE + CAMERA + PUSHBUTTONS or AUDIO/VIDEO + PUSHBUTTONS		SFERA ENTRANCE PANELS INCLUDE: DISPLAY (352500)		SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE (351100) + CAMERA (352400) + DISPLAY (352500) + KEYPAD (353000) OR AUDIO/VIDEO (351200/351300) + DISPLAY (352500) + KEYPAD (353000)		SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE (351100) + CAMERA (352400) + KEY EXPANSION (346993)	
			Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU	Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU	Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU	Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU
1 video	1	-	44	16	42	15	40	13	48	16
2 video	1	-	40	15	36	13	32	11	44	16
3 video	1	-	36	13	32	10	26	–	40	15
4 video	1	-	32	12	26	8	–	–	36	14
1 main video + 2 secondary audio or video	1	-	18	14	40	12	36	10	44	15
1 video	1	1	64	22	64	22	64	22	64	22
2 video	1	2	64	22	64	22	64	22	64	22
3 video	1	3	64	20	64	20	64	20	64	20
4 video	1	4	64	20	64	20	64	20	64	20
1 main video* 2 secondary audio	1	1(*)	56	18	56	18	56	18	60	18

(*) Additional power supply on main video EP.

NOTES:

- All the combinations are calculated with **entrance panels** (both main and secondary) with **modules with 8 call keys**.
- The main entrance panels are those that can call all the internal units, while secondary entrance panels can only call some internal units.
- Systems with "main and secondary" entrance panels HAVE NO **independent audio** (this means **that only 1 communication session at the time is guaranteed**).
- The number of call keys for each secondary EP is calculated by dividing the total number of IU that can be installed by the total number of secondary EP (secondary EP consisting of modules with 8 keys, like the main EP).
- In sizing the systems, it will be necessary to also take into account the introduction of other components: these will take away further IU from the system:
- ▷ for each **additional plate module** (in addition to the already indicated ones), it will be necessary to **remove 1 IU**;
- ▷ for each **generic load actuator** 346210 or **call repeater**, it will be necessary to **remove 1 IU**;
- ▷ for each **door lock actuator 346230**, it will be necessary to **remove 3 IU**;
- ▷ for each **floor call interface 346833**, it will be necessary to **remove 1 IU**;
- ▷ for each **special control**, it will be necessary to **remove 1 IU**.

> ⚠ **In view of the many installation possibilities, the values shown on the table are only indicative.**
> **For correct sizing of the system, we recommend the use of the YouDiagram software**
> **- which can be downloaded free of charge from www.bticino.com**

POSSIBLE COMBINATIONS (WIRING WITH FLOOR SHUNT)

MULTIFAMILY COLOUR BASIC VIDEO SYSTEMS
MAX NUMBER OF INTERNAL UNITS FOR SYSTEMS WITH LINEA 300 DIGITAL CALL PANEL (308040)

			LINEA 300 DIGITAL CALL VIDEO ENTRANCE PANEL (308040)	
No.of video colour entrance panels	System power supply	Additional power supplies	Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU
1 video	1	-	40	13
2 video	1	-	32	11
3 video	1	-	24	8
4 video	1	-	16	NA.
1 main video + 2 secondary video	1	-	24 (*)	10 (**)
1 video	1	1	64	23
2 video	1	2	64	23
3 video	1	3	64	22
4 video	1	4	64	22

(*) Secondary video entrance panel (308003 or 308013)

(**) Secondary video entrance panel (308002 or 308012)

NOTES:

- All the combinations are calculated with **entrance panels** (both main and secondary) with **modules with 8 call keys**.
- The main entrance panels are those that can call all the internal units, while secondary entrance panels can only call some internal units.
- Systems with "main and secondary" entrance panels HAVE NO **independent audio** (this means **that only 1 communication session at the time is guaranteed).**
- The number of call keys for each secondary EP is calculated by dividing the total number of IU that can be installed by the total number of secondary EP (secondary EP consisting of modules with 8 keys, like the main EP).
- In sizing the systems, it will be necessary to also take into account the introduction of other components: these will take away further IU from the system:
  - for each **additional plate module** (in addition to the already indicated ones), it will be necessary to **remove 1 IU**;
  - for each **generic load actuator** 346210 or **call repeater**, it will be necessary to **remove 1 IU**;
  - for each **door lock actuator 346230**, it will be necessary to **remove 3 IU**;
  - for each **floor call interface 346833**, it will be necessary to **remove 1 IU**;
  - for each **special control**, it will be necessary to **remove 1 IU**.

> ⚠ **In view of the many installation possibilities, the values shown on the table are only indicative.**
> **For correct sizing of the system, we recommend the use of the YouDiagram software**
> **- which can be downloaded free of charge from www.bticino.com**

POSSIBLE COMBINATIONS (IN-OUT WIRING)

MULTIFAMILY COLOUR BASIC VIDEO SYSTEMS
MAX NUMBER OF INTERNAL UNITS FOR SYSTEMS WITH SFERA NEW / ROBUR ENTRANCE PANELS

No.of video colour entrance panels	System power supply	Additional power supplies	SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE + CAMERA + PUSHBUTTONS or AUDIO/VIDEO + PUSHBUTTONS		SFERA ENTRANCE PANELS INCLUDE: DISPLAY (352500)		SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE (351100) + CAMERA (352400) + DISPLAY (352500) + KEYPAD (353000) OR AUDIO/VIDEO (351200/351300) + DISPLAY (352500) + KEYPAD (353000)		SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE (351100) + CAMERA (352400) + KEY EXPANSION (346993)	
			Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU	Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU	Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU	Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU
1 video	1	-	60	18	60	16	56	15	64	18
2 video	1	-	52	16	52	14	46	12	56	18
3 video	1	-	44	15	44	12	36	–	48	16
4 video	1	-	40	14	36	10	–	–	40	16
1 main video + 2 secondary audio or video	1	-	52	16	52	14	48	12	56	16
1 video	1	1	64	24	64	24	64	24	64	24
2 video	1	2	64	24	64	24	64	24	64	24
3 video	1	3	64	22	64	22	64	22	64	22
4 video	1	4	64	22	64	22	64	22	64	22
1 main video* 2 secondary audio	1	1(*)	64	20	64	20	64	20	64	20

(*) Additional power supply on main video EP.

NOTES:
- All the combinations are calculated with **entrance panels** (both main and secondary) with **modules with 8 call keys**.
- The main entrance panels are those that can call all the internal units, while secondary entrance panels can only call some internal units.
- Systems with "main and secondary" entrance panels HAVE NO **independent audio** (this means **that only 1 communication session at the time is guaranteed**).
- The number of call keys for each secondary EP is calculated by dividing the total number of IU that can be installed by the total number of secondary EP (secondary EP consisting of modules with 8 keys, like the main EP).
- In sizing the systems, it will be necessary to also take into account the introduction of other components: these will take away further IU from the system:
- for each **additional plate module** (in addition to the already indicated ones), it will be necessary to **remove 1 IU**;
- for each **generic load actuator** 346210 or **call repeater**, it will be necessary to **remove 1 IU**;
- for each **door lock actuator 346230,** it will be necessary to **remove 3 IU**;
- for each **floor call interface 346833**, it will be necessary to **remove 1 IU**;
- for each **special control**, it will be necessary to **remove 1 IU**.

⚠ In view of the many installation possibilities, the values shown on the table are only indicative.
For correct sizing of the system, we recommend the use of the YouDiagram software
- which can be downloaded free of charge from www.bticino.com

POSSIBLE COMBINATIONS (IN-OUT WIRING)

MULTIFAMILY COLOUR BASIC VIDEO SYSTEMS
MAX NUMBER OF INTERNAL UNITS FOR SYSTEMS WITH LINEA 300 DIGITAL CALL PANEL (308040)

No.of video colour entrance panels	System power supply	Additional power supplies	Max No. of internal units-system only with CLASSE 100 IU	Max. No. of internal units-system with one or more CLASSE 300 IU
1 video	1	-	56	15
2 video	1	-	46	12
3 video	1	-	36	10
4 video	1	-	26	7
1 main video + 2 secondary video	1	-	32 (*)	10 (**)
1 video	1	1	64	24
2 video	1	2	64	24
3 video	1	3	64	24
4 video	1	4	64	24

The fourth and fifth columns above fall under the heading: LINEA 300 DIGITAL CALL VIDEO ENTRANCE PANEL (308040)

(*) Secondary video entrance panel (308004 or 308014)

(**) Secondary video entrance panel (308002 or 308012)

NOTES:

- All the combinations are calculated with **entrance panels** (both main and secondary) with **modules with 8 call keys**.
- The main entrance panels are those that can call all the internal units, while secondary entrance panels can only call some internal units.
- Systems with "main and secondary" entrance panels HAVE NO **independent audio** (this means **that only 1 communication session at the time is guaranteed**).
- The number of call keys for each secondary EP is calculated by dividing the total number of IU that can be installed by the total number of secondary EP (secondary EP consisting of modules with 8 keys, like the main EP).
- In sizing the systems, it will be necessary to also take into account the introduction of other components: these will take away further IU from the system:
- ▷ for each **additional plate module** (in addition to the already indicated ones), it will be necessary to **remove 1 IU**;
- ▷ for each **generic load actuator** 346210 or **call repeater**, it will be necessary to **remove 1 IU**;
- ▷ for each **door lock actuator 346230**, it will be necessary to **remove 3 IU**;
- ▷ for each **floor call interface 346833**, it will be necessary to **remove 1 IU**;
- ▷ for each **special control**, it will be necessary to **remove 1 IU**.

> ⚠ **In view of the many installation possibilities, the values shown on the table are only indicative.**
> **For correct sizing of the system, we recommend the use of the YouDiagram software**
> **- which can be downloaded free of charge from www.bticino.com**

POSSIBLE COMBINATIONS (FLOOR SHUNT / IN-OUT WIRING)

COLOUR BASIC VIDEO SYSTEMS

MAX NUMBER OF CONNECTED CLASSE 300X INTERNAL UNITS FOR SYSTEMS WITH SFERA NEW / ROBUR ENTRANCE PANELS

	No. of video colour entrance panels	System power supply (346050)	Additional power supplies (346020)	SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE + CAMERA + PUSHBUTTONS or AUDIO/VIDEO + PUSHBUTTONS	SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE (351100) + CAMERA (352400) + DISPLAY (352500) OR AUDIO/VIDEO (351200/351300) + DISPLAY (352500)	SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE (351100) + CAMERA (352400) + DISPLAY (352500) + KEYPAD (353000) OR AUDIO/VIDEO (351200/351300) + DISPLAY (352500) + KEYPAD (353000)	SFERA ENTRANCE PANELS INCLUDE: SPEAKER MODULE (351100) + CAMERA (352400) + KEY EXPANSION (346993)
				Max No. of connected Classe 300X internal units	Max No. of connected Classe 300X internal units	Max No. of connected Classe 300X internal units	Max No. of connected Classe 300X internal units
One family	1 video	1	-	1	1	1	1
	2 video	1	-	1	1	1	1
Two families	1 video	1	-	2	2	2	2
	2 video	1	-	2	2	2	2
	3 video	1	-	2	2	2	2
Multi families	1 video	1	YES(*)	64	64	64	64
	2 video	1	YES(*)	64	64	64	64
	3 video	1	YES(*)	64	64	64	64
	4 video	1	YES(*)	64	64	64	64

Classe 300X in the table are connected, one per apartment and one per each (SSID) identifier.

YES (*) = It means that for each internal unit, the additional power supply must be added.

NOTES:

- All the combinations are calculated with **entrance panels** with **modules with 8 call keys**.
- The main entrance panels are those that can call all the internal units, while secondary entrance panels can only call some internal units.
- Systems with "main and secondary" entrance panels HAVE NO **independent audio** (this means **that only 1 communication session at the time is guaranteed**).
- In sizing the systems, it will be necessary to also take into account the introduction of other components: these will take away further IU from the system:
- for each **additional plate module** (in addition to the already indicated ones), it will be necessary to **remove 1 IU**;
- for each **generic load actuator** 346210 or **call repeater**, it will be necessary to **remove 1 IU**;
- for each **door lock actuator 346230**, it will be necessary to **remove 3 IU**;
- for each **floor call interface 346833**, it will be necessary to **remove 1 IU**;
- for each **special control**, it will be necessary to **remove 1 IU**.

⚠ **In view of the many installation possibilities, the values shown on the table are only indicative. For correct sizing of the system, we recommend the use of the YouDiagram software - which can be downloaded free of charge from www.bticino.com**

POSSIBLE COMBINATIONS (FLOOR SHUNT / IN-OUT WIRING)

COLOUR BASIC VIDEO SYSTEMS

MAX NUMBER OF CONNECTED CLASSE 300X INTERNAL UNITS FOR SYSTEMS WITH LINEA 300 DIGITAL CALL (308040) ENTRANCE PANELS

	No.of video colour entrance panels	System power supply (346050)	Additional power supplies (346020)	**LINEA 300 DIGITAL CALL VIDEO ENTRANCE PANEL (308040)** Max No. of connected Classe 300X internal units
One family	1 video	1	-	1
	2 video	1	-	1
Two families	1 video	1	-	2
	2 video	1	-	2
	3 video	1	-	2
Multi families	1 video	1	YES(*)	64
	2 video	1	YES(*)	64
	3 video	1	YES(*)	64
	4 video	1	YES(*)	64

Classe 300X in the table are connected, one per apartment and one per each (SSID) identifier.

YES (*) = It means that for each internal unit, the additional power supply must be added.

NOTES:
- The main entrance panels are those that can call all the internal units, while secondary entrance panels can only call some internal units.
- Systems with "main and secondary" entrance panels HAVE NO **independent audio** (this means **that only 1 communication session at the time is guaranteed**).
- In sizing the systems, it will be necessary to also take into account the introduction of other components: these will take away further IU from the system:
- for each **additional plate module** (in addition to the already indicated ones), it will be necessary to **remove 1 IU**;
- for each **generic load actuator** 346210 or **call repeater**, it will be necessary to **remove 1 IU**;
- for each **door lock actuator 346230**, it will be necessary to **remove 3 IU**;
- for each **floor call interface 346833**, it will be necessary to **remove 1 IU**;
- for each **special control**, it will be necessary to **remove 1 IU**.

⚠ **In view of the many installation possibilities, the values shown on the table are only indicative. For correct sizing of the system, we recommend the use of the YouDiagram software - which can be downloaded free of charge from www.bticino.com**

Video systems

SINGLE FAMILY OR MULTIFAMILY COLOUR VIDEO SYSTEMS WITH APARTMENT INTERFACE 346850:
MAX. NUMBER OF INTERNAL UNITS

		SFERA	SFERA A/V	LINEA 2000	LINEA 3000
No.of private video entrance panels	System power supply	Max. No. of internal units-system with Classe 100 and Classe 300 IU	Max. No. of internal units-system with Classe 100 and Classe 300 IU	Max. No. of internal units-system with Classe 100 and Classe 300 IU	Max. No. of internal units-system with Classe 100 and Classe 300 IU
1 video	1				
2 video	1			5	
3 video	1				
4 video (*)	1				

(*) Only for single family systems (without apartment interface).

General rules for single family systems:

- By configuring the EP with (**S = 9**), general call / call forward is set to all the IU at the same time.

- When more than 1 IU is installed in the home, the configuration of the IU must start from (**N=1**), while the EP must be configured (in addition to **S = 9**), with (**N = 1**).

- To switch the IU on at the same time, each secondary IU must be powered locally.

NOTES:
- Only 1 Classe 300X13E connected internal unit can be installed in the system;
- Only 1 internal unit with video answering machine can be installed in the system.
- If the entrance panel is configured for general call (S = 9), the internal unit with video answering machine must be the one configured with (N = 1).

System performance - single family video systems

MAXIMUM DISTANCES AND CABLE FEATURES

CAUTION!
The use of conductors with characteristics other than the prescribed ones does NOT guarantee correct performance of the system and good quality of the video signal.

The furthest internal unit

346850   346851

346851

LINE **D** (*)

(*) Max variable distance

LINE **A** (*)

346050
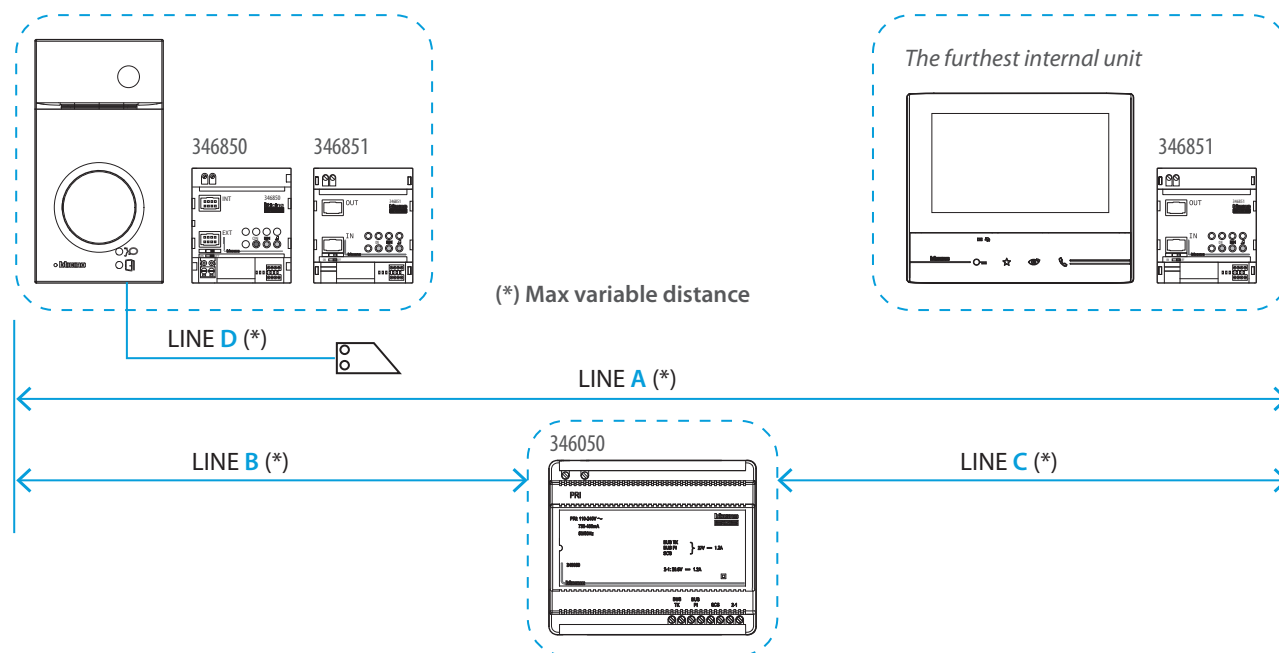
LINE **B** (*)

LINE **C** (*)

TYPE OF CABLE

	>0.2 mm	BTicino L4669 0.35 mm²	0.28 mm²	BTicino C9881U/5E AWG24 UTP5	BTicino 336904
LINE A	50 m	140 m	145 m		200 m
LINE B	50 m	115 m	80 m		200 m
LINE C	50 m	100 m	65 m		200 m
LINE C (Classe 300X)	50 m	70 m	50 m		110 m
LINE D	50 m	30 m	–		50 m

TYPE OF CABLE

	One PTT 278 TP 0.28 mm²	OneSYT +Digital TP 5/10	OneSYT +Num TP 5/10	GIGA TW CAT5E AWG24	OneSYT +Num TP 8/10	Cable ARB.6060-1 6/10	Cable EV6R 6/10	1 mm²
LINE A	200 m	150 m			200m	50 m		–
LINE B	115 m	80 m			200 m	50 m		–
LINE C	100 m	65 m			200 m	50 m		–
LINE C (Classe 300X)	70 m	50 m			110 m	50 m		–
LINE D	30 m	–			–	–		100 m

In systems where the EP is replaced by apartment interface 346850, and where the distance (B) is less than 1 m, the (C line) can reach the maximum distance of 200 m when using the 336904 cable.

System performance - multi family video systems

MAXIMUM DISTANCES AND CABLE FEATURES - SYSTEMS MADE ONLY WITH CLASSE 100 INTERNAL UNITS

CAUTION!

The use of conductors with characteristics other than the prescribed ones does NOT guarantee correct performance of the system and good quality of the video signal.

346850

346851

The furthest internal unit

346851

(*) Max variable distance

LINE **D** (*)

LINE **A** (*)

LINE **B** (*)

346050

LINE **C** (*)

MAXIMUM DISTANCE(LINE A), ENTRANCE PANEL - FURTHEST INTERNAL UNIT

Cable section mm^2	2 normal cables >0.2 mm^2	336904 BTicino cable 0.5 mm^2	Telephone twisted pair – 0.28 mm^2	A pair of the multi-pair data cable CAT5
2 IU/2 pushbuttons	50 m	200 m	140 m	180 m
5 IU/5 pushbuttons	50 m	200 m	140 m	155 m
10 IU/10 pushbuttons	50 m	200 m	140 m	145 m
26 IU/26 pushbuttons	50 m	200 m	140 m	125 m
38 IU/38 pushbuttons	50 m	200 m	140 m	110 m
38 IU/ display call	50 m	200 m	140 m	115 m
64 IU/ display call	50 m	200 m	140 m	–

MAXIMUM DISTANCE (LINE B) ENTRANCE PANEL - POWER SUPPLY

Cable section mm^2	2 normal cables >0.2 mm^2 or L4669	336904 BTicino cable 0.5 mm^2	Telephone twisted pair – 0.28 mm^2	A pair of the multi-pair data cable CAT5
2 pushbuttons	50 m	200 m	130 m	95 m
5 pushbuttons	50 m	190 m	120 m	85 m
10 pushbuttons	50 m	180 m	110 m	80 m
26 pushbuttons	50 m	150 m	100 m	70 m
38 pushbuttons	50 m	140 m	90 m	65 m
Display call	50 m	150 m	95 m	65 m

MAXIMUM DISTANCE (LINE C), POWER SUPPLY - FURTHEST INTERNAL UNIT

Cable section mm^2	2 normal cables >0.2 mm^2	336904 BTicino cable 0.5 mm^2	Telephone twisted pair 0.28 mm^2	A pair of the multi-pair data cable CAT5
2 IN/OUT IU	50 m	200 m	140 m	95 m
5 IN/OUT IU	50 m	200 m	135 m	90 m
10 IN/OUT IU	50 m	190 m	130 m	85 m
26 IN/OUT IU	50 m	170 m	120 m	75 m
5 IU (SHUNTED)	50 m	200 m	110 m	80 m
10 IU (SHUNTED)	50 m	175 m	100 m	70 m
26 IU (SHUNTED)	50 m	145 m	80 m	60 m
38 IU (SHUNTED)	50 m	125 m	70 m	50 m
64 IU (SHUNTED)	–	95 m	55 m	–

MAXIMUM DISTANCE (LINE D) ENTRANCE PANEL - DOOR LOCK

Cable section mm^2	0.28 mm^2	L4669 BTicino cable 0.35 mm^2	336904 BTicino cable 0.5 mm^2	1 mm^2
(S+/S−) clamps	30 m	30 m	50 m	100 m

- **Risers with max 26 internal units should be made in systems with more than 26 internal units.**

MAXIMUM DISTANCES AND CABLE FEATURES - SYSTEMS MADE WITH AT LEAST 1 CLASSE 300 IU

CAUTION!

The use of conductors with characteristics other than the prescribed ones does NOT guarantee correct performance of the system and good quality of the video signal.

346850

346851

The furthest internal unit

346851

(*) Max variable distance

LINE **D** (*)

LINE **A** (*)

LINE **B** (*)

LINE **C** (*)

346050

MAXIMUM DISTANCE(LINE A), ENTRANCE PANEL - FURTHEST INTERNAL UNIT

Cable section mm^2	2 normal cables >0.2 mm^2	336904 BTicino cable 0.5 mm^2	Telephone twisted pair - 0.28 mm^2	A pair of the multi-pair data cable CAT5
2 IU/2 pushbuttons	50 m	200 m	140 m	180 m
5 IU/5 pushbuttons	50 m	200 m	140 m	155 m
10 IU/10 pushbuttons	50 m	200 m	140 m	145 m
18 IU/18 pushbuttons	50 m	200 m	140 m	125 m
16 IU display call	50 m	200 m	140 m	110 m

MAXIMUM DISTANCE (LINE B) ENTRANCE PANEL - POWER SUPPLY

Cable section mm^2	2 normal cables >0.2 mm^2 or L4669	336904 BTicino cable 0.5 mm^2	Telephone twisted pair - 0.28 mm^2	A pair of the multi-pair data cable CAT5
2 pushbuttons	50 m	200 m	130 m	95 m
5 pushbuttons	50 m	190 m	120 m	85 m
10 pushbuttons	50 m	180 m	110 m	80 m
18 pushbuttons	50 m	170 m	105 m	75 m
Display call	50 m	150 m	95 m	65 m

MAXIMUM DISTANCE (LINE C), POWER SUPPLY - FURTHEST INTERNAL UNIT

Cable section mm^2	2 normal cables >0.2 mm^2	336904 BTicino cable 0.5 mm^2	Telephone twisted pair 0.28 mm^2	A pair of the multi-pair data cable CAT5
2 IN/OUT IU	50 m	200 m	140 m	95 m
5 IN/OUT IU	50 m	180 m	115 m	75 m
10 IN/OUT IU	50 m	140 m	90 m	60 m
18 IN/OUT IU	50 m	90 m	50 m	35 m
5 IU (SHUNTED)	50 m	160 m	95 m	70 m
10 IU (SHUNTED)	50 m	120 m	80 m	55 m
16 IU (SHUNTED)	50 m	80 m	45 m	30 m

MAXIMUM DISTANCE (LINE D) ENTRANCE PANEL - DOOR LOCK

Cable section mm^2	0.28 mm^2	L4669 BTicino cable 0.35 mm^2	336904 BTicino cable 0.5 mm^2	1 mm^2
(S+/S−) clamps	30 m	30 m	50 m	100 m

- **If all the Classe 300 internal units in the system are supplied locally the system should be considered as being made with Classe 100 internal units only (see previous page).**
- **Risers with max 26 internal units should be made in systems with more than 26 internal units.**

System performance - multi family video systems

VIDEO SYSTEMS WITH AMPLIFIER 346870 (ONLY WITH NOT TWISTED CABLES)

The use of line amplifier 346870 makes it possible to install systems with non-twisted cables longer than 50 metres (up to a maximum of 100 metres). Its use is ideal in restorations and in the repair of existing systems.

- The signal amplifier must be connected using non-twisted cables with section ≥ 0,28 mm^2, non polarised.

The signal amplifier must be connected at the 50th metre distance from the entrance panel. Connections at shorter distances can cause a distortion of the video signal, while at longer distances they would be pointless. In case of use of audio/video node F441, to avoid signal distortions on the inputs of the node that do not require amplification (< 50 m), we recommend to connect item 346870 only to the B line of the inputs to amplify.

- Up to 18 internal units may be installed downstream the amplifier.

The furthest internal unit

Furthest apartment interface

346870

LINE C*

346050

LINE A*

F441   346050

LINE B *

EP

LINE D*   Door lock

(*) max variable distance
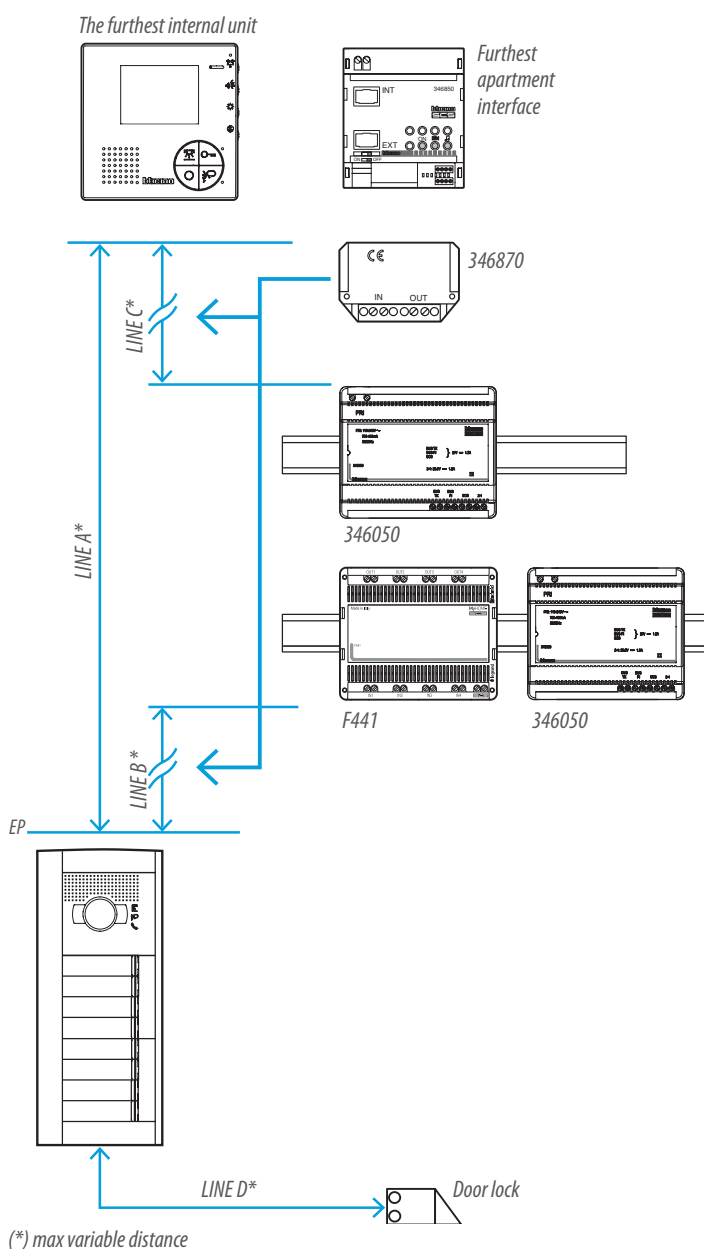
MAX. DISTANCE LINE A
ENTRANCE PANEL - FURTHEST INTERNAL UNIT

Without 346870	With 346870
50 m	100 m

MAX. DISTANCE LINE C
THE FURTHEST INTERNAL UNIT- POWER SUPPLY

Without 346870	With 346870
50 m	100 m

MAX. DISTANCE LINE D
ENTRANCE PANEL - DOOR LOCK

Cable section mm^2	0.28 mm^2	L4669 BTicino SCS cable 0.35 mm^2	336904 BTicino SCS cable 0.5 mm^2	1 mm^2
S+ S- clamps	30 m	30 m	50 m	100 m

System expansion with interfaces

Audio and video 2 wires systems can be expanded thanks to three different types of interfaces:

APARTMENT INTERFACE 346850

It gives the possibility of installing a dedicated 2 WIRES system independent from the apartment block riser.

The system downstream the interface (internal to the apartment/dwelling) can have dedicated entrance panels and cameras.

It is possible to make intercom calls inside and outside the apartment using preset internal units.

346850

SYSTEM EXPANSION INTERFACE 346851

It gives the possibility of creating up to 39 isolated risers with independent audio and video. It can also be used to expand the maximum physical limits of the system (maximum distance 600 m with BTicino cable 336904), or to increase the number of devices that can be connected to the BUS.

It is possible to connect up to a maximum of 3 interfaces in cascade.

346851

2 WIRES / IP INTERFACE 346891

It gives the possibility of installing very extended mixed 2 WIRES / IP systems with a large number of devices (entrance panels, internal units and interfaces).

The system will have an IP backbone and 2 WIRES risers.

The IP backbone must be dedicated to the door entry system. Thanks to the IP switchboard (software), it makes it possible to manage advanced functions.
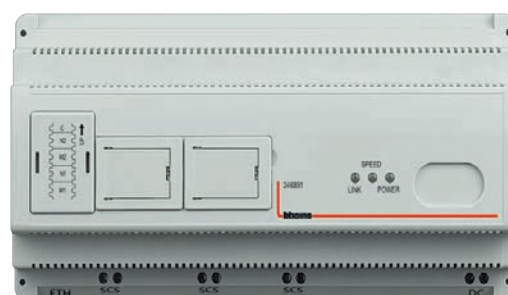
346891

System expansion with interfaces

EXAMPLE OF USE OF THE INTERFACE 346850

Example of connection for the installation of an apartment system independent from the apartment block system.
In this way, the apartment system can have private cameras and entrance panels, and can be integrated with home automation applications.

The use of apartment interface 346850 makes it possible to have independent audio intercom inside the apartment.
This gives the possibility making intercom calls inside the apartment that will not be interrupted if the main EP calls another apartment.

APARTMENT BLOCK SYSTEM

Riser for apartment block

2

Apartment interface 346850

2

Entrance panel for apartment block

2

Apartment interface 346850

2

Power supply 346050

2

BUS TK   *BUS PI*

2

System expansion with interfaces

SYSTEM OF APARTMENT 2

Power supply
346050

Video internal unit

BUS TK   BUS PI

2

2

2

2

2

Apartment
entrance panel

Video internal unit

SYSTEM OF APARTMENT 1

2

Audio video
node F441

Power supply
346050

Video internal unit

2

2

SCS

2

2

Apartment entrance panel

Outdoor camera

System expansion with interfaces

EXAMPLE OF 346851 INTERFACE CONNECTION (MOD=5)

It must be used in apartment blocks, to install 2 wires risers with riser entrance panels. With this solution, audio and video are independent from the other risers.

COMMON SYSTEM SECTION

Power supply
346050

BUS TK   BUS PI

System expansion interface 346851 configured with MOD= 5

System expansion interface 346851 configured with MOD= 5

Common entrance panel

To the internal units/
346850 riser interfaces

1 2 3 4

Power supply
346050

SCS

2

2

2

Riser entrance
panel 1

To the internal units/
346850 riser interfaces

1 2 3 4

Power supply
346050

SCS

2

2

2

Riser entrance
panel 2

2

To other 346851 interfaces

System expansion with interfaces

EXAMPLE (1) OF 346851 INTERFACE CONNECTION IN LINE EXPANSION MODE (MOD=0)

It must be used to expand the system, in order to:

■ Regenerate the video signal, with the possibility of a further 200 m after the interface (with cable 336904)

■ Increase the number of devices connected to the BUS

Notes:
- *200 m with BTicino cable 336904*
- *Up to a maximum of 3 interfaces 346851 in cascade(600 m max.)*
- *In the (A) line, interface 346851 must be considered as an internal unit*
- *In the (B) line, interface 346851 must be considered as an entrance panel*
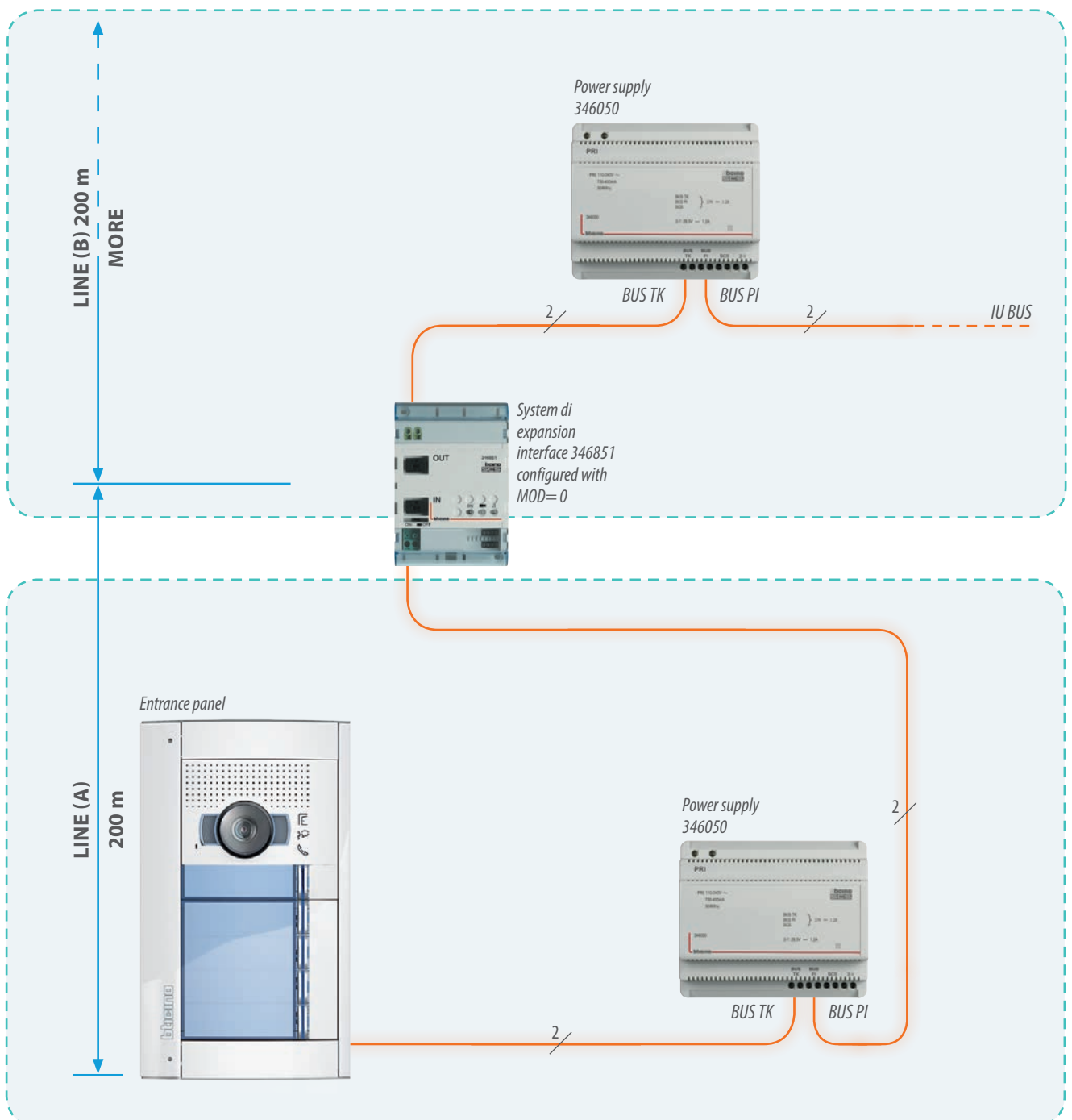
EXAMPLE (2) OF 346851 INTERFACE CONNECTION IN SYSTEM EXPANSION MODE (MOD=0)

Notes:

- *in order to reach the maximum distance, it is necessary to use the BTicino cable 336904*

- *The IN clamp of system expansion modules with MOD = 0 must be connected to a dedicated output of the F441 audio/video node, or the 346841 floor shunt (as an internal unit with local power supply).*

Max 1 interface 346851
(configured with MOD= 0)
for each output

Power supply
346050

Audio / video
node
F441

To other A/V F441 nodes,
interfaces or internal units

To other A/V F441 nodes,
interfaces or internal units

SCS

200 m

Interfaces
346851
configured
with MOD=0

200 m

Power supply
346050

Entrance panel

Audio / video
node
F441

SCS
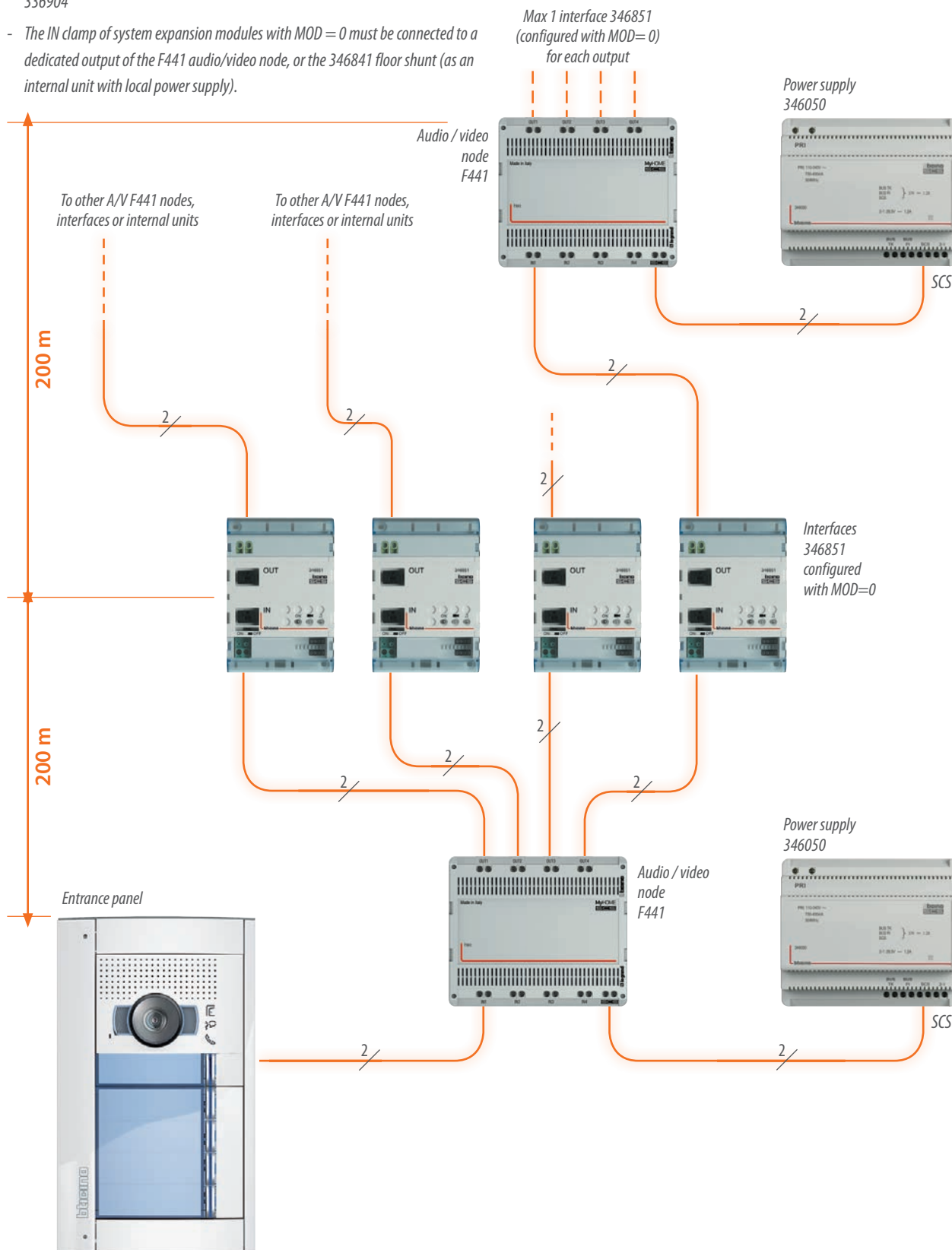
System expansion with interfaces

GENERAL RULES FOR DISTANCE CALCULATION

The maximum possible distance for video systems (between the furthest EP and IU) is 600 m when using the BTicino cable 336904.

For audio systems, the maximum distance is 1350 m when using 1 mm^2 section sheathed cables. The call signal can cross up to 2 interfaces 346851 (and 1 apartment interface 346850 maximum).

For the calculation of the maximum system distances, it will be necessary to identify the galvanically insulated sections, identify the A, B and C lines of each section, and find on the table (system performance) the maximum permitted distance based on the items installed and the cable used. Below are some examples of identification of the LINES.

SYSTEM WITH APARTMENT INTERFACE 346850

Last internal unit or last apartment interface 346850

LINE C

LINE A

2

2

Power supply 346050

2

LINE B

Entrance panel

Riser for apartment block

LINE A

LINE B   LINE C

Apartment system

346850   Power supply 346050
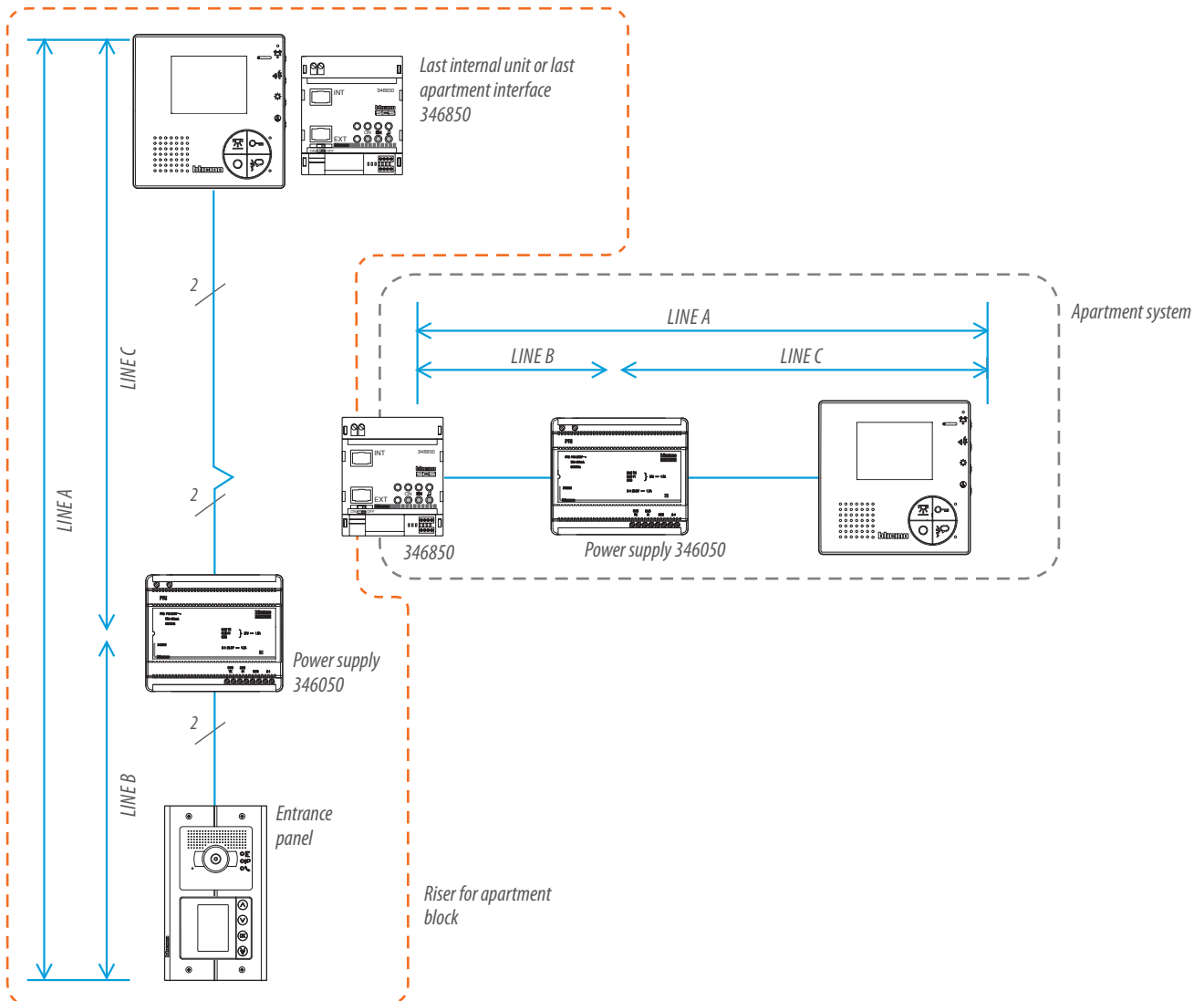
Note: The apartment block riser and the apartment system are galvanically isolated.

SYSTEM IN EXPANSION WITH INTERFACE 346851

It is possible to use a maximum of 3 interfaces 346851 and 346850 in cascade, taking into account that several interfaces 346850 cannot be connected in cascade to each other. By interfaces in cascade, we mean those crossed by an audio / video connection (entrance panel - internal unit). Only two interfaces (any) can repeat the signal,

meaning making available another 200 m on the A LINE. When calculating distances in case of crossing of three interfaces, it must be decided which interface will not repeat the signal. In this mode, it is not considered in the identification of LINE A .
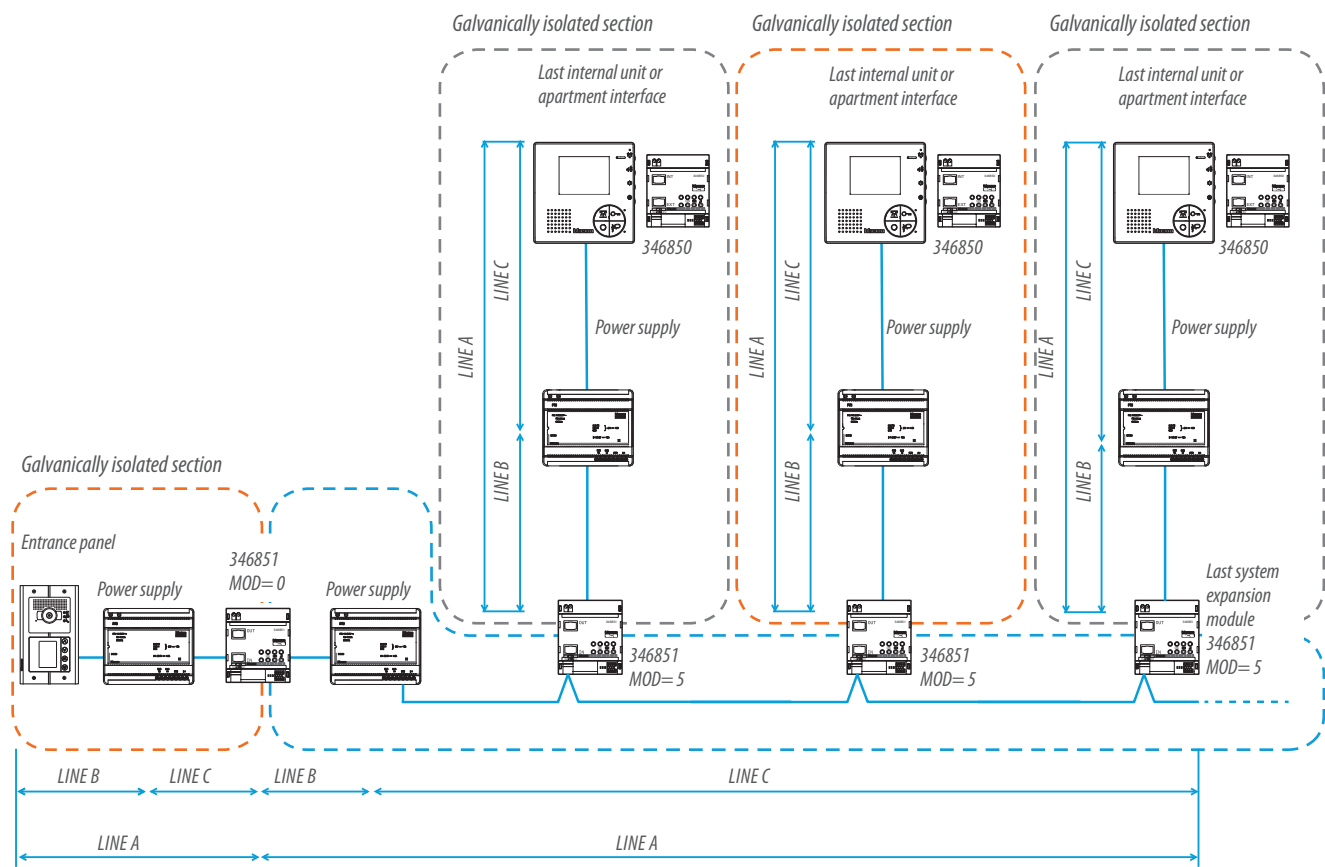
System expansion with interfaces

AUDIO SYSTEMS WITH SYSTEM EXPANSION INTERFACE 346851

The system expansion interface gives the possibility of increasing the length of the line of an audio door entry system and/or creating risers with independent audio.

Internal unit or Apartment interface 346850

System expansion module MOD= 0 346851

Apartment interface 346850

Internal Unit

Max. X addresses "N"

Line A – Max. 100 addresses "N"

Line B – Max. (100–X) addresses "N"

System expansion module MOD= 5 346851

Internal unit or Apartment interface 346850

System expansion module MOD= 0 346851

Apartment interface 346850

Internal Unit

(N =86) to (N=99)

Example from (N =00) to (N=99)

(N =00) to (N=85)

System expansion module MOD= 5 346851

Max. 39 risers with independent sound

VIDEO SYSTEMS WITH SYSTEM EXPANSION INTERFACE 346851

The system expansion interface gives the possibility of increasing the length of the line of a video door entry system, of creating risers with independent audio, and of increasing the number of devices that can be connected to the riser.

Internal unit or Apartment interface
346850

Max. 36 video IU or "X" interfaces 346850

Line A – Max. 100 addresses "N"

Line B – Max. 64 video IU or (100–X) interfaces 346850

System expansion module MOD= 0
346851

Apartment interface
346850

Internal Unit

System expansion module MOD= 5
346851

Internal unit or Apartment interface
346850

(N =65) to (N=99) Video IU

(N =87) to (N=99) Interfaces 346850

Example (N=00) to (N=64) Video IU

Esempio (N=00) to (N=86) Interfaces 346850

System expansion module MOD= 0
346851

Apartment interface
346850

Internal Unit

System expansion module MOD= 5
346851

Max. 39 risers with independent sound

It is possible to connect up to a maximum of 3 expansion interfaces 346851 in cascade. If only 346850 type interfaces are used on the riser, the limit of IU goes from 64 to 100 (without expansion interface 346851 configured with MOD = 0).

⚠ **For the calculation of the maximum number of video IU that can be connected to each individual line (without local power supply), we recommend the use of the YouDiagram – which can be downloaded free of charge from www.bticino.com.**

System expansion with interfaces

MAXIMUM USE LIMITS FOR INTERFACES 346850 AND 346851

It is possible to connect up to a maximum of 3 expansion interfaces 346850 or 346851 in cascade. By interfaces in cascade, we mean those crossed by an entrance panel / internal unit, or internal unit / internal unit (intercom) audio / video connection.
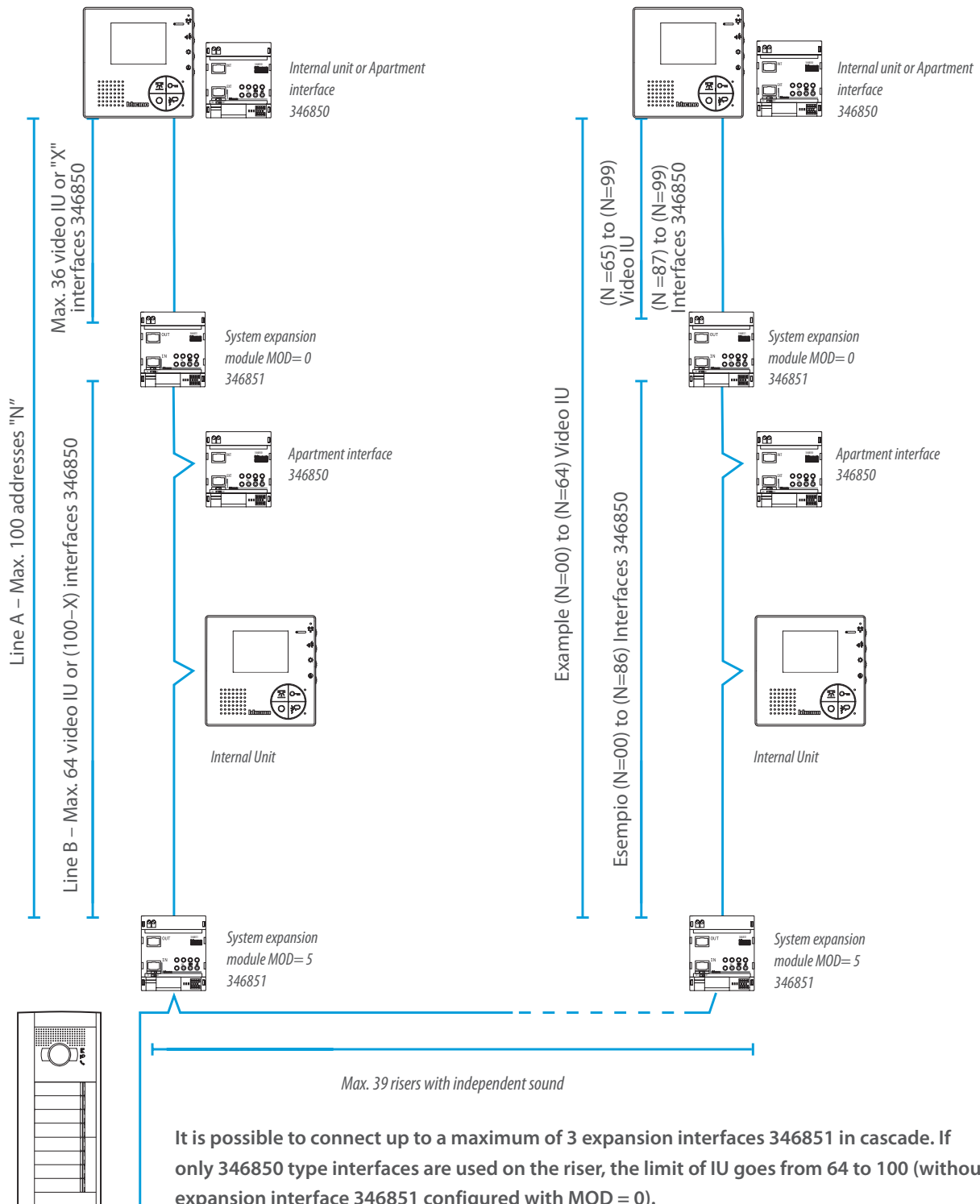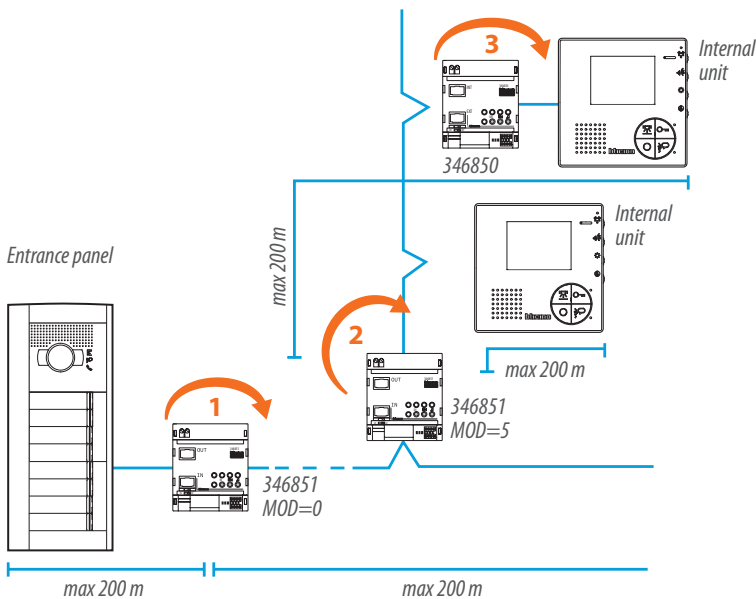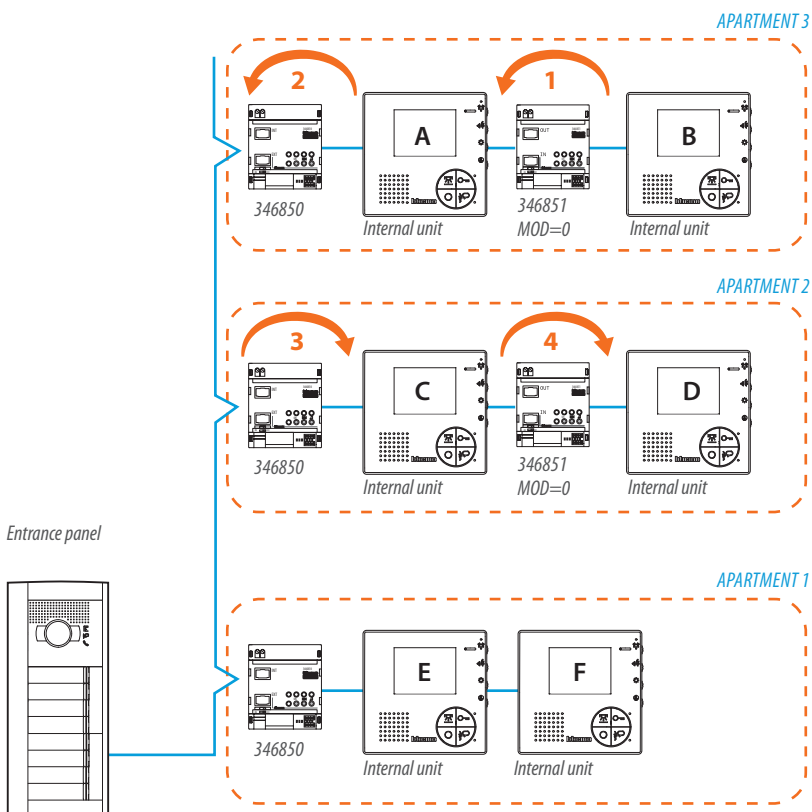Only 2 of these (to be chosen by the installer) will repeat the signal for 200 metres; the maximum distance between the entrance panel and the furthest internal unit is 600 m. Each Line (EP / interface, interface / interface, and interface / IU) is 200 m maximum (with BTicino cable 336904).

EXAMPLE 1

Entrance panel

max 200 m

346851 MOD=0

346851 MOD=5

346850

Internal unit

Internal unit

max 200 m

max 200 m

max 200 m

OK 3 steps

EXAMPLE 2

APARTMENT 3

346850 — Internal unit — A

346851 MOD=0 — Internal unit — B

APARTMENT 2

346850 — Internal unit — C

346851 MOD=0 — Internal unit — D

APARTMENT 1

346850 — Internal unit — E — Internal unit — F
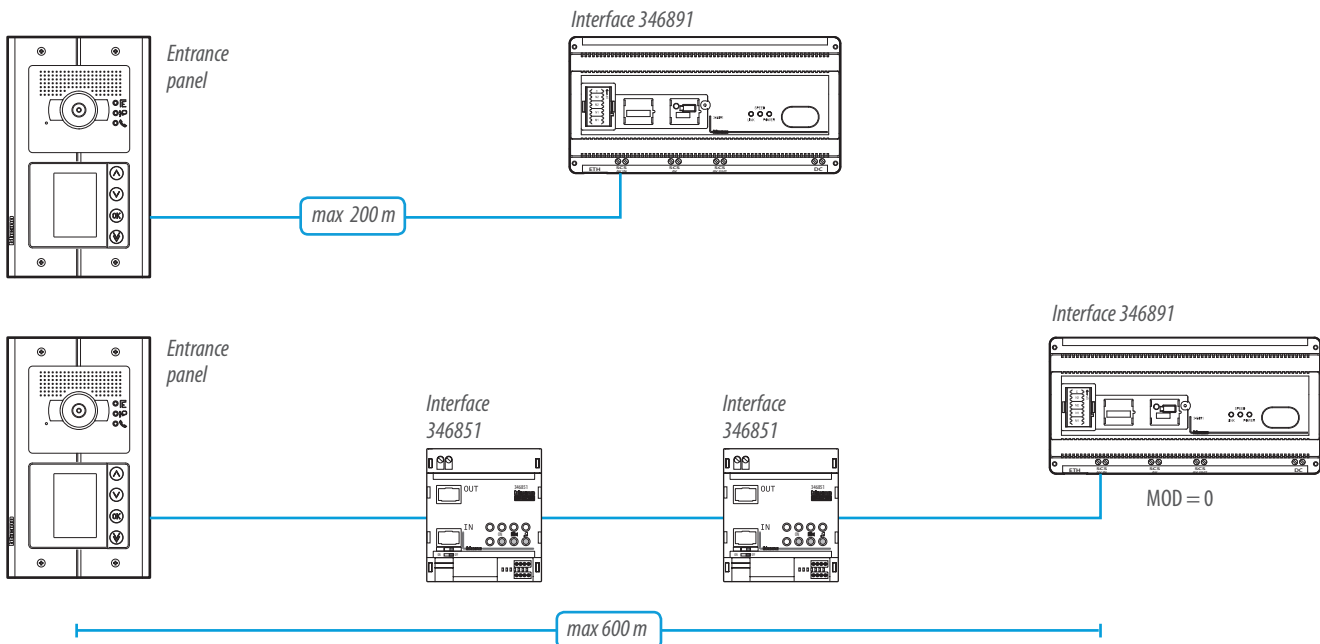
Entrance panel

NO 4 steps

If the Apartment 3 (IU B) calls apartment 2, all the IU (C and D) of the apartment ring, but answering will only be possible from IU C (IU D is after the 4th interface).

MAXIMUM USE LIMITS FOR INTERFACE 346891

SYSTEMS WITH ENTRANCE PANELS ONLY

Entrance panel

Interface 346891

max 200 m

Entrance panel

Interface 346851

Interface 346851

Interface 346891

MOD = 0

max 600 m

SYSTEMS WITH INTERNAL UNITS ONLY

Interface 346891

Last internal unit

max 200 m

Interface 346891

Interface 346851

Interface 346850 or 346851

Last internal unit

max 600 m

SYSTEMS WITH ENTRANCE PANELS AND INTERNAL UNITS

Entrance panel

Interface 346891

Last internal unit

max 200 m

max 600 m with interfaces 346850 and 346851
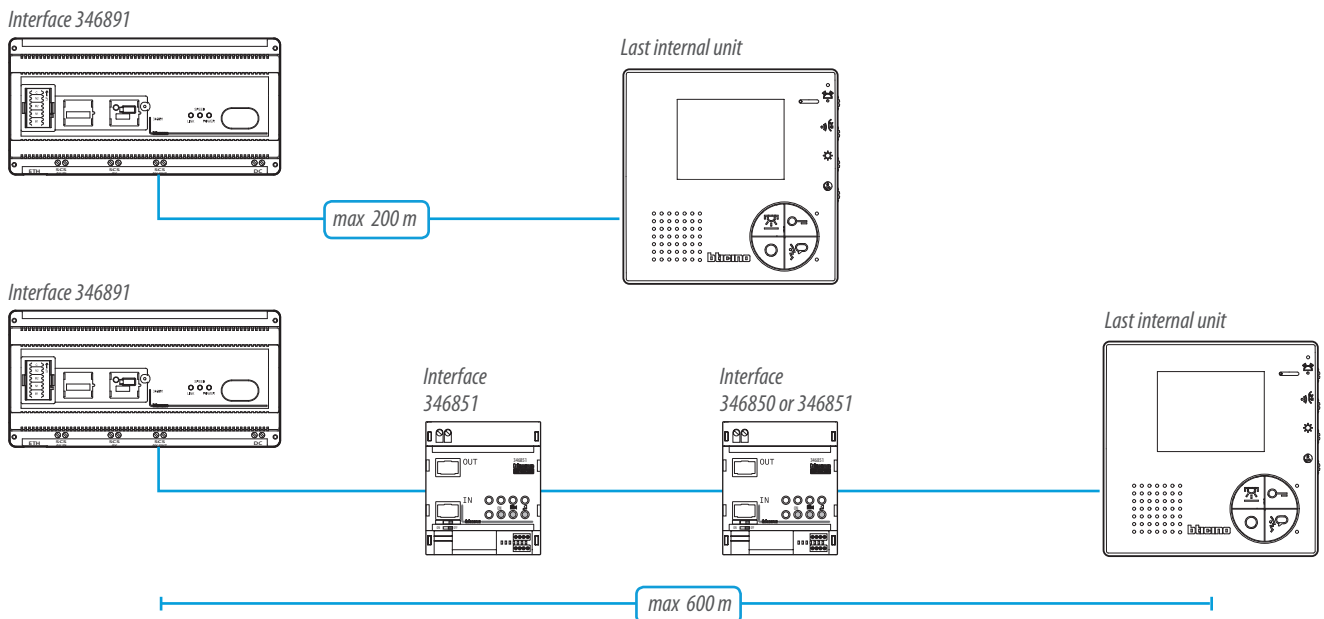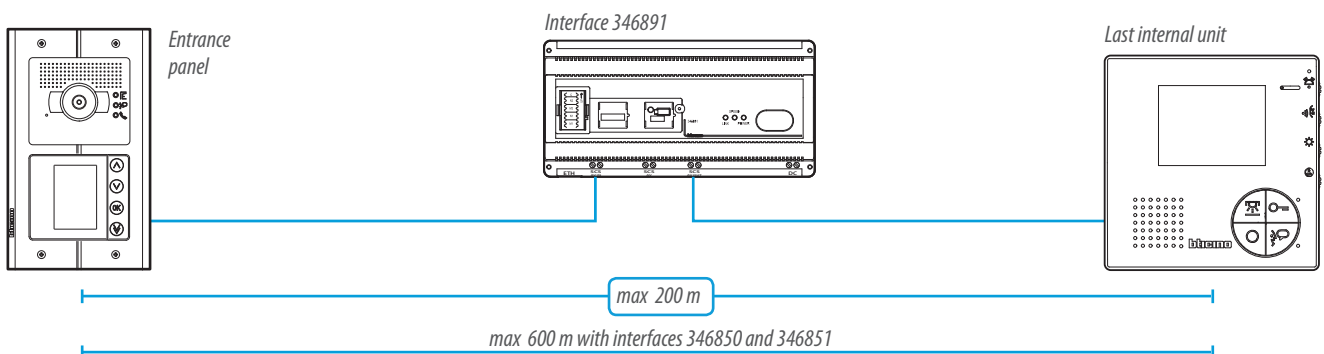
Configuration of 346850 interface

APARTMENT INTERFACE 346850

The apartment interface is configured as a normal internal unit. It must be uniquely configured. There can be no internal units or interfaces on the same riser configured in (N) with the same address of the interface. Downstream the apartment interface, the internal units must be con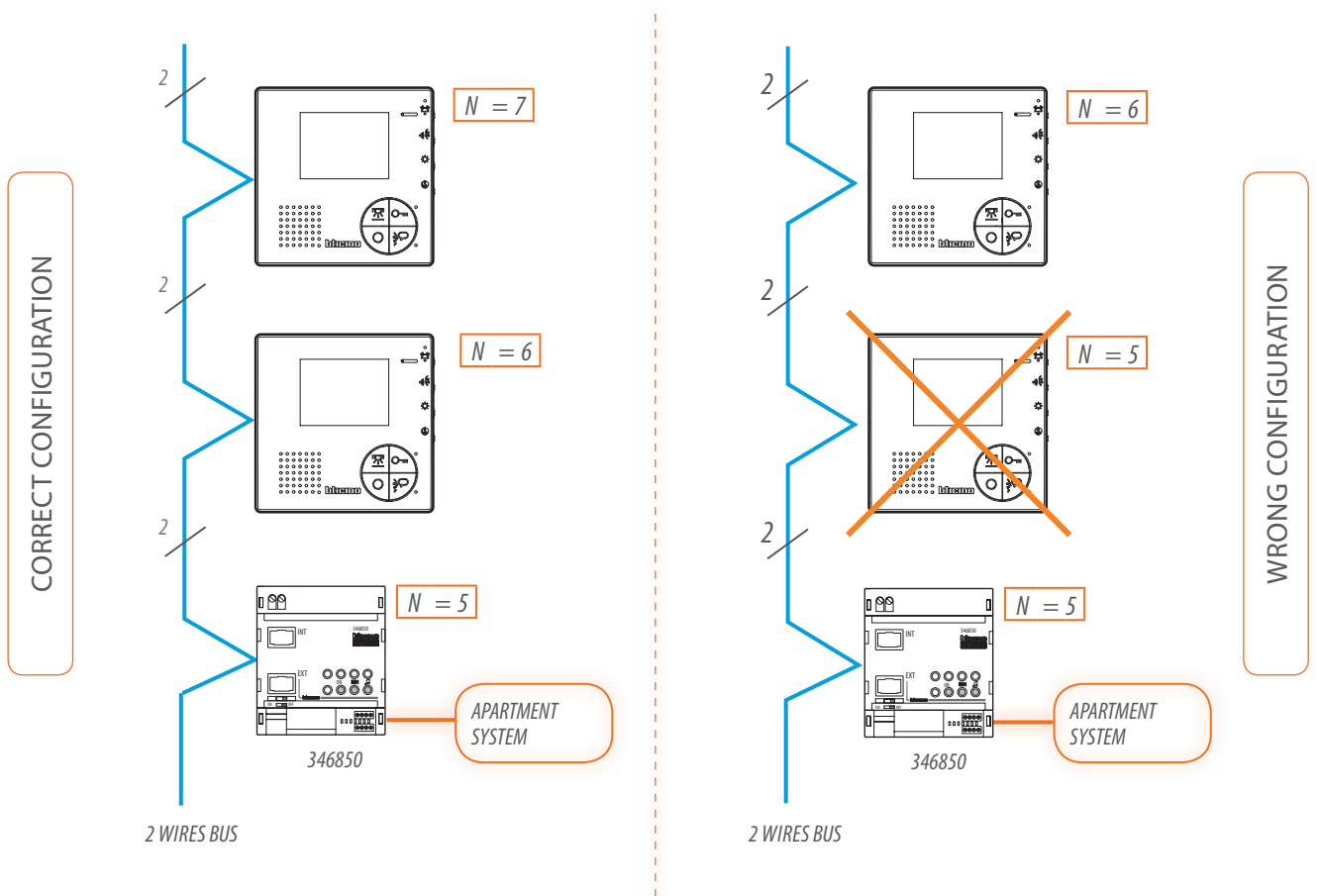figured starting from (N=1), as the interface itself generates a general call (S=9). Interface 346850 is configured at the factory with (M=3).

EXAMPLE

CORRECT CONFIGURATION

2 $N = 7$

2 $N = 6$

2 $N = 5$

346850

APARTMENT SYSTEM

2 WIRES BUS

WRONG CONFIGURATION

2 $N = 6$

2 $N = 5$

2 $N = 5$

346850

APARTMENT SYSTEM

2 WIRES BUS

SYSTEM EXPANSION INTERFACE 346851

The configurator connected to the M socket sets the operating mode as indicated below:

- **MOD = 0** (equal to no configurator connected) - **LINE EXPANSION MODE / EXPANSION NO. OF DEVICES ON BUS**

- **MOD = 2 -** **ENTRANCE PANEL LINE EXPANSION MODE**

- **MOD = 5 -** **INDEPENDENT RISERS MODE**

- **MOD = 6 -** **EXTENDED RISER MODE**

- **MOD = 7 -** **EXTENDED RISER EXPANSION MODE**
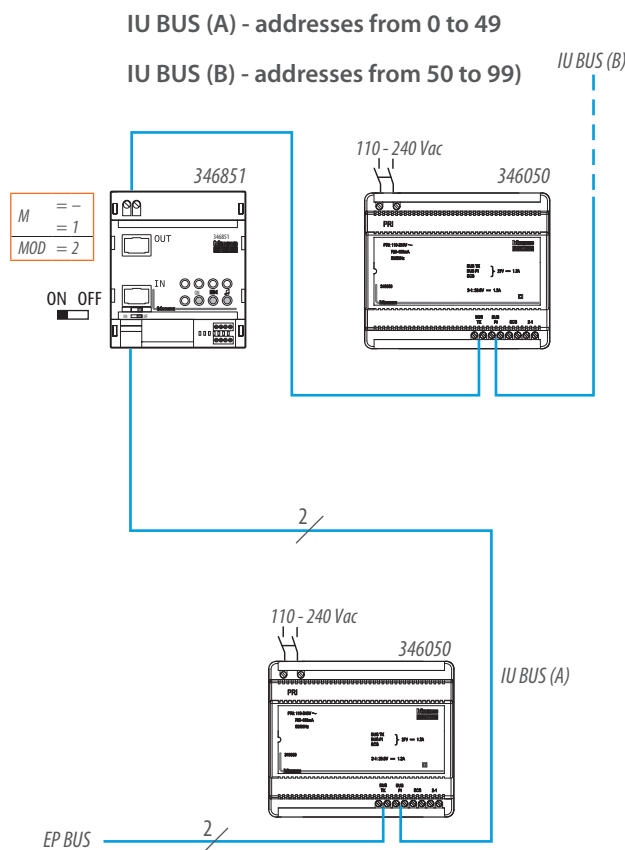
Interface 346851 configured with (MOD=0) can be used for 2 different purposes.

- **Physical line expansion (reachable distances);**

- **Expansion of the number of devices (EP and IU) that can be connected to the BUS.**

MOD=0 (LINE EXPANSION)
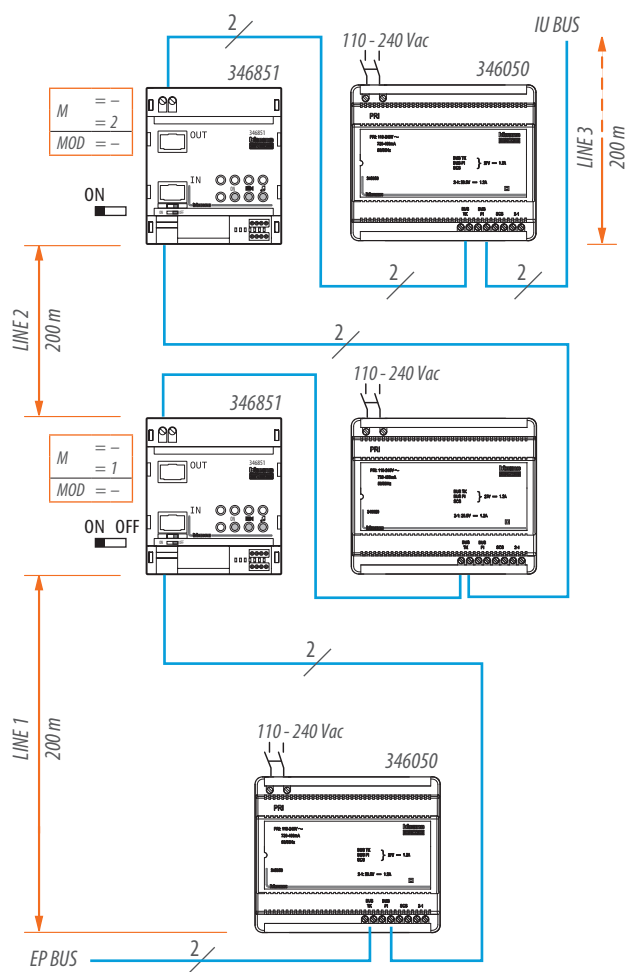
MOD=0 (EXPANSION NO. OF DEVICES ON RISER)

IU BUS (A) - addresses from 0 to 49

IU BUS (B) - addresses from 50 to 99

Configuration of 346851 interface

MOD = 2 (ENTRANCE PANEL LINE EXPANSION)

This mode is used in systems with interface connection between the entrance panel and the F441 audio/video node, to expand the line of the entrance panel.
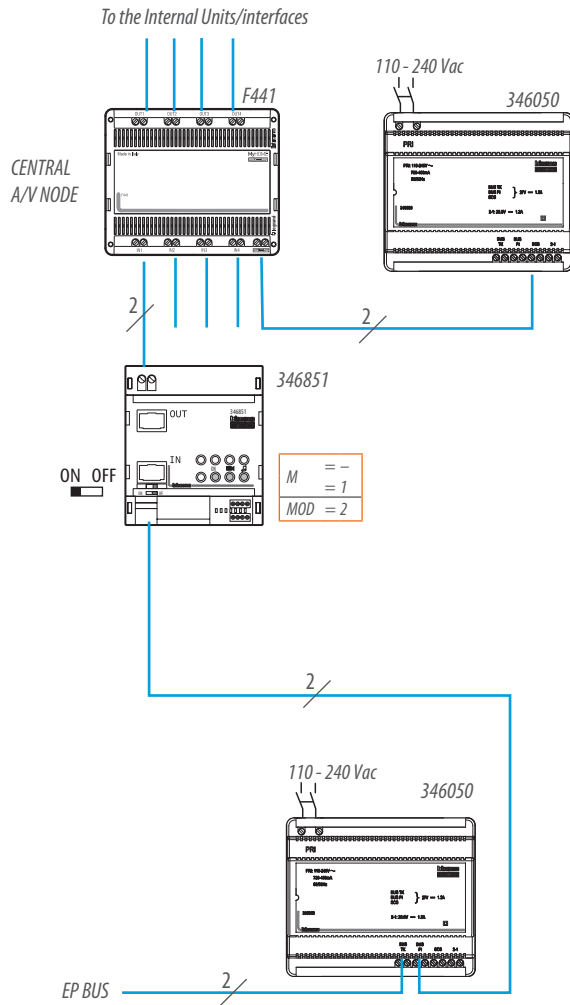
MOD= 5 (RISERS WITH INDEPENDENT SOUND)

Independent audio means that each EP can call 1 IU of the riser. In this way, it is possible to have up to 39 audio/video conversations at the same time.

(M) is the progressive unique number that identifies the riser.

MOD = 6 (EXTENDED RISER)

MOD = 7 (EXTENDED RISER EXPANSION)

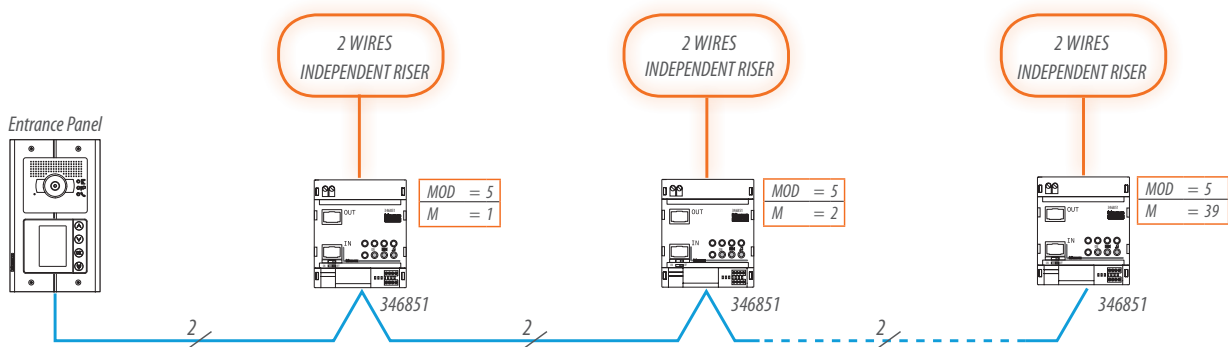These configuration modes (used together), give the possibility of expanding the riser line up to the logic limit of 300 riser internal units (3 lines of 100 audio IU each). In video or mixed audio/video systems, for the first 2 lines the limit of 100 IU is subjected to the use of apartment interface 346850; the third line reaches the maximum limit of 64 video IU.
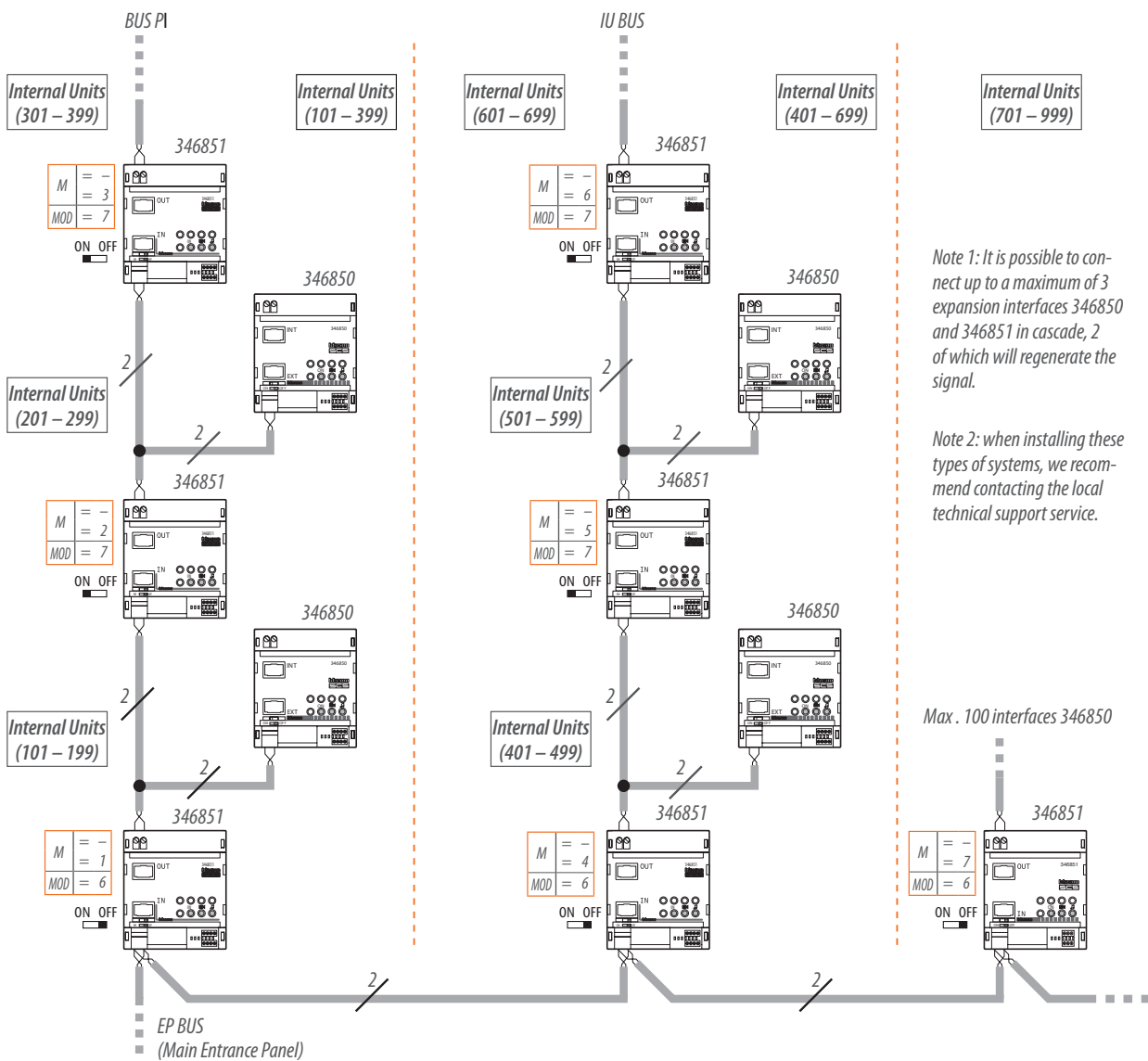
Note 1: It is possible to connect up to a maximum of 3 expansion interfaces 346850 and 346851 in cascade, 2 of which will regenerate the signal.

Note 2: when installing these types of systems, we recommend contacting the local technical support service.

Max . 100 interfaces 346850

Configuration of 346891 interface

The device must be configured in one of the two available modes:

- **Physical configuration** (with configurator connection
- **Software configuration** using the appropriate application MyHOME_Suite that can be downloaded free of charge from the website www.homesystems-legrandgroup.com). This mode has the advantage of offering many more options when compared with the physical configuration.

The following parameters must be configured:

M1   first part of the minimum internal unit address (00 - 99 - OFF) (*)

N1   second part of the minimum internal unit address (00 - 99)

M2   first part of the maximum internal unit address (00 - 99)

N2   second part of the maximum internal unit address (00 - 99)

C   IP switchboard address (1 - 9)

NOTE (*) If M1 = OFF, all the other sockets (N1, M2, N2) must not be configured: only entrance panels must be connected to the interface.

When the interface configuration is completed using physical configurators, the physical address and the system address are the same.
The advanced configuration using MyHOME_Suite makes it possible to exceed the 2 WIRES system address limit. This is possible thanks to the allocation of a local basic address to IU (internal units) and EP (entrance panels).
These addresses make it possible to increase the maximum number of IU and EP that can be managed by the video door entry system.

The physical configuration gives the user the possibility of accessing 3 operating modes:

MODE 1 - The device only manages automatically detected entrance panels and cameras.
The IP switchboard number called (1-9) is inserted in the C socket.

MODE 2 - The device manages internal units with configurations between N1 and N2 and automatically detected entrance panels/cameras.
This configuration is used in installations with risers with a low number of internal units and low address. The IP switchboard number called (1-9) is inserted in the C socket.

MODE 3 - The device manages internal units with address between M1 x 100 < IU < (M1 x 100) + 99.
The IP switchboard number called (1-9) is inserted in the C socket. With this configuration mode, the maximum number of devices that can be connected to the individual interface is 95 entrance panels and 3900 internal units.

The advanced PC configuration using MyHOME_Suite enables the implementation of a higher number of functions, the customisation of text and the complete use of the system performance levels.

To transfer the configuration made with the MyHOME_Suite software or update the device firmware, connect interface 346891 to the PC using a USB-micro USB cable.

The MyHOME_Suite software can be downloaded free of charge from the website: www.homesystems-legrandgroup.com.
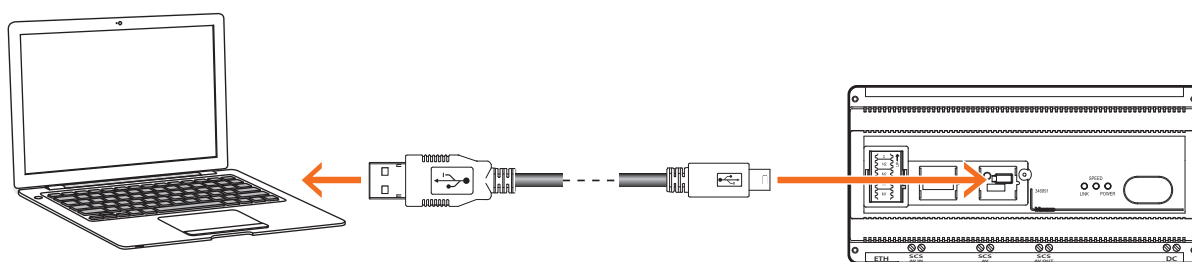
Interface performance according to the different configuration modes:

	Physical	Advanced
Max. No. of IU of the system (audio or video)	3,900	10,000
Max. No. of EP of the system	95	1,000
Maximum address that can be called from the EP	4,000	10,000
Max. No. of IP devices	100 (Note 1)	100 (Note 1)
Max. No. of IP switchboards	9	max. 100 IP devices (Note 2)
Advanced management of the physical and system addresses	NO	YES
Check the consistency of the configuration	YES (Note 3)	YES
Entrance Panel - Internal Unit direct call	NO	YES
Switching on readdressing	NO	YES
Camera scrolling	NO	YES

Note 1: The IP switchboard can "weight" 2 to 4 IP devices as far as the activation or not of the **Alarm logger** and **Alarm manager** services of the IP switchboard itself;

Note 2: maximum no. of IP switchboards that can be installed, within the limit of 100 IP devices maximum, taking into account what indicated in Note 1;

**Note 3:** the test must be completed using the "MyHOME_Suite" software.

Classe 300X13E video internal unit wiring rules

ONE-FAMILY INSTALLATION

346050

Classe 300X13E

2
1

2   BUS TK   BUS PI   2   2

- it does NOT require additional power supply of the Classe 300X video internal unit
- Max. 5 IU (max. 1 connected)

TWO-FAMILY INSTALLATION

Classe 300X13E   HOME 1

Classe 300X13E   HOME 2

2
1

346050

2

2

2   BUS TK   BUS PI

2
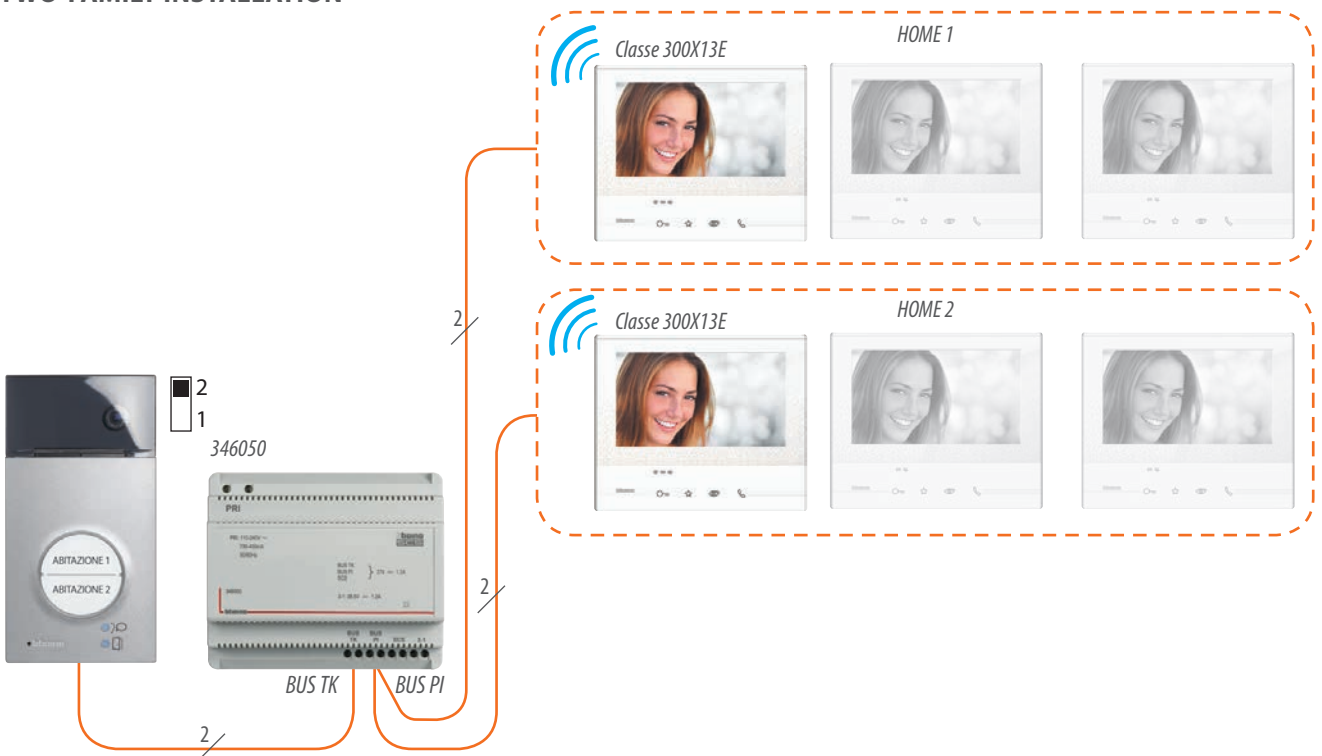
- It does NOT require additional power supply of the Classe 300X video internal units
- Only 1 Classe 300X13E for each apartment
- Only 1 Classe 300X13E for each local network
- Max. 3 IU for apartment (max. 1 connected)

MULTIFAMILY INSTALLATION – APARTMENT BLOCKS TYPE 1
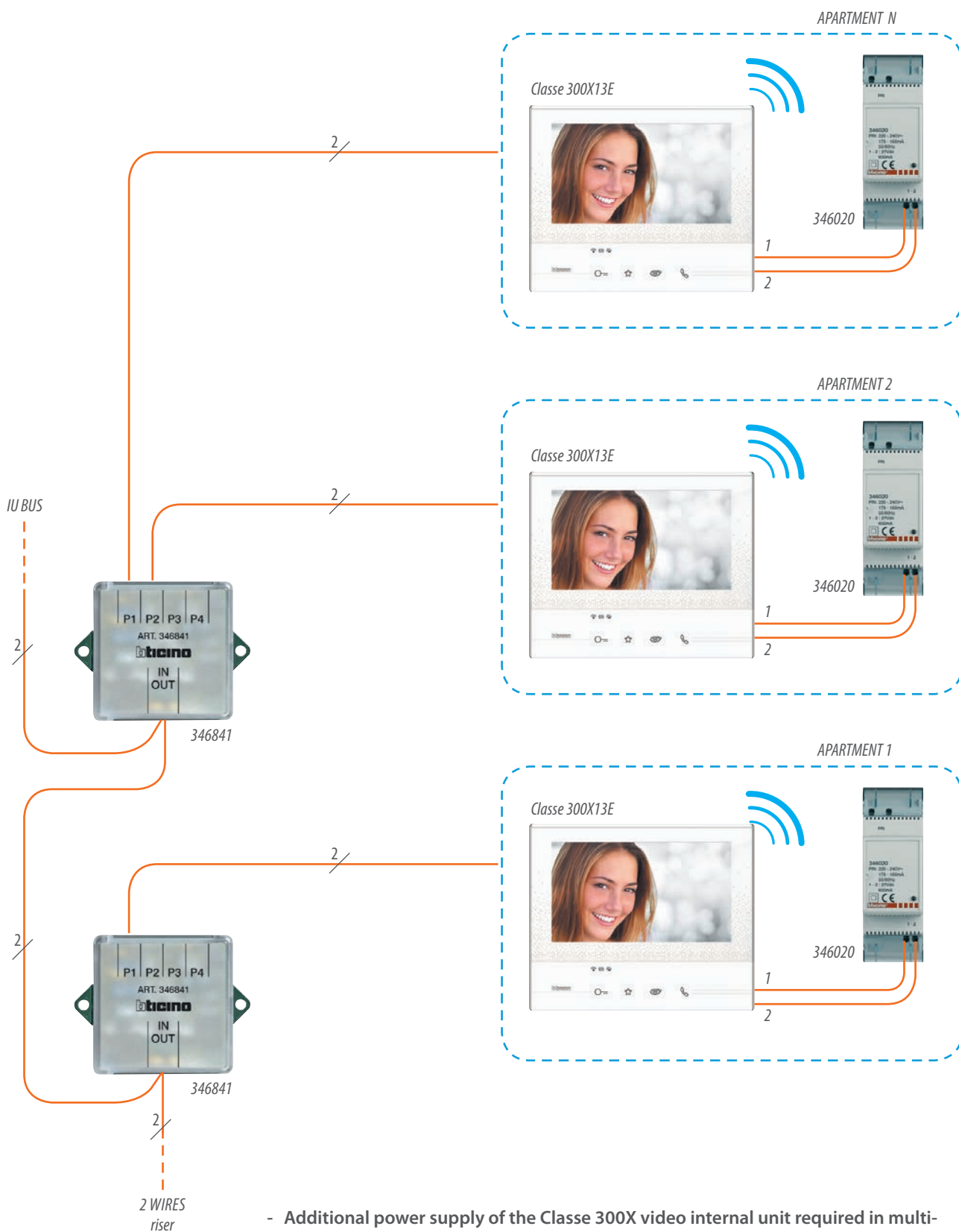
APARTMENT N

Classe 300X13E

346020

1
2

IU BUS

2

APARTMENT 2

Classe 300X13E

346020

1
2

P1 | P2 | P3 | P4
ART. 346841
bticino
IN
OUT

346841

2

APARTMENT 1

Classe 300X13E

346020

1
2

P1 | P2 | P3 | P4
ART. 346841
bticino
IN
OUT

346841

2

2 WIRES
riser

- Additional power supply of the Classe 300X video internal unit required in multi-family installations
- Only 1 Classe 300X13E connected for each LAN local network

Classe 300X13E video internal unit wiring rules

MULTIFAMILY INSTALLATION − APARTMENT BLOCKS TYPE 2
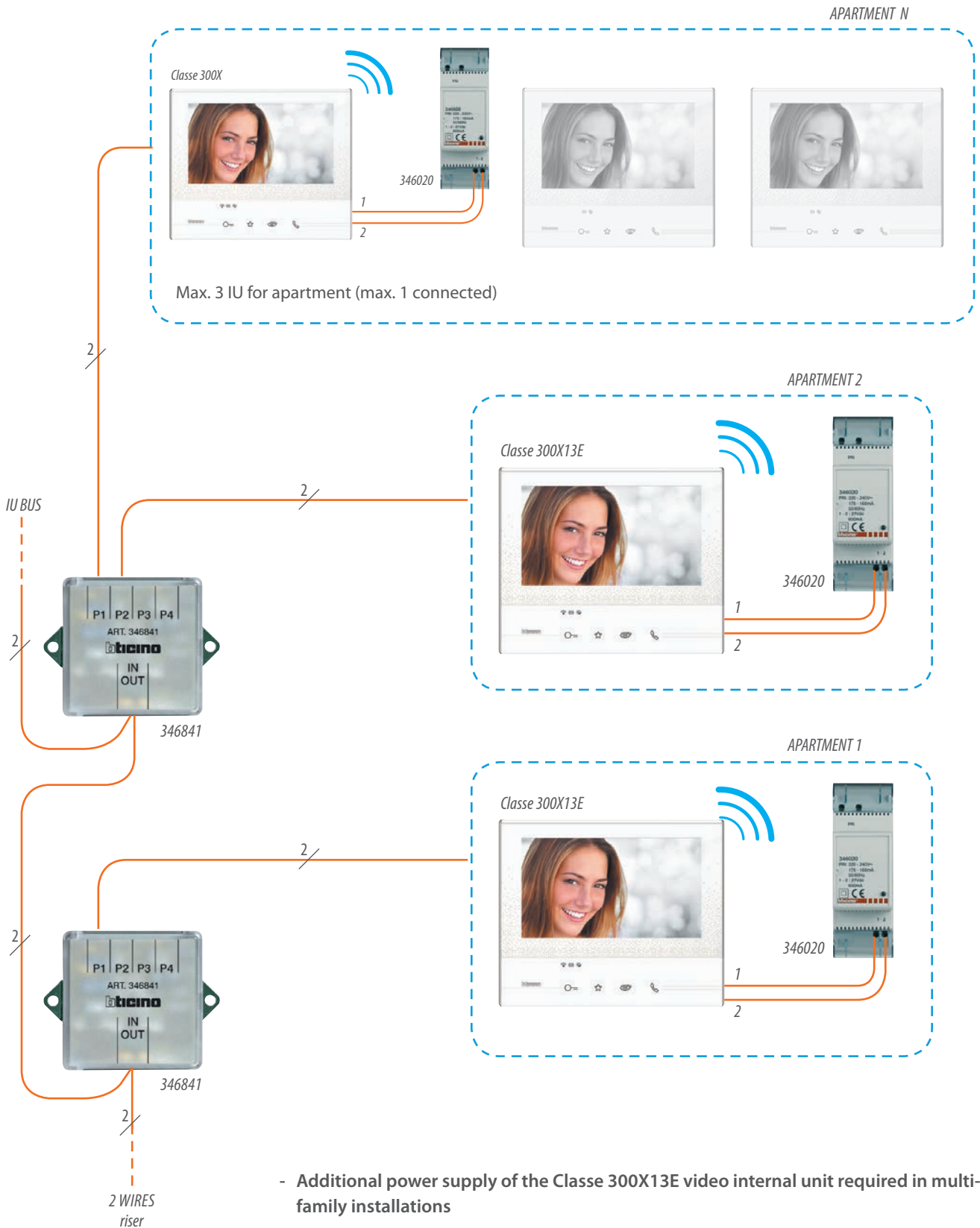
APARTMENT N

Classe 300X

346020

1
2

Max. 3 IU for apartment (max. 1 connected)

APARTMENT 2

Classe 300X13E

346020

1
2

IU BUS

P1 P2 P3 P4
ART. 346841
IN
OUT

346841

APARTMENT 1

Classe 300X13E

346020

1
2

P1 P2 P3 P4
ART. 346841
IN
OUT

346841

2 WIRES riser
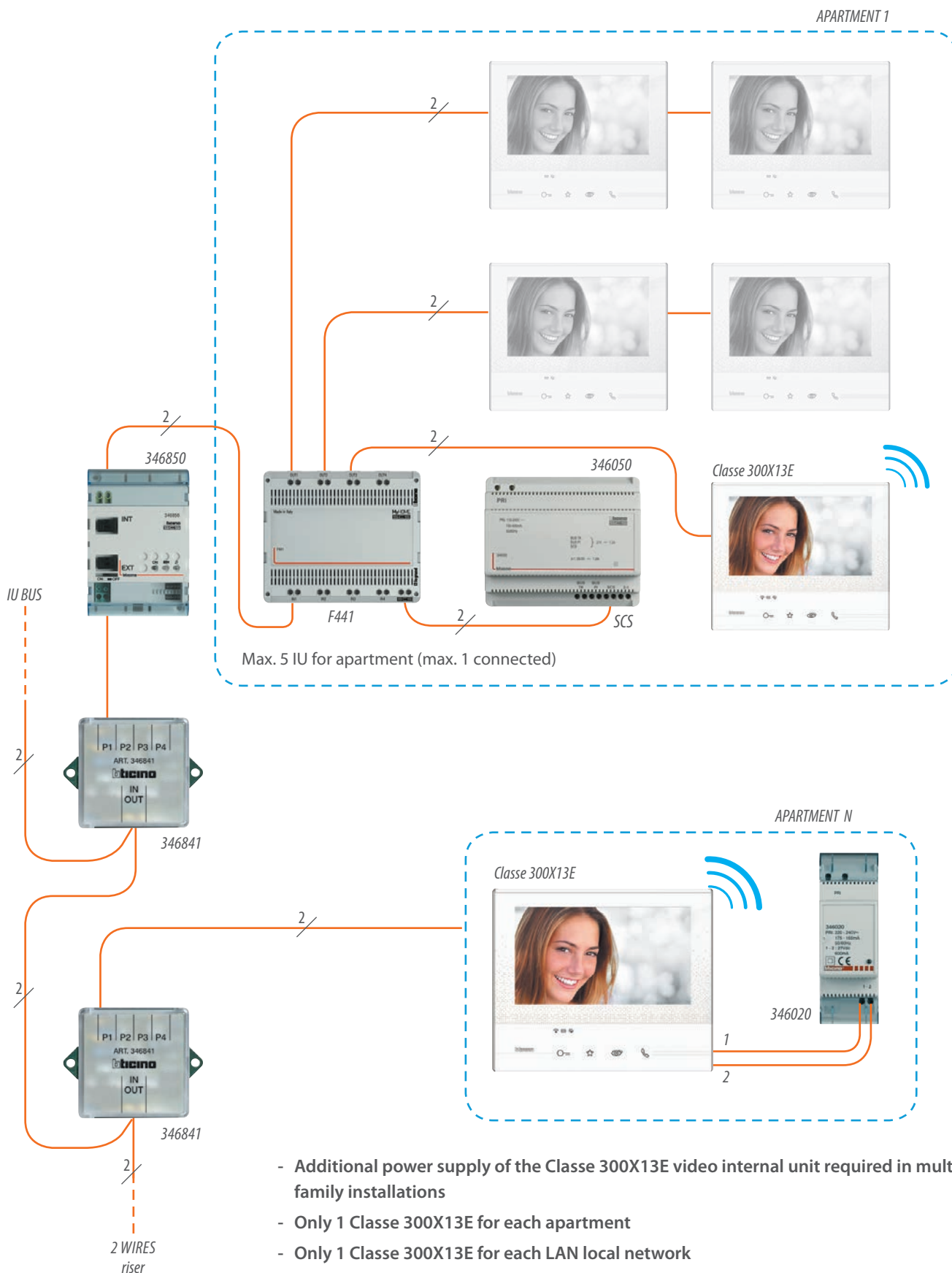
- Additional power supply of the Classe 300X13E video internal unit required in multi-family installations
- Only 1 Classe 300X13E for each apartment
- Only 1 Classe 300X13E for each LAN local network
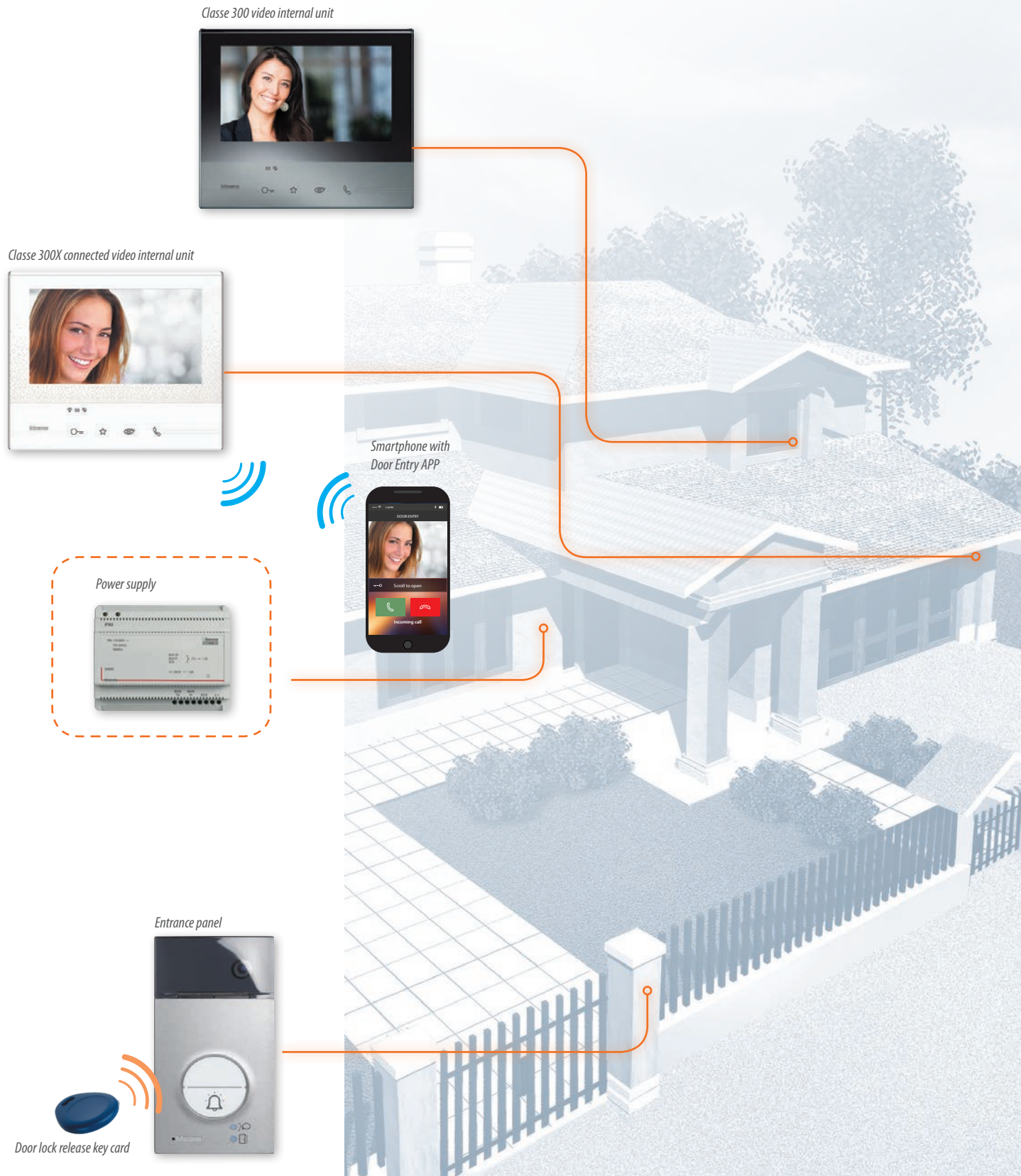
MULTIFAMILY INSTALLATION – APARTMENT BLOCKS TYPE 3

APARTMENT 1

346850

IU BUS

2

2

2

2

346841

346841

F441

346050

SCS

2

Classe 300X13E

Max. 5 IU for apartment (max. 1 connected)

APARTMENT N

Classe 300X13E

346020

1

2

2

2

2

2 WIRES riser

- Additional power supply of the Classe 300X13E video internal unit required in multi-family installations
- Only 1 Classe 300X13E for each apartment
- Only 1 Classe 300X13E for each LAN local network

Riser 1

APARTMENT 51

OFF

344502

BUS

110-240 Vac

346851

M = –
 = 1
MOD = –

ON

OUT   346851

IN

F441

PRI

PRI 110-240V~
750-400mA
50/60Hz

346050

C

APARTMENT 1

OFF

JMP

N = –
 = 1
P = –
 = 2
M = –

BUS   344502

B

110-240Vac

F441

346050

PRI

PRI 110-240V~
750-400mA
50/60Hz

346050

346851

M = –
 = 1
MOD = 5

346851

BUS 2 1   PL   S+ S-

352400 PES

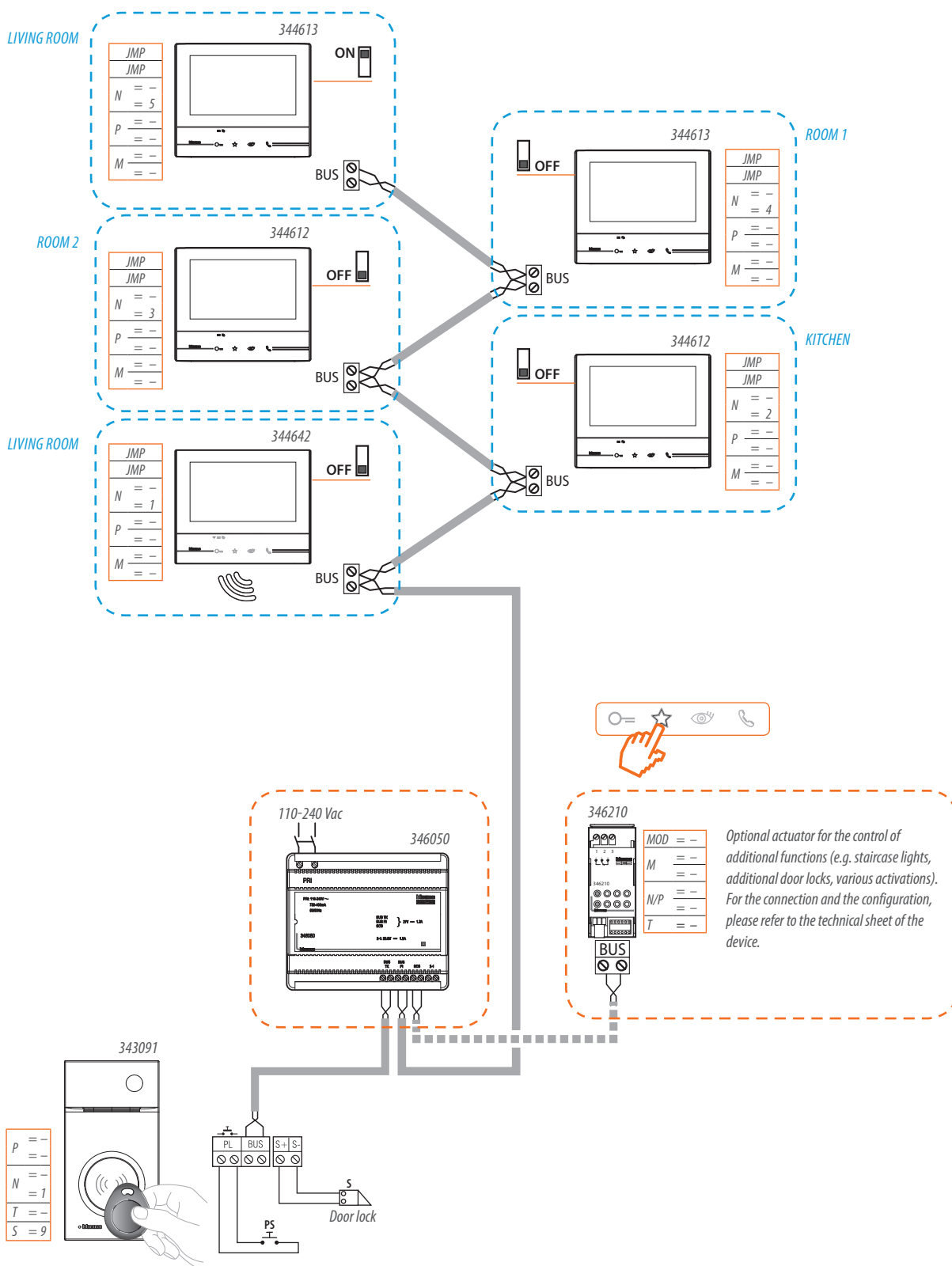351100

S2

PS

352100

P = –
 = 2
N = –
 = 1
S = –
T = –
M = –
J1 = –
JMP

6050

Example 1 - the villa

ONE FAMILY VIDEO DOOR ENTRY SYSTEM
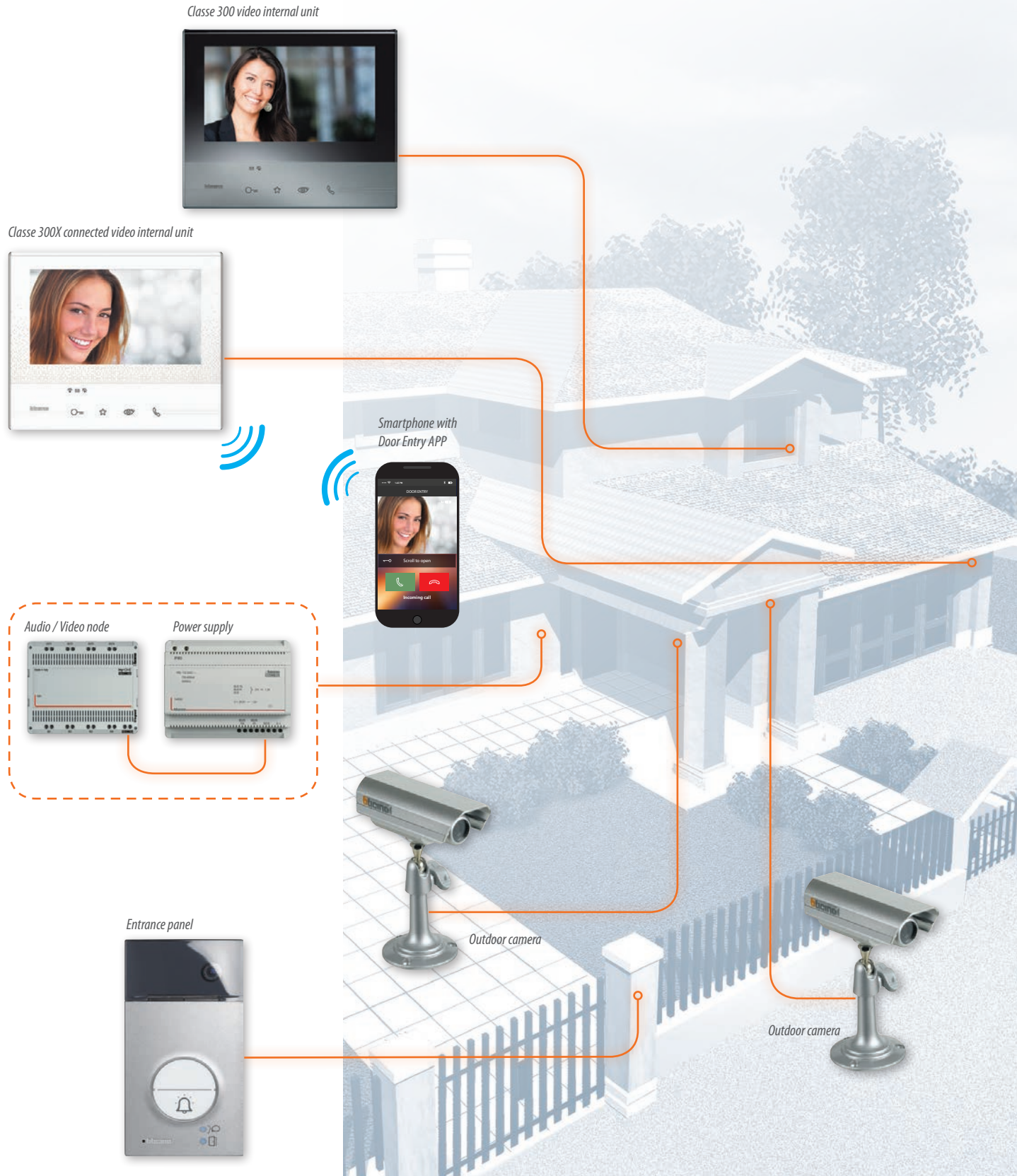**WITH SMARTPHONE CALL REPETITION AND DOOR LOCK RELEASE KEY CARD**

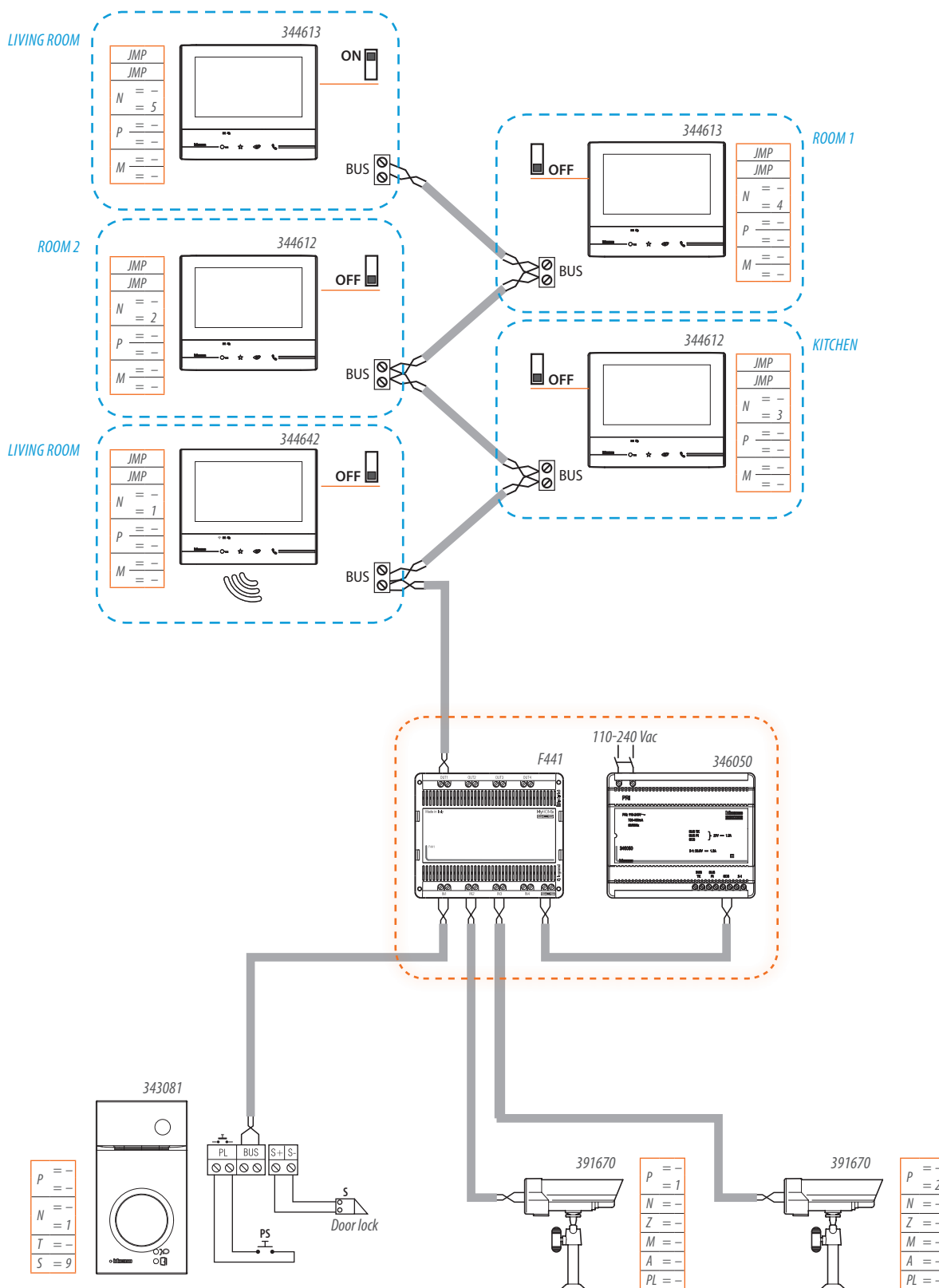*Classe 300 video internal unit*

Classe 300X connected video internal unit

Smartphone with Door Entry APP

Power supply

Entrance panel

Door lock release key card

LIVING ROOM

344613

JMP	
JMP	
N	= –
	= 5
P	= –
	= –
M	= –
	= –

ON

344613

ROOM 1

OFF

JMP	
JMP	
N	= –
	= 4
P	= –
	= –
M	= –
	= –

ROOM 2

344612

JMP	
JMP	
N	= –
	= 3
P	= –
	= –
M	= –
	= –

OFF

BUS

OFF

344612

KITCHEN

JMP	
JMP	
N	= –
	= 2
P	= –
	= –
M	= –
	= –

LIVING ROOM

344642

JMP	
JMP	
N	= –
	= 1
P	= –
	= –
M	= –
	= –

OFF

BUS

BUS

BUS

BUS

BUS

110-240 Vac

346050

PRI

346210

MOD	= –
M	= –
	= –
N/P	= –
	= –
T	= –

BUS

Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations). For the connection and the configuration, please refer to the technical sheet of the device.

343091

P	= –
	= –
N	= –
	= 1
T	= –
S	= 9

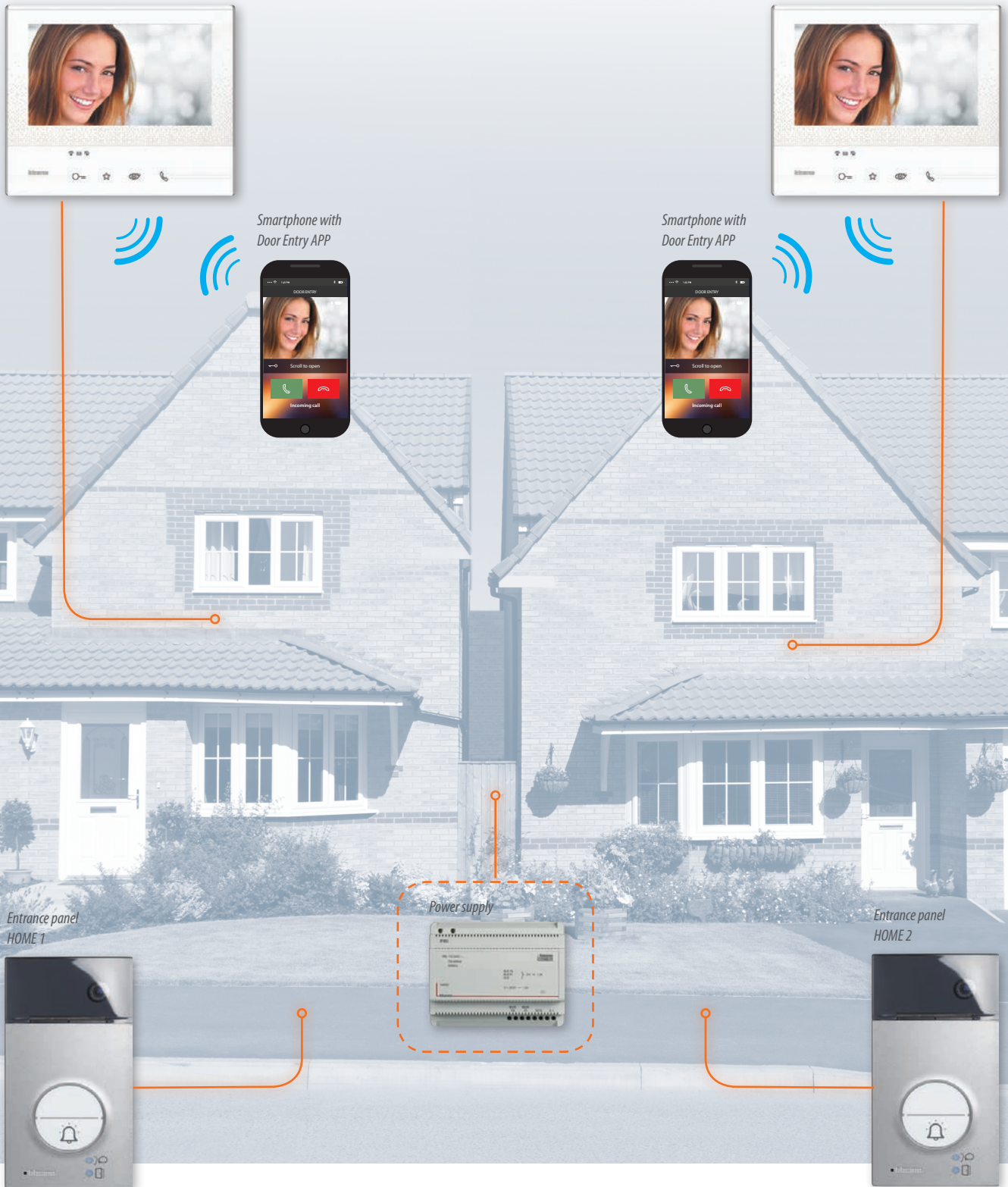PL | BUS | S+ | S-

S

Door lock

PS

- Max. 5 internal units
- Max 200 m between the Entrance Panel and the last Internal Unit with cable 336904
- A domestic Wi-Fi with internet access is needed for the connection between the CLASSE 300X13E connected video internal unit and the smartphone.
- When the call is received, only the video door entry system configured with N=1 that forwards the call to the smartphone switches on (after appropriate configuration).

Example 2 - the villa

ONE FAMILY VIDEO DOOR ENTRY SYSTEM
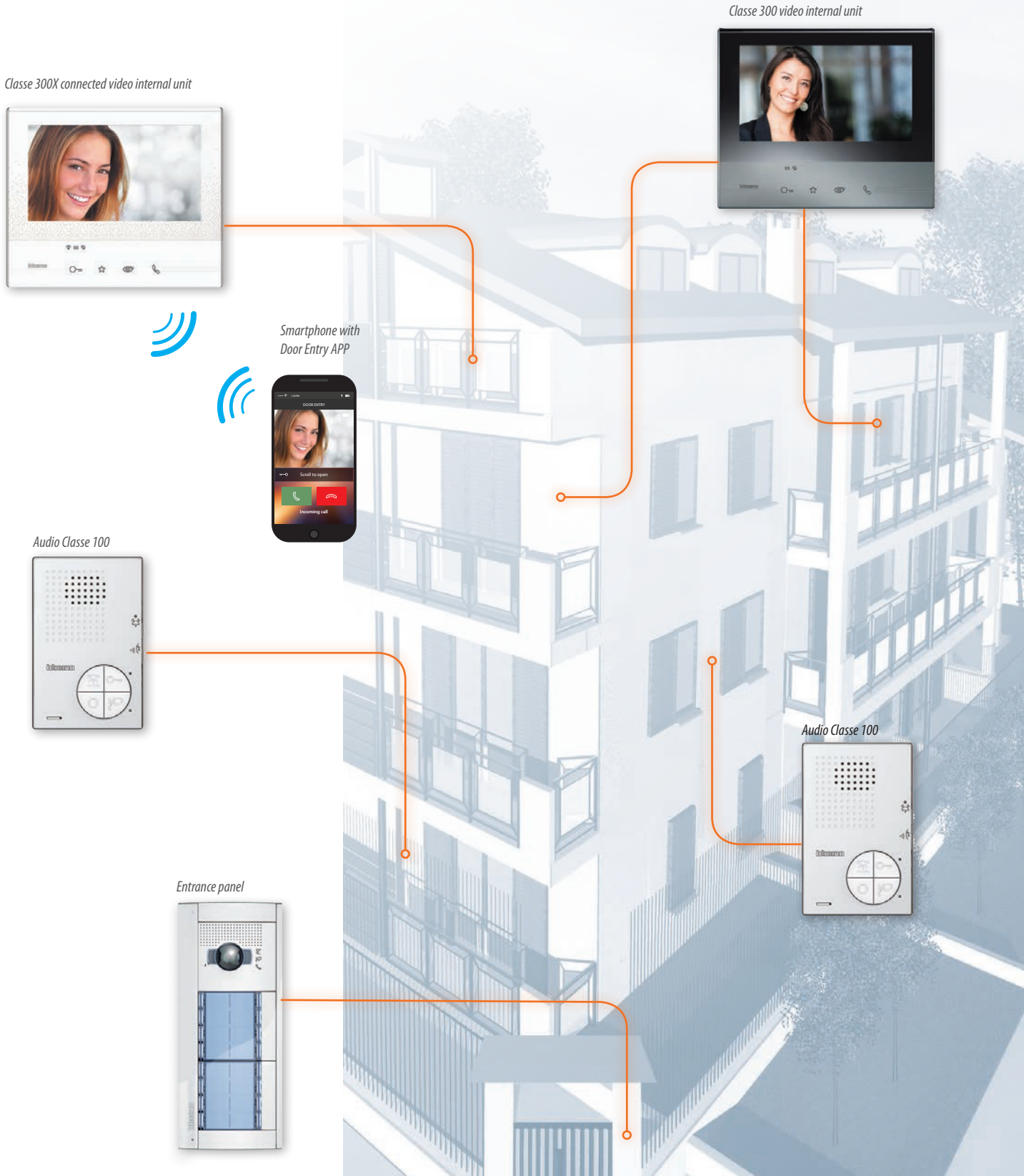**WITH SMARTPHONE CALL REPETITION AND DOOR LOCK OUTDOOR CAMERAS**

Classe 300 video internal unit

Classe 300X connected video internal unit

Smartphone with Door Entry APP

Audio / Video node

Power supply

Outdoor camera

Entrance panel

Outdoor camera

LIVING ROOM — 344613
JMP
JMP
N = / = 5
P = / = –
M = / = –
ON

ROOM 1 — 344613
OFF
JMP
JMP
N = / = 4
P = / = –
M = / = –

ROOM 2 — 344612
JMP
JMP
N = / = 2
P = / = –
M = / = –
OFF

KITCHEN — 344612
OFF
JMP
JMP
N = / = 3
P = / = –
M = / = –

LIVING ROOM — 344642
JMP
JMP
N = / = 1
P = / = –
M = / = –
OFF

BUS

F441   110-240 Vac   346050

343081
P = / = –
N = / = 1
T = / = –
S = / = 9

PL   BUS   S+ S-
S
Door lock
PS

391670
P = / = 1
N = / = –
Z = / = –
M = / = –
A = / = –
PL = / = –

391670
P = / = 2
N = / = –
Z = / = –
M = / = –
A = / = –
PL = / = –

- Max. 5 internal units
- Max 200 m between the Entrance Panel and the last Internal Unit with cable 336904
- A domestic Wi-Fi with internet access is needed for the connection between the CLASSE 300X13E connected video internal unit and the smartphone.
- When the call is received, only the video door entry system configured with N=1 that forwards the call to the smartphone switches on (after appropriate configuration).

Example 3 - the two-family villa

TWO-FAMILY VIDEO DOOR ENTRY SYSTEM WITH SMARTPHONE CALL REPETITION

Classe 300X connected video internal unit
HOME 1

Classe 300X connected video internal unit
HOME 2
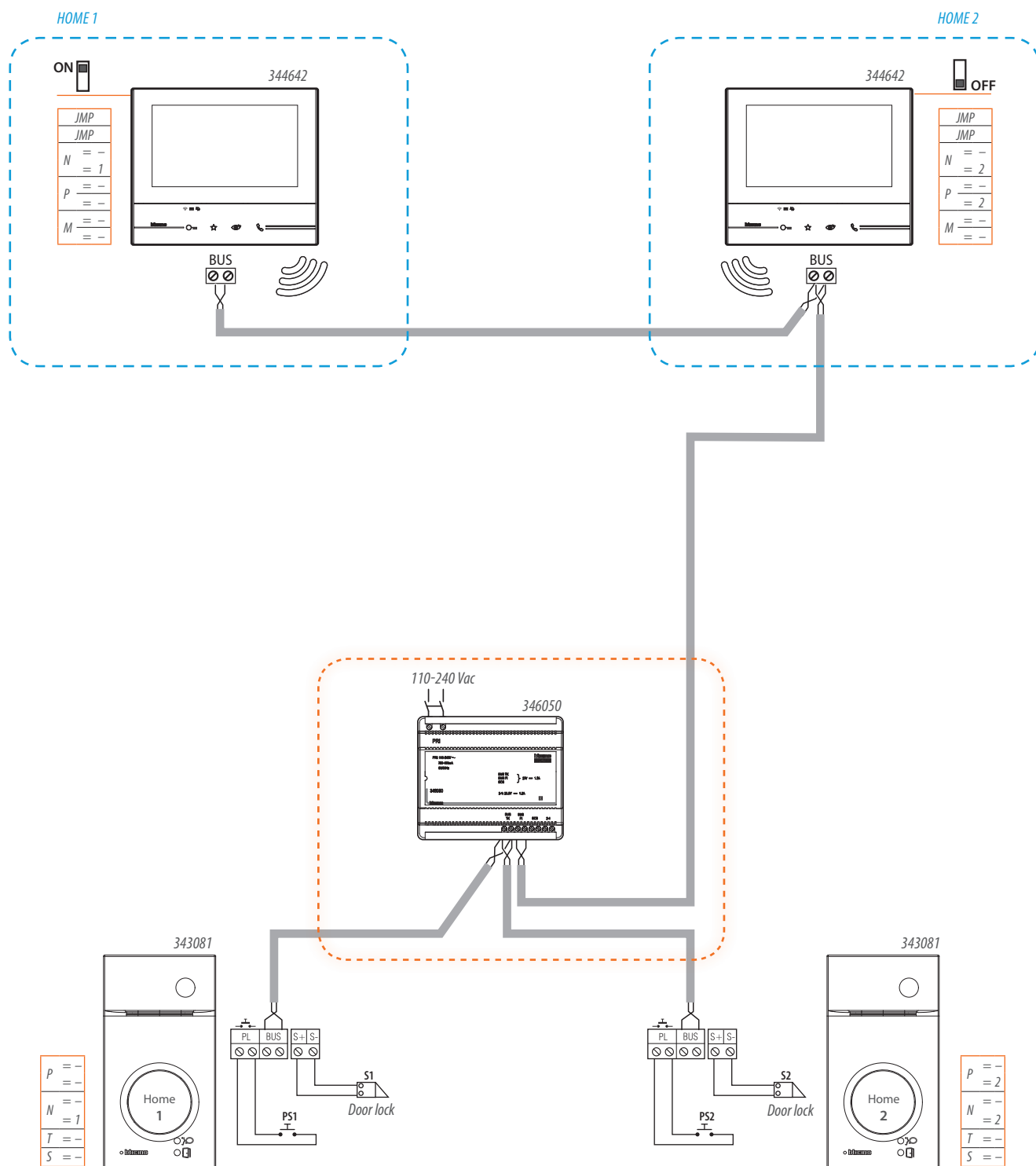
*Smartphone with
Door Entry APP*

*Smartphone with
Door Entry APP*

Power supply

*Entrance panel
HOME 1*

*Entrance panel
HOME 2*

HOME 1

344642

ON

JMP		
JMP		
N	= −	
	= 1	
P	= −	
	= −	
M	= −	
	= −	

BUS

HOME 2

344642

OFF

JMP		
JMP		
N	= −	
	= 2	
P	= −	
	= 2	
M	= −	
	= −	

BUS

110-240 Vac

346050

PRI

343081

P	= −
	= −
N	= −
	= 1
T	= −
S	= −

Home **1**

PL | BUS | S+ | S-

PS1

S1

Door lock

343081

P	= −
	= 2
N	= −
	= 2
T	= −
S	= −

Home **2**

PL | BUS | S+ | S-

PS2

S2

Door lock

- Max. 3 internal units for each dwelling
- Max 200 m between the Entrance Panel and the last Internal Unit with cable 336904
- Max 1 CLASSE300X13E video internal unit connected for each local LAN
- A domestic Wi-Fi with internet access is needed for the connection between the CLASSE 300X13E connected video internal unit and the smartphone.
- Max. 1 connected video internal unit for each apartment

Example 4 - The apartment building

**AUDIO DOOR ENTRY, VIDEO DOOR ENTRY OR MIXED MULTIFAMILY SYSTEMS
WITH SMARTPHONE CALL REPETITION**

Classe 300 video internal unit

Classe 300X connected video internal unit

*Smartphone with
Door Entry APP*

Audio Classe 100

Audio Classe 100

Entrance panel

BTICINO

APARTMENT 18

344642 JMP OUT 346020

J1	= –
JMP	
N	= 1
	= 8
P	= –
	= –
M	= –
	= –

ON
BUS 1 - 2 1 - 2
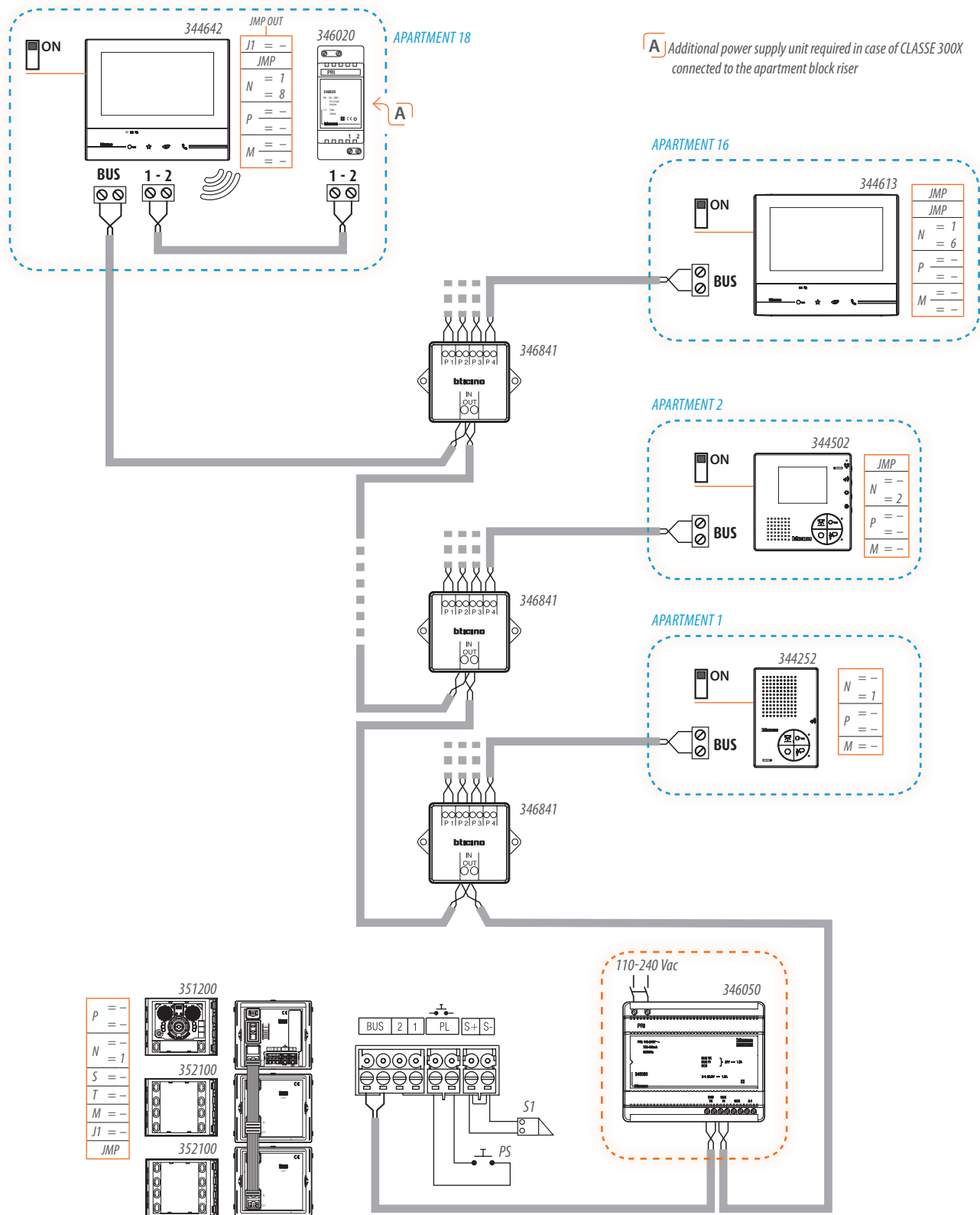
A Additional power supply unit required in case of CLASSE 300X connected to the apartment block riser

APARTMENT 16

344613

JMP	
JMP	
N	= 1
	= 6
P	= –
	= –
M	= –
	= –

ON BUS

346841
P1 P2 P3 P4
IN OUT

APARTMENT 2

344502

JMP	
N	= –
	= 2
P	= –
	= –
M	= –

ON BUS

346841
P1 P2 P3 P4
IN OUT

APARTMENT 1

344252

N	= –
	= 1
P	= –
	= –
M	= –

ON BUS

346841
P1 P2 P3 P4
IN OUT

110-240 Vac
346050

351200

P	= –
	= –
N	= –
	= 1
S	= –
T	= –
M	= –
J1	= –
JMP	

352100

352100

BUS 2 1 PL S+ S-

S1

PS

■ Max. 3 internal units for each dwelling
■ Max 200 m between the Entrance Panel and the last Internal Unit with cable 336904
■ Max 1 CLASSE300X13E video internal unit connected for each local LAN
■ A domestic Wi-Fi with internet access is needed for the connection between the CLASSE 300X13E connected video internal unit and the smartphone.
■ In multi-family installations, the connected CLASSE 300X video internal unit must be powered locally

Example 5 - The apartment block

MULTI-FAMILY SYSTEM CONSISTING OF SEVERAL BUILDINGS, A COMMON APARTMENT BLOCK ENTRANCE PANEL AND LONG DISTANCES

Video Classe 100

Audio Classe 100

Secondary entrance panel

System expansion interface

Common entrance panel

To the internal units

To the internal units

F441

110-240Vac

346050

F441

110-240Vac

346050

| BUS | 2 | 1 | | PL | S+ | S- |

S2

PS2

346851

346851

OUT

346851

OUT

346851

IN

IN

OFF

ON

M	= –
	= 1
MOD	= 5

M	= 3
	= 9
MOD	= 5

TO THE
RISER EP

351200

P	= –
	= 2
N	= –
	= 1
S	= –
T	= –
M	= –
JMP	
JMP	

352000

352000

346851

OUT

346851

IN

ON

M	= –
	= 1
MOD	= –

110-240Vac

346050

PRI

110-240Vac

346050

PRI

352400

P	= –
	= –
N	= –
	= –
S	= –
T	= –
M	= –
JMP	
JMP	

351100

352500

| BUS | 2 | 1 | | PL | S+ | S- |

S1

PS1

■ 39 risers
■ for each riser, 1 EP at the bottom of the stairs and 64 IU, or 100 apartment interfaces

■ Main EP - last IU of the last riser 600 m

■ Move to ON the microswitch of the system expansion module that terminates the line
■ Connect max 26 IU on each node output

Example 6 - the apartment

APARTMENT WITH DEDICATED ENTRANCE PANEL AND PRIVATE CAMERAS

Classe 100 video internal unit

Indoor camera

Outdoor camera

Apartment interface

Audio / Video node

Power supply

344522

JMP	
JMP	
N	= – = 5
P	= – = 1
M	= – = 1

ON

BUS

344522

JMP	
JMP	
N	= – = 2
P	= – = 1
M	= – = 1

ON

BUS

344522

JMP	
JMP	
N	= – = 4
P	= – = 1
M	= – = 1

OFF

BUS

344522

JMP	
JMP	
N	= – = 1
P	= – = 1
M	= – = 1

OFF

BUS

344522

JMP	
JMP	
N	= – = 3
P	= – = 1
M	= – = 1

OFF

BUS

F441

110-240Vac

346050

346850

N	= – = 5
M	= 3

OFF

INT 346850

EXT

RISER FOR APARTMENT BLOCK

391661

P	= – = 3
N	= –
Z	= –
M	= –
A	= –
PL	= –

343081

PL   BUS   S+ S-

S

Door lock

PS

P	= – = 1
N	= – = 1
T	= –
S	= 9

391670

P	= – = 2
N	= –
Z	= –
M	= –
A	= –
PL	= –
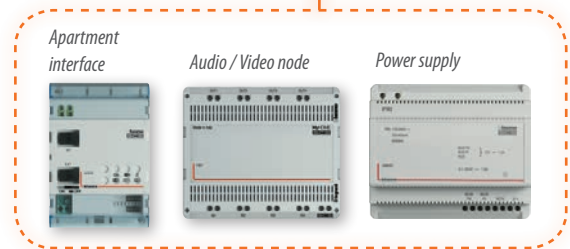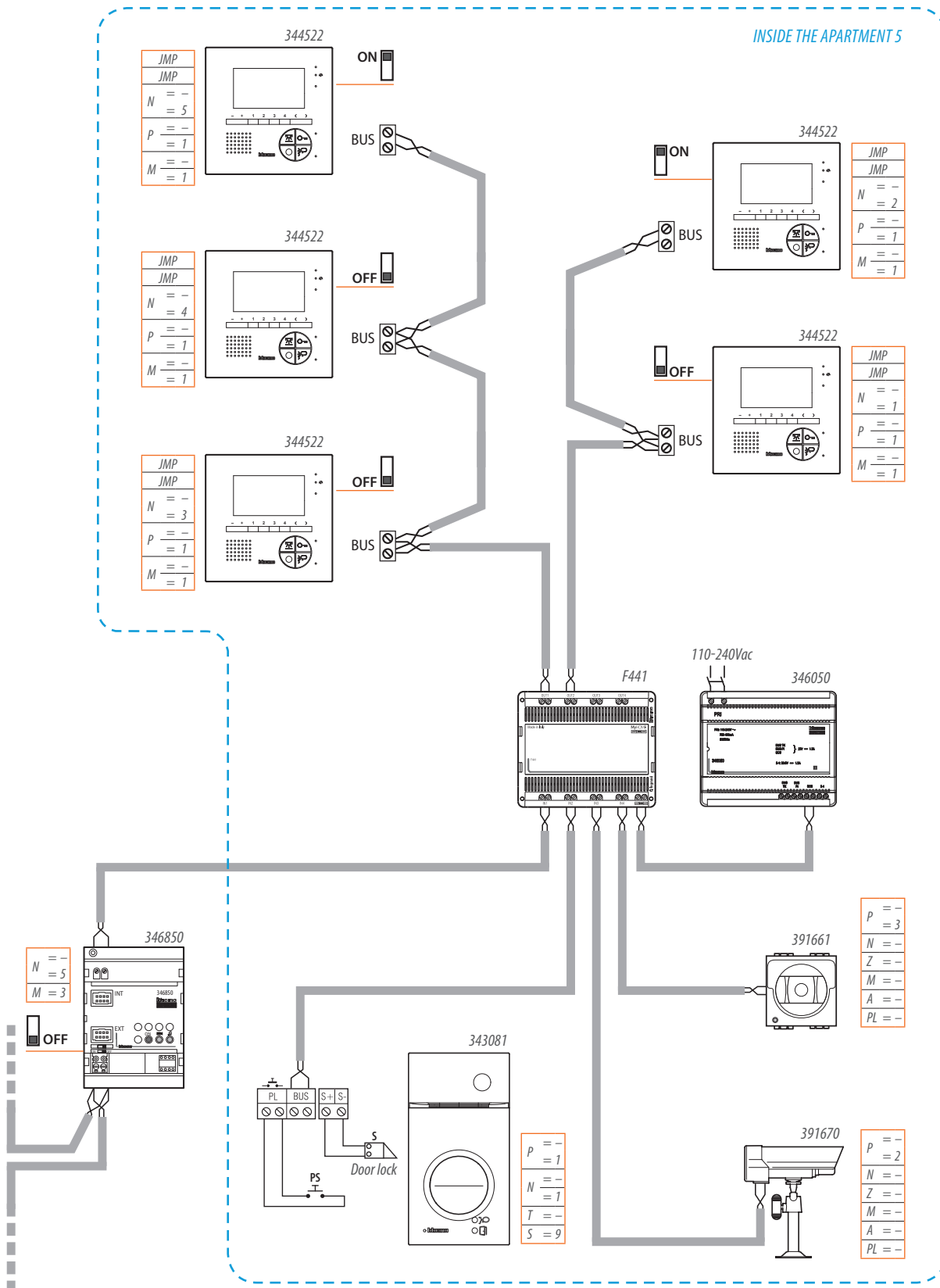
■ Max 5 video internal units, 1 apartment EP and 2 apartment cameras
■ Configure the EP and the apartment cameras starting from P=1
■ The M=1 configuration of video internal units is optional (intercom request between video internal units).

Example 7 - The small house block

MULTI-FAMILY SYSTEM WITH INDEPENDENT DWELLINGS AND AT LEAST ONE COMMON ACCESS POINT

Apartment interface

Common Entrance Panel
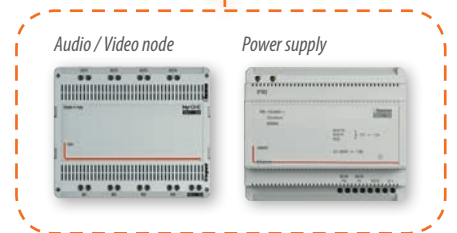
Audio / Video node   *Power supply*

Inside the home - see previous diagram

Inside the home - see previous diagram

SMALL HOUSE 35

346850

OFF

N	= 3
	= 5
M	= 3

BUS

SMALL HOUSE 99

346850

ON

N	= 9
	= 9
M	= 3

BUS

Inside the home - see previous diagram

Inside the home - see previous diagram

SMALL HOUSE 1

346850

OFF

N	= −
	= 1
M	= 3

BUS

SMALL HOUSE 26

346850

OFF

N	= 2
	= 6
M	= 3

BUS

F441

110-240Vac

346050

346210

MOD	= −
	= −
M	= −
	= −
N/P	= −
	= −
T	= −

OUT1 OUT 2 O UT3 OUT 4

F441

IN 1 IN 2 IN 3 IN 4 SC 14

Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations). For the connection and the configuration, please refer to the technical sheet of the device.

352400

351100

352500

P	= −
	= −
N	= −
	= −
S	= −
T	= −
M	= −
JMP	
JMP	

BUS	2	1	PL	S+	S-

S

PS
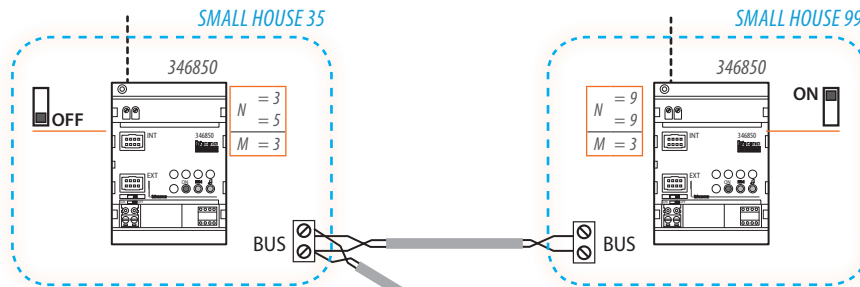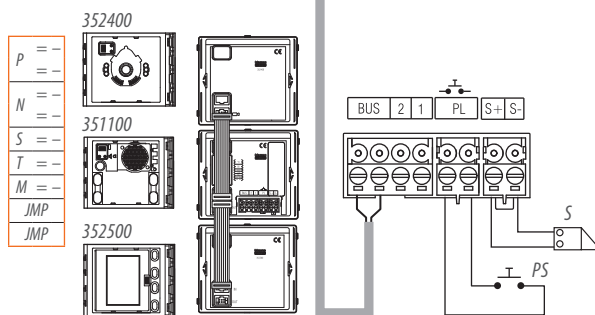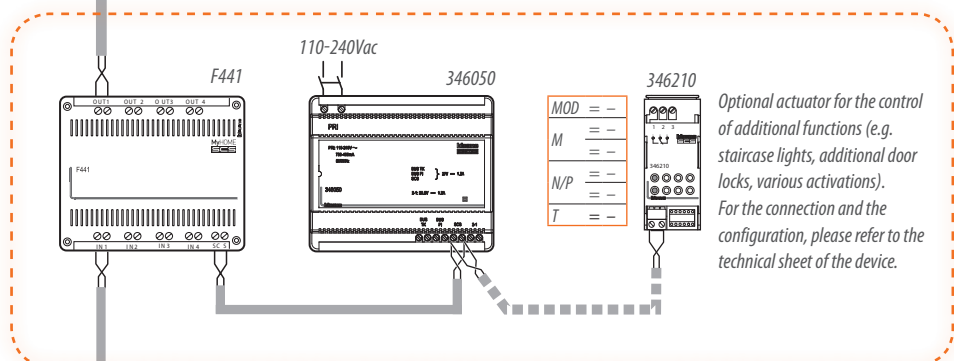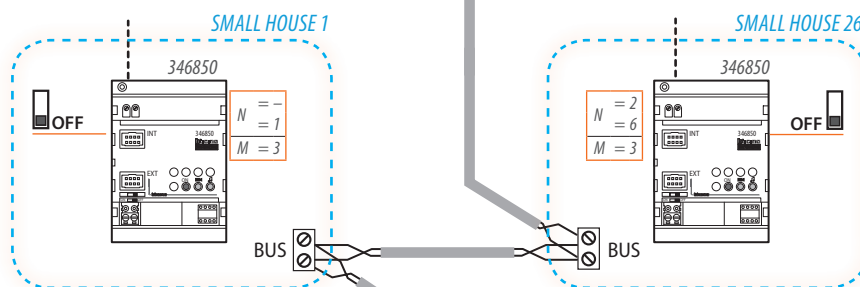
■ *Max 99 apartment interfaces and 1 apartment block entrance panel*
■ *Max 50 m between Entrance Panel and audio/video node*

1 or more main audio EP and secondary EP

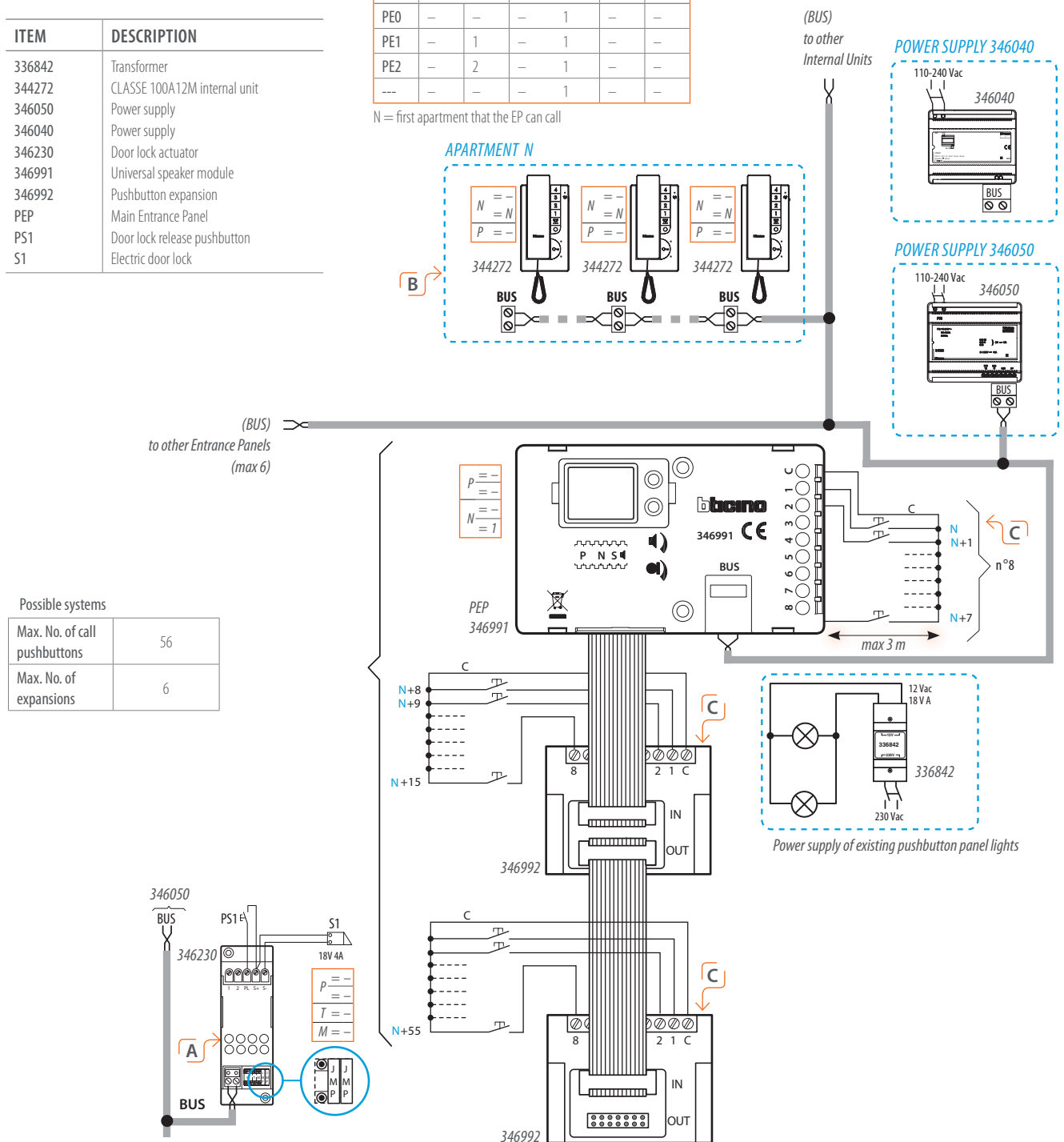| ITEM	DESCRIPTION
351000	SFERA basic speaker module
352000	SFERA pushbutton module
344272	Classe 100A12M audio internal unit
344252	CLASSE 100A12B handsfree audio internal unit
344232	SPRINT L2 AUDIO INTERNAL UNIT
346040	Audio power supply
346210	Actuator
PEP	Sfera (MAIN) entrance panel
PES	Sfera (SECONDARY) entrance panel
PS1-PS2-PS3	Door lock release pushbutton
S1-S2-S3	Electrical door lock 18V 4A impulsive - 250 mA holding current (30 Ω max)

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

B For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section

1 or more audio Entrance Panels

ITEM	DESCRIPTION
351100	SFERA speaker module
352000	SFERA pushbutton module
S1	Electrical door lock 18 V 4 A impulsive – 250 mA holding current (30 Ohm max)
PEP	Main entrance panel
344272	CLASSE 100A12M internal unit
344252	CLASSE 100A12B handsfree audio internal unit
344232	SPRINT L2 audio internal unit
346050	Power supply
346210	Actuator
PS1	Door lock release pushbutton

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute

Example of entrance panel configuration

	P	N	T	S	
PE0	–	–	–	1	–	–
PE1	–	1	–	1	–	–
PE2	–	2	–	1	–	–
---	–	–	–	1	–	–
PE8	–	8	–	1	–	–

N = first apartment that the EP can call

For the configuration of **T**, **S** and **M**, see the technical sheets of the single devices.

A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

B For the realisation of the Entrance Panel, it is possible to use SFERA pushbutton panels, the universal speaker module, or digital call modules.

Max. 3 audio internal units in parallel
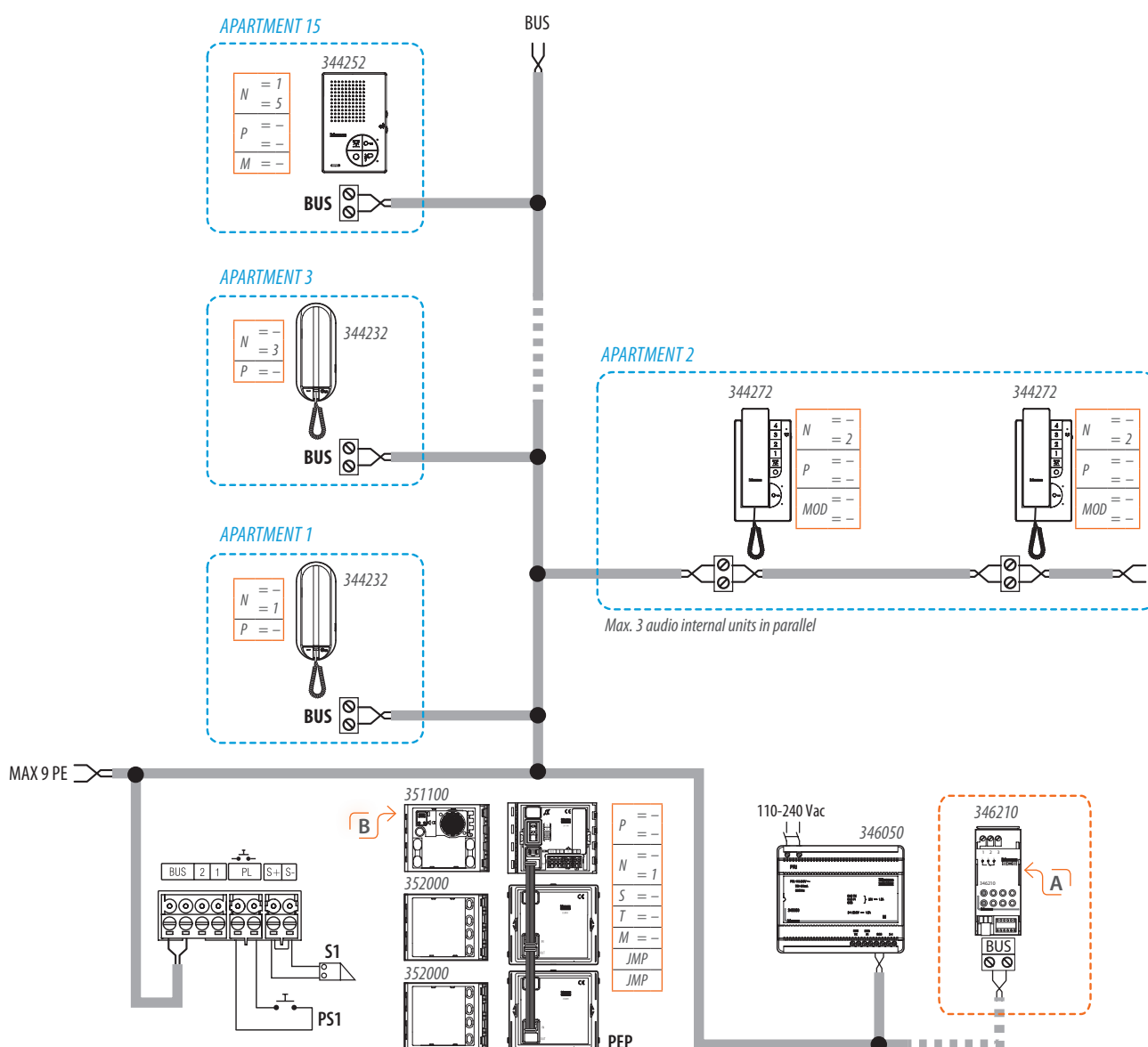
One-family system with 1 or more audio Entrance Panels and 5 intercommunicating Internal Units

ITEM	DESCRIPTION
343071	Linea 3000 audio entrance panel
S	Electrical door lock 18 V 4 A impulsive
	250 mA holding current (30 Ohm max)
344272	CLASSE 100A12M internal unit
346040	Power supply
PS	Door lock release pushbutton

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

■ The intercom function is also operational without connection of the Entrance panel.

A For the realisation of the Entrance Panel, it is possible to use SFERA, LINEA 3000 or LINEA 2000 pushbutton panels.

B S=9 enables the simultaneous call of all IU

Example of entrance panel configuration

	P	N	T		S	
PE0	–	–	–	1	–	9
PE1	–	1	–	1	–	9
PE2	–	2	–	1	–	9
---	–	–	–	1	–	9
PE8	–	8	–	1	–	9

DEVICE 4

4 Intercom with IU 5
3 Intercom with IU 3
2 Intercom with IU 2
1 Intercom with IU 1

344272
N = – / = 4
P = – / = –
MOD = – / = 3
BUS

DEVICE 5

4 Intercom with IU 4
3 Intercom with IU 3
2 Intercom with IU 2
1 Intercom with IU 1

344272
N = – / = 5
P = – / = –
MOD = – / = 3
BUS

DEVICE 2

4 Intercom with IU 4
3 Intercom with IU 3
2 Intercom with IU 5
1 Intercom with IU 1

344272
N = – / = 2
P = – / = –
MOD = – / = 3
BUS

DEVICE 3

4 Intercom with IU 4
3 Intercom with IU 5
2 Intercom with IU 2
1 Intercom with IU 1

344272
N = – / = 3
P = – / = –
MOD = – / = 3
BUS

DEVICE 1

4 Intercom with IU 4
3 Intercom with IU 3
2 Intercom with IU 2
1 Intercom with IU 5

344272
N = – / = 1
P = – / = –
MOD = – / = 3
BUS

110-240 Vac

346040

BUS

MAX 9 PE

343071
P = – / = –
N = – / = 1
T = –
S = 9

PL BUS S+ S-

S

PS

A

B

Two-family system, 1 EP and 3 IU for each apartment with "Internal intercom and intercom among apartments" function

ITEM	DESCRIPTION
351100	SFERA speaker module
344082	POLYX AUDIO audio internal unit
346040	Power supply
PEP	Main Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive – 250 mA holding current (30 Ohm max)

⚠ *CAUTION*

■ *Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.*

■ *The intercom function is also operational without connection of the Entrance panel.*

■ *The intercom between units makes it possible to call units of the same apartment or of other apartments.*

A *Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations). For the connection and the configuration, please refer to the technical sheet of the device.*

B *For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.*

APARTMENT 1

APARTMENT 2

⊙ Intercom inside the apartment
⊙ Intercom among apartments
⊙ Relay control configured with MOD=9 and P+1
⊙ Relay control configured with MOD=5 and P+1
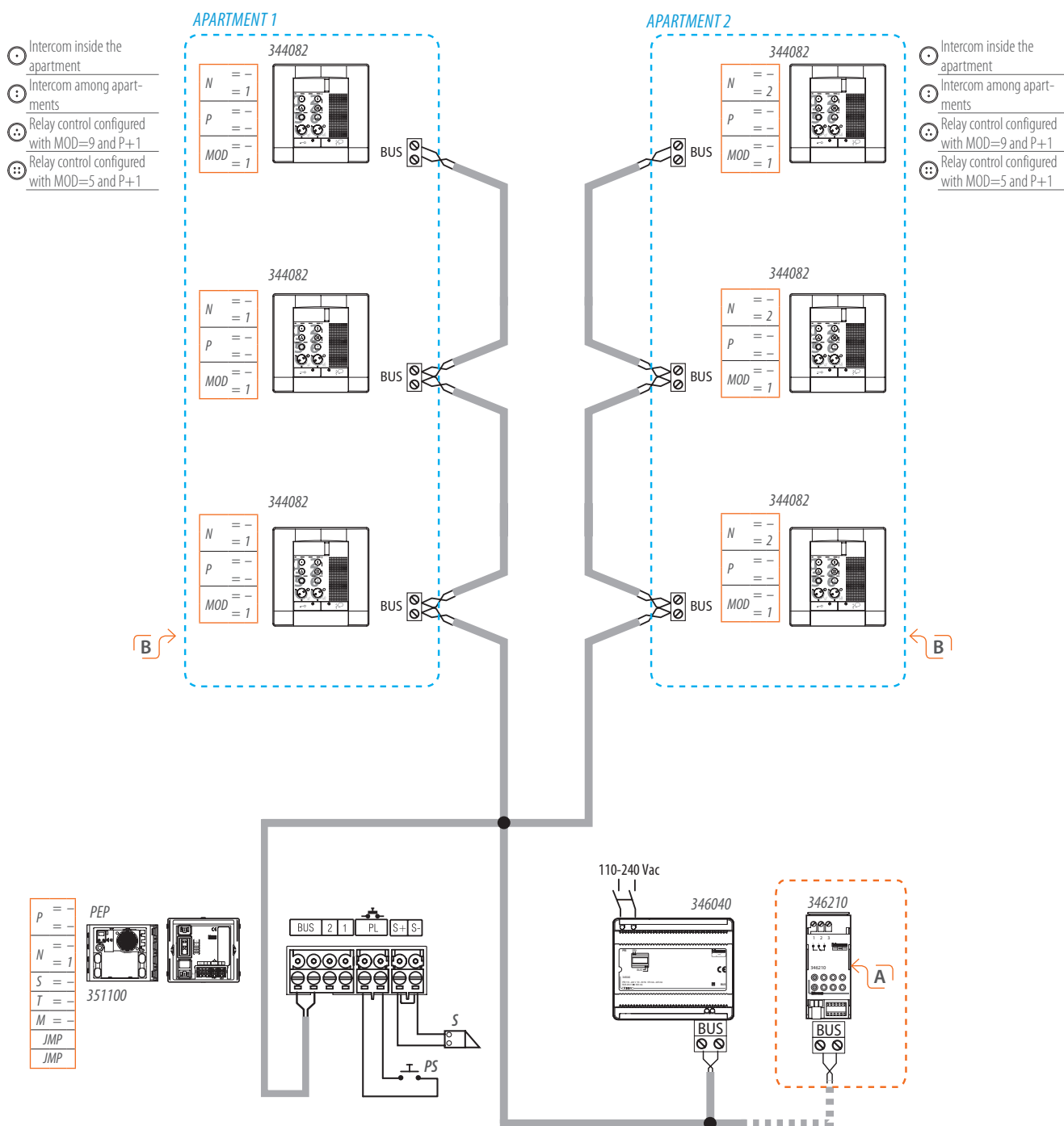
1 or more main audio Entrance Panels with universal speaker unit

In systems with more than 8 pushbuttons, in addition to module 346991, it is necessary to allow for a 346992 module every 8 pushbuttons; for the connection, it will be necessary to use the 2-connector multiple cable supplied with item 346992 itself. The following diagram shows the internal wiring between speaker module 346991, one or more 346992 expansion modules, and the pushbuttons in systems with more than 8 internal units.

ITEM	DESCRIPTION
336842	Transformer
344272	CLASSE 100A12M internal unit
346050	Power supply
346040	Power supply
346230	Door lock actuator
346991	Universal speaker module
346992	Pushbutton expansion
PEP	Main Entrance Panel
PS1	Door lock release pushbutton
S1	Electric door lock

⚠️ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

Example of entrance panel configuration					
	P		N	T	S
PE0	–	–	–	1	–	–
PE1	–	1	–	1	–	–
PE2	–	2	–	1	–	–
---	–	–	–	1	–	–

N = first apartment that the EP can call

A The use of the actuator is necessary if the door lock opening function is required (see the actuator technical sheet).

B For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

C The common of the pushbuttons must be connected to the 346991 or 346992 module to which the pushbuttons themselves are connected.

Possible systems

Max. No. of call pushbuttons	56
Max. No. of expansions	6

APARTMENT N

POWER SUPPLY 346040

POWER SUPPLY 346050

Power supply of existing pushbutton panel lights

Multifamily system with 1 or more main EP, 5 intercommunicating

ITEM	DESCRIPTION
351000	SFERA speaker module
352100	SFERA pushbutton module
344272	CLASSE 100A12M audio internal unit
346050	Power supply
346210	Actuator
PEP	Main Entrance Panel
PS1	Door lock release pushbutton
S1	Electrical door lock 18 V 4 A impulsive - 250 mA holding current (30 Ohm max)

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

■ The intercom function is also operational without connection of the Entrance panel.

■ The intercom among apartments can be used with CLASSE 100 A12M and POLYX AUDIO internal units configured from N=1 to N=5.

A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

B For the realisation of the Entrance Panel, it is possible to use any SFERA pushbutton panels (not with digital call). For further information, see the "ENTRANCE PANEL VARIANTS" section.

C For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

Example of entrance panel configuration

	P	N	T	S
PE0	–	–	–	1	–	–
PE1	–	1	–	1	–	–
PE2	–	2	–	1	–	–
---		–	1	–	–
PE8	–	8	–	1	–	–

N = first apartment that the EP can call
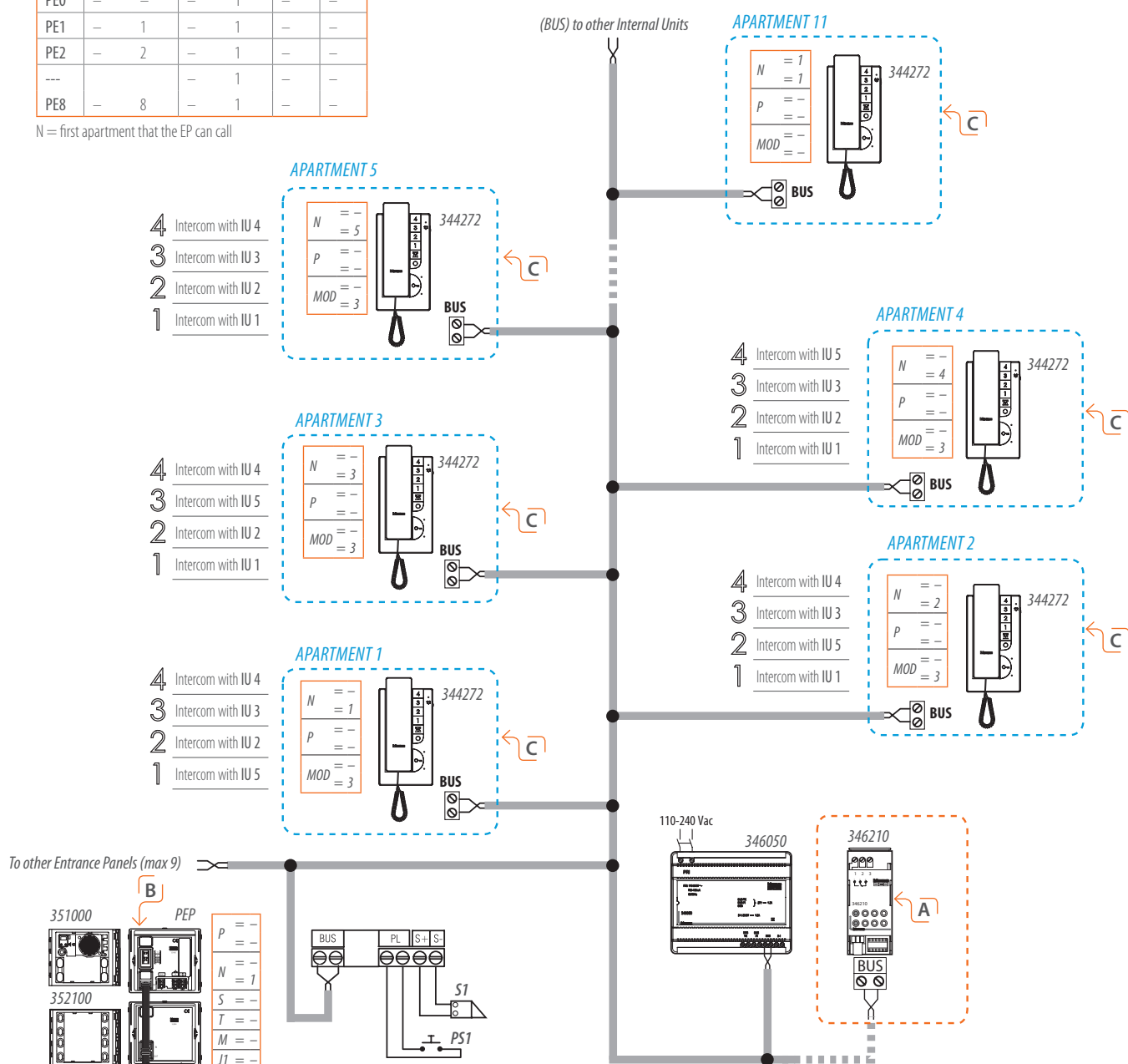
Multifamily system with several main audio EP and call to the switchboard

Note: With this type of installation, the audio is not isolated, and only one communication at the time is possible

B

APARTMENT XX

344232

(BUS) to other Internal Units

N	= −
	= −
P	= 9

BUS

B

APARTMENT 1

344232

N	= −
	= 1
P	= 9

BUS

Floor call

ITEM	DESCRIPTION
351000	SFERA basic speaker module
352000	SFERA pushbutton module
344232	SPRINT L2 AUDIO INTERNAL UNIT
346310	Switchboard
346020	Additional power supply
346210	Actuator
346050	Power supply
PEP	Main Entrance Panel
PES	Secondary Entrance Panel
PS1-PS2-PS3	Door lock release pushbutton
S1-S2-S3	Electrical door lock 18V 4A impulsive – 250 mA holding current (30 Ω max)

Call to the SWB with auxiliary function key

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.
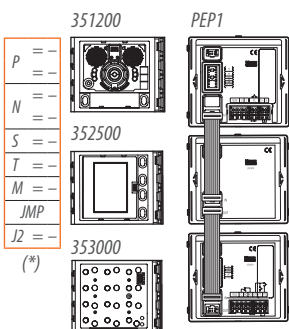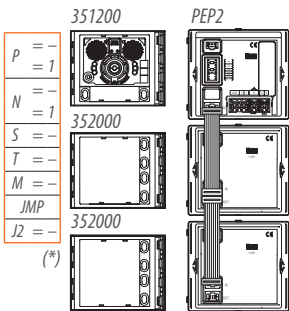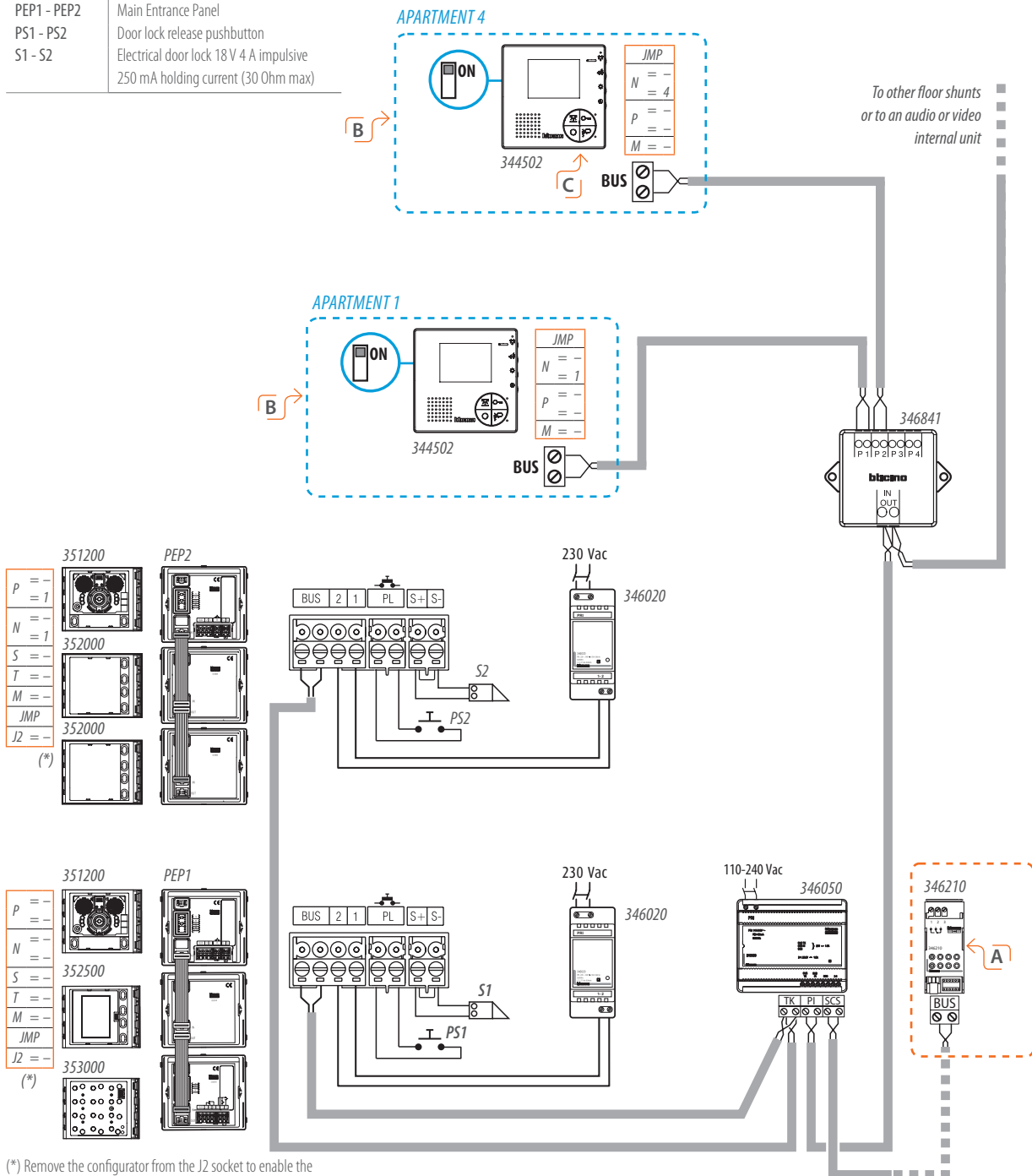
A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

B For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

346310   Master SWB = 0

230 Vac

346020

BUS

2   1

351000

P	= −
	= 1
N	= −
	= 1
S	= −
T	= −
M	= −
JMP	

352000

PES

BUS		PL	S+	S-

S2

PS2

351000

P	= −
	= 2
N	= −
	= 8
S	= −
T	= −
M	= −
JMP	

352000

PES

BUS		PL	S+	S-

S3

PS3

110-240 Vac

346050

346210

A

BUS

BUS

351000

P	= −
	= −
N	= −
	= 1
S	= −
T	= −
M	= −
JMP	

352000

352000

PEP

BUS		PL	S+	S-

S1

PS1

Video system with 1 EP and star-connected riser using non-twisted cables or pre-existing cables

ITEM	DESCRIPTION
351200	SFERA audio/video speaker module
352100	SFERA pushbutton module
344502	CLASSE 100 V12B handsfree video internal unit
346050	Power supply
346210	Actuator
346870	Line amplifier
PEP	Main Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive – 250 mA holding current (30 Ohm max)

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
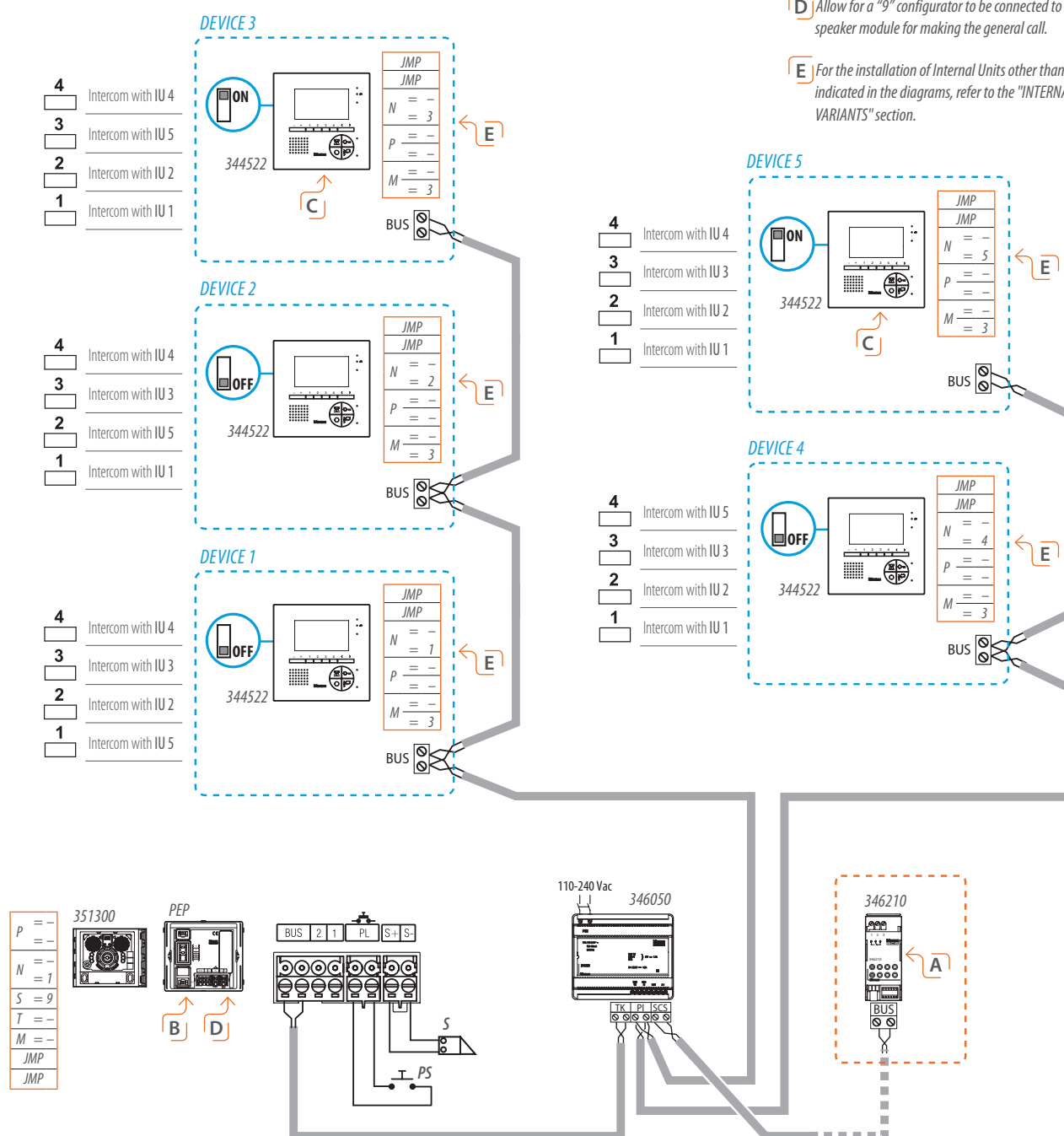For the connection and the configuration, please refer to the technical sheet of the device.

B For the realisation of the Entrance Panel, it is possible to use any SFERA pushbutton panels with pushbutton call or digital call.
For further information, see the "ENTRANCE PANEL VARIANTS" section.

C Move to ON the microswitch on the back of the audio or video internal unit that terminates the line.

D On the riser line, after item 346870 it will be possible to install up to 18 IU max (audio and video internal units).

E To wire the system, use existing cables or cables with section ≥ 0,28 mm^2

F Item 346870 must only be used if the distance between the EP and the last IU exceeds 50 m, and must be installed approximately 50 metres from the Entrance Panel

G For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.
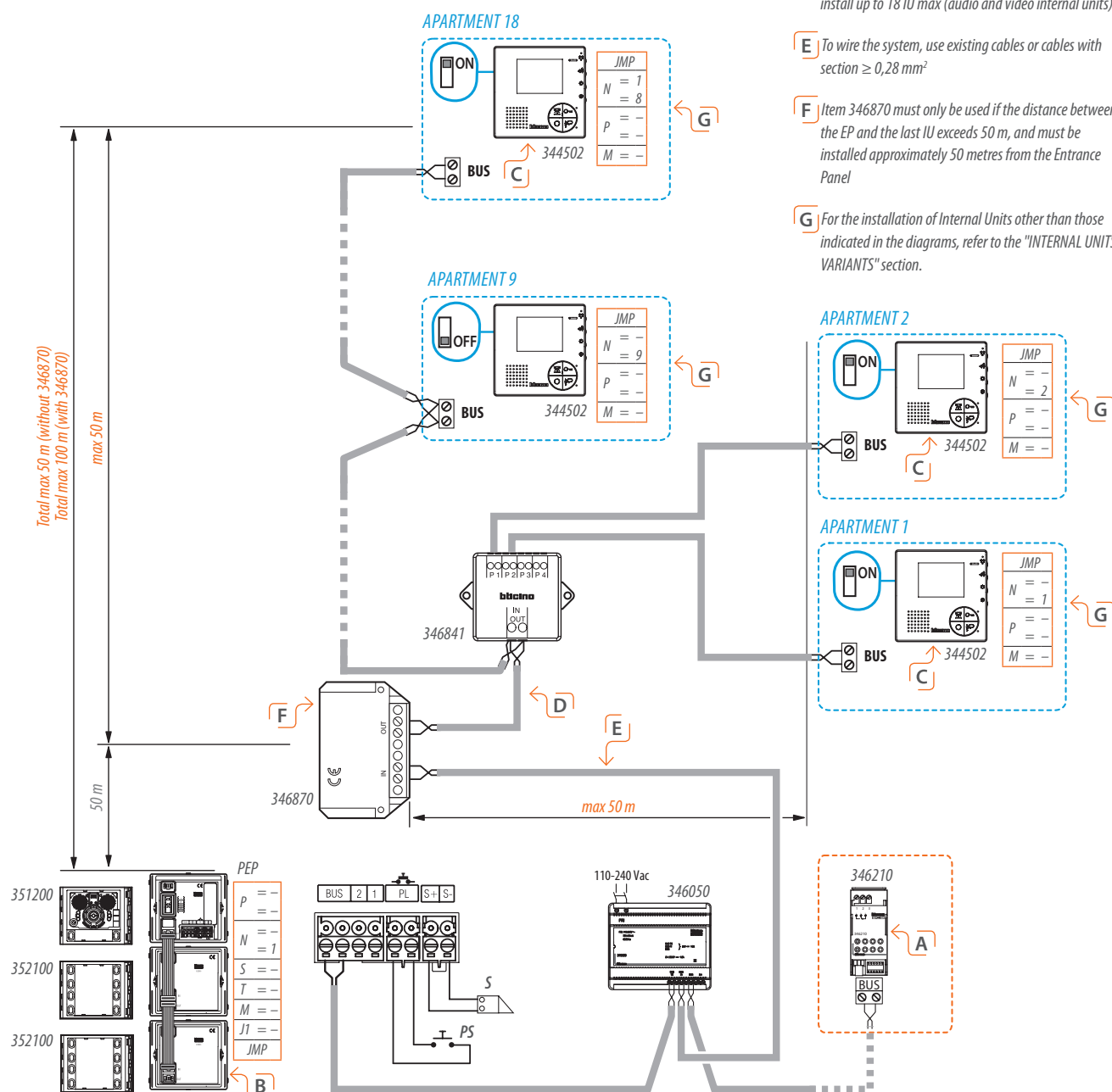
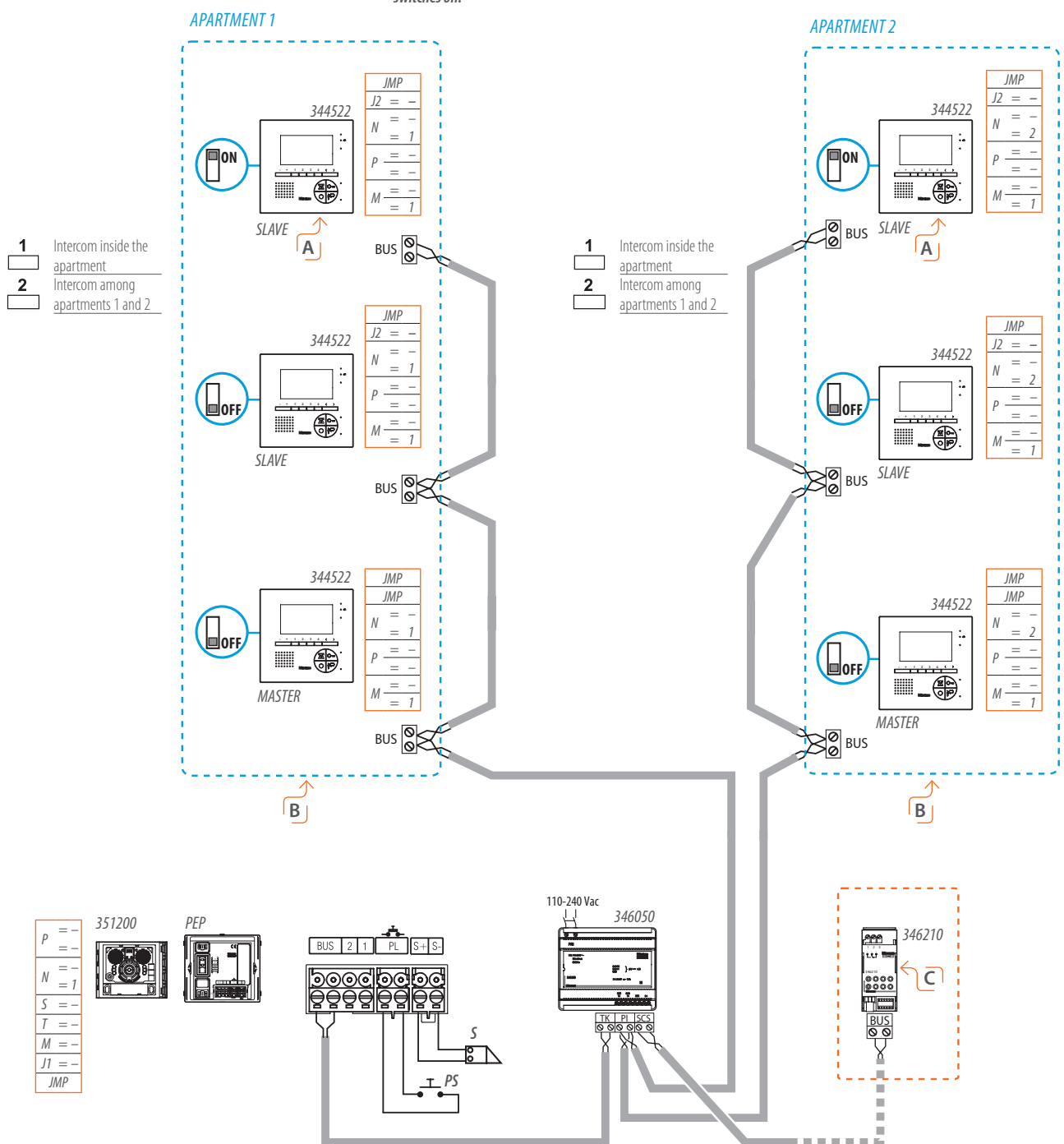# Multifamily video system with universal speaker module 346991 and associated separate camera

ITEM	DESCRIPTION
346050	Power supply
346991	Universal speaker module
346992	Key expansion module
391670	2 WIRES outdoor camera

In alternative to camera 391670, it is also possible to install flush mounted 2 WIRES cameras, or interface 347400

2 WIRES colour cameras
AXOLUTE: 391661, 391662, 391663
LIVINGLIGHT: 391657 - 391658 - 391659

To the 346991 BUS clamp

To the 346991 BUS clamp

P	= –
	= –
N	= –
Z	= –
M	= –
A	= –
PL	= –

P	= –
	= –
N	= –
Z	= –
M	= –
A	= –
PL	= –

Coaxial/2WIRES interface 347400

347400

VIDEO   PWR
V   –   + 2   1

max 3 m

Tlc 12 Vdc 150 mA

Configurator (P) for camera or interface 347400 = configurator (P) of 347400

346991

P	= –
	= –
N	= –
	= 1
S	= –

The configurators in P of 346991 and 391670 (or interface 347400) must be the same

bticino

P N S

346991 CE

BUS

Call pushbuttons

C
N
N+1

n°8

N+7

110-240 Vac

346050

PRI

110-240V~
350-400mA
50/60Hz

BUS TK
BUS PS
BC2S

21Y ⎓ 1.2A

346050

2+1 28.5V ⎓ 1.2A

IU BUS

8   2 1 C

IN

OUT

346992

To other modules 346992

BUS

bticino

391670

P	= –
	= –
N	= –
Z	= –
M	= –
A	= –
PL	= –

1 main video Entrance Panel
and 1 riser with floor shunt wiring

bticino

ITEM	DESCRIPTION
351100	SFERA speaker module
352100	SFERA pushbutton module
352400	N/D camera module
	SFERA WIDE ANGLE
344502	CLASSE 100 V12B handsfree video internal unit
344252	CLASSE 100A12B handsfree audio internal unit
346050	Power supply
346210	Actuator
346841	Floor shunt
PEP	Main Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive 250 mA holding current (30 Ohm max)

CONNECTION COMBINATIONS

1 video EP, max. 2 risers on IU BUS 346050
2 video EP, max. 1 riser on IU BUS 346050

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

B For the realisation of the Entrance Panel, it is possible to use any SFERA pushbutton panels, with pushbutton call or digital call, both as main and secondary EP.
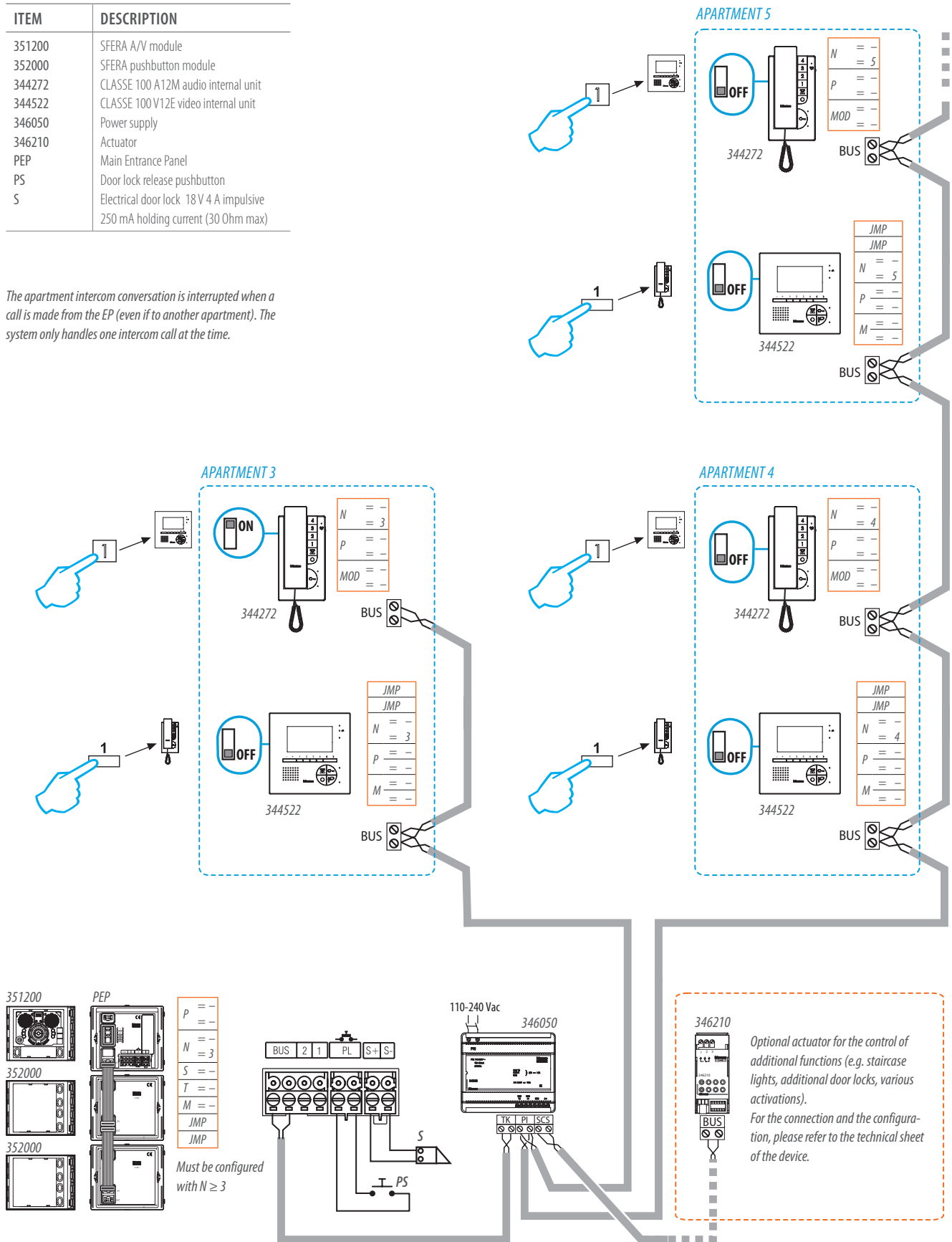For further information, see the "ENTRANCE PANEL VARIANTS" section.

C Move to ON the microswitch on the back of the audio or video internal unit that terminates the line.

D For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

APARTMENT 15

ON

JMP	
N	= 1
	= 5
P	= –
	= –
M	= –

344502

BUS

APARTMENT 14

ON

JMP	
N	= 1
	= 4
P	= –
	= –
M	= –

344502

BUS

346841

APARTMENT 1

ON

N	= –
	= 1
P	= –
	= –
M	= –

344252

BUS

APARTMENT 2

ON

JMP	
N	= –
	= 2
P	= –
	= –
M	= –

344502

BUS

346841

352400   PEP

P	= –
	= –
N	= –
	= 1
S	= –
T	= –
M	= –
J1	= –
JMP	

351100

352100

BUS 2 1 PL S+ S-

S

PS

110-240 Vac   346050

346210

A

BUS

1 main video Entrance Panel and 2 risers with floor shunt wiring

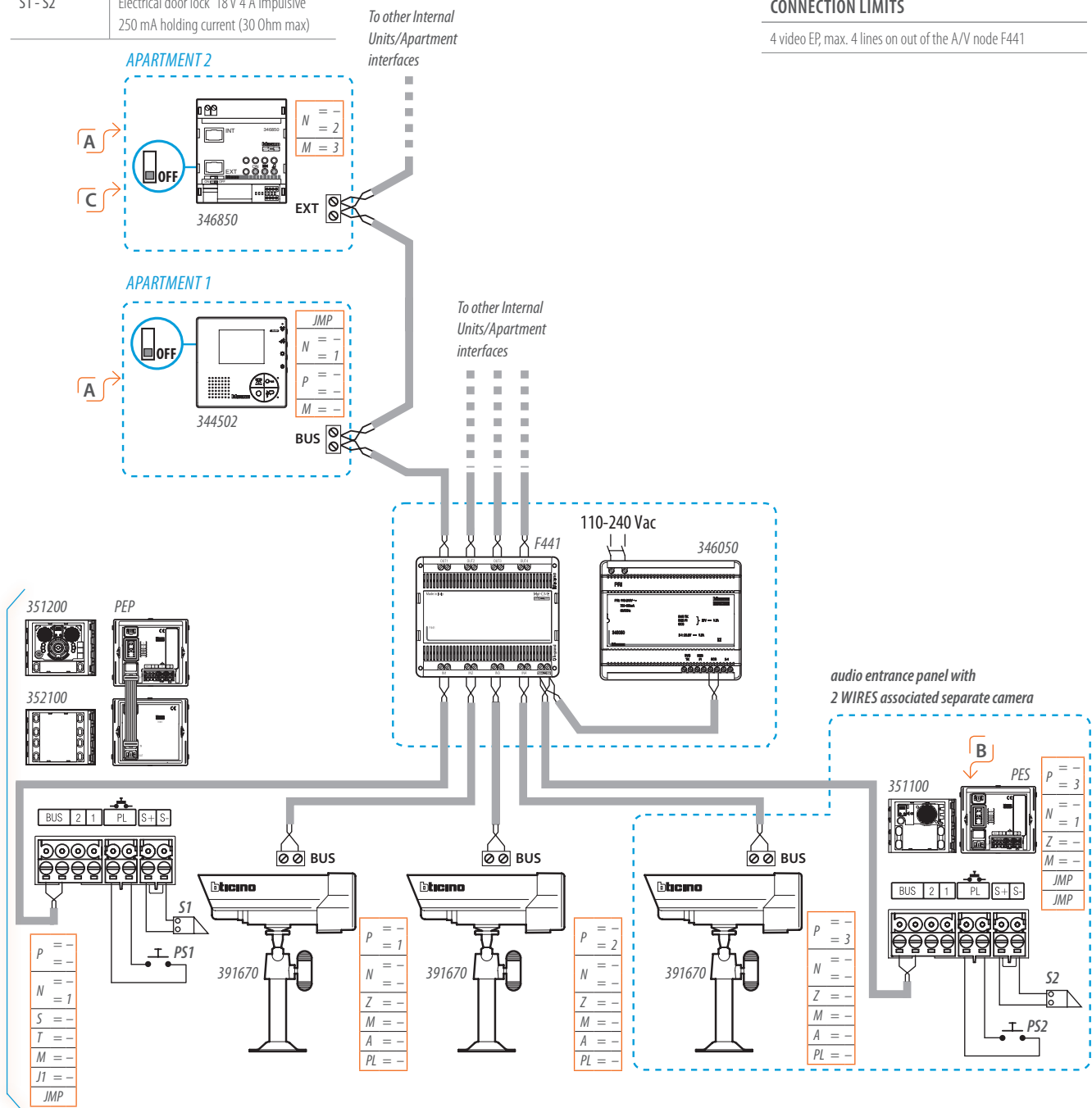| ITEM	DESCRIPTION
351300	SFERA WIDE ANGLE A/V module
352500	SFERA Display Module
344272	CLASSE 100A12M internal unit
344502	CLASSE 100A12B handsfree video internal unit
346050	Power supply
346210	Actuator
3499	Line terminator
PEP	Main Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive 250 mA holding current (30 Ohm max)

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

CONNECTION COMBINATIONS

1 video EP, max. 2 risers on IU BUS 346050
2 video EP, max. 1 riser on IU BUS 346050

A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

B For the realisation of the Entrance Panel, it is possible to use any SFERA pushbutton panels with pushbutton call or digital call.
For further information, see the "ENTRANCE PANEL VARIANTS" section.

C Move to ON the microswitch on the back of the audio or video internal unit that terminates the line.

D For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.
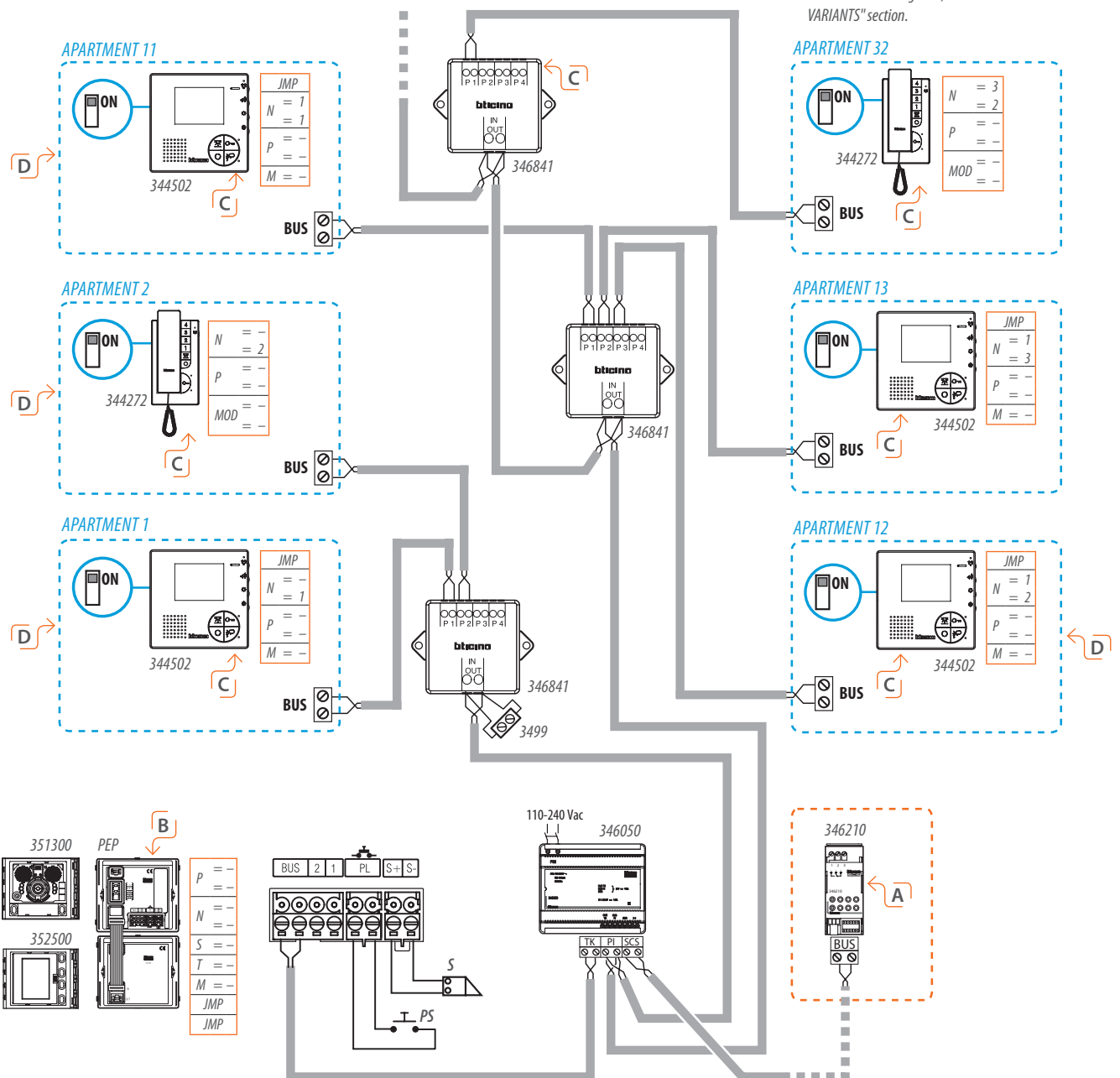
2 main video Entrance Panels and 1 riser with in-out wiring

bticino

ITEM	DESCRIPTION
351200	SFERA A/V module
352100	SFERA pushbutton module
344502	CLASSE 100V12B handsfree video internal unit
346050	Power supply
346210	Actuator
PEP1 - PEP2	Main Entrance Panel
PS1 - PS2	Door lock release pushbutton
S1 - S2	Electrical door lock 18 V 4 A impulsive 250 mA holding current (30 Ohm max)

CONNECTION COMBINATIONS

1 video EP, max. 2 risers on IU BUS 346050
2 video EP, max. 1 riser on IU BUS 346050

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations). For the connection and the configuration, please refer to the technical sheet of the device.

B For the realisation of the Entrance Panel, it is possible to use any SFERA pushbutton panels, with pushbutton call or digital call, both as main and secondary EP. For further information, see the "ENTRANCE PANEL VARIANTS" section.

C Move to ON the microswitch on the back of the audio or video internal unit that terminates the line.

D For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

E CLASSE 100 or CLASSE 300 video internal units are installed in the apartment with MASTER-SLAVE function. Upon arrival of the call, the MASTER rings and switches on, while the SLAVE unit only rings. If the call is answered from the SLAVE, the MASTER switches off and the monitor of the SLAVE switches on.
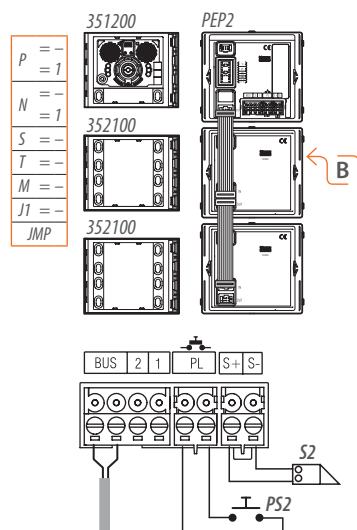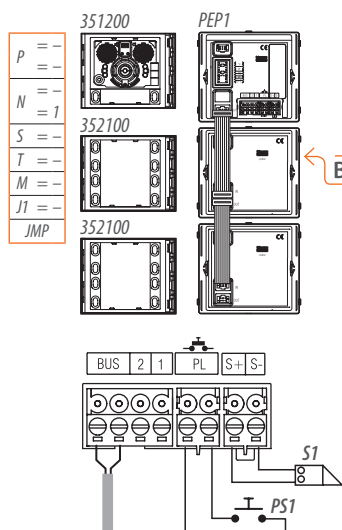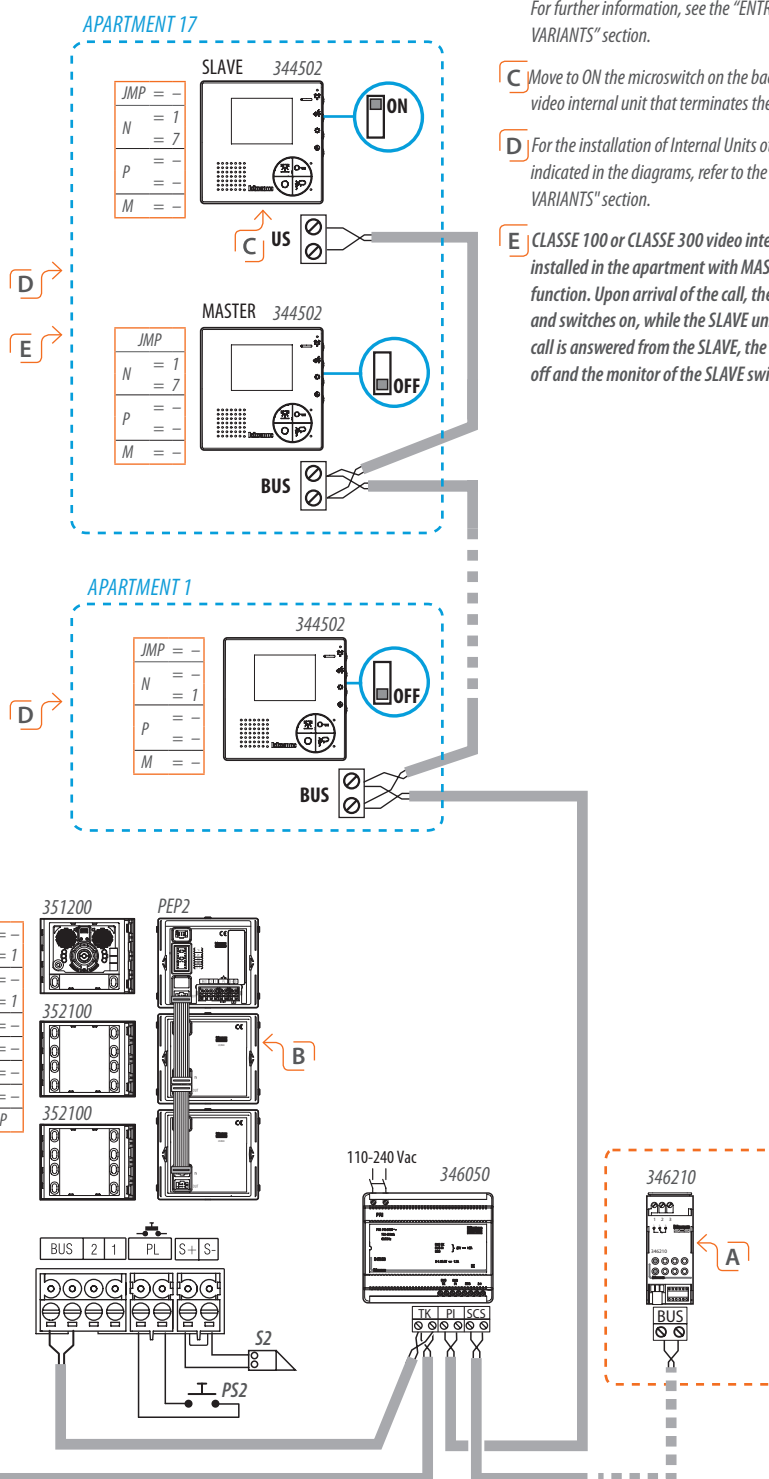
2 main video EP with additional power supply and star-connected riser

ITEM	DESCRIPTION
351200	SFERA A/V module
352000	SFERA pushbutton module
352500	SFERA Display Module
353000	SFERA Keypad Module
344502	CLASSE 100V12B handsfree video internal unit
346050	Power supply
346020	Additional power supply
346210	Actuator
346841	Floor shunt
PEP1 - PEP2	Main Entrance Panel
PS1 - PS2	Door lock release pushbutton
S1 - S2	Electrical door lock 18 V 4 A impulsive 250 mA holding current (30 Ohm max)

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

B For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

C Move to ON the microswitch on the back of the audio or video internal unit that terminates the line.

(*) Remove the configurator from the J2 socket to enable the additional power supply to the entrance panel

One-family system with 1 video Entrance Panel and 5 Internal Units in parallel and intercommunicating

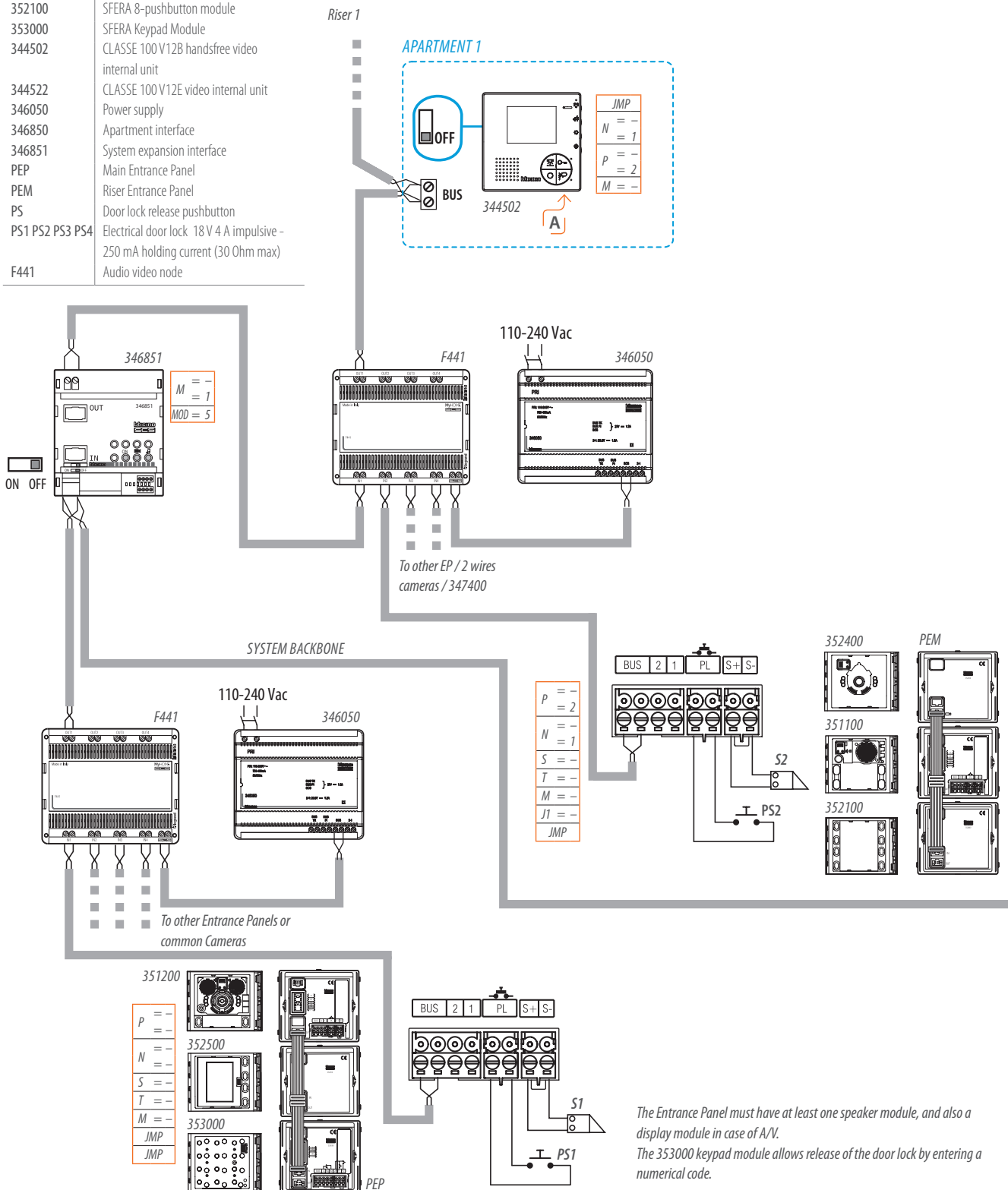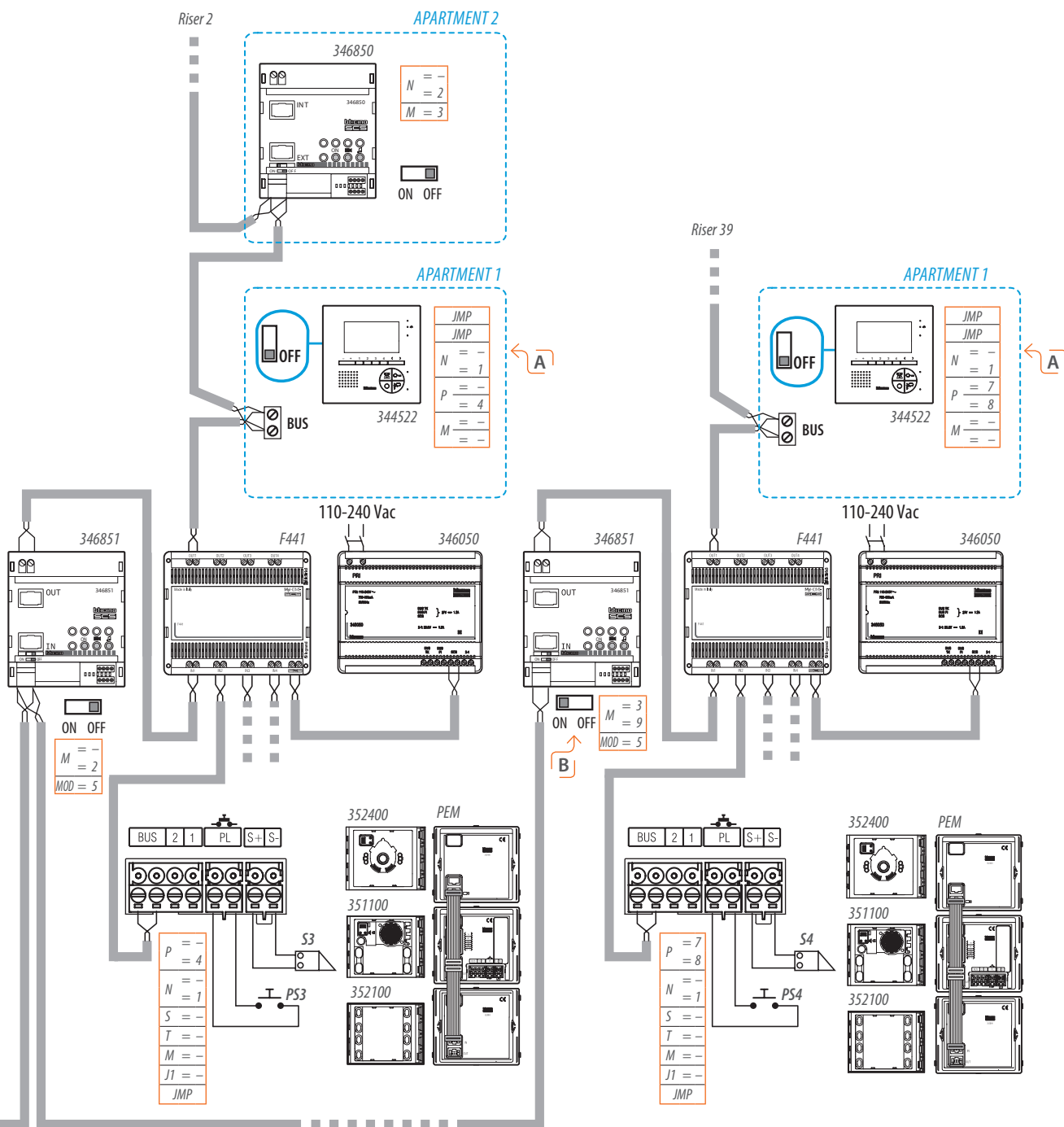| ITEM	DESCRIPTION
351300	SFERA WIDE ANGLE A/V module
344522	CLASSE 100 V12E video internal unit
346050	Power supply
346210	Actuator
PEP	Main Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive 250 mA holding current (30 Ohm max)

⚠ CAUTION

■ Configure the IU from N = 1
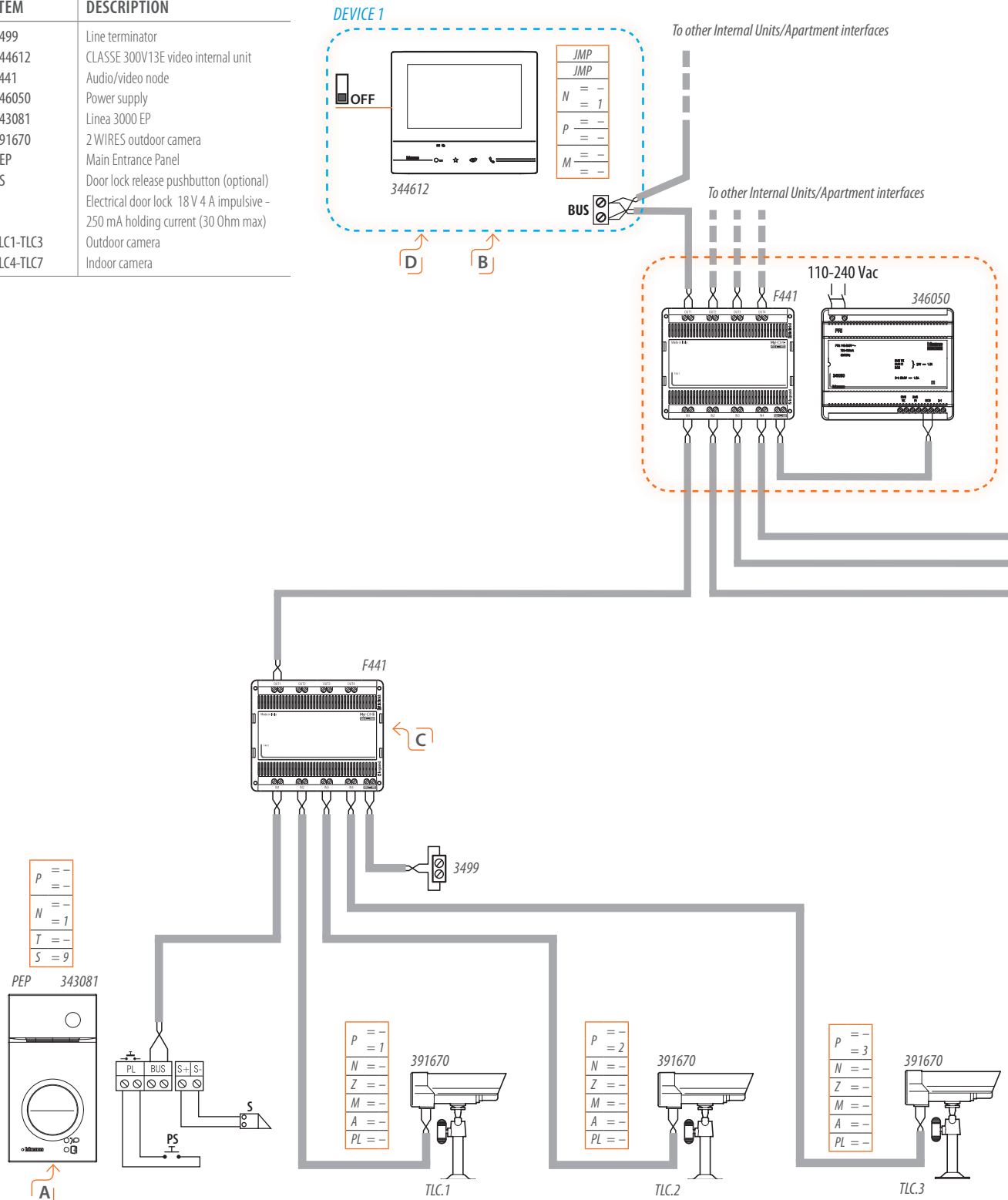■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.
■ The intercom function is also operational without connection of the Entrance panel.

A) Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

B) For the realisation of the Entrance Panel, it is possible to use SFERA, LINEA 3000 or LINEA 2000 pushbutton panels.
For further information, see the "ENTRANCE PANEL VARIANTS" section.

C) Move to ON the microswitch of the system audio or video internal unit that terminates the line.

D) Allow for a "9" configurator to be connected to S on the speaker module for making the general call.

E) For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

DEVICE 3
4 Intercom with IU 4
3 Intercom with IU 5
2 Intercom with IU 2
1 Intercom with IU 1
ON
344522
JMP / JMP / N = − = 3 / P = − = − / M = − = 3
BUS / C / E

DEVICE 2
4 Intercom with IU 4
3 Intercom with IU 3
2 Intercom with IU 5
1 Intercom with IU 1
OFF
344522
JMP / JMP / N = − = 2 / P = − = − / M = − = 3
BUS / E

DEVICE 1
4 Intercom with IU 4
3 Intercom with IU 3
2 Intercom with IU 2
1 Intercom with IU 5
OFF
344522
JMP / JMP / N = − = 1 / P = − = − / M = − = 3
BUS / E

DEVICE 5
4 Intercom with IU 4
3 Intercom with IU 3
2 Intercom with IU 2
1 Intercom with IU 1
ON
344522
JMP / JMP / N = − = 5 / P = − = − / M = − = 3
BUS / C / E

DEVICE 4
4 Intercom with IU 5
3 Intercom with IU 3
2 Intercom with IU 2
1 Intercom with IU 1
OFF
344522
JMP / JMP / N = − = 4 / P = − = − / M = − = 3
BUS / E

351300
P = − = − / N = − = 1 / S = 9 / T = − / M = − / JMP / JMP

PEP
B / D

BUS 2 1 PL S+ S−
S
PS

110–240 Vac
346050
TK PI SCS

346210
A
BUS

Two-family system, 1 EP and 3 IU for each apartment with "Internal intercom and among apartments" function

ITEM	DESCRIPTION
351200	SFERA A/V
344522	CLASSE100 V12E video internal unit
346050	Power supply
346210	Staircase light actuator
PEP	Main Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive 250 mA holding current (30 Ohm max)

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

■ It is possible to install up to 3 CLASSE 100 or CLASSE 300 video internal units per apartment with MASTER-SLAVE function. Upon arrival of the call, the MASTER rings and switches on, while the SLAVE units ring. If the call is answered from a SLAVE, the MASTER switches off and the monitor of the SLAVE answering the call switches on.

A Move to ON the microswitch on the back of the audio or video internal unit that terminates the line.

B For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

C Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

APARTMENT 1

APARTMENT 2

1 Intercom inside the apartment
2 Intercom among apartments 1 and 2

110-240 Vac

Intercom in apartment without interface 346850

ITEM	DESCRIPTION
351200	SFERA A/V module
352000	SFERA pushbutton module
344272	CLASSE 100 A12M audio internal unit
344522	CLASSE 100 V12E video internal unit
346050	Power supply
346210	Actuator
PEP	Main Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive 250 mA holding current (30 Ohm max)

The apartment intercom conversation is interrupted when a call is made from the EP (even if to another apartment). The system only handles one intercom call at the time.

APARTMENT 5

APARTMENT 3

APARTMENT 4

Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

Must be configured with N ≥ 3

110-240 Vac

Multifamily system with 1 main video EP, 2 risers and intercom among apartments

ITEM	DESCRIPTION
351100	SFERA speaker module
352000	SFERA pushbutton module
352400	Camera module
	SFERA WIDE ANGLE N/D
344522	CLASSE 100V12E video internal unit
346050	Power supply
346210	Actuator
PEP	Main Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive
	250 mA holding current (30 Ohm max)

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

■ Calls from the entrance panels take priority and stop the intercom call.

A Optional actuator for the control of additional functions (e.g. staircase lights, additional door locks, various activations).
For the connection and the configuration, please refer to the technical sheet of the device.

B Move to ON the microswitch on the back of the audio or video internal unit that terminates each apartment line.

C For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.
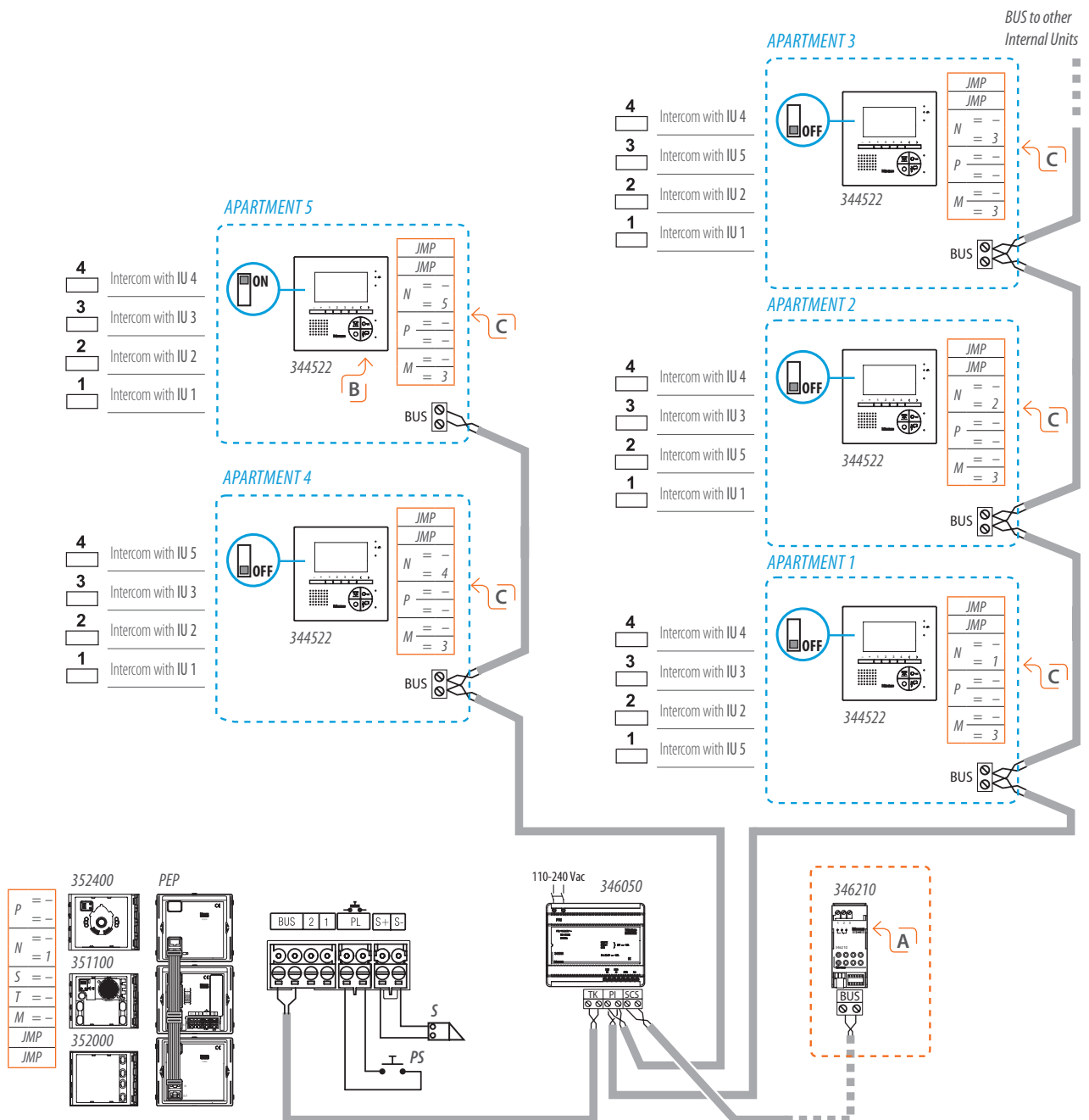
# Multifamily system with 2 EP (1 with separate camera, 2 additional cameras and riser with apartment interface)

ITEM	DESCRIPTION
351200	SFERA A/V module
351100	SFERA speaker module
352100	SFERA pushbutton module
344502	CLASSE 100V12B handsfree video internal unit
346050	Power supply
346850	Apartment interface
391670	2 WIRES separate camera
F441	Audio/video node
PEP	Main Entrance Panel
PES	Secondary Entrance Panel
PS1-PS2	Door lock release pushbutton
S1 - S2	Electrical door lock 18 V 4 A impulsive 250 mA holding current (30 Ohm max)

⚠ CAUTION

■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.

A For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

B Audio Entrance Panels associated to the cameras must belong to the SFERA, LINEA 300 and 346991 series, and must be directly connected to the SCS terminals of audio/video node F441.

C The apartment interface is connected as a standard video internal unit.

CONNECTION LIMITS

4 video EP, max. 4 lines on out of the A/V node F441

APARTMENT 2

346850

APARTMENT 1

344502

To other Internal Units/Apartment interfaces

110-240 Vac

F441   346050

351200   PEP

352100

audio entrance panel with 2 WIRES associated separate camera

351100   PES

391670   391670   391670

System in apartment with 2 WIRES analog interface 349410

ITEM	DESCRIPTION
349410	Analog/2 WIRES interface
351200	SFERA A/V module
344522	CLASSE 100 V12E video internal unit
F441	Audio video node
346050	Power supply
391670	2 WIRES outdoor camera
PS	Door lock release pushbutton
S	Electrical door lock 18V 4A impulsive
	250mA holding current (30ohm max.)
PEA	Apartment entrance panel

A | Connection for systems with direct lock control

CLAMPS 349410	VIDEO	AUDIO
1	1	1 and S+ (of the actuator)
2	2	–
3	3	3
4	4	4
5	5	5
6	6	A
7	7	–
8	8	–
9	–	–
10	–	–
11	14	14 (optional)
12	–	–
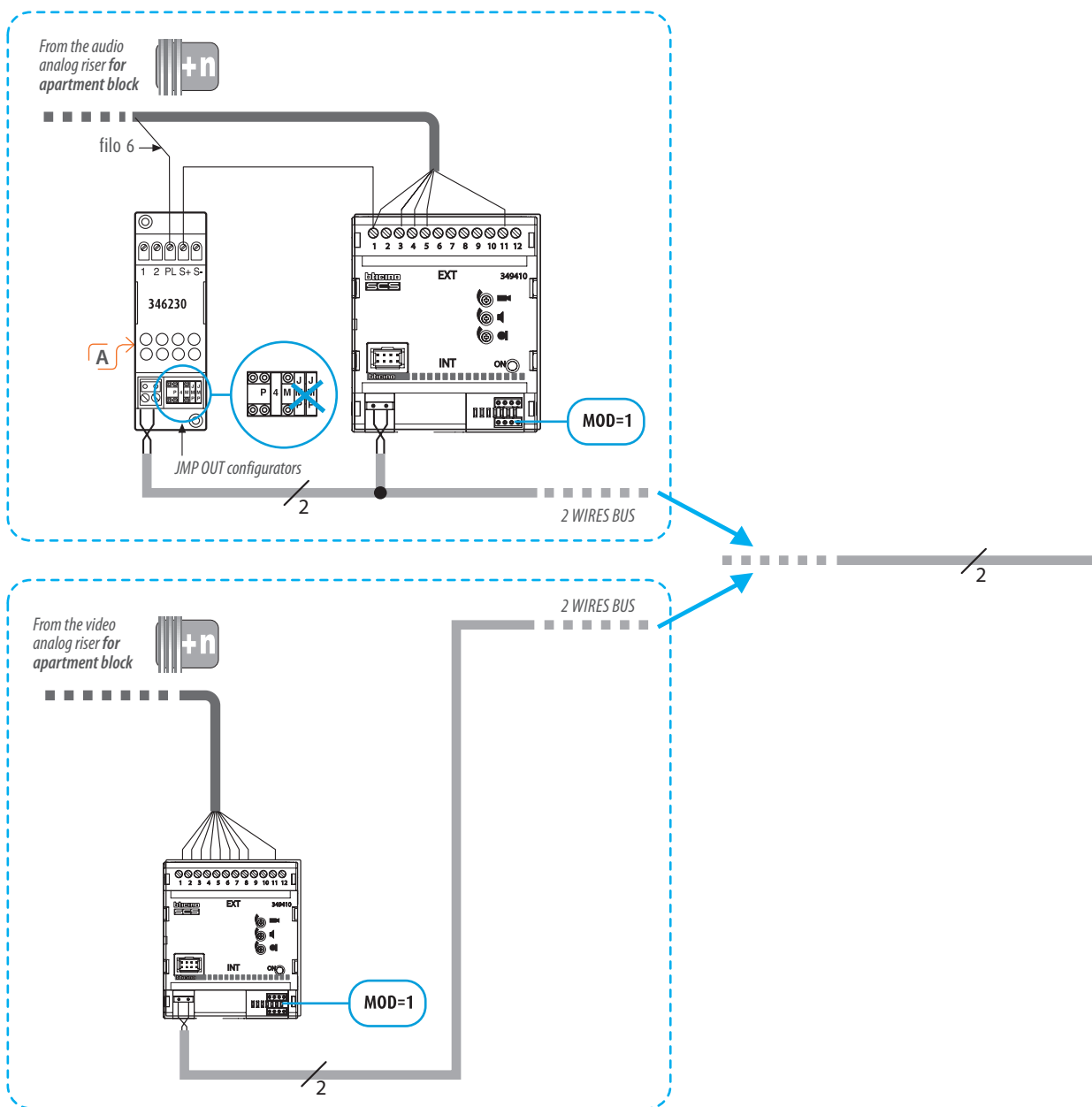
⚠ CAUTION

■ No analogue side addressed actuations are possible.
■ For wiring and system limit purposes, interface 349410 must be considered the same as a 2 WIRES EP.
■ Configure and connect the Jumpers with the system NOT POWERED. Also, every time that the configuration is changed, it will be necessary to disconnect the power supply and then reconnect it after approximately 1 minute.
■ In case of audio riser, the video IU activates without displaying an image.

B Move to ON the microswitch on the back of the last audio or video internal unit of the line or riser.

PRIVATE APARTMENT

Input   344522
ON
BUS   **B**

JMP
JMP
N = −
   = 1
P = −
   = −
M = −
   = −

Room   344522
ON
BUS   **B**

JMP
JMP
N = −
   = 2
P = −
   = −
M = −
   = −

Kitchen   344522
ON
BUS   **B**

JMP
JMP
N = −
   = 3
P = −
   = −
M = −
   = −

F441

110-240 Vac
346050

2

BUS 2 1 PL S+ S-

S
PS

PEA   351200

P = −
   = 1
N = −
   = 1
S = 9
T = −
M = −
JMP
JMP

BUS
391670

P = −
   = 2
N = −
   = −
Z = −
M = −
A = −
PL = −

BUS
391670

P = −
   = 3
N = −
   = −
Z = −
M = −
A = −
PL = −
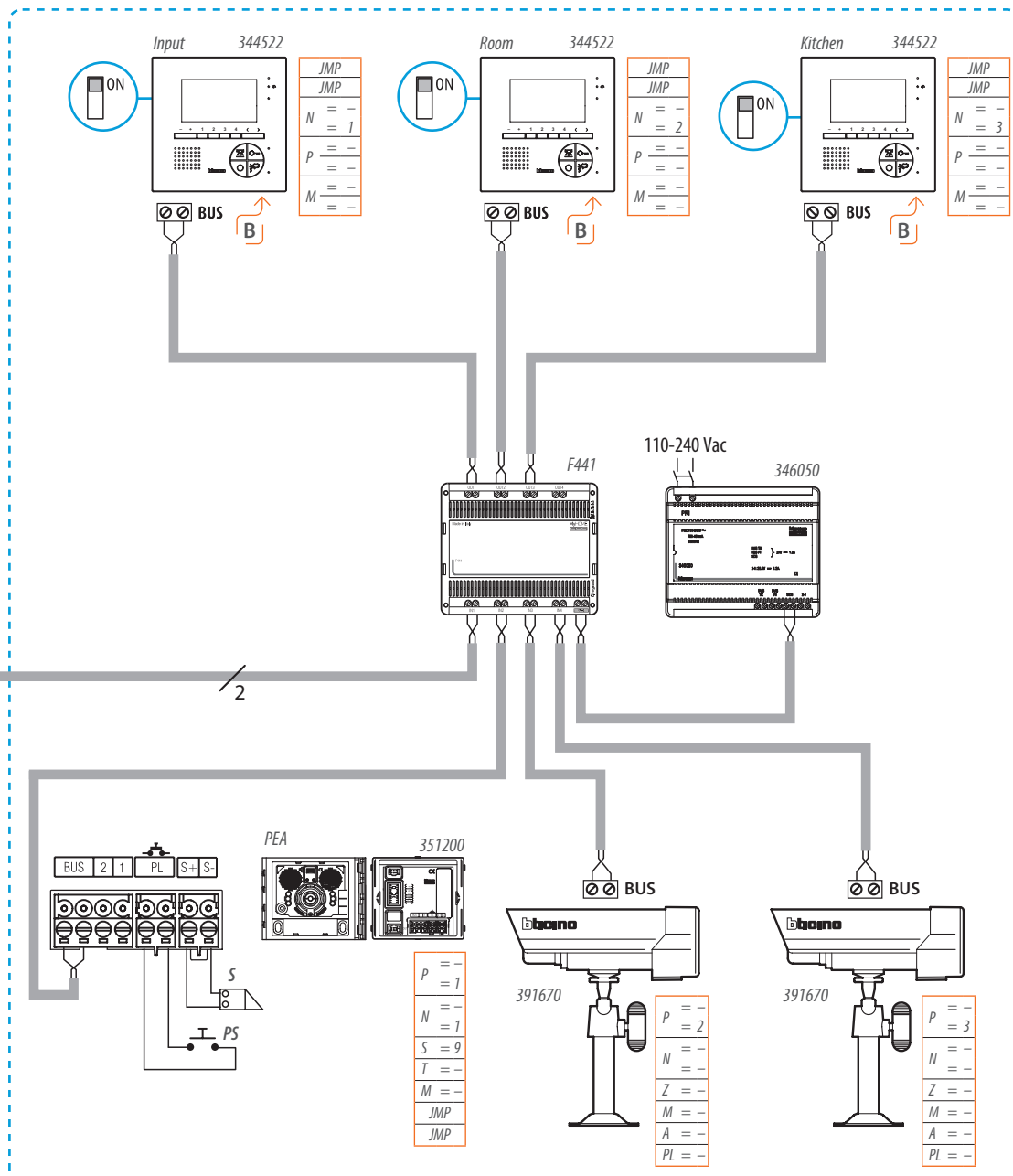
System in apartment with apartment interface

ITEM	DESCRIPTION
351200	SFERA A/V module
344522	CLASSE 100V12E video internal unit
346050	Power supply
346850	Apartment interface
F441	Audio/video node
PEA	Apartment Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive – 250 mA holding current (30 Ohm max)

⚠ CAUTION

■ Configure the apartment Entrance Panels from P = 1.
■ Configure the apartment IU from N = 1
■ As for one-family systems, all internal units must be configured as MASTER. The entrance panel configured with N= 1 rings and switches on, while the others ring. If the call is answered from an internal unit with the monitor switched off, the monitor of the internal unit configured with N = 1 switches off and the monitor of the internal unit being used for answering switches on.

A For the realisation of the Entrance Panel, it is possible to use SFERA, LINEA 3000 or LINEA 2000 pushbutton panels.
For further information, see the "ENTRANCE PANEL VARIANTS" section.

B For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

C Move to ON the microswitch of the internal unit that terminates the line.

APARTMENT 2
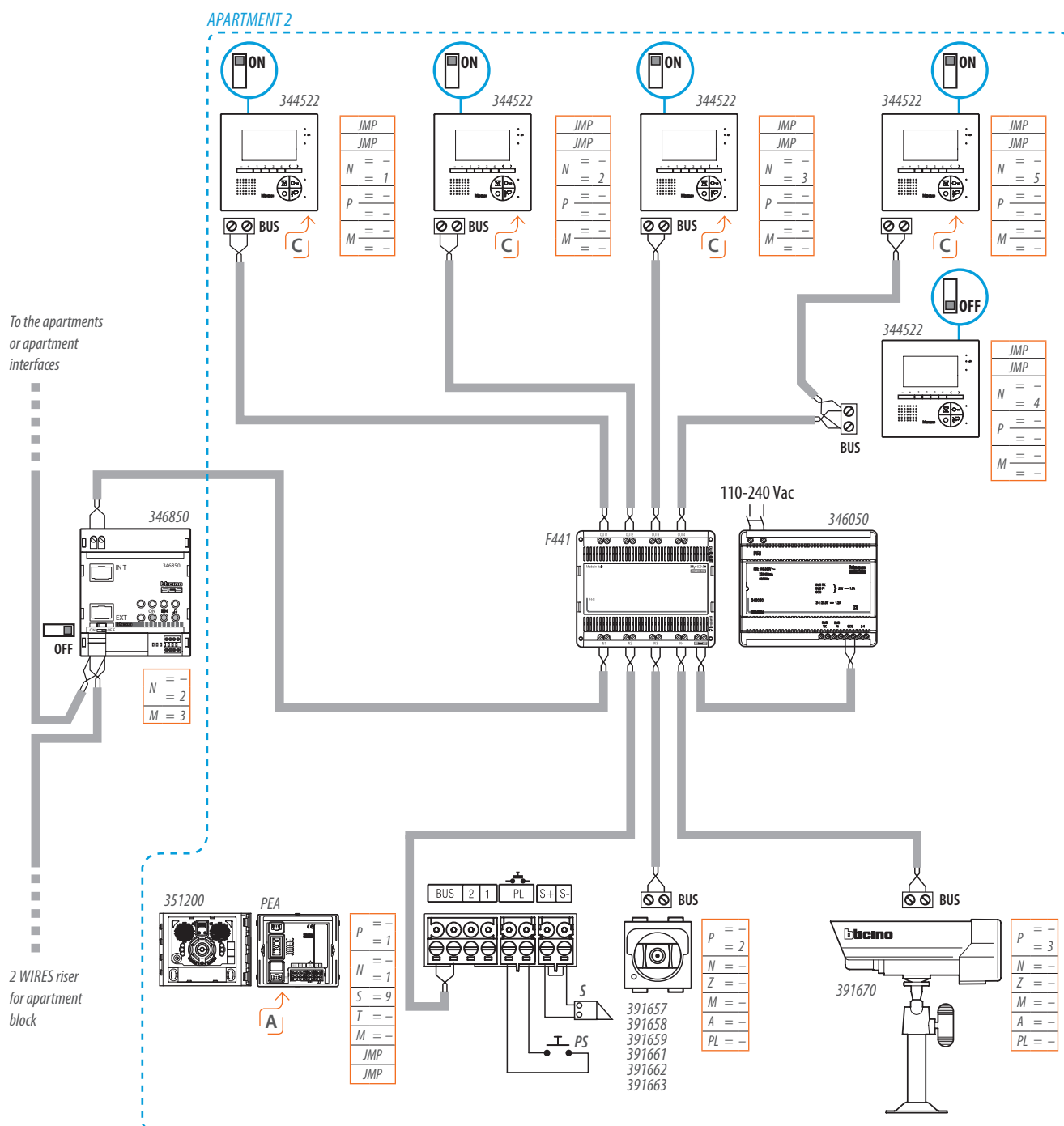
System line expansion with interface 346851

ITEM	DESCRIPTION
351200	A/V module. SFERA
346050	Power supply
346851	System expansion interface
PEP	Main Entrance Panel
PS	Door lock release pushbutton
S	Electrical door lock 18 V 4 A impulsive - 250 mA holding current (30 Ohm max)

⚠️ *CAUTION*

■ *After the 346851 system expansion module there are 200 m of line B available (interface 346851 - furthest internal unit). It is possible to install up to a maximum of 3 interfaces 346850 and 346851 in cascade, only 2 of which regenerate the signal.*
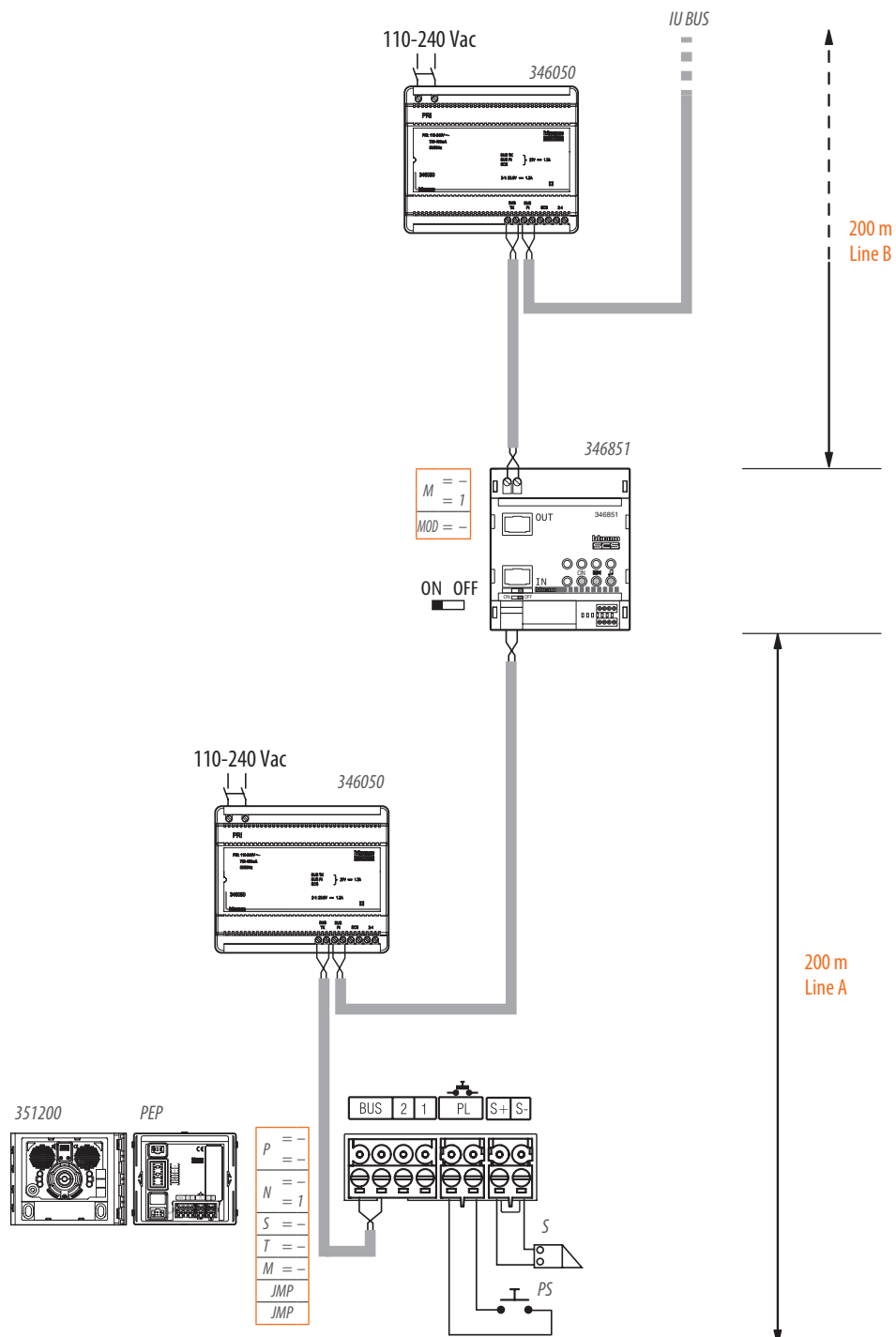
Multifamily system with 39 risers with independent sound

ITEM	DESCRIPTION
351200	SFERA A/V module
352500	SFERA Display Module
352400	Camera module SFERA WIDE ANGLE N/D
351100	SFERA speaker module
352100	SFERA 8-pushbutton module
353000	SFERA Keypad Module
344502	CLASSE 100 V12B handsfree video internal unit
344522	CLASSE 100 V12E video internal unit
346050	Power supply
346850	Apartment interface
346851	System expansion interface
PEP	Main Entrance Panel
PEM	Riser Entrance Panel
PS	Door lock release pushbutton
PS1 PS2 PS3 PS4	Electrical door lock 18 V 4 A impulsive - 250 mA holding current (30 Ohm max)
F441	Audio video node

Riser 1

APARTMENT 1

OFF

BUS

344502

A

JMP
$N \begin{array}{l} = - \\ = 1 \end{array}$
$P \begin{array}{l} = - \\ = 2 \end{array}$
$M = -$

346851

OUT   346851

TN

ON   OFF

$M \begin{array}{l} = - \\ = 1 \end{array}$
$MOD = 5$

F441

110-240 Vac

346050

To other EP / 2 wires cameras / 347400

SYSTEM BACKBONE

110-240 Vac

F441

346050

To other Entrance Panels or common Cameras

BUS | 2 | 1 | PL | S+ | S-

$P \begin{array}{l} = - \\ = 2 \end{array}$
$N \begin{array}{l} = - \\ = 1 \end{array}$
$S = -$
$T = -$
$M = -$
$J1 = -$
JMP

S2

PS2

352400   PEM

351100

352100

351200

$P \begin{array}{l} = - \\ = - \end{array}$
$N \begin{array}{l} = - \\ = - \end{array}$
$S = -$
$T = -$
$M = -$
JMP
JMP

352500

353000

PEP

BUS | 2 | 1 | PL | S+ | S-

S1

PS1

The Entrance Panel must have at least one speaker module, and also a display module in case of A/V.
The 353000 keypad module allows release of the door lock by entering a numerical code.

Riser 2 **APARTMENT 2**

346850

N	= –
	= 2
M	= 3

INT 346850
EXT
ON OFF

Riser 39 **APARTMENT 1**

APARTMENT 1

OFF

344522
BUS

JMP	
JMP	
N	= –
	= 1
P	= –
	= 4
M	= –
	= –

A For the installation of Internal Units other than those

110-240 Vac

OFF

344522
BUS

JMP	
JMP	
N	= –
	= 1
P	= –
	= 7
	= 8
M	= –
	= –

A

110-240 Vac

346851 F441 346050

OUT 346851
IN
ON OFF

M	= –
	= 2
MOD = 5	

346851 F441 346050

OUT 346851
IN
ON OFF

M	= 3
	= 9
MOD = 5	

B

BUS	2	1	PL	S+	S-

352400 PEM

351100

352100

S3
PS3

P	= –
	= 4
N	= –
	= 1
S	= –
T	= –
M	= –
J1	= –
JMP	

BUS	2	1	PL	S+	S-

352400 PEM

351100

352100

S4
PS4

P	= 7
	= 8
N	= –
	= 1
S	= –
T	= –
M	= –
J1	= –
JMP	

⚠ CAUTION

■ For the main Entrance Panel, riser Internal Units will have
an address equal to (the riser number x100) + no. of the
Internal Unit.
E.g. IU 15 of riser 9; address for the main EP
9 x 100 + 15 = 915.

■ Configure the Internal Units from N = 1

■ It is possible to install up to a maximum of 3 interfaces
346850 and 346851 in cascade, only 2 of which
regenerate the signal.

A For the installation of Internal Units other than those
indicated in the diagrams, refer to the "INTERNAL UNITS
VARIANTS" section.

B Move to ON the microswitch of the 346851 interface that
terminates the line.

One-family system with max 16 cameras or Entrance Panels

ITEM	DESCRIPTION
3499	Line terminator
344612	CLASSE 300V13E video internal unit
F441	Audio/video node
346050	Power supply
343081	Linea 3000 EP
391670	2 WIRES outdoor camera
PEP	Main Entrance Panel
PS	Door lock release pushbutton (optional)
S	Electrical door lock 18 V 4 A impulsive – 250 mA holding current (30 Ohm max)
TLC1-TLC3	Outdoor camera
TLC4-TLC7	Indoor camera

DEVICE 1

To other Internal Units/Apartment interfaces

To other Internal Units/Apartment interfaces

110-240 Vac

⚠ CAUTION

By using the nodes in cascade, the distances between video source and the furthest internal unit are halved (max 100 with cable 336904)

A *For the realisation of the Entrance Panel, it is possible to use all the 2 WIRES pushbutton panels.*

B *It is possible to install all the video internal units of the 2 WIRES range.*

C *Only use one output per node and allow for a 3499 terminator connected to the SCS clamp*

D *By inserting OFF in the first socket of the P configurator, the microphone of 2 WIRES cameras will be disabled (function available for cameras 0 to 9; for the others, the microphone cannot be disabled).*

F441   C   3499

F441   C   3499

To other Entrance Panels or other common cameras
(configured with P= 8 – P= 11)

F441   C   3499

To other Entrance Panels or other common cameras
(configured with P= 12 – P= 15)

CAM 4   CAM 5   CAM 6   CAM 7

	CAM 4	CAM 5	CAM 6	CAM 7
P	= – = 4	= – = 5	= – = 6	= – = 7
N	= –	= –	= –	= –
Z	= –	= –	= –	= –
M	= –	= –	= –	= –
A	= –	= –	= –	= –
PL	= –	= –	= –	= –

D   D   D   D
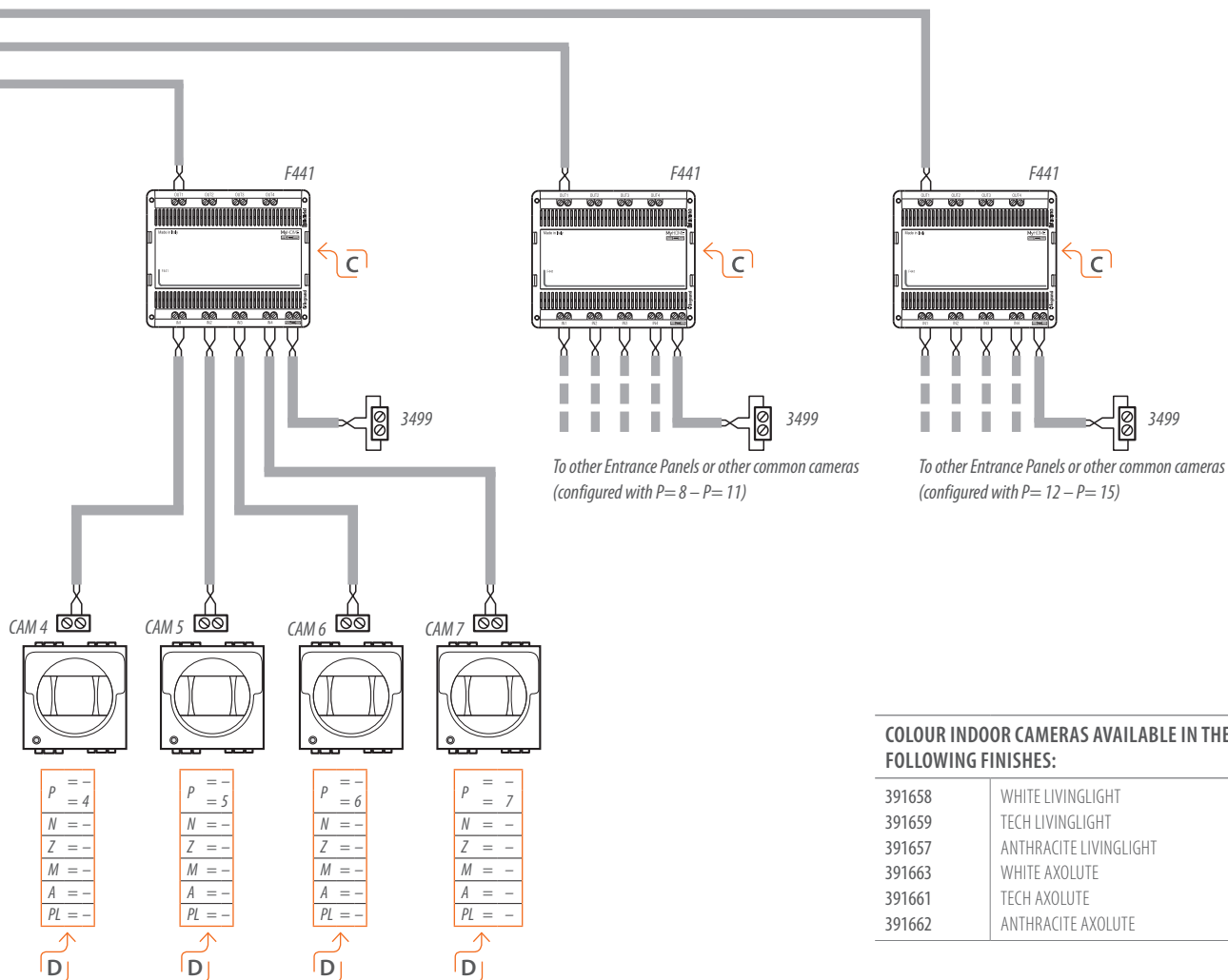
COLOUR INDOOR CAMERAS AVAILABLE IN THE FOLLOWING FINISHES:

391658	WHITE LIVINGLIGHT
391659	TECH LIVINGLIGHT
391657	ANTHRACITE LIVINGLIGHT
391663	WHITE AXOLUTE
391661	TECH AXOLUTE
391662	ANTHRACITE AXOLUTE

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System with 346851 module for Entrance Panel doubling; 39 independent risers and apartment interfaces max.

ITEM	DESCRIPTION
351200	SFERA A/V module
352500	SFERA display module
353000	SFERA Keypad Module
352400	Camera module SFERA WIDE ANGLE N/D
352100	SFERA pushbutton module
351100	SFERA speaker module
344502	CLASSE 100 V12B handsfree video
346050	internal unit
	Power supply
346850	Apartment interface
346851	System expansion interface
PEP	Main Entrance Panel
PS1-PS2-PS3	Door lock release pushbutton
S1-S2-S3	Electrical door lock 18 V 4 A impulsive –
	250 mA holding current (30 Ohm max)
PEM	Riser Entrance Panel
F441	Audio video node
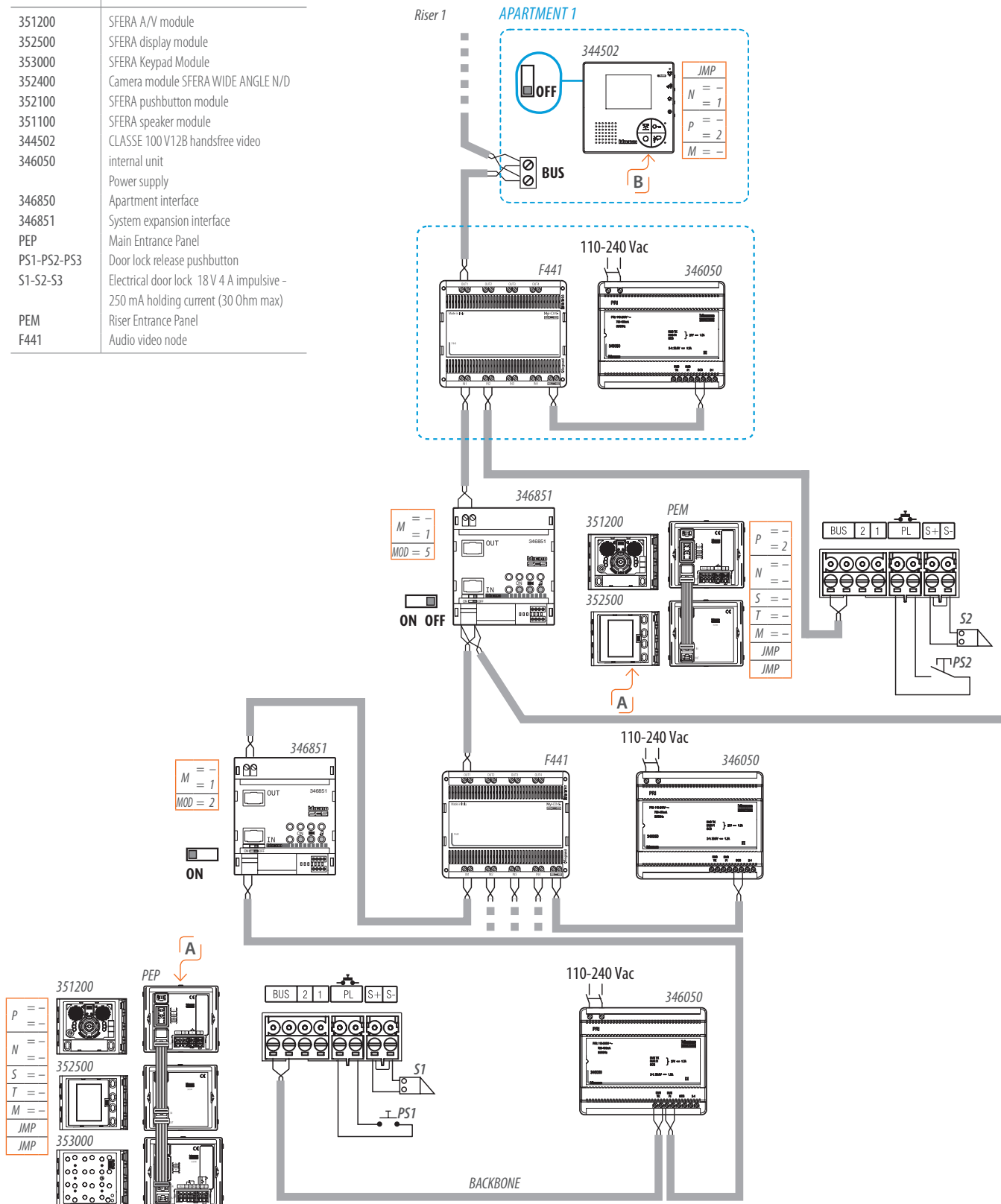
The Entrance Panel must have at least one speaker module, and also a display module in case of A/V.

![BTicino logo]

⚠️ CAUTION

■ For the main Entrance Panel, riser Internal Units will have an address equal to (the riser number x 100) + no. of the Internal Unit.
E.g. IU 15 of riser 9; address for the main EP
9 x 100 + 15 = 915.

■ Configure the riser Internal Units from N = 1
■ It is possible to install up to a maximum of 3 interfaces 346850 and 346851 in cascade, only 2 of which regenerate the signal.

A For the realisation of the riser Entrance Panel, it is possible to use SFERA or LINEA 300 pushbutton panels. For further information, see the "ENTRANCE PANEL VARIANTS" section.

B For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

APARTMENT 1

Riser 2

344502

OFF

JMP

N = – = 1
P = – = 4
M = –

BUS

B

APARTMENT 2

346850

INT   346850

EXT

ON OFF

EXT

N = – = 2
M = 3

110-240 Vac

F441   346050

346851

M = – = 2
MOD = 5

OUT   346851

IN

ON OFF

To other risers

BUS 2 1 PL S+ S-

S3

PS3

352400   PEM

351100

352100

A

P = – = 4
N = – = 1
S = –
T = –
M = –
J1 = –
JMP
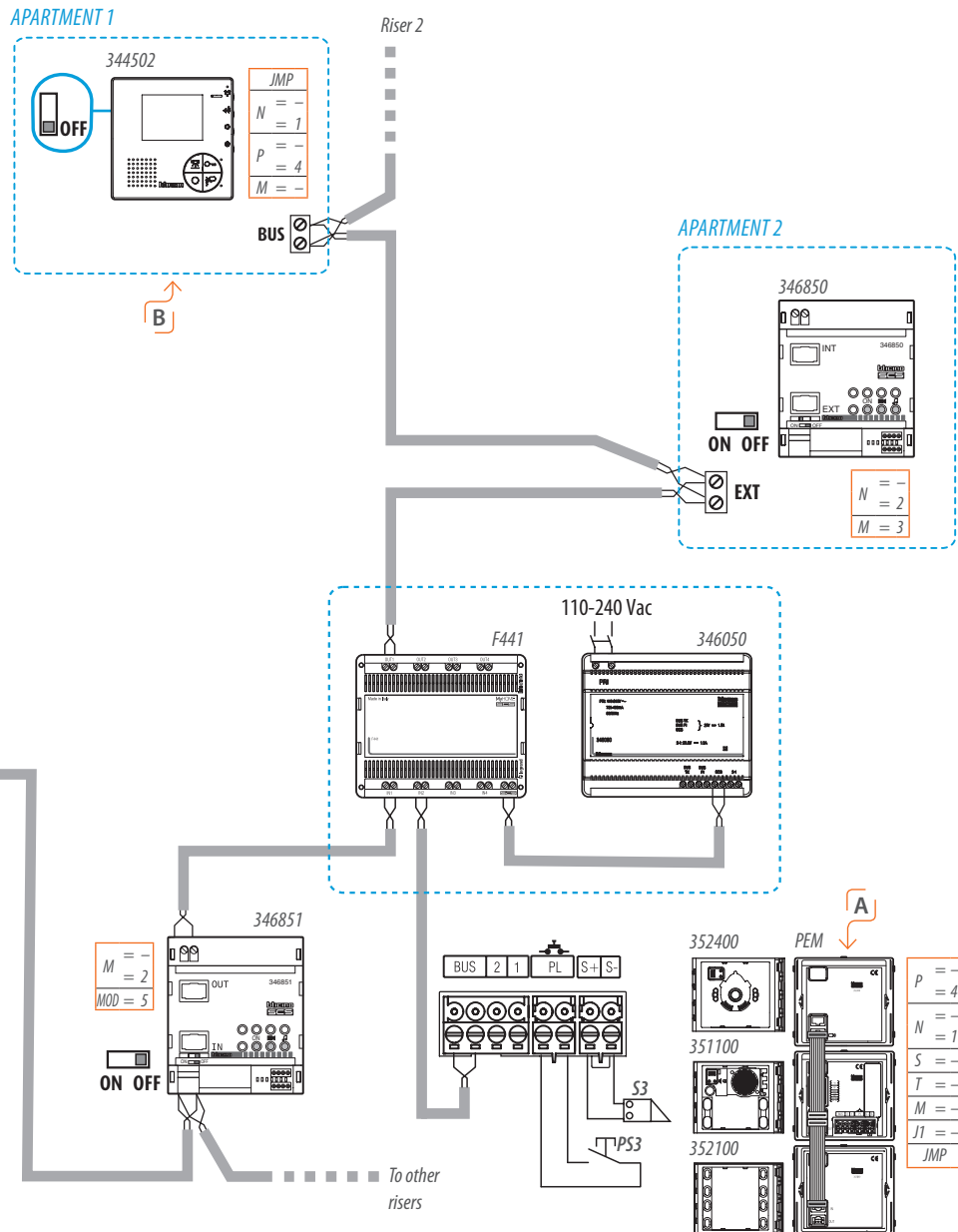
System with max 39 independent risers and riser extension (100 video IU)

ITEM	DESCRIPTION
351200	SFERA A/V module
352500	SFERA display module
353000	SFERA keypad module
352400	N/D camera module
	SFERA WIDE ANGLE
351100	SFERA speaker module
352100	SFERA pushbutton module
344502	CLASSE 100 V12B handsfree video internal unit
346050	Power supply
346851	System expansion module
PEP	Main Entrance Panel
PEM	Riser Entrance Panel
F441	Audio video node
S1 - S2 - S3	Electrical door lock 18 V 4 A impulsive - 250 mA holding current (30 Ohm max)
PS1-PS2-PS3	Door lock release pushbutton
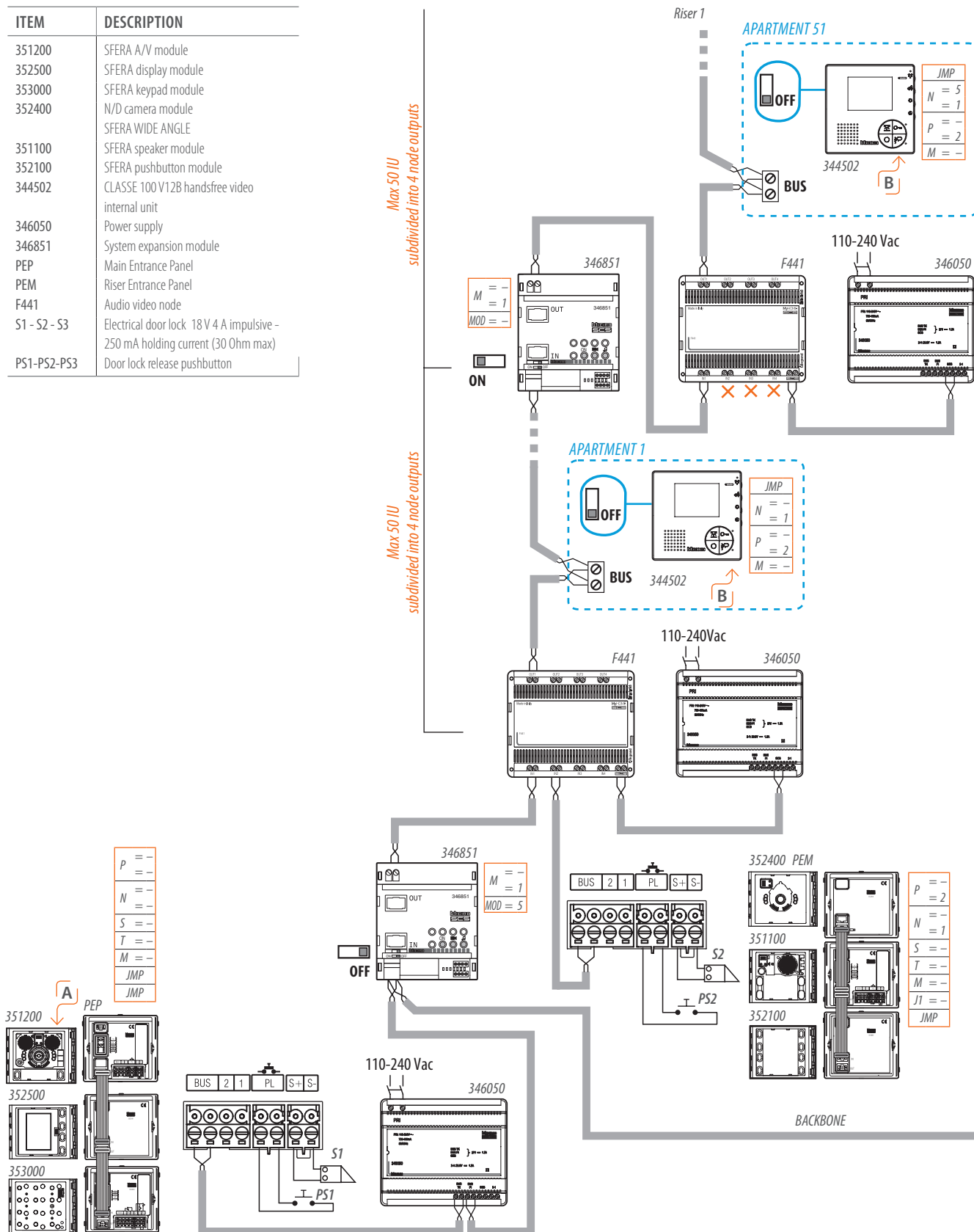
Riser 1

APARTMENT 51

OFF

JMP
$N = 5$
$= 1$
$P = -$
$= 2$
$M = -$

344502

B

BUS

110-240 Vac

346851

$M = -$
$= 1$
$MOD = -$

OUT 346851

IN

ON

F441

346050

APARTMENT 1

OFF

JMP
$N = -$
$= 1$
$P = -$
$= 2$
$M = -$

BUS 344502

B

110-240Vac

F441

346050

346851

$M = -$
$= 1$
$MOD = 5$

OUT 346851

IN

OFF

BUS 2 1 PL S+ S-

S2

PS2

352400 PEM

351100

352100

$P = -$
$= 2$
$N = -$
$= 1$
$S = -$
$T = -$
$M = -$
$J1 = -$
JMP

BACKBONE

$P = -$
$= -$
$N = -$
$= -$
$S = -$
$T = -$
$M = -$
JMP
JMP

A

PEP

351200

352500

353000

BUS 2 1 PL S+ S-

110-240 Vac

346050

S1

PS1

Max 50 IU subdivided into 4 node outputs

The Entrance Panel must have at least one speaker module, and also a display module in case of A/V.

Max 50 IU subdivided into 4 node outputs

Max 50 IU subdivided into 4 node outputs

APARTMENT 51

344502

OFF

JMP	
N	= 5
	= 1
P	= –
	= 4
M	= –

BUS

B

346851

M	= –
	= 2
MOD	= –

OUT 346851

IN

ON

F441

110-240 Vac

346050

APARTMENT 1

OFF

JMP	
N	= –
	= 1
P	= –
	= 4
M	= –

344502

B

BUS

110-240 Vac

F441

346050

M	= –
	= 2
MOD	= 5

OUT 346851

IN

OFF

BUS 2 1 PL S+ S-

352400 PEM

351100

S3

PS3

352100

To other risers

P	= –
	= 4
N	= –
	= 1
S	= –
T	= –
M	= –
J1	= –
JMP	
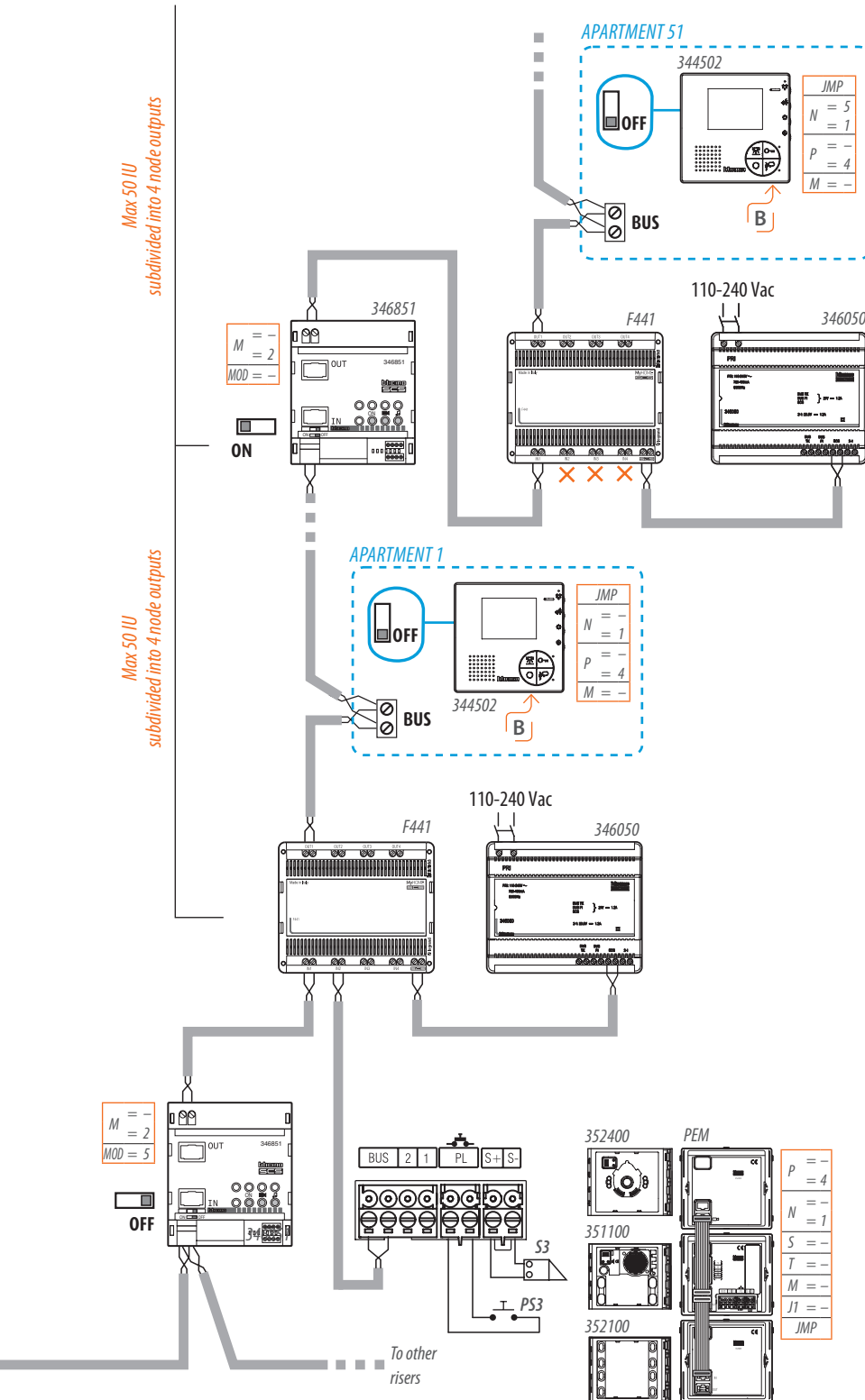
⚠ CAUTION

■ For the main Entrance Panel, riser Internal Units will have an address equal to (the riser number x 100) + no. of the Internal Unit.
E.g. IU 15 of riser 9; address for the main EP
9 x 100 + 15 = 915.

■ Configure the riser Internal Units from N = 1

■ It is possible to install up to a maximum of 3 interfaces 346850 and 346851 in cascade, only 2 of which regenerate the signal.

A The Entrance Panel must must be created using digital call SFERA modules.

B For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

Internal Units expansion in apartment - max. 10 IU

ITEM	DESCRIPTION
351300	SFERA WIDE ANGLE A/V module
346050	Power supply
346841	Floor shunt
346850	Apartment interface
346212	CLASSE 300 V13E video internal unit
346213	CLASSE 300 V13E video internal unit
F441	Audio video node
S	Electrical door lock 18 V 4 A impulsive – 250 mA holding current (30 Ohm max)
PEA	Apartment Entrance Panel
PS	Door lock release pushbutton

Configuring the IU as indicated, this will ensure the intercom function among all units; when a call is received from the EP, all IU ring, and only the IU configured with N =1 switches on.
For simultaneous switching on of the video internal units, each of them must be powered locally using additional power supply 346020.

APARTMENT 16
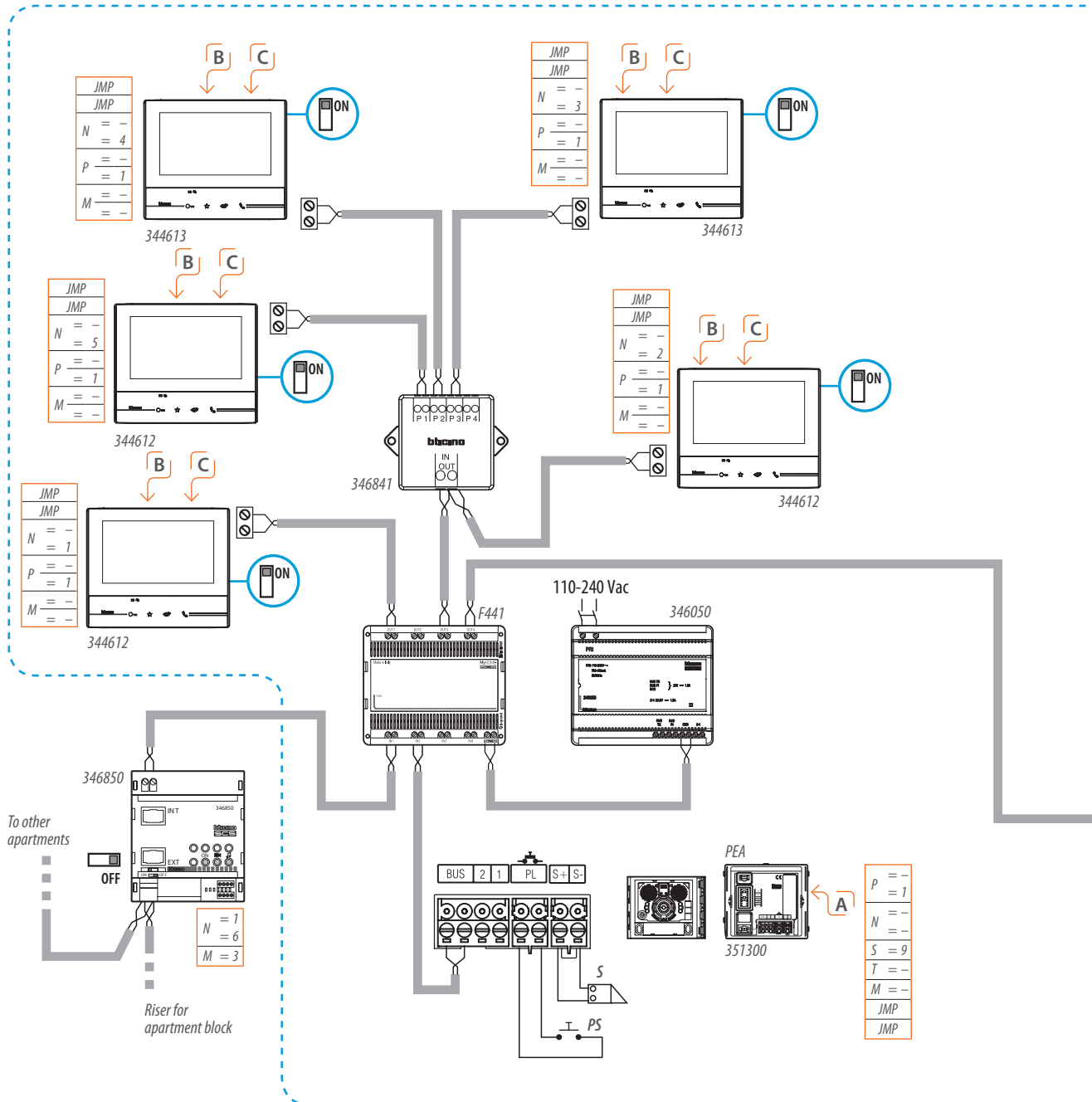
⚠ CAUTION

■ Configure the apartment Entrance Panels from P = 1
■ All the IU must be MASTER.

A For the realisation of the Entrance Panel, it is possible to use SFERA, LINEA 3000 or LINEA 2000 pushbutton panels. For further information, see the "ENTRANCE PANEL VARIANTS" section.

B For the installation of Internal Units other than those indicated in the diagrams, refer to the "INTERNAL UNITS VARIANTS" section.

C Move to ON the microswitch on the back of the internal unit that terminates the line.

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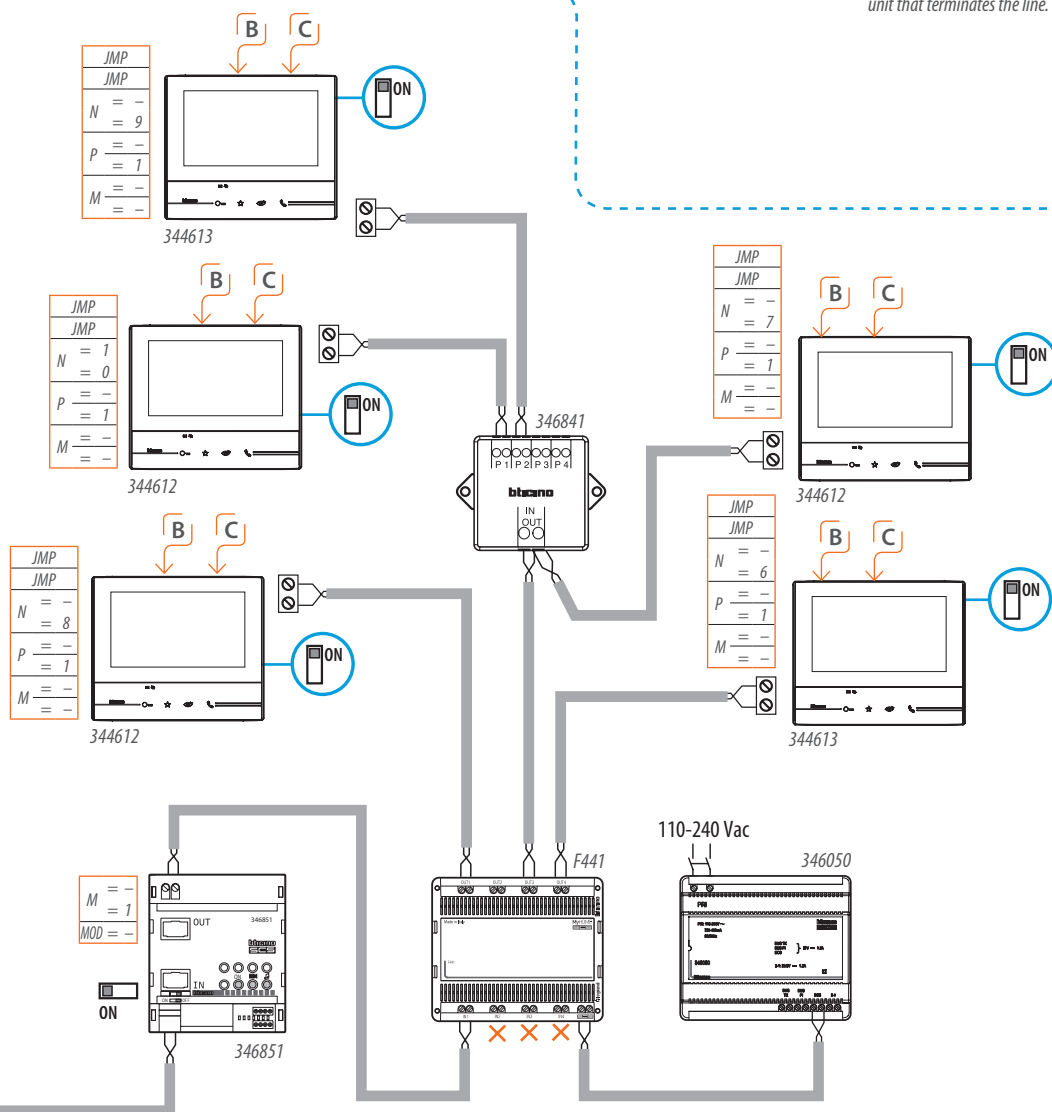
System with 1 switchboard independent risers and possible alarm display from common parts in backbone

ITEM	DESCRIPTION
346310	Switchboard
346020	Additional power supply
F441	Audio video node
346050	Power supply
E46ADCN	Power supply

ITEM	DESCRIPTION
F422	SCS/SCS interface
3480	Contact interface
4615	Auxiliary channel interface
346851	System expansion module

⚠ CAUTION

– An additional power supply with 346020 is recommended

– Use the YouDiagram software for the functional check and calculation of the current absorptions – free download from: www.professionisti.bticino.it

– Refer to the documentation supplied with the Switchboard for its configuration.

– On the common parts the contact interfaces for the alarm management (max. 9 interfaces) – e.g. door/window contacts and technical alarms (gas, water etc.) can be connected via interface F422. Refer to the specific MyHOME documentation.

– All the apartment and common alarms are only managed by the main SWB (configured with 0).

Riser 1 — 346851 — M = –, = 1, MOD = 5 — ON OFF

Riser 2 — 346851 — M = –, = 2, MOD = 5 — ON OFF

Riser 3 — 346851 — M = –, = 3, MOD = 5 — ON OFF

To other 346851 interfaces

BUS — 346310 — Master SWB = 0

110-240 Vac — F441 — 346050

230 Vac — 346020 — 2 1

Main EP (P = 1)

OPTIONAL
ONLY FOR ALARM MANAGEMENT

F422 — I1 = –, I2 = –, I3 = –, I4 = 1, MOD = 3

E46ADCN — 230V a.c.

3480 — Z1 = 9, N1 = 1, MOD1 = –, Z2 = –, N2 = –, MOD2 = 1-9

4615 — No. = 2, AUX = 1-9, MOD = –

NC Pushbutton

NO Pushbutton

Technical alarm activation

Alarm reset
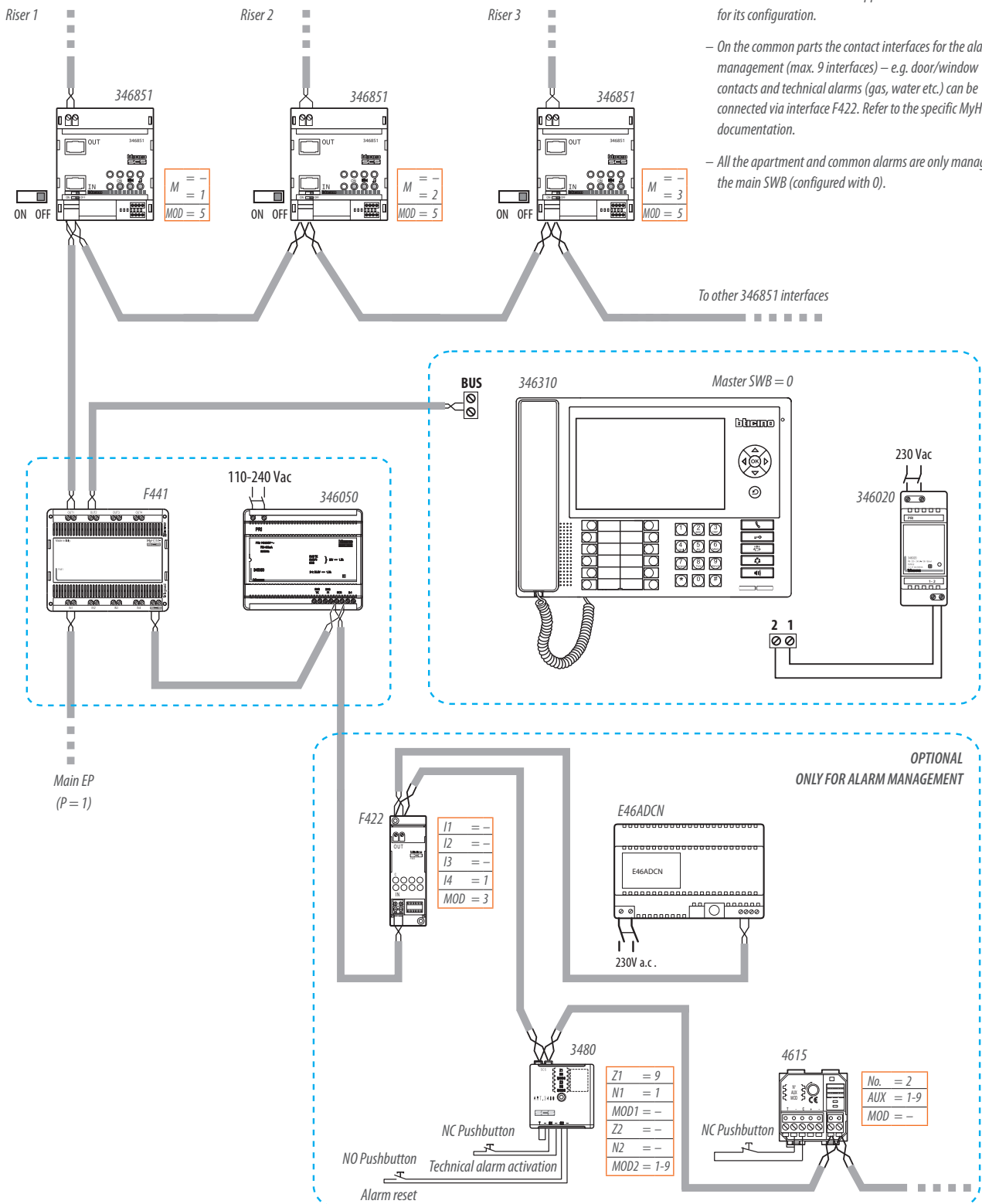
System with several switchboards and independent risers

ITEM	DESCRIPTION
346310	Switchboard
346020	Additional power supply
F441	Audio video node
346050	Power supply

⚠️ CAUTION

– An additional power supply with 346020 is recommended

– Max. 3 SWB which can be star connected with audio video node.   Up to a max. of 16 SWB can be connected in IN/OUT connection and with floor shunt 346841.

– Refer to the documentation supplied with the Switchboard for its configuration
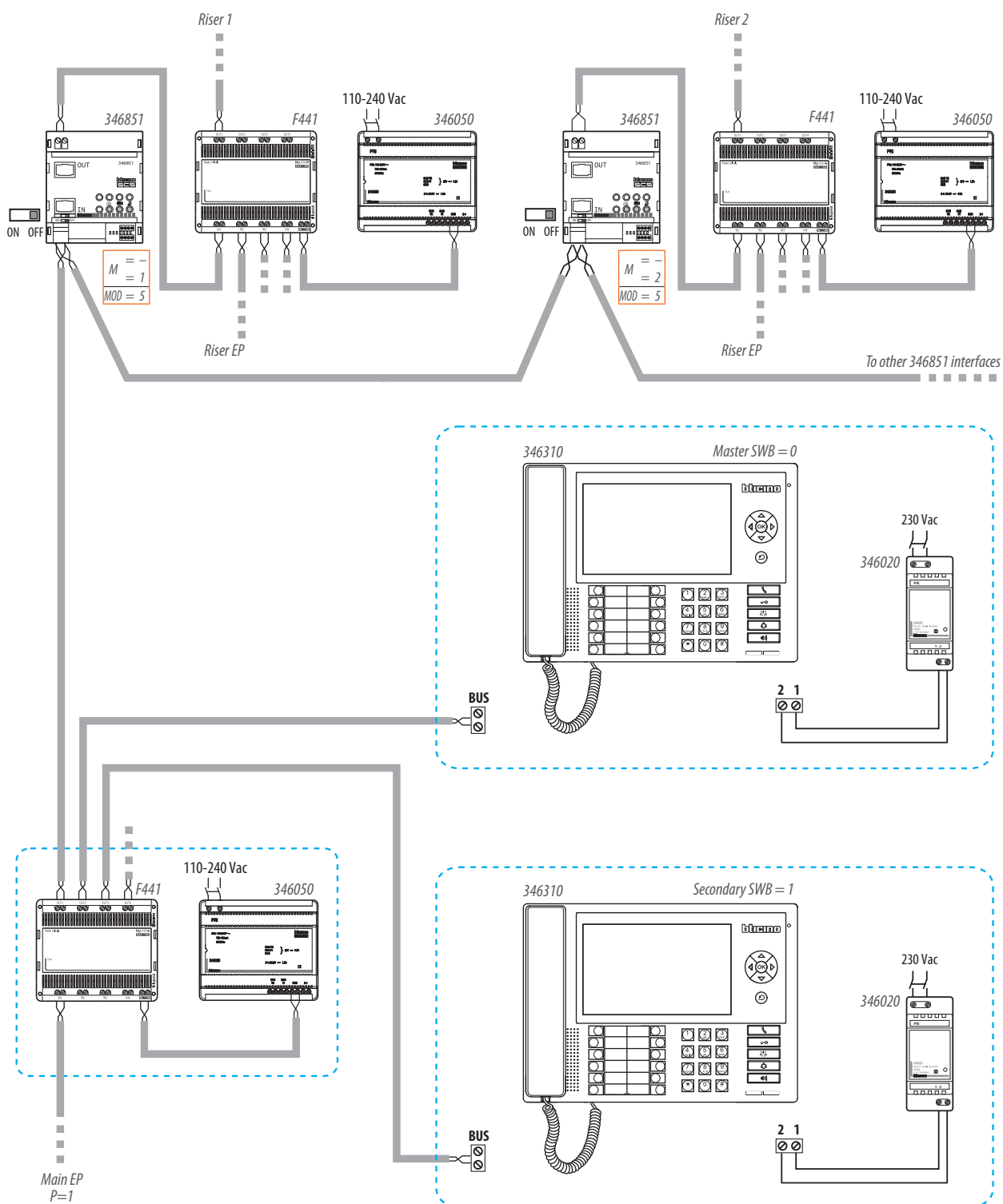
Hierarchical system with 1 backbone SWB and 1 SWB for each independent riser

ITEM	DESCRIPTION
346310	Switchboard
346020	Additional power supply
F441	Audio video node
346050	Power supply
346851	System expansion interface
F422	SCS/SCS interface
3480	Contact interface
4615	Auxiliary channel interface
E46ADCN	Power supply

⚠ CAUTION

– An additional power supply with 346020 is recommended

– Refer to the documentation supplied with the product for the Switchboard configuration and its operation

– The backbone SWB does not manage the riser EP video signal

– On the common parts the contact interfaces for the alarm management (max. 9 interfaces) – e.g. door/window contacts and technical alarms (gas, water etc.) can be connected via interface F422. Refer to the specific MyHOME documentation

– All the apartment and common alarms are only managed by the main SWB (configured with 0)

– A maximum of 16 SWB can be installed

346310 | *Riser SWB = 15* | 230 Vac

346020

BUS | **2 1**

To the riser IU 15

110-240 Vac

346851 | *F441* | *346050*

OUT 346851

IN

ON OFF

M	$= 1$
	$= 5$
$MOD = 5$	

Riser EP

E46ADCN

IP30

230V a.c.

OUT

IN

$I1$	$= -$
$I2$	$= -$
$I3$	$= -$
$I4$	$= 1$
MOD	$= 3$

F422

3480 | *4615*

$Z1$	$= 9$
$N1$	$= 1$
$MOD1$	$= -$
$Z2$	$= -$
$N2$	$= -$
$MOD2$	$= 1-9$

$No.$	$= 2$
AUX	$= 1-9$
MOD	$= -$

NC Pushbutton

NC Pushbutton

NO Pushbutton

Technical alarm activation

Alarm reset
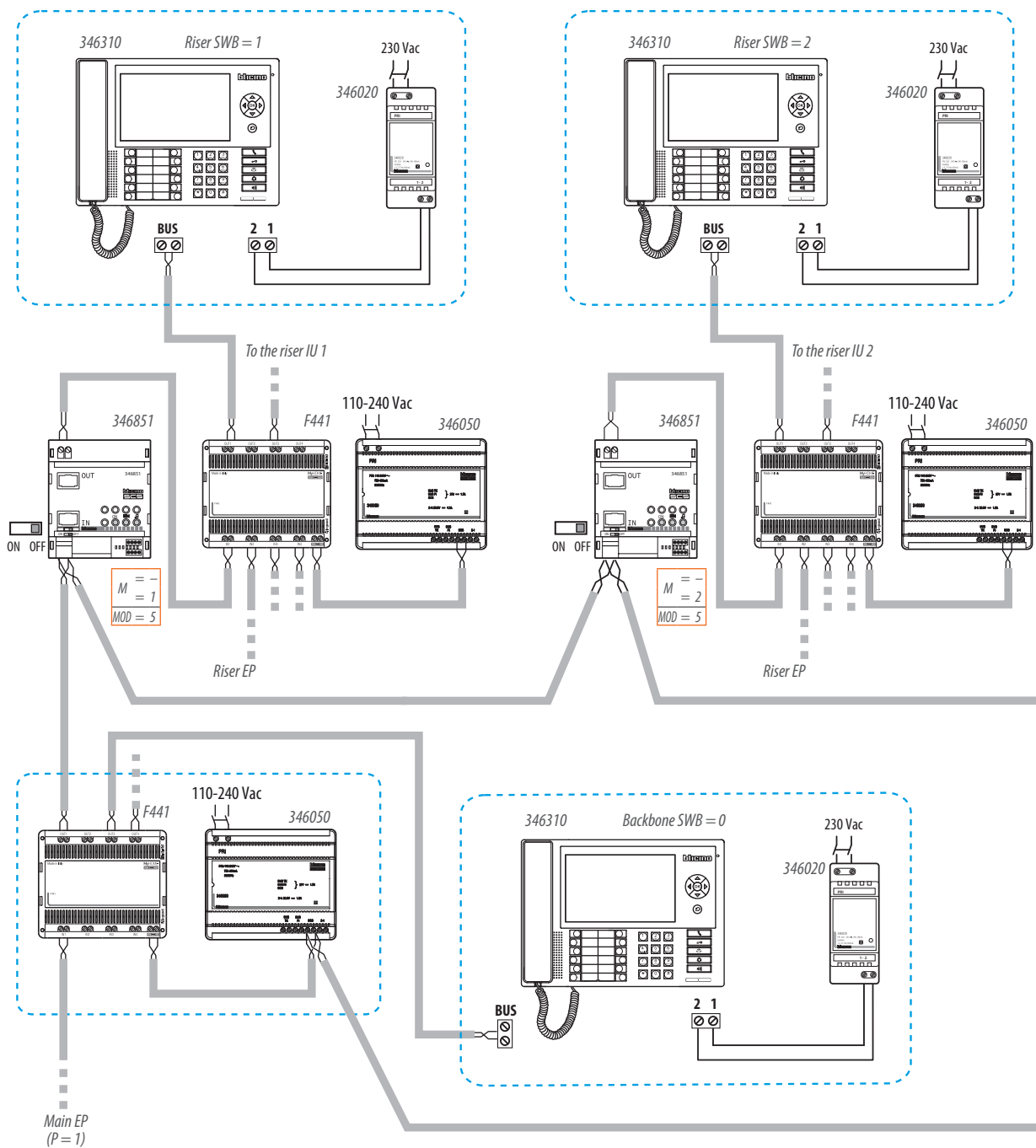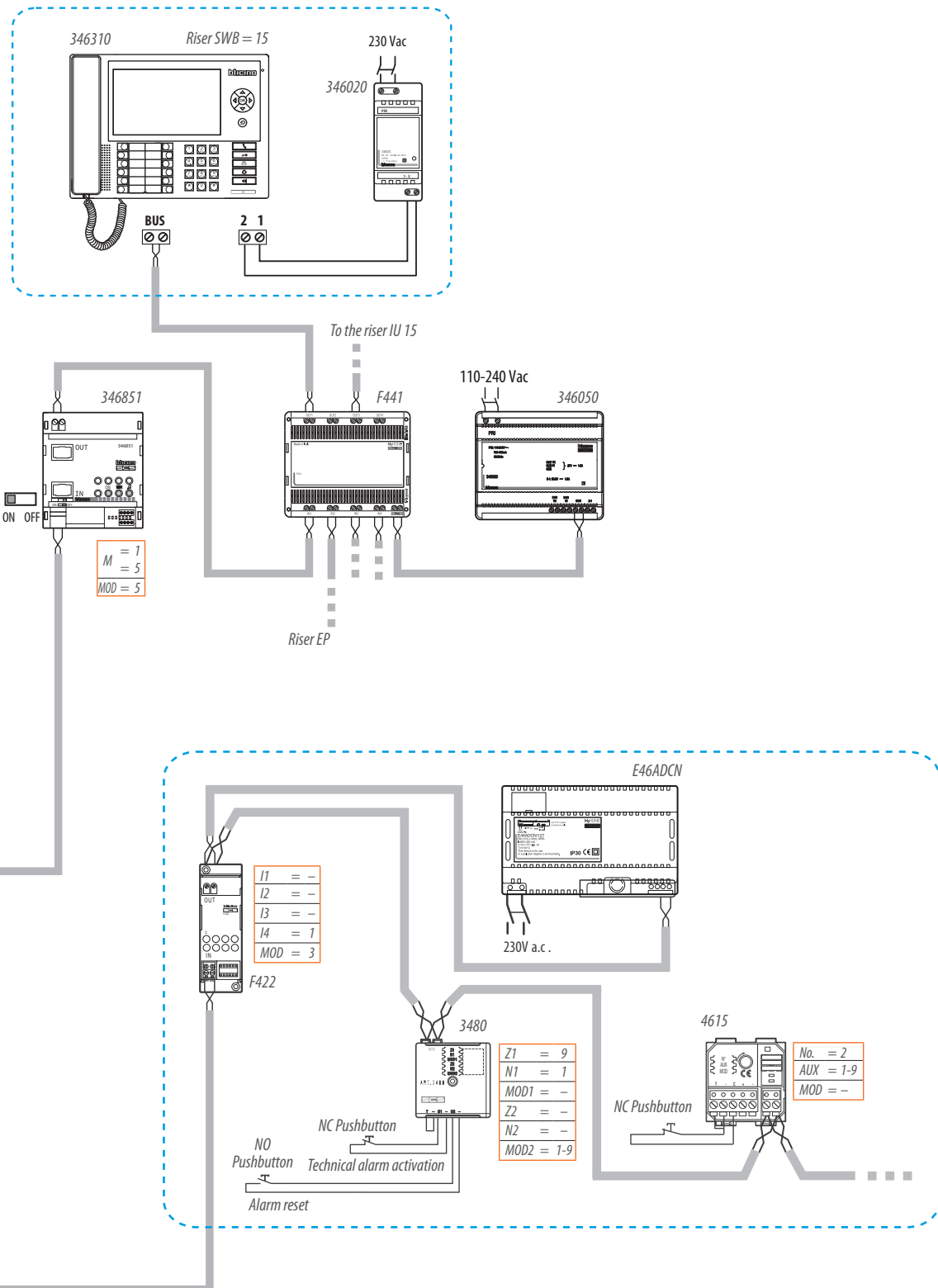
Hierarchical system with backbone SWB, riser SWB and Slave SWB on the backbone and on the riser

ITEM	DESCRIPTION
346310	Switchboard
346020	Additional power supply
F441	Audio video node
346851	System expansion interface
346050	Power supply

⚠ CAUTION

– An additional power supply with 346020 is recommended

– Refer to the documentation supplied with the product for the Switchboard configuration and its operation

– The backbone SWB do not manage the riser EP video signal

– A maximum of 16 SWB can be installed

– Use the YouDiagram software for the functional check and calculation of the current absorptions – free download from: www. professionisti.bticino.it

– The slave SWB follow the day/night settings of the associated SWB

346310 *Riser SWB = 7* 230 Vac

BUS 2 1 *346020*

346310 *Slave SWB = 15* 230 Vac

BUS 2 1 *346020*

To the riser IU 7

346851

OUT 346851

IN

ON OFF

$M = -$
$= 7$
$MOD = 5$

110-240 Vac

F441 *346050*

Riser EP

346310 *Slave SWB = 8* 230 Vac

BUS 2 1 *346020*
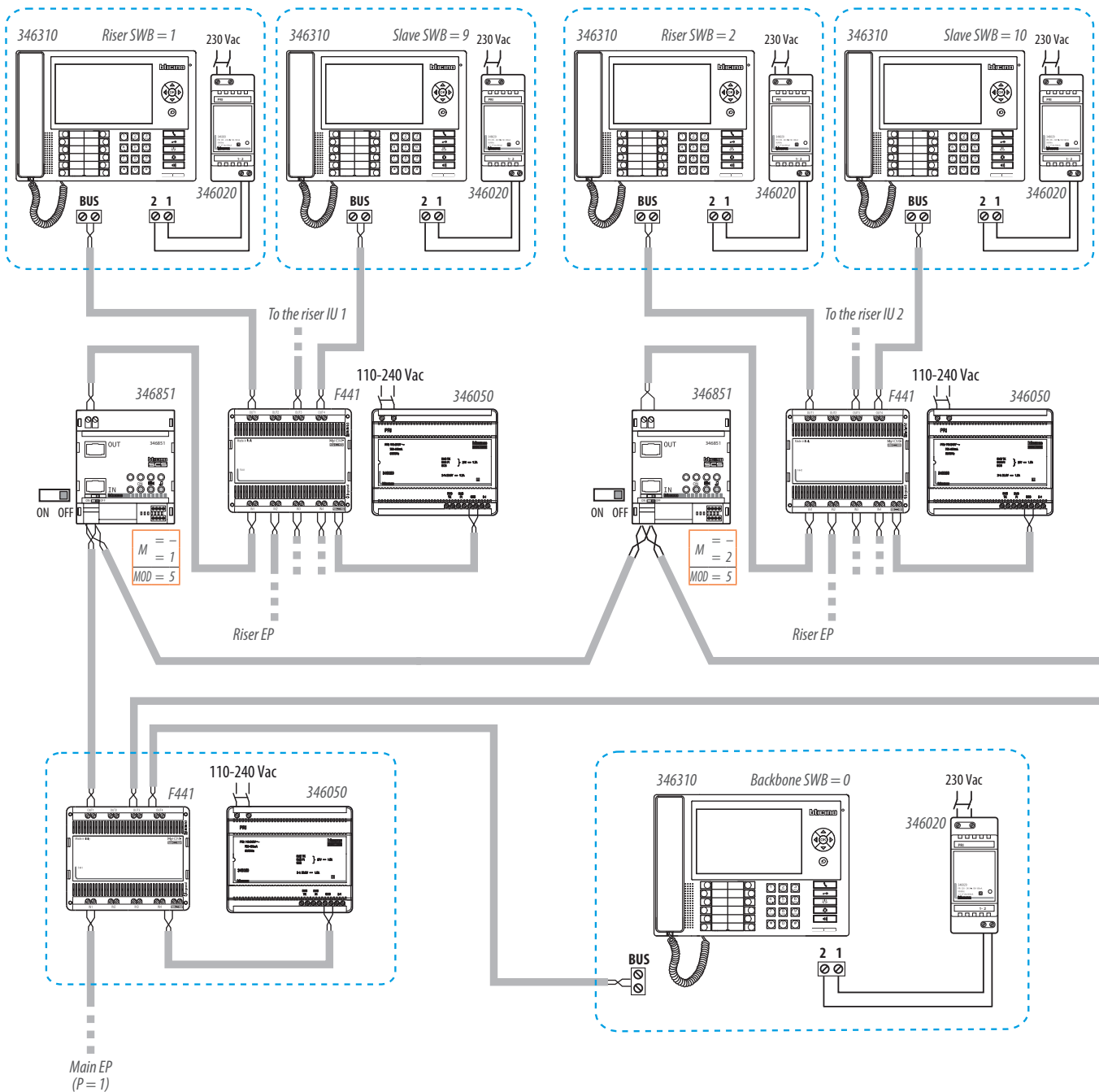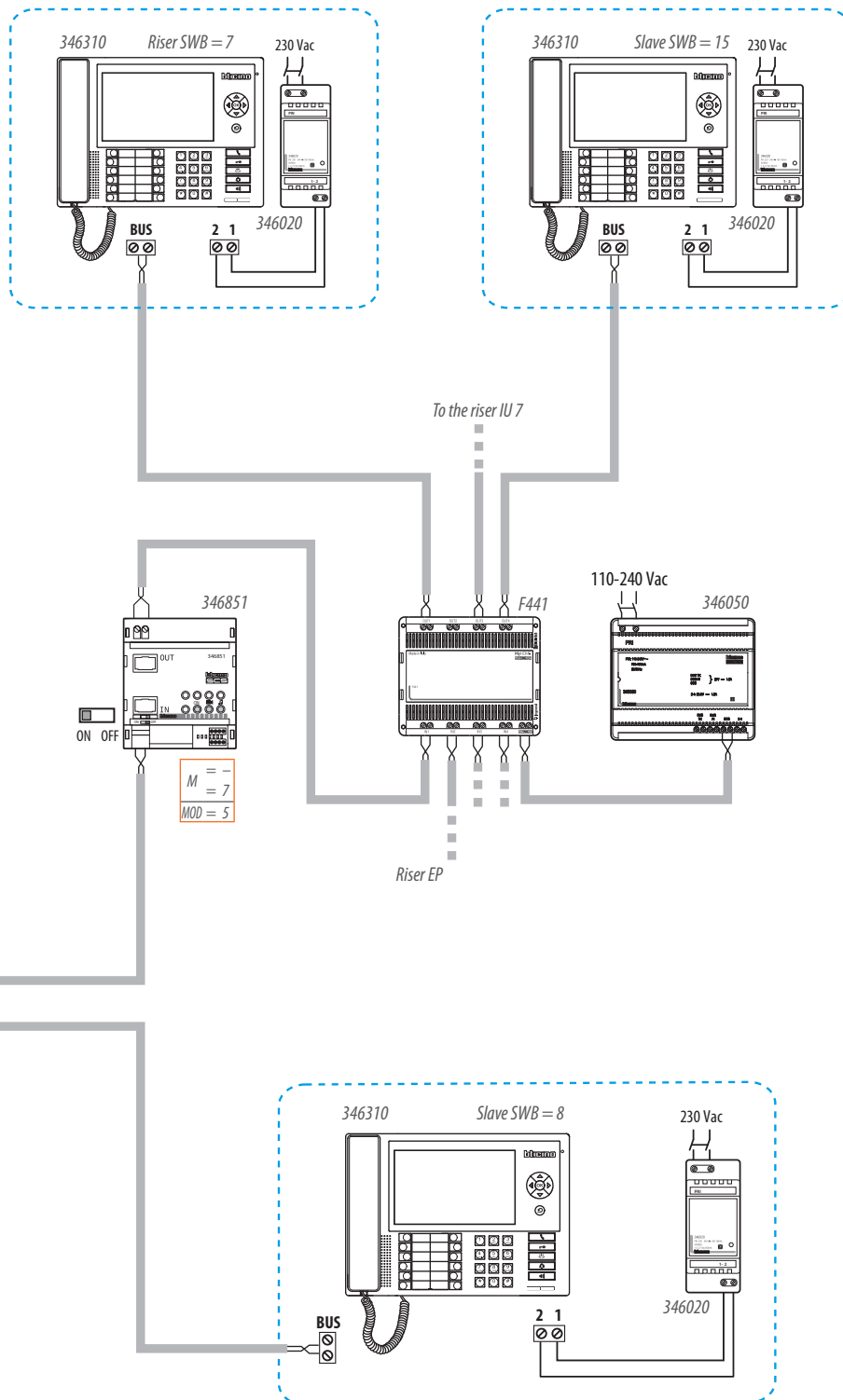
2 wires/IP mixed system with switchboard software

ITEM	DESCRIPTION
351200	SFERA A/V module
352500	SFERA Display Module
353000	SFERA Keypad Module
344522	CLASSE 100 V12E video internal unit
344612	CLASSE 300 V13E video internal unit
346300	Switchboard software
346050	Power supply
346020	Additional power supply

ITEM	DESCRIPTION
346851	System expansion module
346850	Apartment interface
F441	Audio video node
346841	Floor shunt
347400	Coax -2 wires interface
346891	2 Wires — IP interface
3499	Line terminators
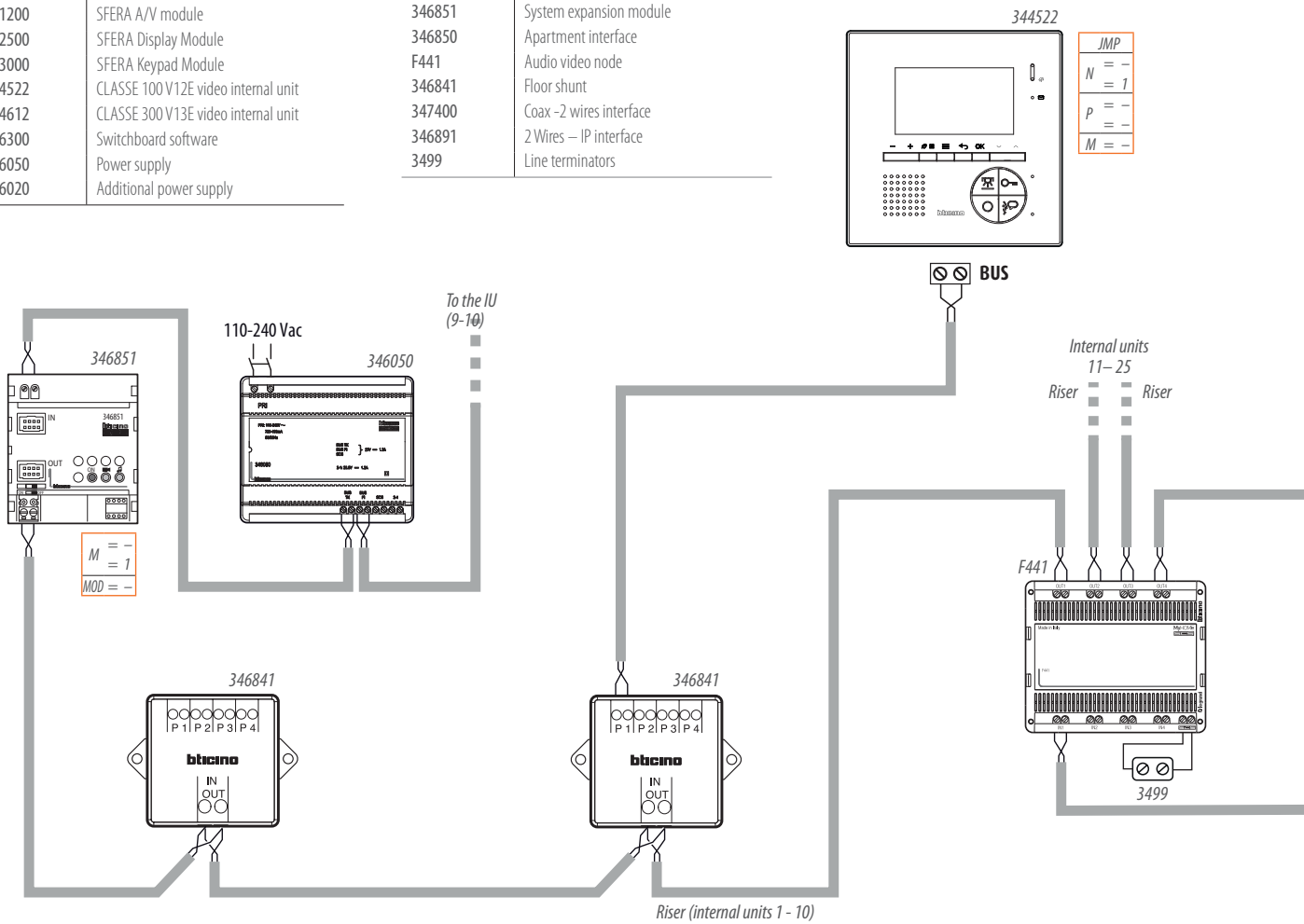
344522

JMP

$N \begin{array}{l} = - \\ = 1 \end{array}$

$P \begin{array}{l} = - \\ = - \end{array}$

$M = -$

BUS

346851

110-240 Vac

346050

To the IU (9-10)

Internal units 11– 25

Riser   *Riser*

$M \begin{array}{l} = - \\ = 1 \end{array}$

$MOD = -$

346841

346841

F441

P 1 P 2 P 3 P 4

bticino

IN
OUT

P 1 P 2 P 3 P 4

bticino

IN
OUT

3499

Riser (internal units 1 - 10)

Switchboard (346300) Software

LAN

■ *Configuration using the SwitchBoard Configurator software*

■ *The LAN network must be dedicated to the IP video door entry service*

APARTMENT 26

344612

| JMP |
| JMP |

N	= –
	= 1
P	= –
	= –
M	= –
	= –

110-240 Vac

346050

BUS

Internal units
27 – 45

Riser

346850

N	= 2
	= 6
M	= 3

INT
EXT

A

M1	= –
	= –
N1	= –
	= 1
M2	= –
	= –
N2	= 4
	= 5
C	= 1

346891

230 Vac   110-240 Vac

346020   *346050*

ETH   SCS   SCS   SCS   DC

A Device also configurable using **MyHomeSuite**, which can be downloaded from:
www.homesystems-legrandgroup.com

LAN

F441

3499

BUS

351200

352500

353000

P	= –
	= 1
N	= –
S	= –
T	= –
M	= –
JMP
JMP

BUS

351200

352500

353000

P	= –
	= 2
N	= –
S	= –
T	= –
M	= –
JMP
JMP

347400

VIDEO   PWR
V   –   1 2   1

P	= –
	= 3
N	= –
Z	= –
M	= –
A	= –
PL	= –

max 3 m   Tlc 12 Vdc
150 mA
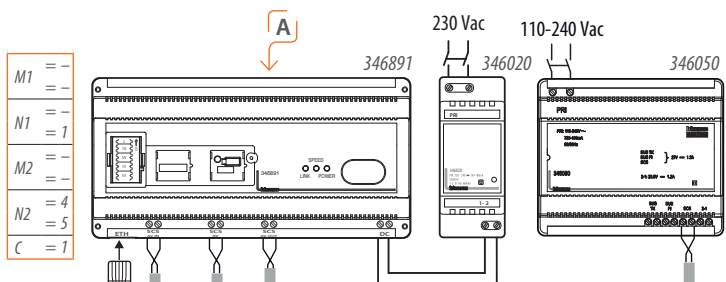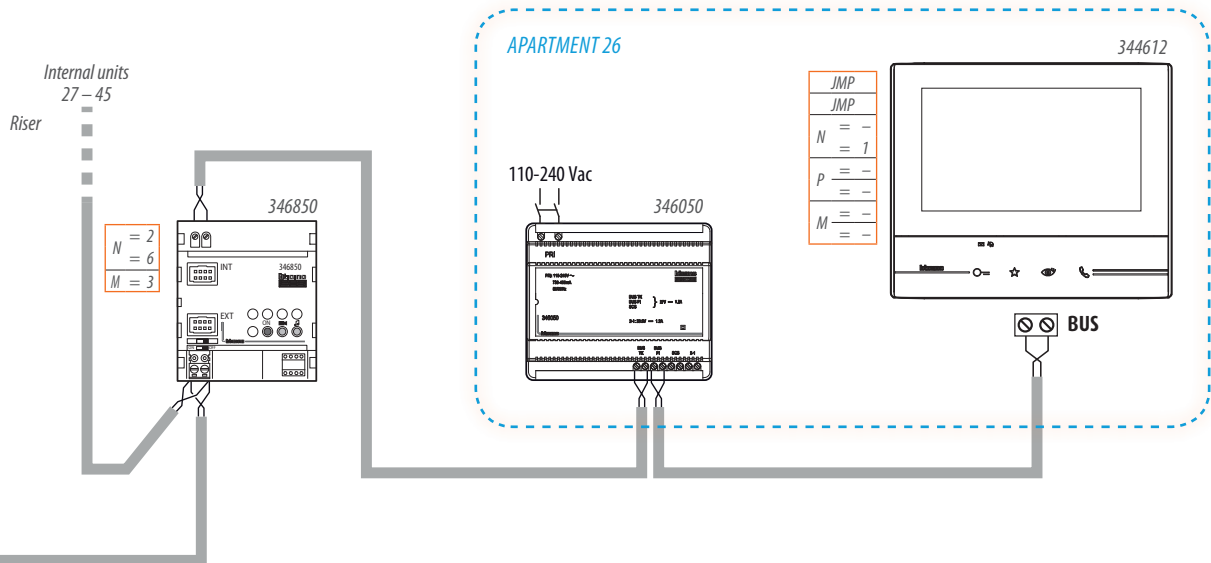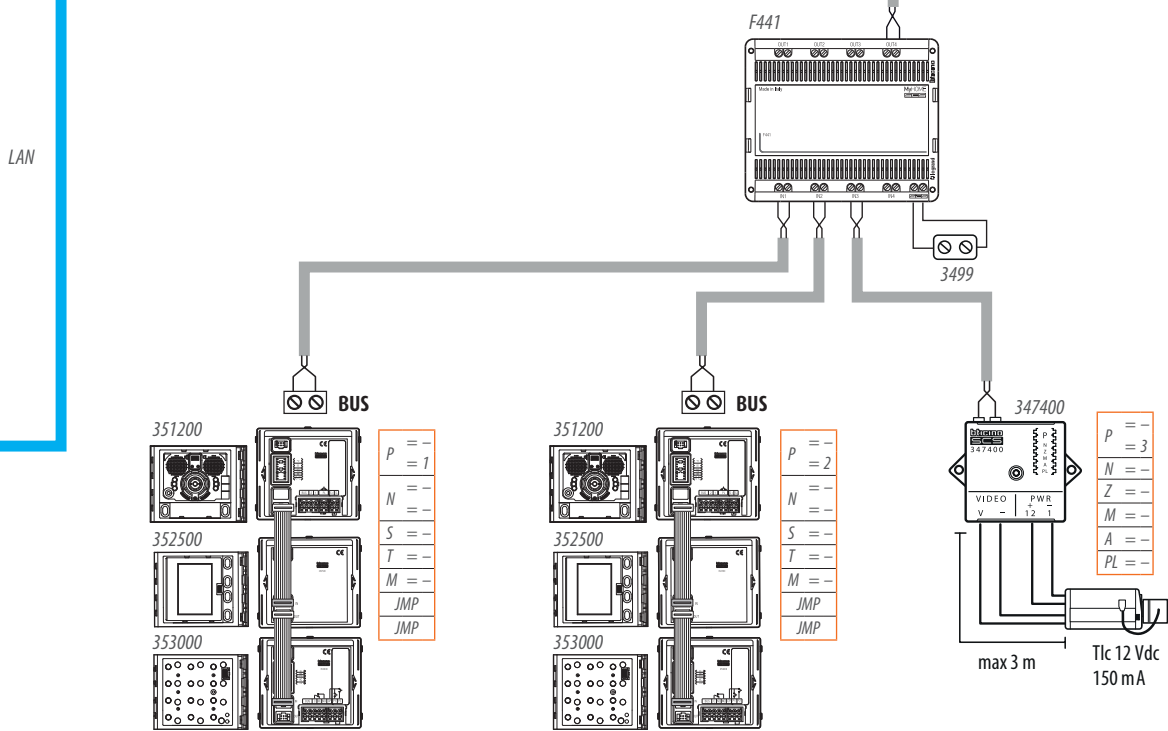
Residential complex with 2 wires/IP mixed system

ITEM	DESCRIPTION
351200	SFERA A/V module
352500	SFERA Display Module
353000	SFERA Keypad Module
346050	Power supply
PEP	Main Entrance Panel
PEM	Riser Entrance Panel

ITEM	DESCRIPTION
346020	Additional power supply
346851	System expansion interface
346300	Switchboard software
346891	2 Wires — IP interface

APARTMENT BLOCK 1
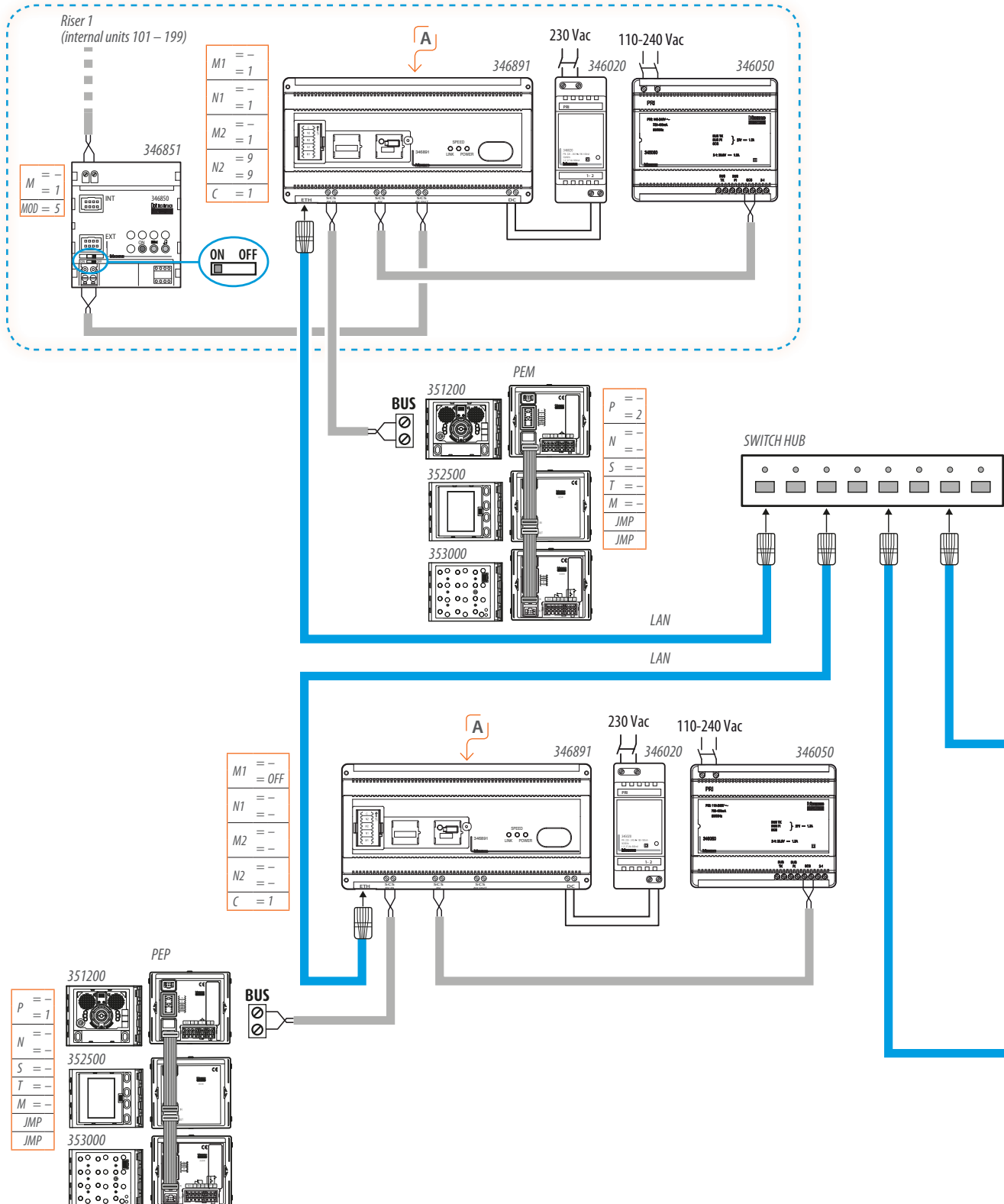
APARTMENT BLOCK 2
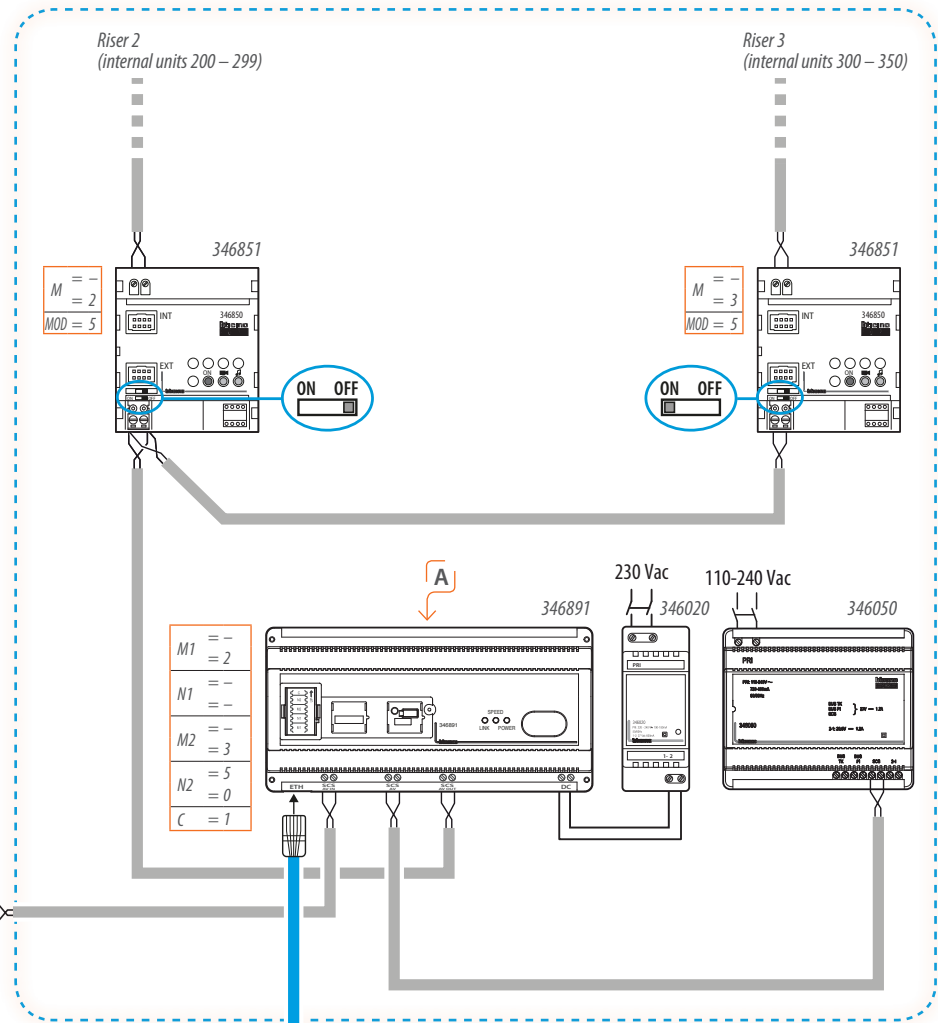
Riser 2
(internal units 200 – 299)

Riser 3
(internal units 300 – 350)

346851

346851

M	$=-$
	$= 2$
MOD	$= 5$

M	$=-$
	$= 3$
MOD	$= 5$

INT   346850

INT   346850

ON   OFF

ON   OFF

A

230 Vac   110-240 Vac

346891   346020   346050

M1	$=-$
	$= 2$
N1	$=-$
	$=-$
M2	$=-$
	$= 3$
N2	$= 5$
	$= 0$
C	$= 1$

A Device also configurable using **MyHomeSuite**,
which can be downloaded from:
www.homesystems-legrandgroup.com

PEM

351200

P	$=-$
	$= 3$
N	$=-$
	$=-$
S	$=-$
T	$=-$
M	$=-$
JMP	
JMP	

352500

BUS

353000
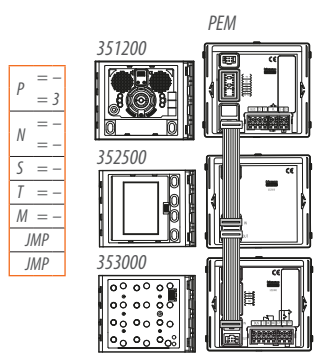
LAN

Switchboard (346300)
Software

LAN

■ Configuration using the SwitchBoard Configurator software

■ The LAN network must be dedicated to the IP video door
entry service
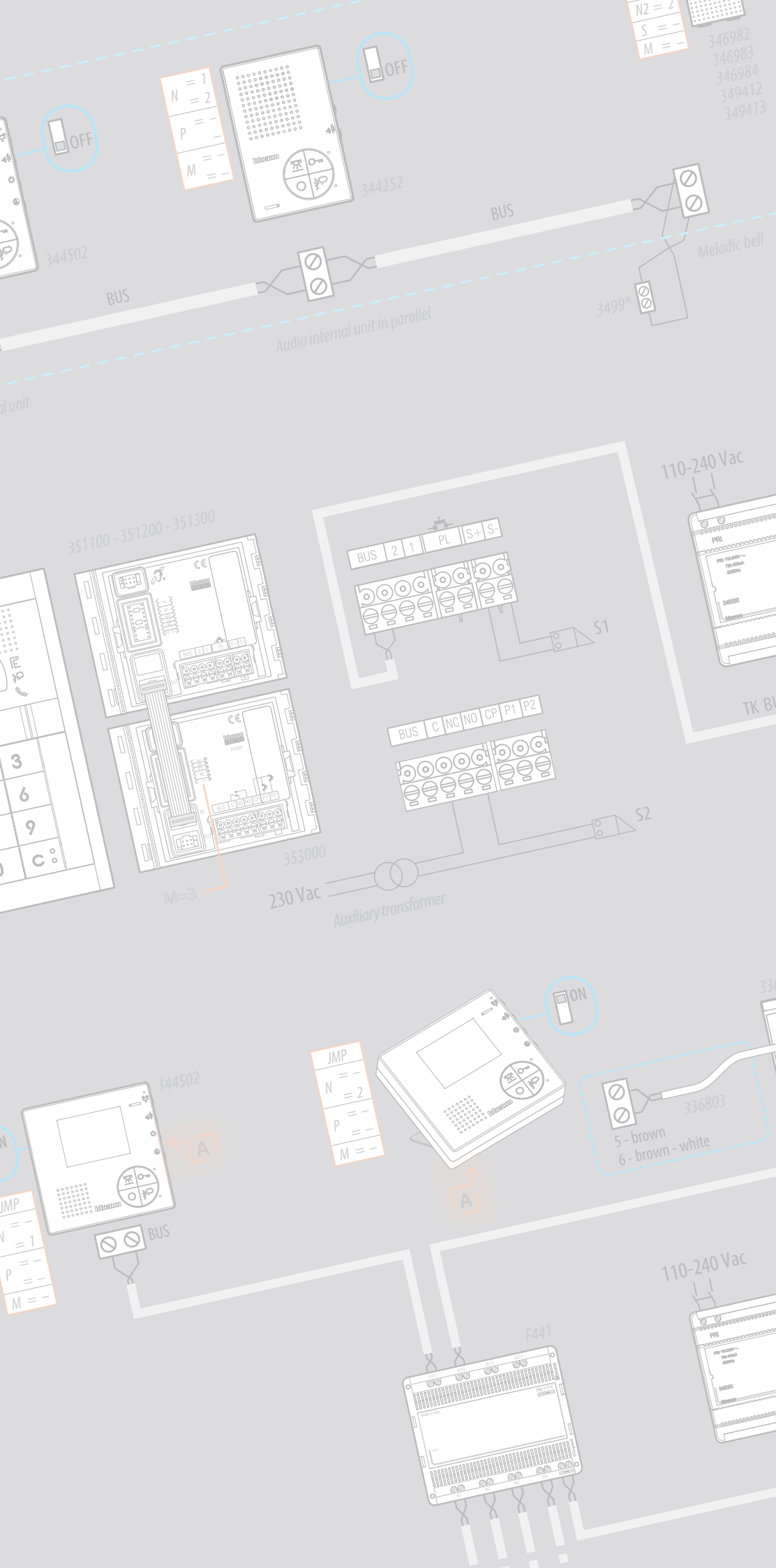
WIRING DIAGRAMS VARIANTS

SFERA entrance panels

Thanks to their flexibility, SFERA entrance panel offer countless installation combination. As it is impossible to present all such possible combination, below are some simple **rules that must be complied with for the combination of the electronic modules.**

For the composition of the entrance panel, always start from the speaker module and/or the audio/video module:

Basic speaker module   *351000*
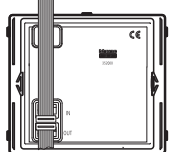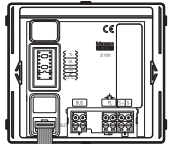
To the BASIC 351000 basic speaker module, it is **ONLY possible to connect pushbutton modules 352000/352100**, either in all pushbuttons on single column, or all pushbuttons on double column mode: **a mixed solution is NOT permitted.**
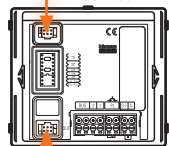
Pushbutton module   *352000 352100*

Inductive loop module   *352700*

Speaker module 351100

To the 351100, 351200 and 351300 speaker modules, it is possible to connect (through dedicated connection) the Teleloop Module and control voice synthesis 352700. To the 351100 module it is possible to connect an N/D and wide angle lens 352400 camera module.
(Caution: 352700 and 352400 max. 1 for entrance panel).

Camera module   *352400*

A/V module   *351200 351300*

1

Display module   *352500*

All the other electronic modules must be connected following this connection order:

1. Display module 352500 (ONLY 1 for entrance panel)
2. Door lock release modules (keypad 353000 and key card reader 353200)
3. Pushbutton module 352000/352100

2
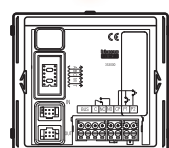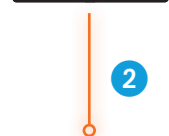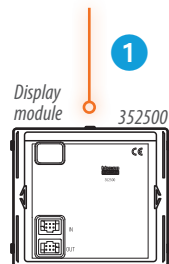
Keypad module 353000

Key card reader module 353200

NOTES:
- The use of the 352500 display module prevents the installation of pushbutton modules 352000/352100 and vice versa.
- Plate module 352200 may be installed without particular limitations (with the exception of the reaching of the system absorption limits), in combination with display module 352500 and/or door lock release modules.
- Door lock release modules (keypad 353000 and badge reader 353200) may also be used individually and/ or simultaneously in STAND ALONE installations.

3

Pushbutton module 352000 352100

Wiring diagrams variants of Entrance Panels/Cameras

SFERA ENTRANCE PANELS IN AUDIO SYSTEMS

Installation in audio systems with power supply 346040
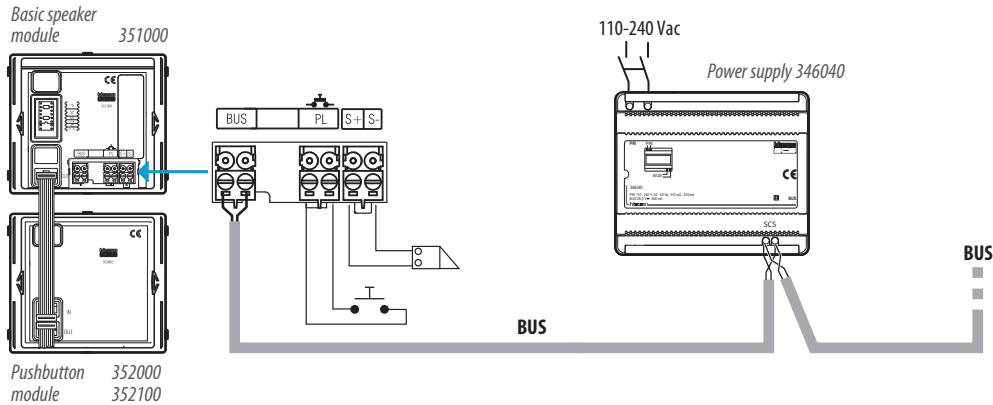
NOTE: it is possible to install other 352000/352100 pushbutton modules, complying with the installation rules for SFERA Entrance Panels.

Installation in audio systems with power supply 346050
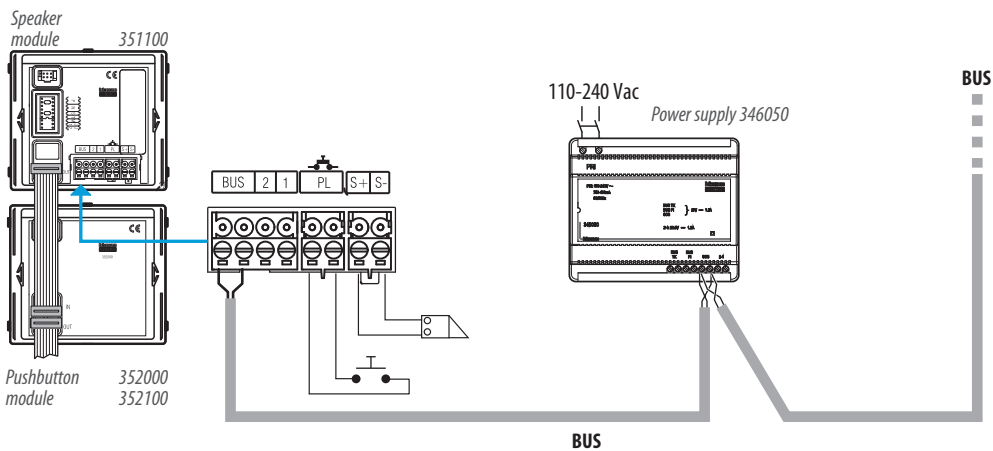
NOTE: it is possible to install other 352000/352100 pushbutton modules, complying with the installation rules for SFERA Entrance Panels.
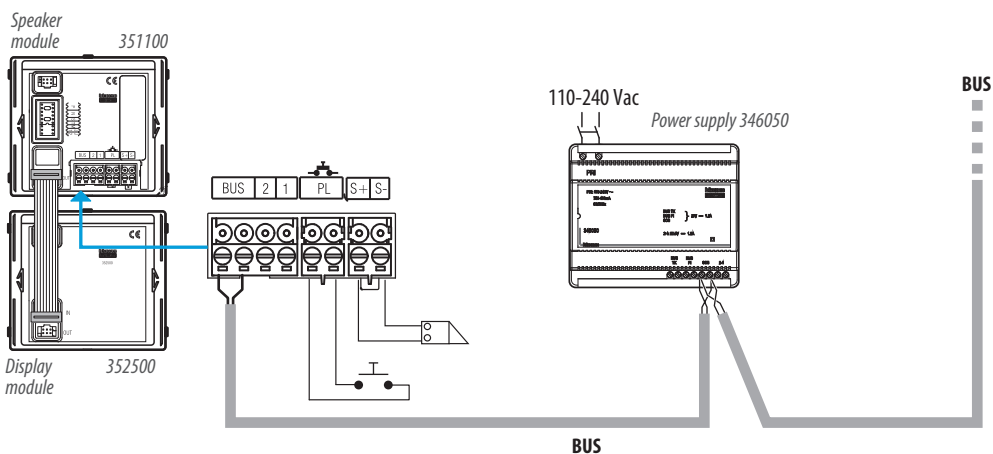
NOTE: The residents' address book of display module 352500 can be inserted manually, or using a PC and the TiSferaDesign software, and then uploaded to the module using an USB interface (recommended).

Wiring diagrams variants of Entrance Panels/Cameras

SFERA ENTRANCE PANELS IN VIDEO SYSTEMS

Audio / video module 351200 351300

Pushbutton module 352000 352100

BUS PI

110-240 Vac
Power supply

346050

BUS TK

A/V module 351200 351300

J1=JMP
J2= –

Remove J2 to enable additional power supply

BUS 2 1 PL S+ S-

BUS PI

110-240 Vac
Power supply

346050

230 Vac
Additional power supply

346020

BUS TK
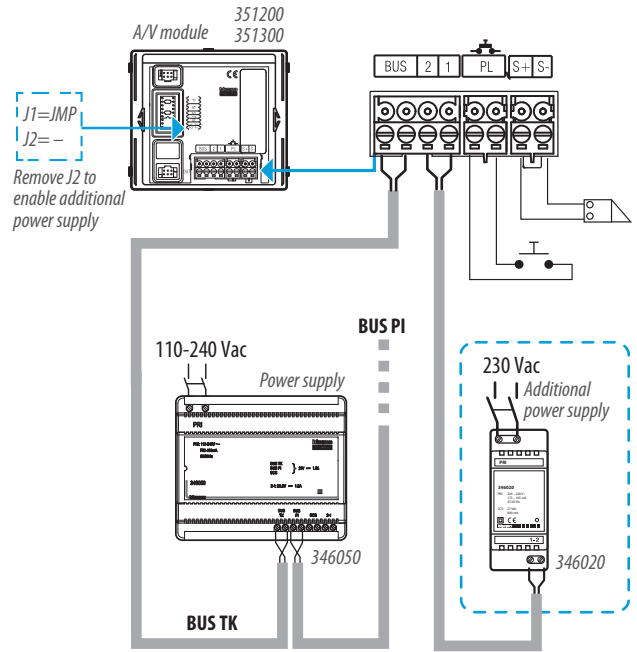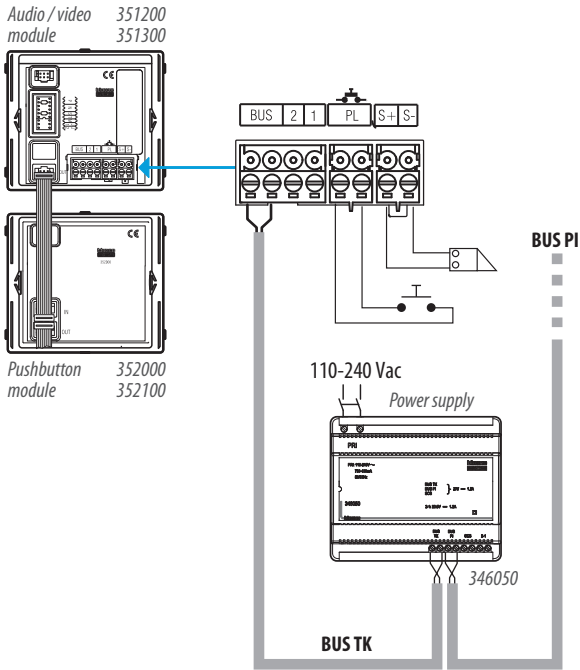
NOTE: In systems with several Internal Units, it will be necessary to allow for an extra power supply to be connected to the speaker module of the Entrance Panel. In order to connect the additional power supply unit, it will be necessary to remove configurator J2 from the speaker module.

Camera module 352400

Speaker module

351100

Display module 352500

BUS 2 1 PL S+ S-

BUS PI

110-240 Vac
Power supply

346050

BUS TK
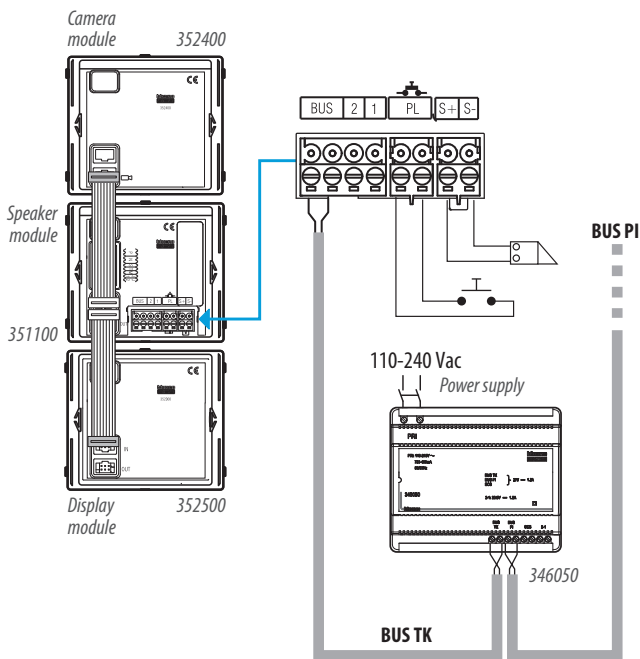
NOTE: The residents' address book of display module 352500 can be inserted manually in the device, or using a PC and the TiSferaDesign software, and then uploaded to the module using an USB interface (recommended).

Inductive loop module 352700

BUS 2 1

NOTE: Check the current absorption. If necessary, power the device locally

A/V module 351200 351300

BUS PI

110-240 Vac
Power supply

346050

BUS TK
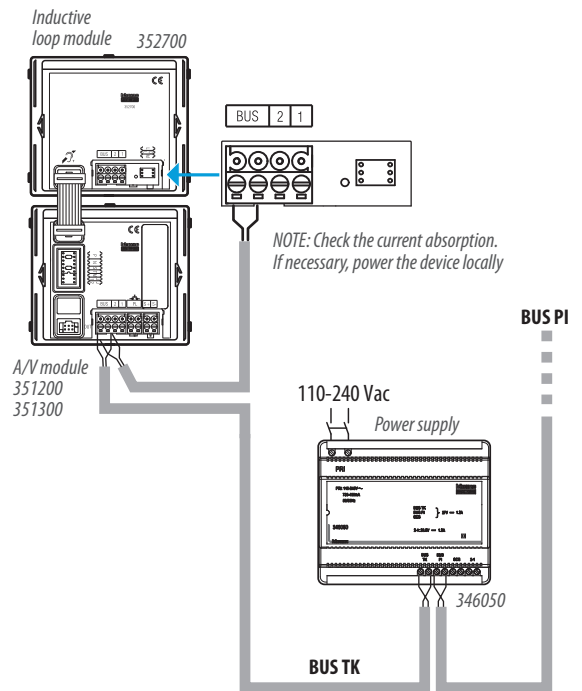
NOTE: Teleloop module 352700 may be connected directly to speaker module 351100 and to A/V modules 351200/351300.

SFERA ENTRANCE PANELS IN AUDIO AND VIDEO SYSTEMS

Connection to the key expansion module 346993

Wiring with separate commons
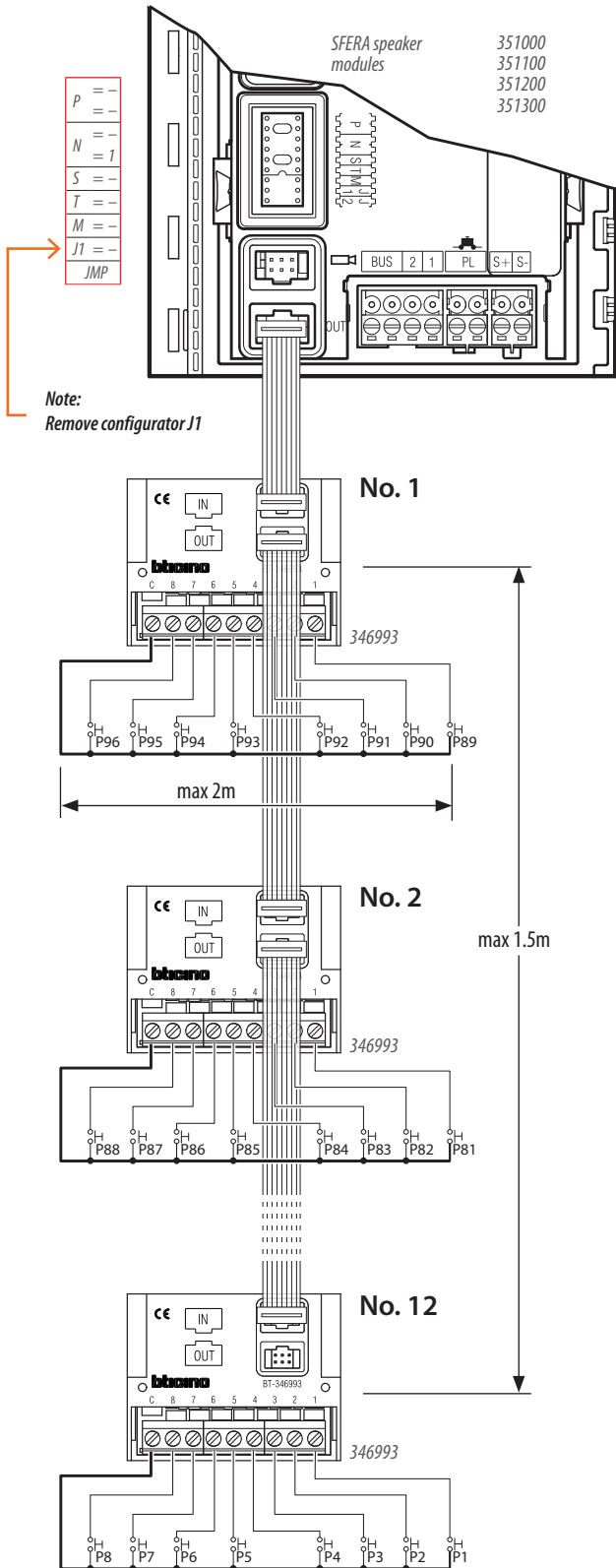
Wiring with unique common
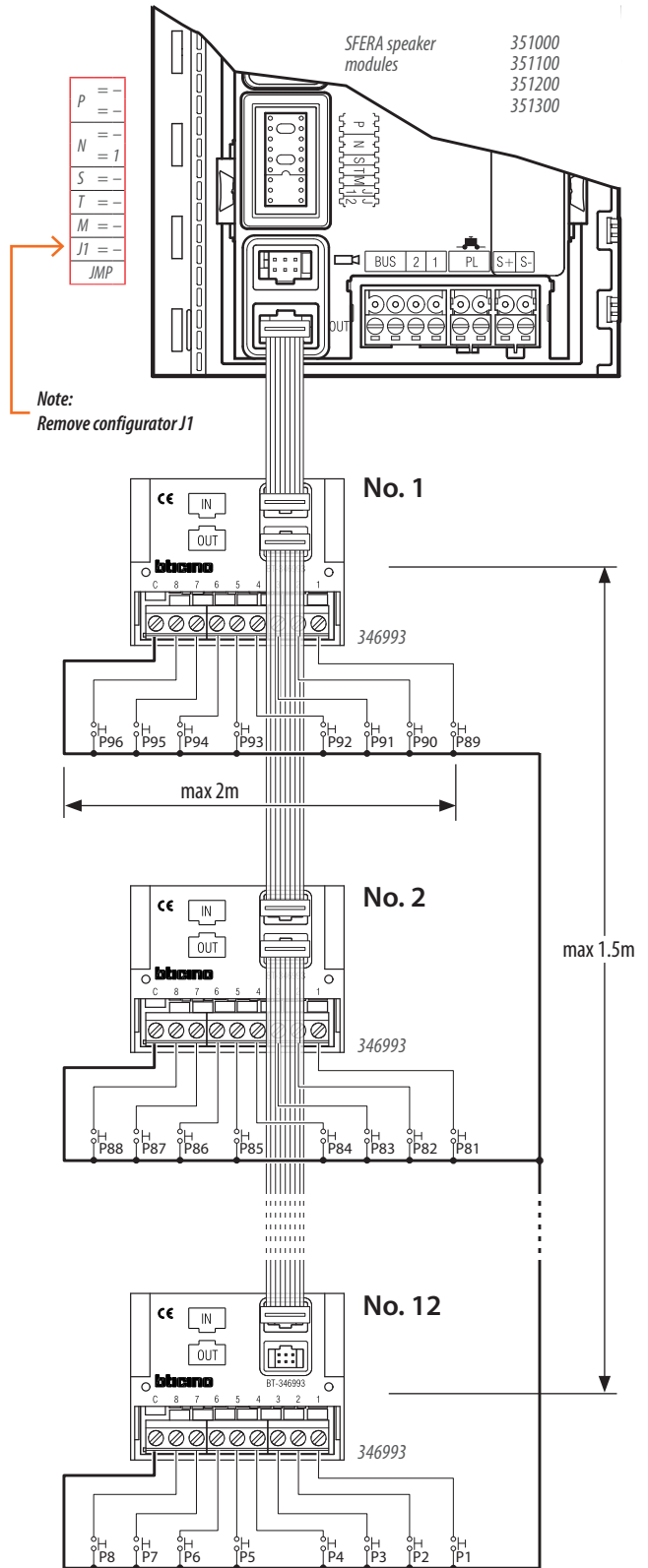
Each module 346993 can manage up to 8 call keys \ It is possible to connect several modules 346993 (Max. 96 call keys for each entrance panel).

Wiring diagrams variants of Entrance Panels/Cameras

LINEA 300 ENTRANCE PANELS IN VIDEO SYSTEMS

Systems with LINEA 300 pushbutton panel

EP speaker module

BUS PI

BUS PL S+ S-

110-240 Vac

Power supply

346050

BUS TK

Video pushbutton panels
308001 – 308011
308002 – 308012
308003 – 308013
308004 – 308014
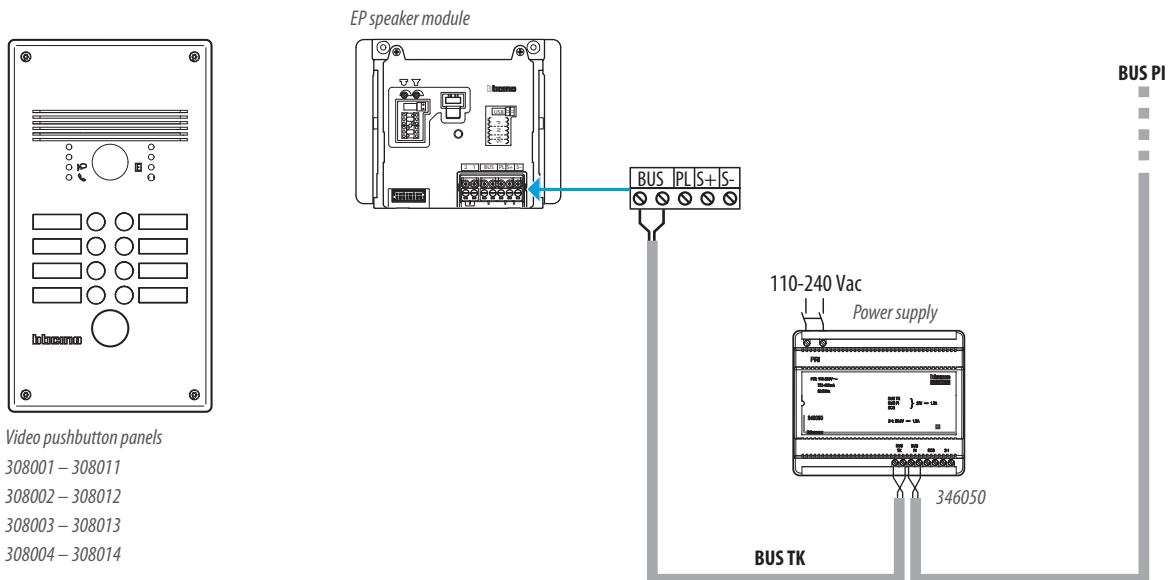
Systems with LINEA 300 pushbutton panel and additional power supply
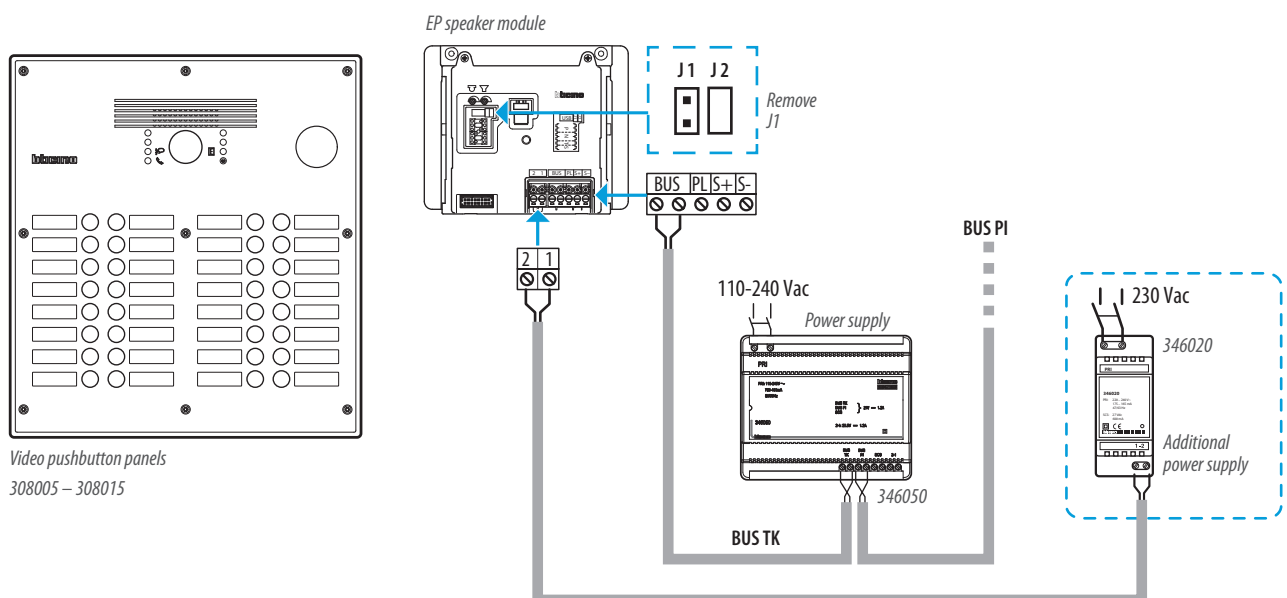
EP speaker module

J1 J2

Remove
J1

BUS PL S+ S-

2 1

BUS PI

110-240 Vac

Power supply

230 Vac

346020

346050

Additional
power supply

BUS TK

Video pushbutton panels
308005 – 308015

NOTE: in systems with several Internal Units, it will be necessary to allow for an extra power supply
to be connected to the speaker module of the Entrance Panel. Before connecting the additional power
supply unit, it will be necessary to remove jumper **J1** from the speaker module.

LINEA 2000 ENTRANCE PANEL

LINEA 2000 Entrance Panels for installation in audio system (up to 4 calls)
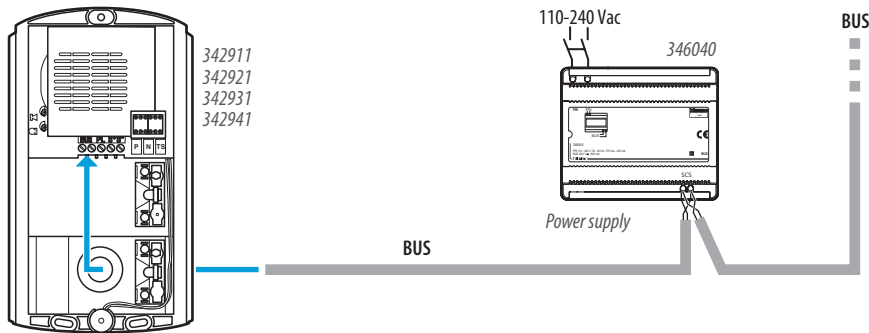
342911
342921
342931
342941

110–240 Vac

346040

BUS

Power supply

BUS

LINEA 2000 Entrance Panels for installation in video one and two family systems

343001
343002

110–240 Vac

346050

BUS PI

BUS PL S+ S–

P N TS

Power supply

BUS TK
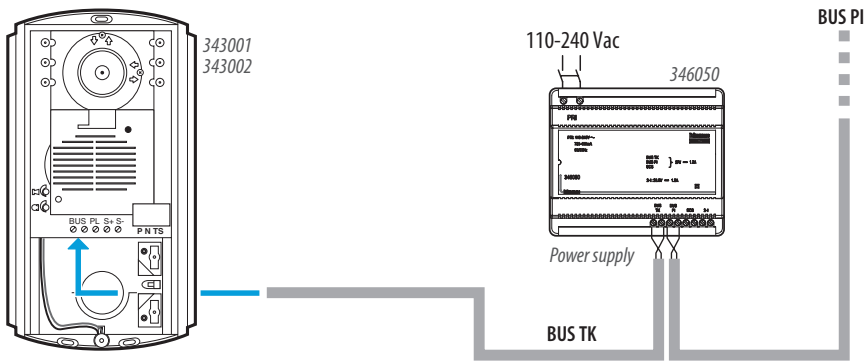
NOTE: the LINEA 2000 Entrance Panels cannot be powered locally.

LINEA 3000 ENTRANCE PANEL

LINEA 3000 Entrance Panels for installation in audio one and two family systems
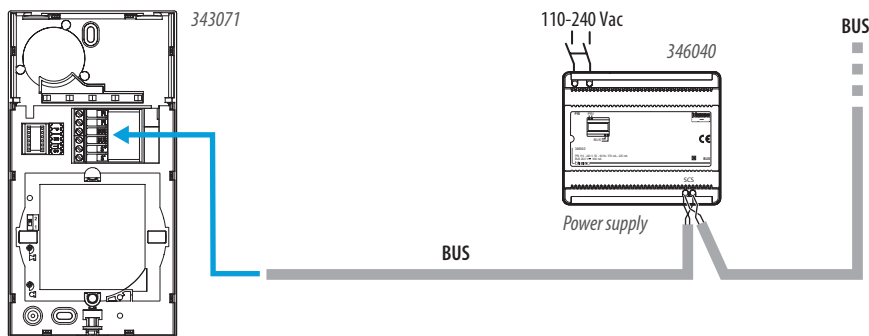
343071

110–240 Vac

346040

BUS

Power supply

BUS

LINEA 3000 Entrance Panels for installation in video one and two family systems

343081
343091

110–240 Vac

346050

BUS PI

Power supply

BUS TK
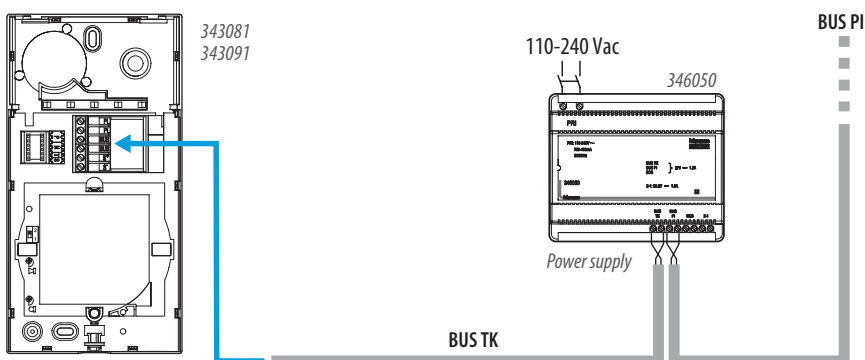
NOTE: the LINEA 3000 Entrance Panels cannot be powered locally.

Wiring diagrams variants of Entrance Panels/Cameras

COAXIAL/2 WIRES INTERFACE MODULE 347400

In the connection diagrams, in alternative to SFERA video Entrance Panels, it is also possible to use the coaxial 2 WIRES interface for 12 Vdc cameras, with the corresponding camera. The camera may be connected to the system and associated to the speaker module (separate), or as independent camera. In the coaxial / 2 WIRES interface system (347400), it is considered as a video Entrance Panel.

Separate camera with in-out wiring to the SFERA 351100 speaker module

(*) Interface 347400 (used for the connection of the separate camera), and the corresponding speaker module, must be configured with the same value in P.
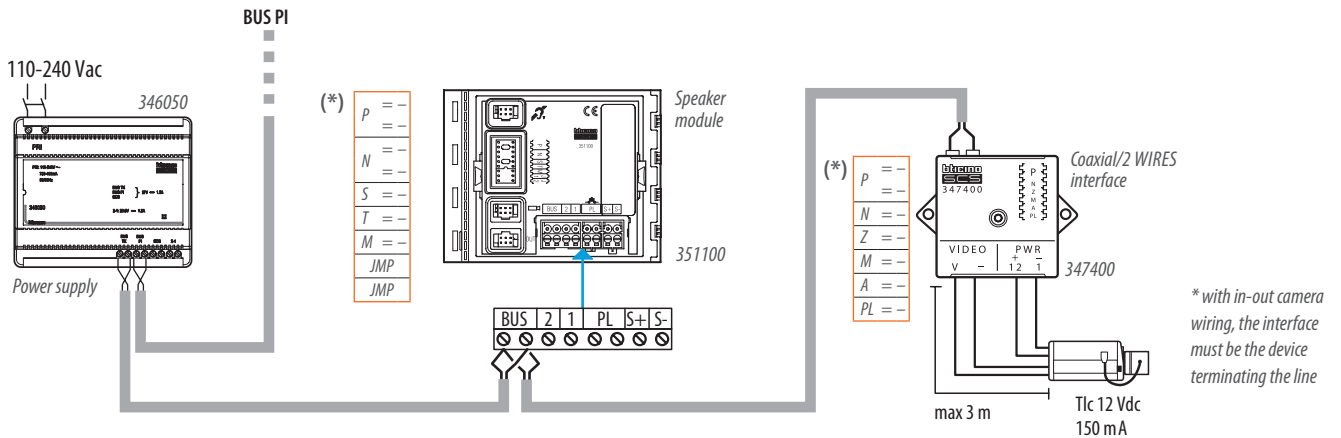
NOTE: the entrance panel created in this way (351100 speaker module and separate camera), must be considered as a video entrance panel, both for the number of risers that can be connected and the number of internal units

Video Entrance Panel and audio Entrance Panel with separate coaxial camera
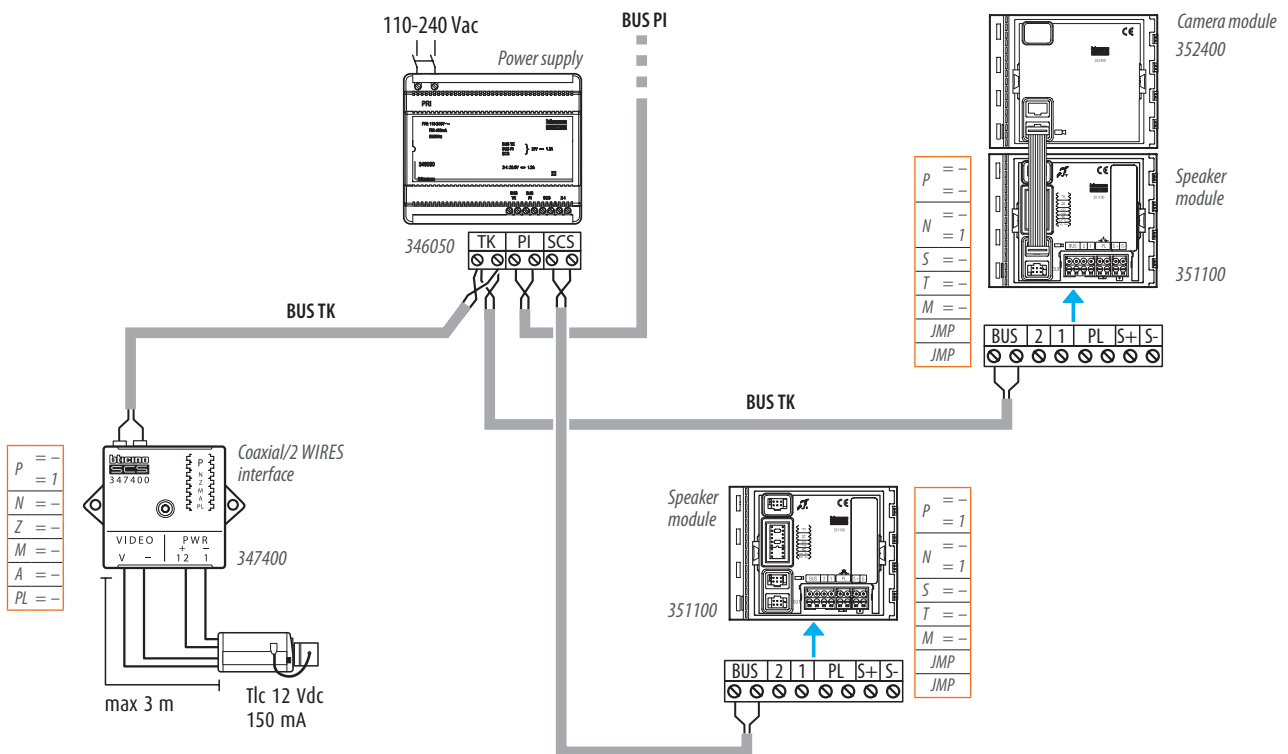
NOTE: the camera must be considered as a video entrance panel, both for the number of risers that can be connected and the number of internal units.

ACTIVATION OF A LOAD UPON SWITCHING ON OF A CAMERA

Operating mode of the camera upon switching on of MyHOME integrated systems. Every time that the camera switches on (call, auto-switching on, alarm), the MyHOME actuator and the scenario configured in A and PL are activated. When the camera switches off, the associated actuator also switches off, while the scenario remains active.

If an actuator used by the automation system is also associated to the camera, the actuator switches off when the camera is switched off, even if when the camera was switched on it was already on. To avoid this, to activate the load use an F411U2, configuring different PLs and connecting the contacts in parallel.

Internal Units

110-240Vac

F441

346050

BUS

P	= –
	= 1
N	= –
Z	= –
M	= –
A	= 2
PL	= 1

FLUSH MOUNTED 2 WIRES CAMERA

BUS

391670

P	= –
	= 2
N	= –
Z	= –
M	= –
A	= 1
PL	= 1

F422

OUT

I1	= –
I2	= –
I3	= –
I4	= 1
MOD	= –

IN

230 Vac L
         N

L1

L2

| A | = 1 |
| PL | = 1 |

F411U1

| A | = 2 |
| PL | = 1 |

F411U1

E46ADCN

230V a.c.

MYHOME AUTOMATION SYSTEM
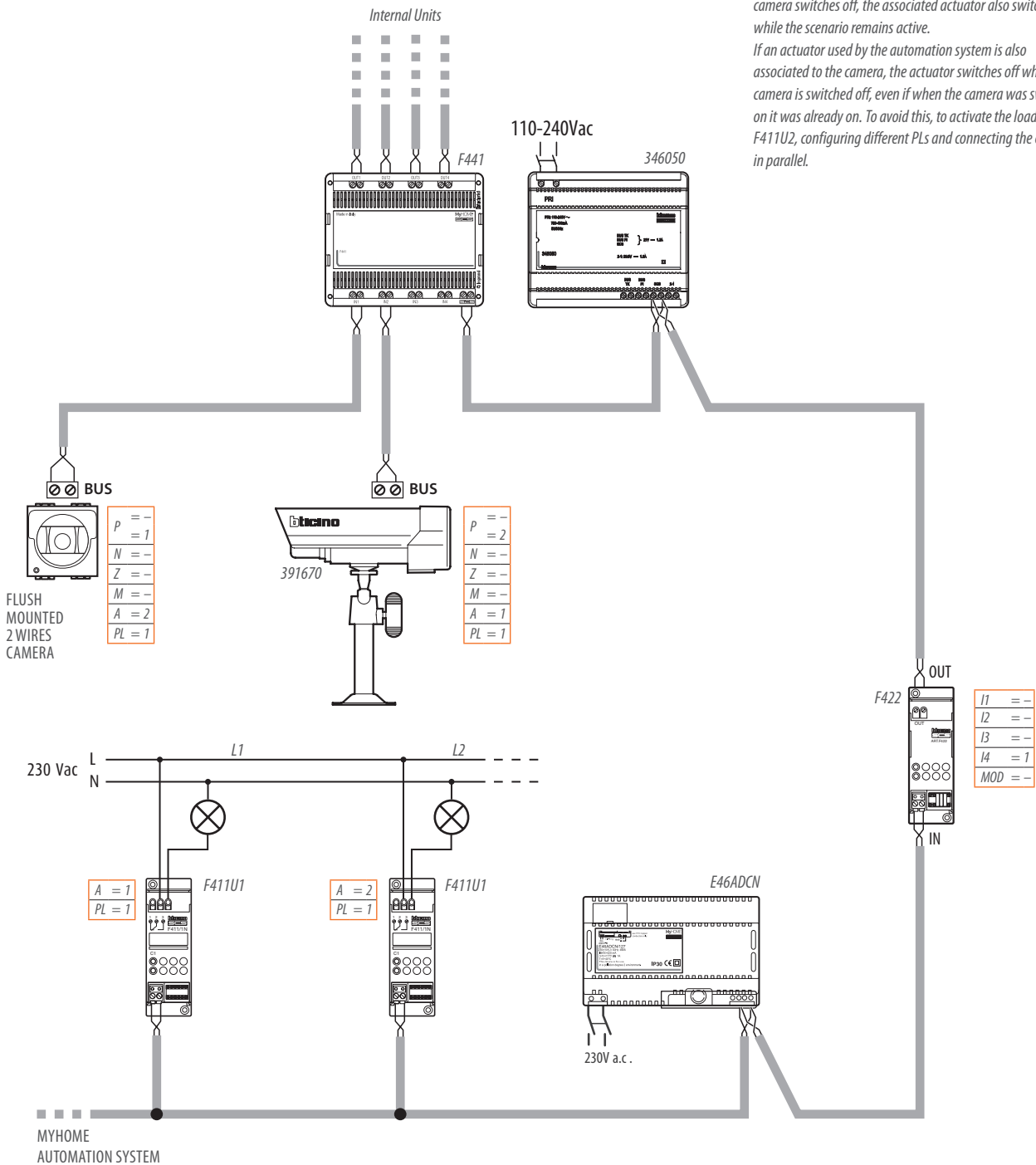
Entrance Panel Variants - Single family or multifamily systems with apartment interface 346850

EXAMPLE - 4 VIDEO INTERNAL UNITS WITH SIMULTANEOUS SWITCHING ON AND A MELODIC BELL

⚠ CAUTION

To install video internal units with simultaneous switching on, it will be necessary to allow for an output of the floor shunt for each IU
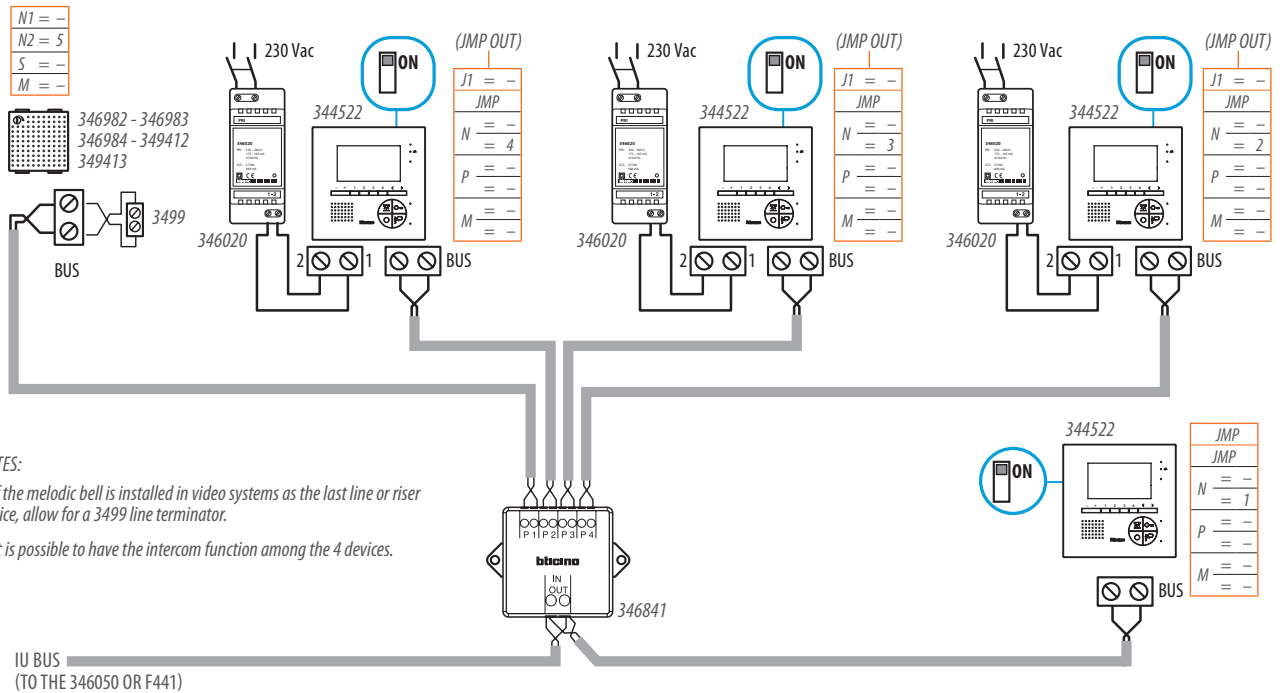
NOTES:
– *If the melodic bell is installed in video systems as the last line or riser device, allow for a 3499 line terminator.*

– *It is possible to have the intercom function among the 4 devices.*

IU BUS
(TO THE 346050 OR F441)

ESEMPIO - VIDEO INTERNAL UNIT TABLE-TOP INSTALLATION

⚠ CAUTION

A *In order to install a table-top video internal unit, it will be necessary to use the audio/video node (F441) or the 346841 floor shunt, dedicating an output to the installation itself.*
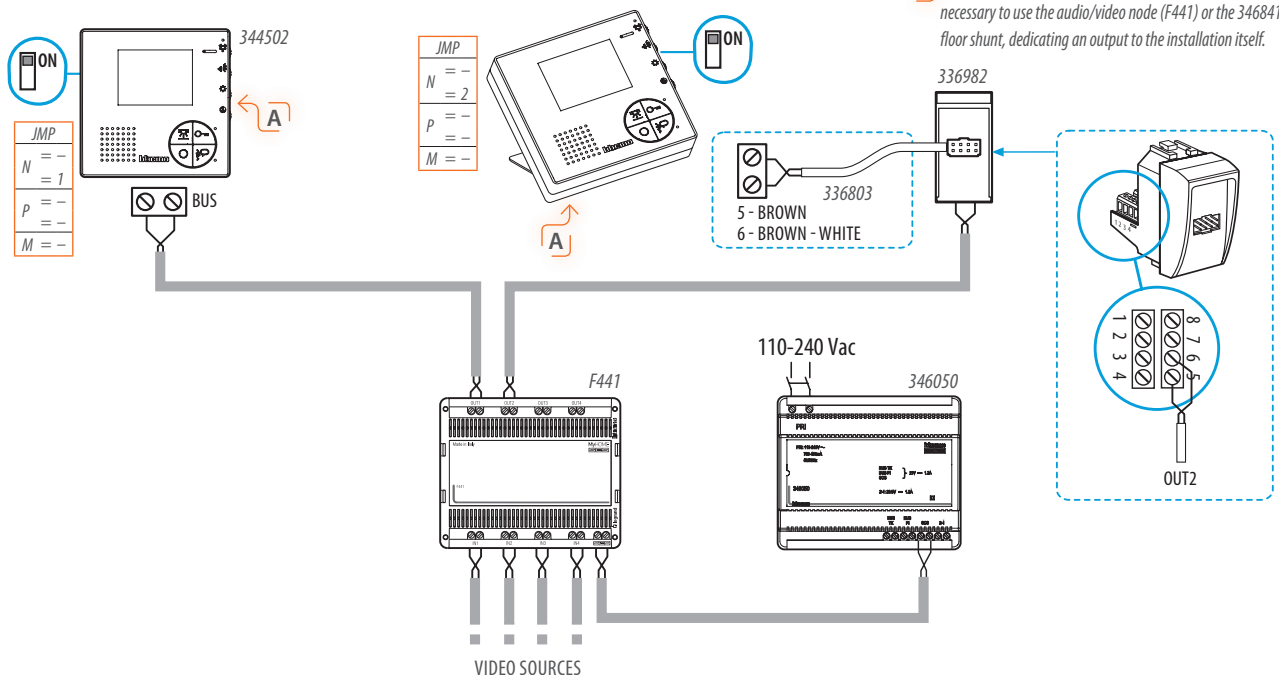
VIDEO SOURCES

Internal Unit Variants - Multifamily systems without apartment interface 346850

⚠️ *CAUTION*

In the same apartment on the same call, it is possible to install up to 3 devices maximum (audio and video internal units or bells).

EXAMPLE - TWO AUDIO INTERNAL UNITS IN ADDITION TO THE BASIC AUDIO INTERNAL UNIT

APARTMENT 2

BUS audio

BUS audio

N	= – = 2
P	= – = –
M	= –

OFF

344252

BUS

N	= – = 2
P	= – = –
M	= –

OFF

344252

BUS

N	= – = 2
P	= – = –
M	= –

OFF

344252

BUS

Basic audio internal unit

Audio internal unit in parallel

Last audio internal unit in parallel
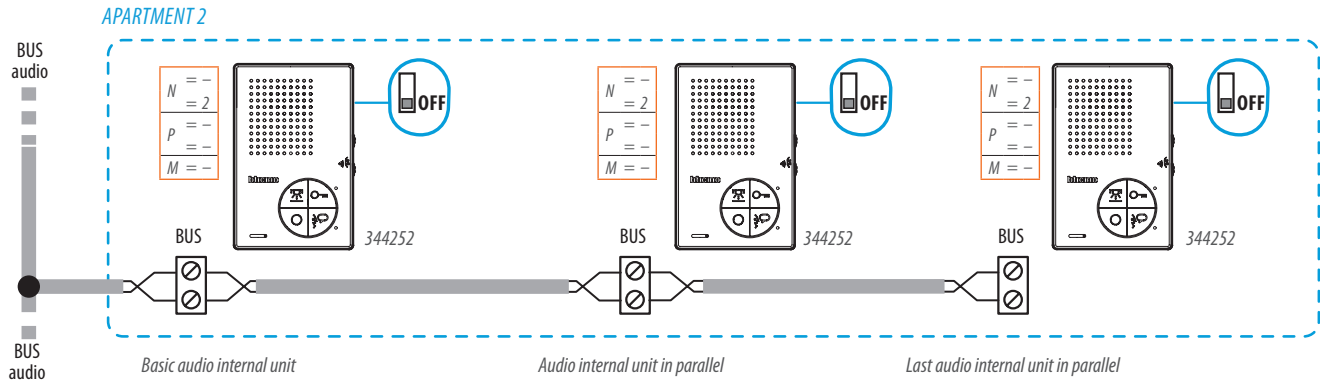
EXAMPLE - ONE AUDIO INTERNAL UNIT AND ONE BELL, IN ADDITION TO THE BASIC VIDEO INTERNAL UNIT

APARTMENT 11

JMP	
JMP	
N	= 1 = 1
P	= – = –
M	= – = –

OFF

344522

BUS

N	= 1 = 1
P	= –
MOD	= – = –

ON

344272

1
5M

1
5M

336910

Basic video internal unit

Audio internal unit in parallel

Additional bell (analog)
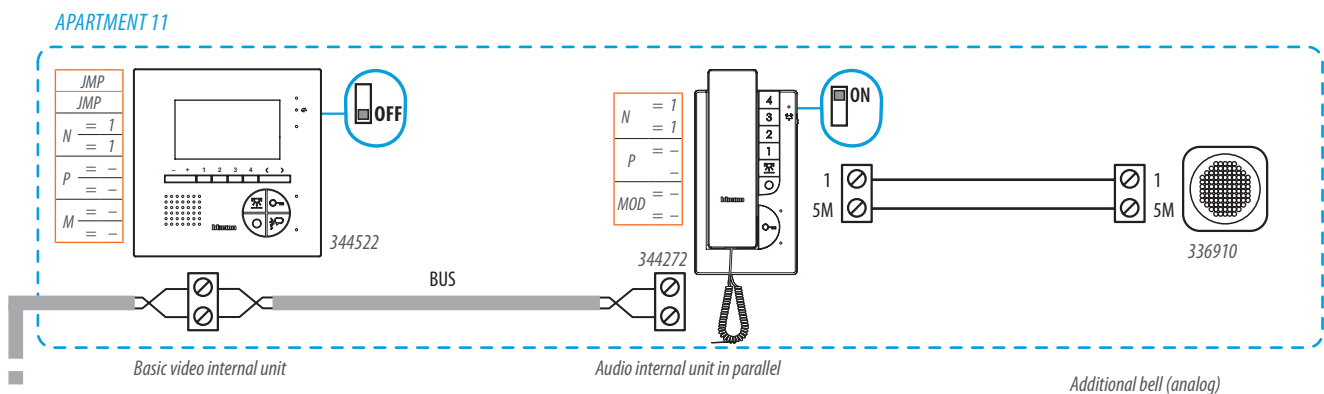
BUS
from floor shunt (346841) or audio/video node (F441)

EXAMPLE - TWO AUDIO INTERNAL UNITS IN ADDITION TO THE BASIC VIDEO INTERNAL UNIT

APARTMENT 3

JMP	
N	= – = 3
P	= – = –
M	= –

OFF

344502

BUS

N	= – = 3
P	= –
M	= – = –

OFF

344252

BUS

N	= – = 3
P	= –
M	= –

ON

344252

Basic video internal unit

1st audio internal unit in parallel

Last audio internal unit in parallel
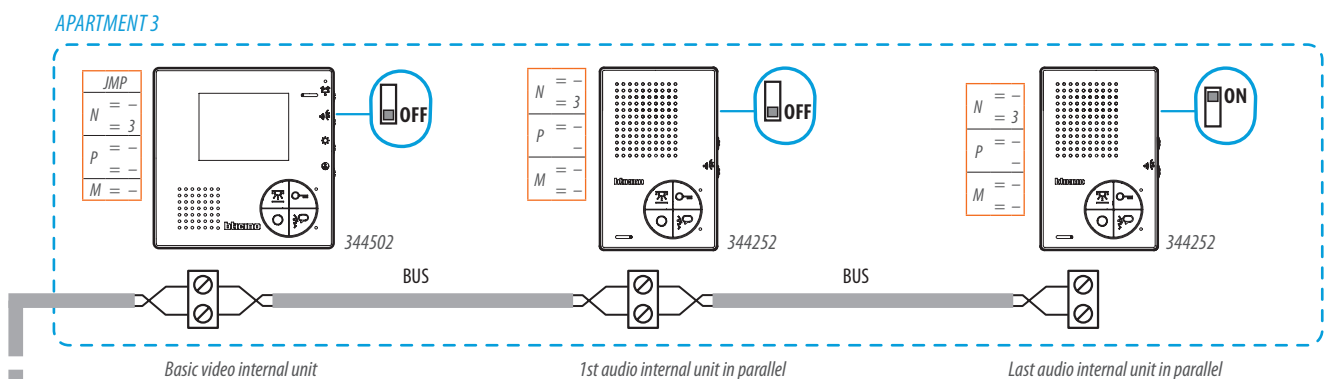
BUS
from floor shunt (346841) or audio/video node (F441)

Internal Unit Variants - Multifamily systems without apartment interface 346850

EXAMPLE - ONE AUDIO INTERNAL UNIT AND ONE MELODIC BELL, IN ADDITION TO THE BASIC VIDEO INTERNAL UNIT

APARTMENT 12

JMP	
N	= 1
	= 2
P	= –
	= –
M	= –

OFF

344502

N	= 1
	= 2
P	= –
M	= –

OFF

344252

N1 = 1
N2 = 2
S = –
M = –

346982
346983
346984
349412
349413

BUS   BUS

Basic video internal unit

Audio internal unit in parallel

Melodic bell

3499*

BUS
from floor shunt (346841) or audio/video node (F441)

* If the melodic bell is installed as the last line or riser device, allow for a 3499 line terminator
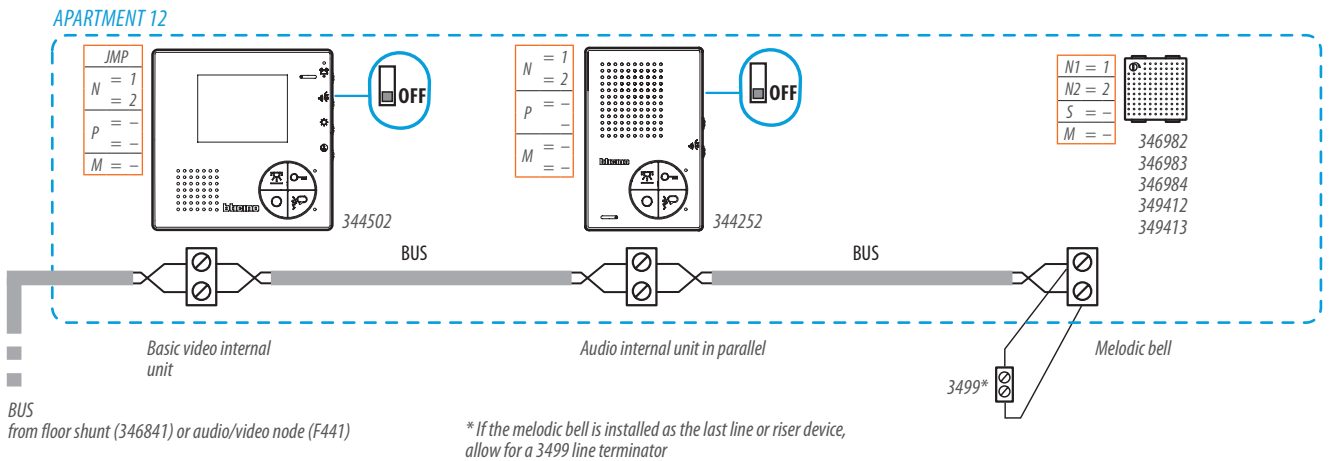
EXAMPLE - TWO VIDEO INTERNAL UNITS IN ADDITION TO THE BASIC VIDEO INTERNAL UNIT

The variant is **NOT** possible with IU without MASTER/SLAVE function

APARTMENT 1

JMP	
N	= –
	= 1
P	= –
	= –
M	= –

OFF
MASTER
344502

(Remove JMP configurator)

J1	= –
N	= –
	= 1
P	= –
	= –
M	= –

OFF
SLAVE
344502

(Remove JMP configurator)

J1	= –
N	= –
	= 1
P	= –
	= –
M	= –

ON
SLAVE
344502

BUS   BUS

Basic video internal unit

First video internal unit in parallel

Last video internal unit in parallel

IU BUS
from floor shunt (346841) or audio/video node (F441)

APARTMENT 4

IU BUS

JMP	
JMP	
N	= –
	= 4
P	= –
	= –
M	= –
	= –

OFF
MASTER
344522

JMP	
J2	= –
N	= –
	= 4
P	= –
	= –
M	= –
	= –

(Remove JMP configurator)

OFF
SLAVE
344522

JMP	
J2	= –
N	= –
	= 4
P	= –
	= –
M	= –
	= –

(Remove JMP configurator)

OFF
SLAVE
344522

BUS   BUS

Basic video internal unit

First video internal unit in parallel

Last video internal unit in parallel

IU BUS

EXAMPLE - THREE VIDEO INTERNAL UNITS IN SIMULTANEOUS SWITCHING ON

APARTMENT 11

To install video internal units with simultaneous switching on inside the apartment, it will be necessary to dedicate an output of the floor shunt to each apartment IU.

230 Vac

230 Vac

346020

346020

1 2

1 2

(Remove JMP configurator)

(Remove JMP configurator)

JMP	
JMP	
N	= 1
	= 1
P	= –
	= –
M	= –
	= –

J1	= –
JMP	
N	= 1
	= 1
P	= –
	= –
M	= –
	= –

J1	= –
JMP	
N	= 1
	= 1
P	= –
	= –
M	= –
	= –

ON

ON

ON

BUS IU

BUS

BUS

BUS

344522

344522

344522
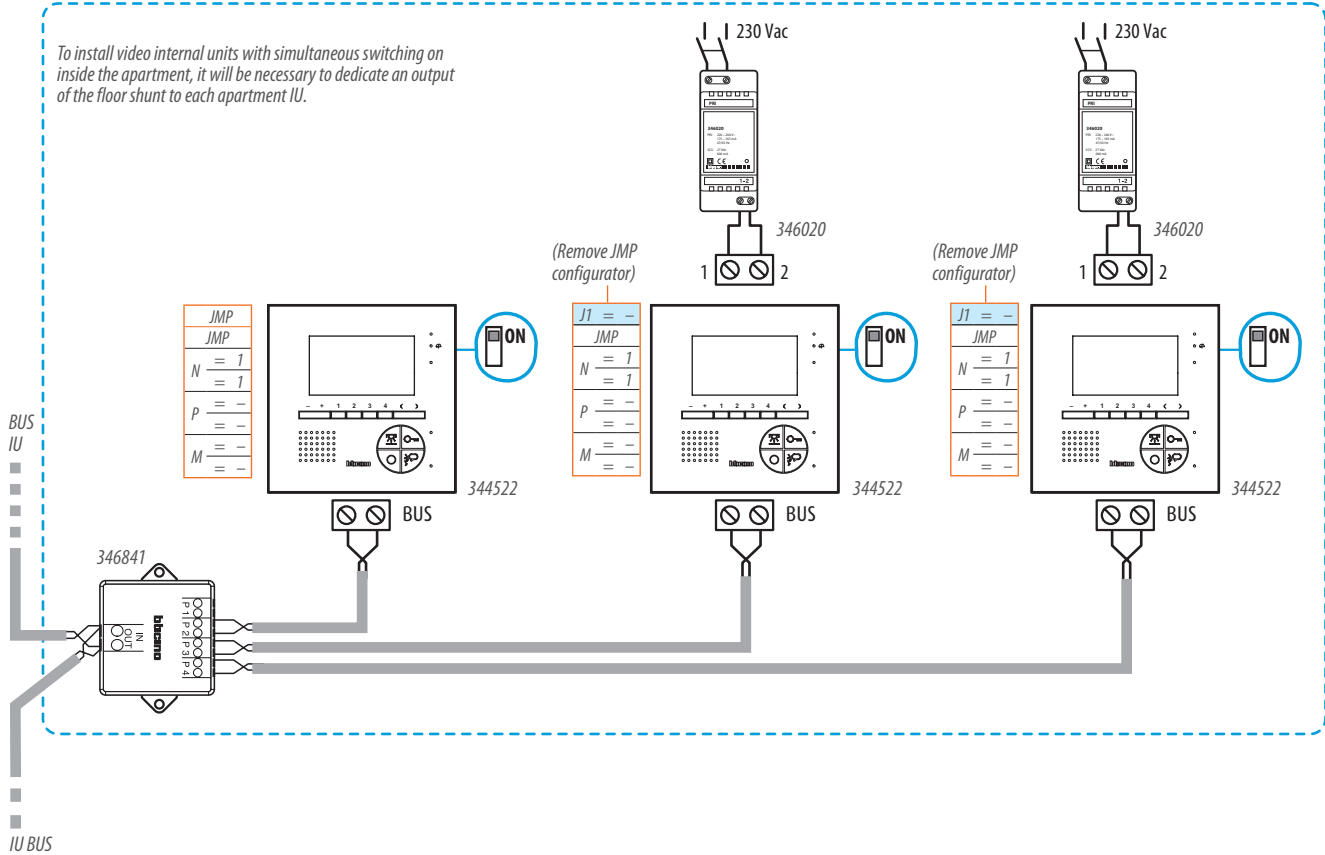
346841

IU BUS

EXAMPLE - ONE AUDIO INTERNAL UNIT AND ONE ADDITIONAL BELL IN ADDITION TO THE BASIC VIDEO INTERNAL UNIT

APARTMENT 15

JMP	
N	= 1
	= 5
P	= –
	= –
M	= –

OFF

N	= 1
	= 5
P	= –
	= –
M	= –

OFF

346210

1 2 3

346210

MOD	= SLA
M	= –
	= –
N/P	= 1
	= 5
T	= 2

*3499**

BUS

344502

344252

BUS

BUS

Basic video internal unit

Audio internal unit in parallel
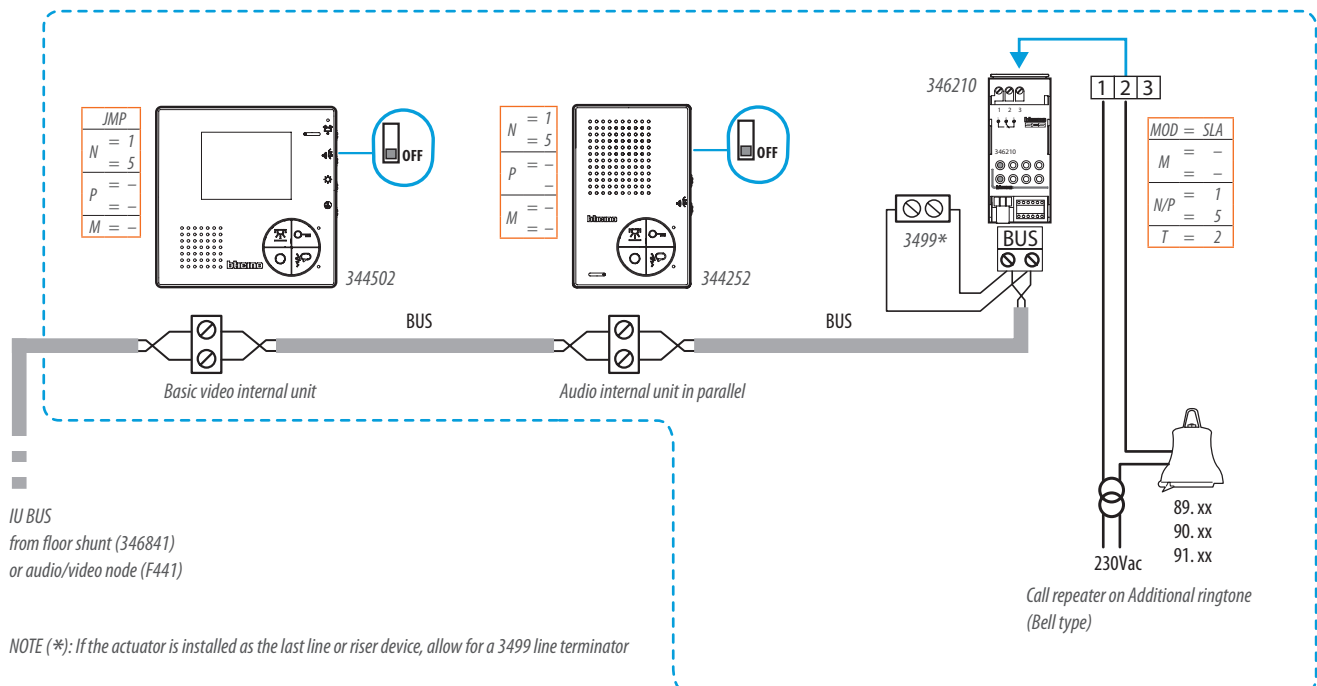
IU BUS
from floor shunt (346841)
or audio/video node (F441)

NOTE (*): If the actuator is installed as the last line or riser device, allow for a 3499 line terminator

89. xx
90. xx
91. xx

230Vac

Call repeater on Additional ringtone (Bell type)

Wiring diagrams variants for DIN rail devices

AUDIO / VIDEO NODE F441

By using the audio/video node, it is possible to connect up to 4 video entrance panels / cameras (or 4 audio/video nodes in cascade) and up to 4 2 WIRES video risers.
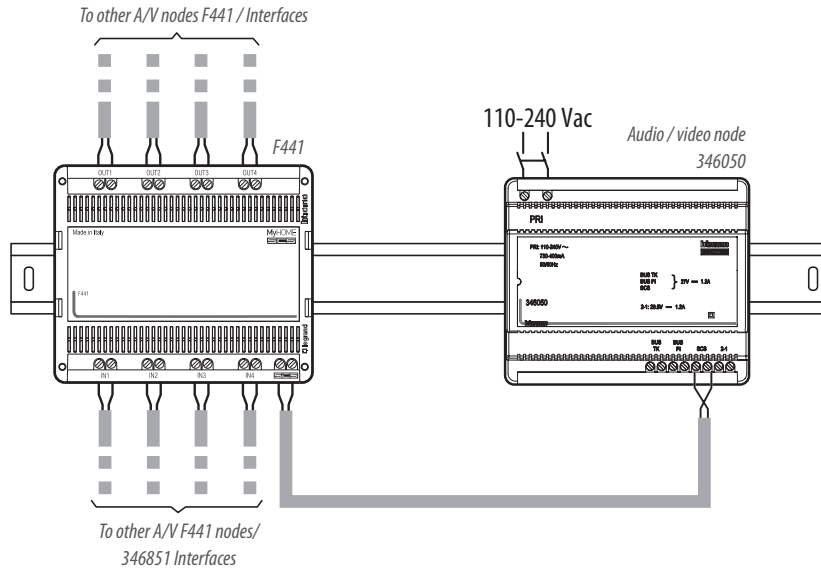
MULTI-CHANNEL MATRIX F441M

In alternative to the F441 audio/video node, it is also possible to use the F441M multichannel matrix. The matrix makes it possible to connect (on the input) up to 4 Entrance Panels. Up to 8 risers can be generated on the output.
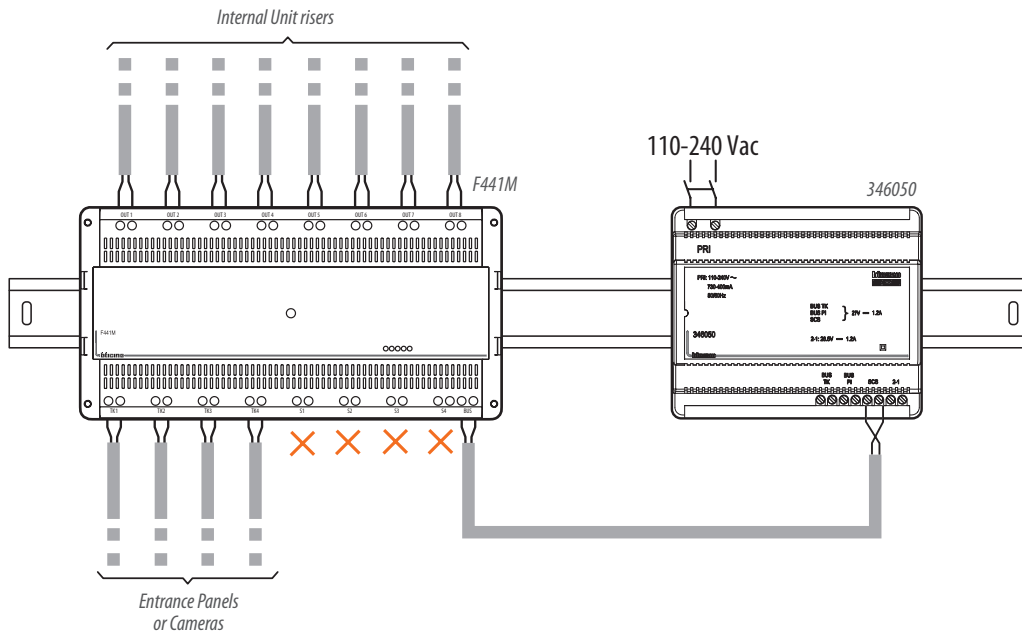
INTERCOM IN APARTMENT WITH 2 DIN COMPACT POWER SUPPLY 346030

In order to have the **apartment intercom** function whilst saving DIN modules, it is possible to use, as an alternative to the 346050 power supply unit, compact power supply unit 346030 wired as follows:

APARTMENT 2

To the apartments or apartment interfaces

230 Vac (50 – 60 HZ)

2 WIRES riser for apartment block

NOTE: max. 5 IU for apartment
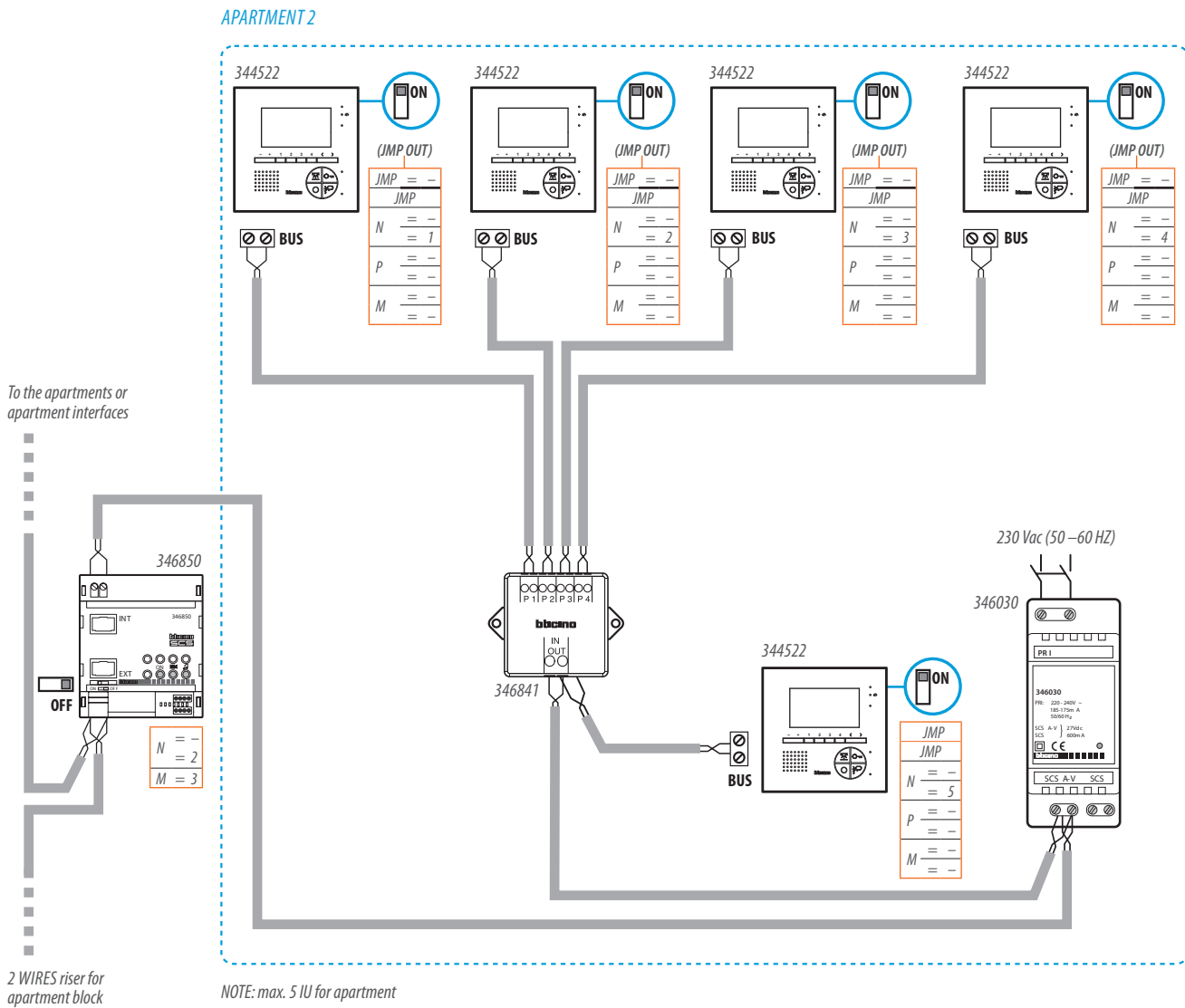
Wiring diagrams variants for DIN rail devices

8/2 WIRES INTERFACE 346150

The diagrams only show one 2 WIRES riser entrance panel: with these variants, it is possible to install one video EP and up to 2 audio EP.

⚠️ CAUTION

When connecting wires 1 and 2, strictly comply with the numbering, in order to avoid possible malfunctioning.
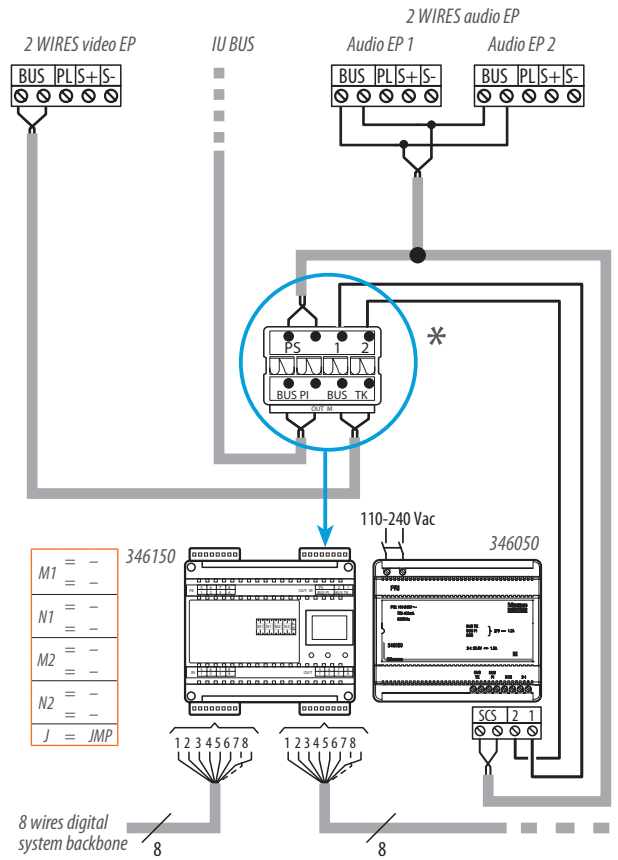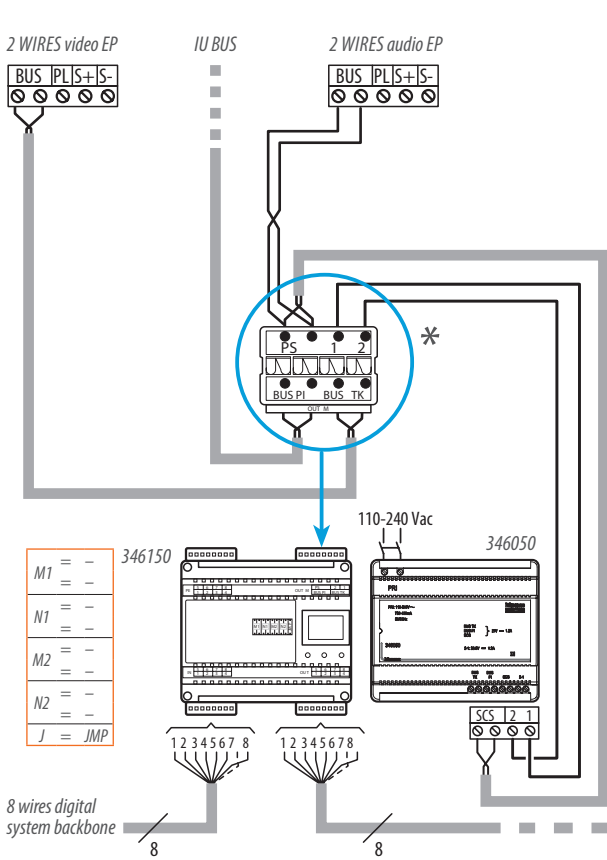
Interfaces 346150 must always be properly configured

CONNECTION IN APARTMENT WITH 6 DIN POWER SUPPLY 346050

In order to connect a riser EP saving DIN modules, it is possible to use the 346050 power supply unit without A/V node.

APARTMENT 2

344522   **ON**

(JMP OUT)

JMP	= –
JMP	
N	= –
	= 1
P	= –
	= –
M	= –
	= –

BUS

344522   **ON**

(JMP OUT)

JMP	= –
JMP	
N	= –
	= 2
P	= –
	= –
M	= –
	= –

BUS

344522   **ON**

(JMP OUT)

JMP	= –
JMP	
N	= –
	= 3
P	= –
	= –
M	= –
	= –

BUS

344522   **ON**

(JMP OUT)

JMP	= –
JMP	
N	= –
	= 4
P	= –
	= –
M	= –
	= –

BUS

To the apartments or apartment interfaces

346850

INT   346850

EXT

OFF

N	= –
	= 2
M	= 3

| P 1 | P 2 | P 3 | P 4 |

IN
OUT

346841

344522   **ON**

JMP	
JMP	
N	= –
	= 5
P	= –
	= –
M	= –
	= –

BUS

2 WIRES riser for apartment block

110-240 Vac   *346050*

TK   PI   SCS

BUS TK   **BUS PI**

343081

P	= –
	= 1
N	= –
	= 1
T	= –
S	= 9

PL   BUS   S+   S-

S

PS
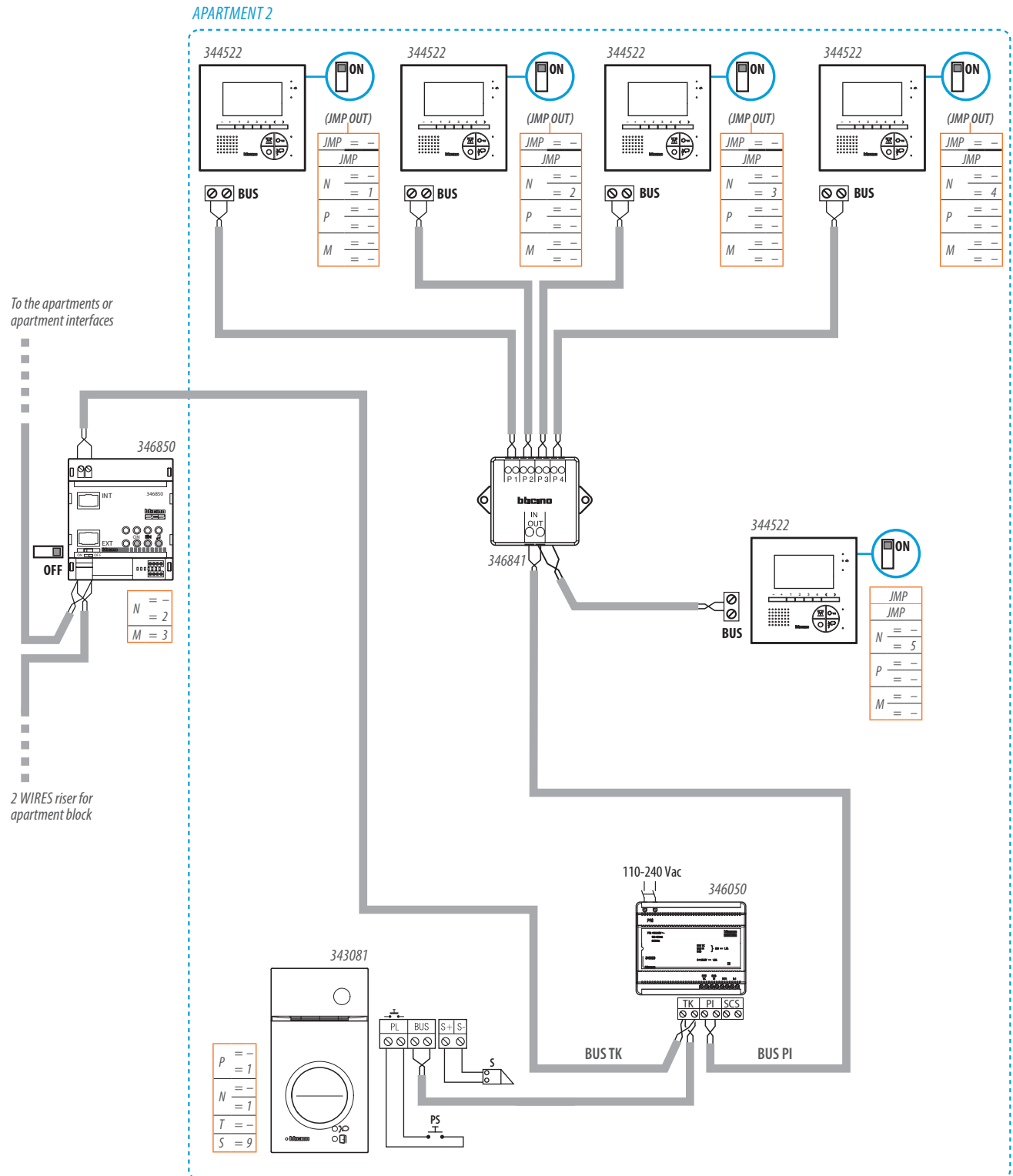
Wiring diagrams variants for DIN rail devices

RISER CONNECTION WITH 6 DIN POWER SUPPLY 346050

In order to connect a riser EP saving DIN modules, it is possible to use the 346050 power supply unit without A/V node.

Riser 2

APARTMENT 2

344502

OFF

BUS

JMP	
N	= –
	= 2
P	= –
	= 4
M	= –

APARTMENT 1

344502

OFF

BUS

JMP	
N	= –
	= 1
P	= –
	= 4
M	= –

110-240 Vac

346050

TK | PI | SCS

346851

OUT   346851

ON OFF

IN

From other risers / A/V node   *To other risers*

BUS | 2 | 1 | PL | S+ | S-

S

PS

352400

351100

352100

P	= –
	= 4
N	= –
	= 1
S	= –
T	= –
M	= –
J1	= –
JMP	
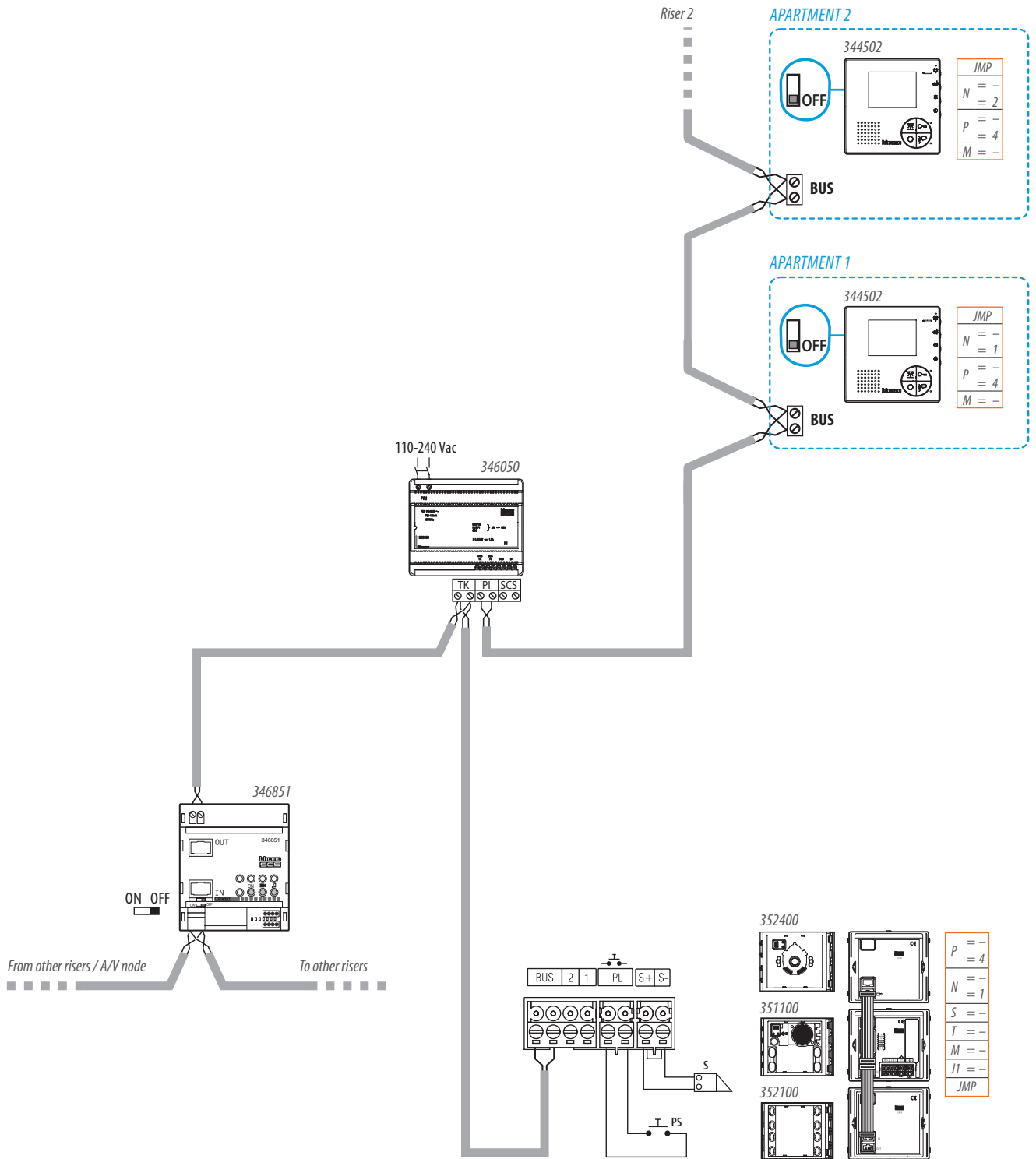
Note: It is not possible to add other riser entrance panels without using the F441 audio/video node.

Auxiliary services – Floor call

FLOOR CALL

With CLASSE 100, CLASSE 300 and SPRINT L2 (344232) internal units, it is possible to have the "call to the floor" function". In other words, by connecting a pushbutton between the clamps (⎓) it is possible to use the internal bell of the devices to make the call from the apartment entrance door. In installations with IU in parallel, only the Internal Unit to which the call pushbutton is connected will ring.
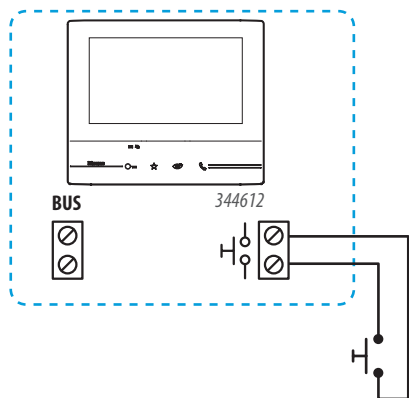
EXAMPLE - Connection of a CLASSE 300 video internal unit
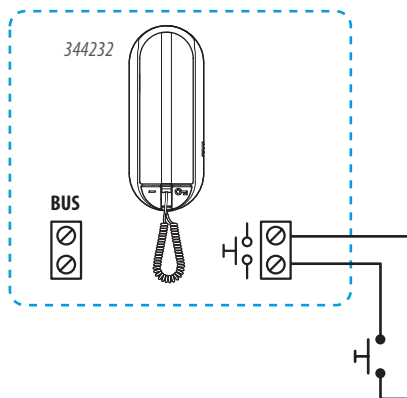
EXAMPLE - Connection of a SPRINT L2 audio internal unit
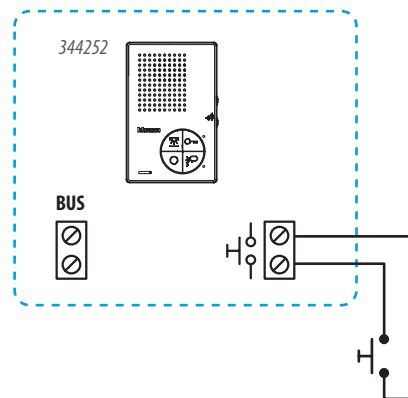
EXAMPLE - Connection of a CLASSE 100A12B handsfree audio internal unit

BUS FLOOR CALL WITH INTERFACE 346833

To be used for the call to the floor, so that several internal units connected to the BUS will ring with one single button.

By using the call to the floor interface,the following is possible by pressing one pushbutton:

- the addressed floor call MOD = 0
- the general floor call MOD = 1

ADDRESSED FLOOR CALL WITH 346833 CONFIGURED WITH MOD = 0

APARTMENT 12

Pushbutton

Distance 346833 - pushbutton max 3 m

APARTMENT 3

Pushbutton

Distance 346833 - pushbutton max 3 m
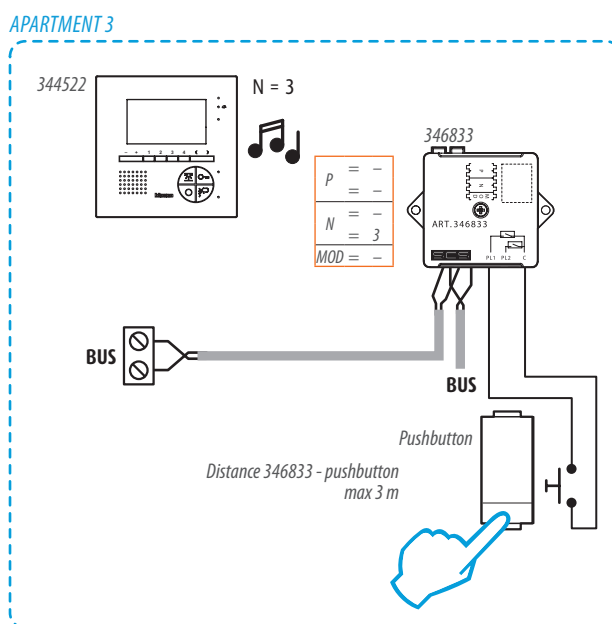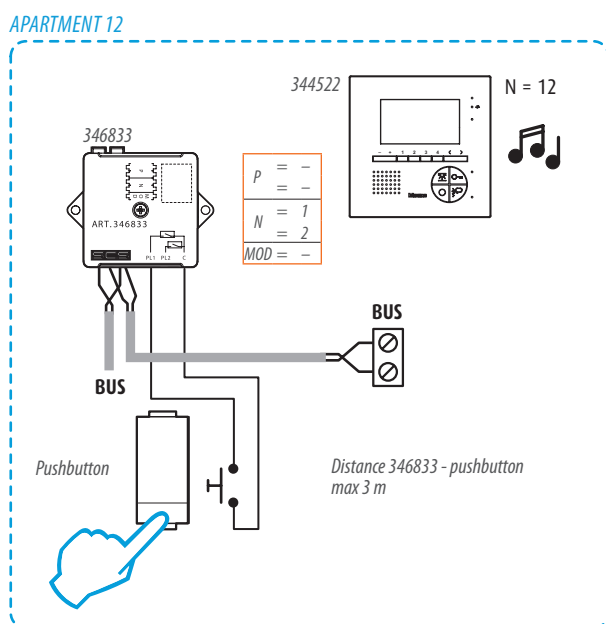
Auxiliary services – Floor call

GENERAL FLOOR CALL WITH 346833 CONFIGURED WITH MOD = 1

APARTMENT

All the IU ring

P = –
 = –
N = –
 = –
MOD = 1

ART. 346833

346833

344522 N = 1

344522 N = 2

344522 N = 3

BUS

BUS BUS BUS

Pushbutton

Distance 346833 - pushbutton max 3 m

Configuration to be used in one-family systems or multi-family systems after apartment interface 346850.

NOTE: By configuring interface 346833 with MOD=4, it is possible to associate the video image of a camera to the call to the floor generated by the pushbutton outside the door.

BUS FLOOR CALL WITH SPECIAL CONTROL L4651M2/H4651M2

By using special control L4651M2/H4651M2, it is possible to make the call to the floor through the BUS. By inserting the special control on the IU BUS (in video systems, the special control must be in-out connected on the IU BUS) and configuring it for the call to the floor, it is possible to have the function without further wiring between entrance and Internal Unit. In installations with IU in parallel, upon arrival of the call to the floor all the Internal Units of the apartment ring.

APARTMENT 5

L4651M2
H4651M2

A = –
PL = 5
M = 2
SPE = 7
AUX = –

344502 ON

JMP

N = –
 = 5
P = –
 = –
M = –

BUS BUS
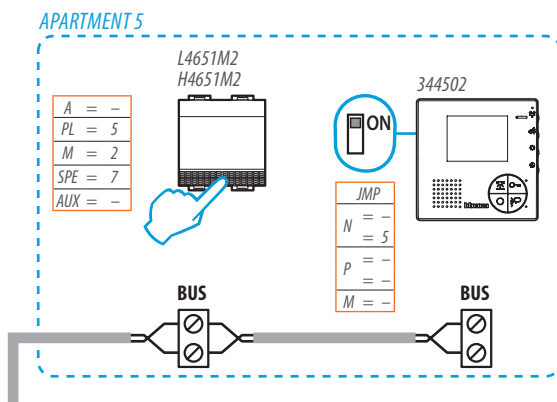
EXAMPLE - BUS floor call - connection before the Internal Unit

APARTMENT 13

344502 OFF

JMP

N = 1
 = 3
P = –
 = –
M = –

L4651M2
H4651M2

A = 1
PL = 3
M = 2
SPE = 7
AUX = –

BUS BUS BUS
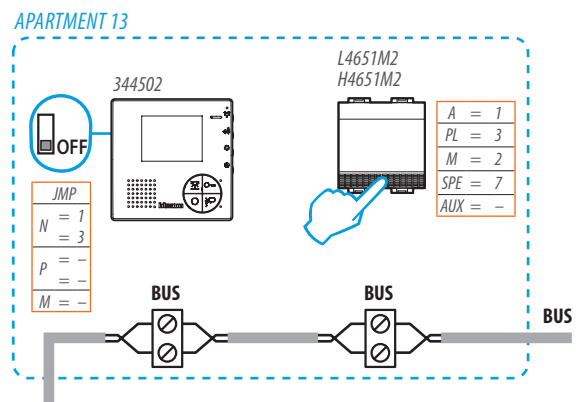
EXAMPLE - BUS floor call - connection after the Internal Unit. If the special control is connected as the last apartment or riser line device, it is necessary to connect a 3499 terminator in and IN-OUT manner on the control itself.

Auxiliary services – Door lock control

DOOR LOCK CONTROL CONNECTION

SFERA ENTRANCE PANELS
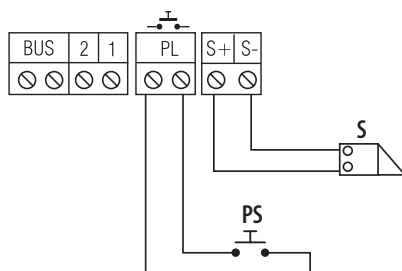
Wiring for door lock release control from the appropriate IU key and the PS key.
Between S+ and S- are available
18 V -4 A impulsive (250 mA holding current) 30 Ohm max
Timing from key (PS) as per the configurator in (T) of the speaker module.
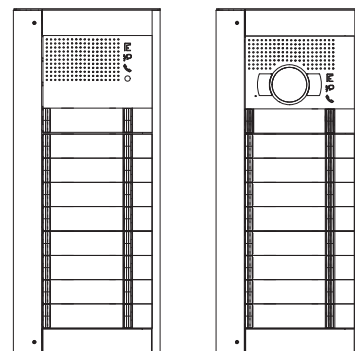
LINEA 300 ENTRANCE PANELS
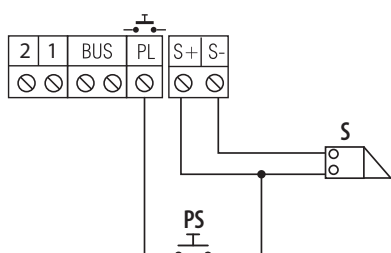
Wiring for door lock release control from the appropriate IU key and the PS key.
Between S+ and S- are available
18 V -4 A impulsive (250 mA holding current) 30 Ohm max
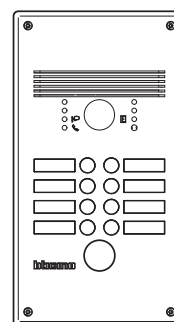
LINEA 2000 ENTRANCE PANELS
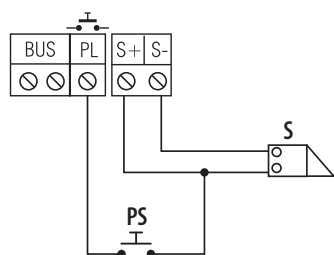
Wiring for door lock release control from the appropriate IU key and the PS key.
Between S+ and S- are available
18 V -4 A impulsive (250 mA holding current) 30 Ohm max.
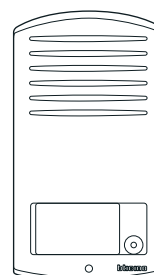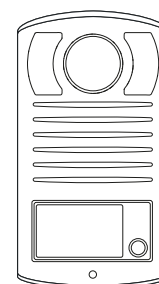
342911   343031

LINEA 3000 ENTRANCE PANELS
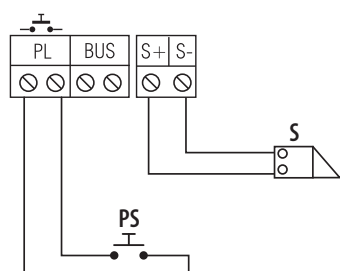
Wiring for door lock release control from the appropriate IU key and the PS key.
Between S+ and S- are available
18 V -4 A impulsive (250 mA holding current) 30 Ohm max
Timing from key (PS) as per the configurator in (T) of the speaker module.
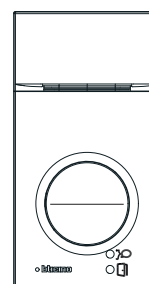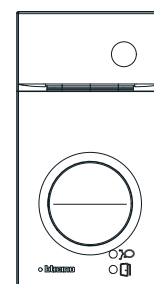
343071   343081
                343091

Auxiliary services - Door lock control

DOOR LOCK CONTROL FROM BUS

(Installation in video systems)

By using special control L4651M2/H4651M2, the door lock release control is timed

The pushbutton marked with X opens the door lock of the Entrance Panel configured with P = 0 (the special control configured with A=0 and PL=0 acts on the EP configured with P=0).
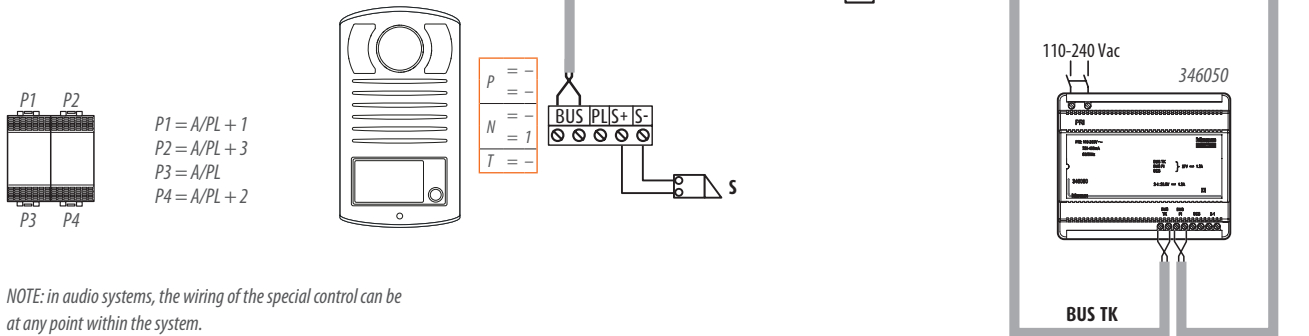
$P1 = A/PL + 1$
$P2 = A/PL + 3$
$P3 = A/PL$
$P4 = A/PL + 2$

NOTE: in audio systems, the wiring of the special control can be at any point within the system.

L4651M2
H4651M2

A	=	–
PL	=	–
M	=	1
SPE	=	7
AUX	=	–

P	=	–
	=	–
N	=	–
	=	1
T	=	–

BUS PI

110-240 Vac

346050

BUS TK

CONTROL OF 2 DOOR LOCKS WITH SFERA KEYPAD MODULE 353000

(installation in audio/audio-video systems)

351100 - 351200 - 351300

353000

A	=	–
B	=	–
C	=	–
M	=	–
	=	3
T	=	–

230 Vac

Auxiliary transformer

BUS PI

110-240 Vac

346050

BUS TK
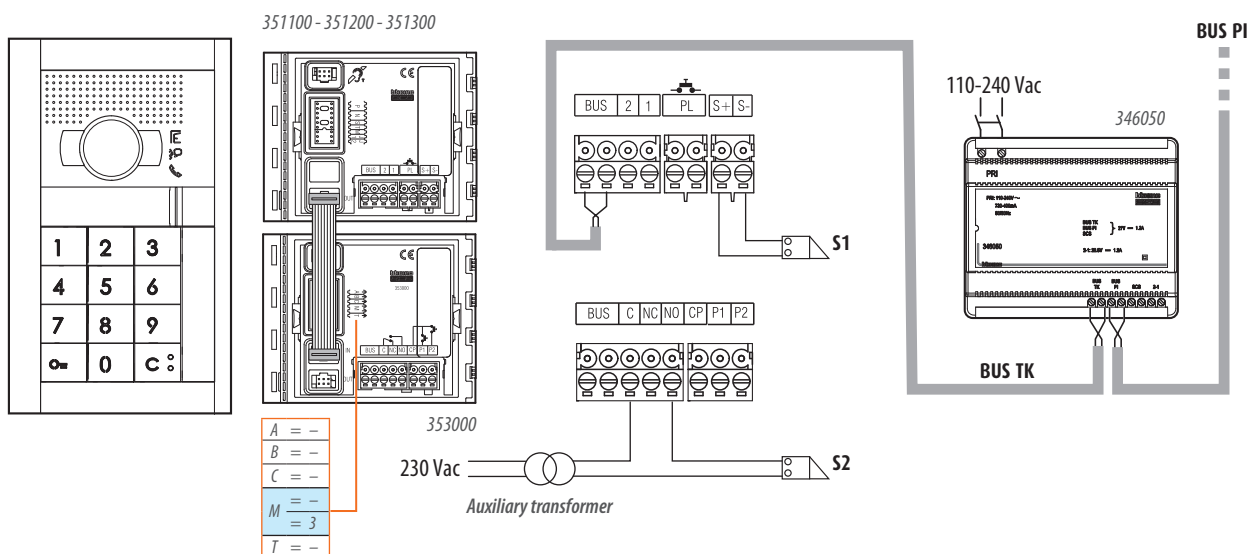
S1 *Electrical door lock 18 V 4 A impulsive 250 mA holding current 30 Ohm max.*

S2 *Contact output (C-NO):*
8 A 30 Vdc
8 A 30 Vac cosφ1
3.5 A 30 Vac cosφ0.4

Note: in order to control the door lock directly connected to the speaker or audio/video module, on the keypad enter ⚷ + door lock release code + confirmation if required; to control the second door lock connected to the contact of the local relay, on the keypad enter ⚷ + ⚷ + door lock release code + confirmation if required

SAFETY DOOR LOCK CONTROL (VENTOUSE TYPE)

8 A COSΦ = 1	24 VDC; 24 VAC
8 A COSΦ = 0.7	24 VAC
8 A COSΦ = 1	24 VAC

BUS TK

346250

110-240 Vac

BUS PI

346050

230 Vac

Auxiliary transformer

Safety door lock (ventouse type)
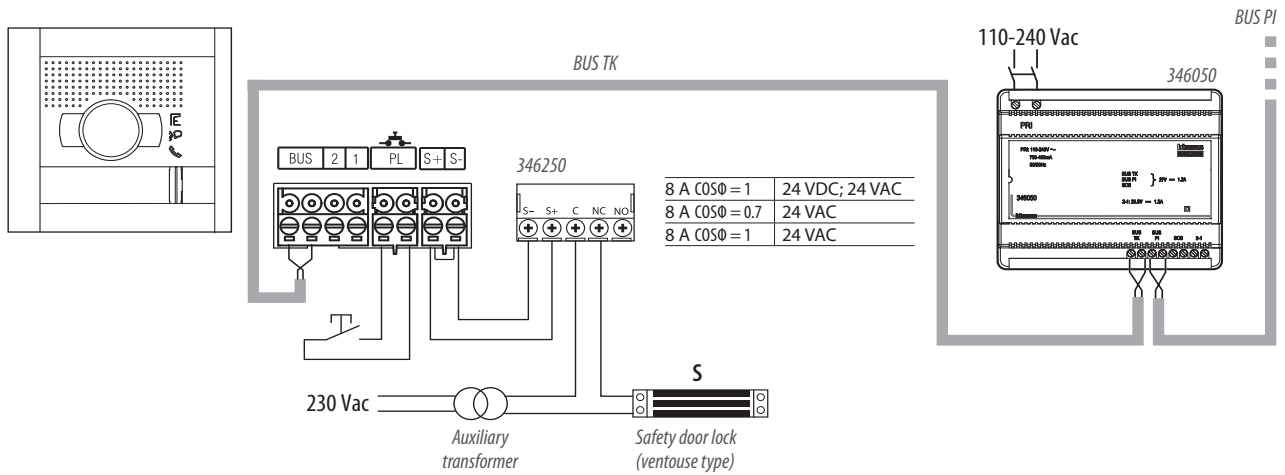
NOTE: *The safety door lock remains closed in case of permanent voltage. It opens when the power supply is interrupted. Interruption time as per the configurator in (T) of the speaker module.*

DOOR LOCK CONTROL NOT MANAGED FROM BUS

8 A COSΦ = 1	24 VDC; 24 VAC
8 A COSΦ = 0.7	24 VAC
8 A COSΦ = 1	24 VAC

346250

110-240 Vac

BUS PI

346050

230 Vac

Auxiliary transformer
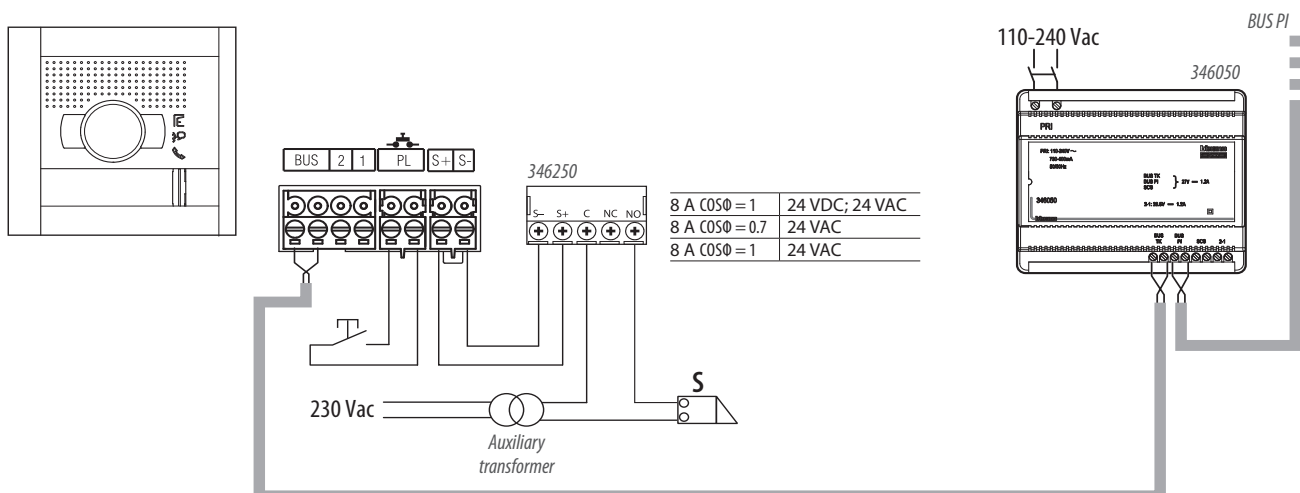
Auxiliary services - Door lock control

DOOR LOCK CONTROL WITH GENERIC ACTUATOR 346210

Should it be necessary to open a door lock at the same time as the one connected to the EP speaker module, or to remotely control the same, actuator 346210 can be used.

The actuator must be configured with MOD =5 and is controlled by the appropriate pushbutton of the IU and the PS key. The contacts may be crossed by a maximum current of 6 A (resistive) – 2 A (inductive) – cos φ=0,5.
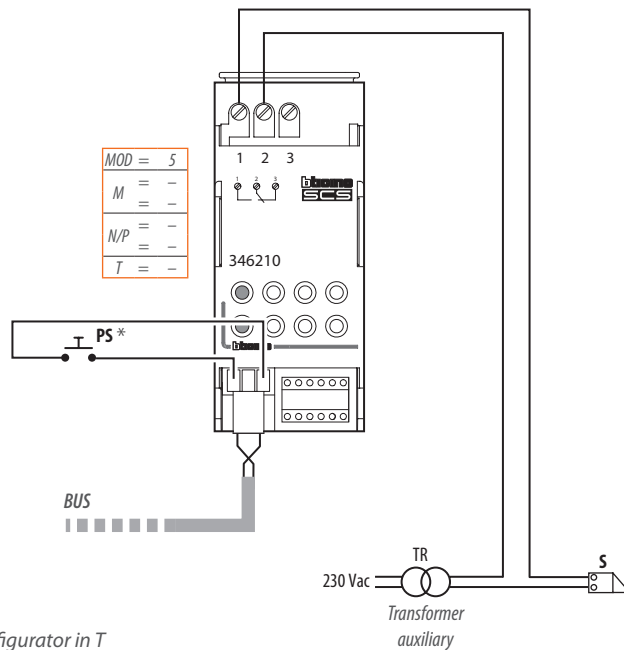
* Contact timing activation as per configurator in T

DOOR LOCK CONTROL WITH INTERFACE 346833

Call to the floor interface 346833 also gives the possibility of opening door locks using appropriately connected pushbuttons.

MOD = 2	Door lock associated in P	PL1-C
MOD = 3	Door lock associated in P	PL1-C
	Door lock associated in P +1	PL2-C

Distance 346833 – pushbutton = max 3 m
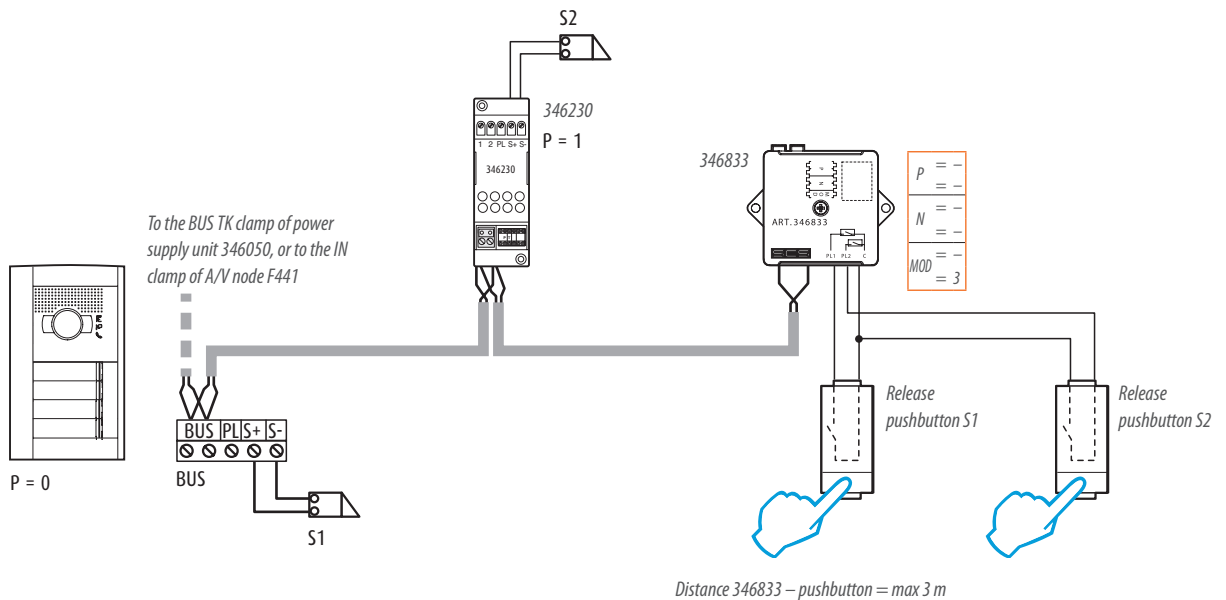
DOOR LOCK CONTROL WITH ACTUATORS 346230 or 346260

The use of the actuators is indicated in installations where the direct connection of the electric door lock release is not wanted, but it is necessary to have, always with 2 wires, wiring that cannot be accessed from the Entrance Panel, positioning the actuator that controls the door lock in a remote area.
It can also be used for the implementation of the "door lock status control" function (actuator 346260 only).

The wiring is completely of the 2 wires type, including the power supply to the electric door lock.
The actuator is controlled by the door lock pushbutton of the IU.
The device must be properly configured.

In systems with audio power supply 346040, the door lock is powered by output transformer 336842 (12 V ~).
The actuator is controlled by the door lock pushbutton of the IU.
The device must be configured.

NOTE: in video systems, the wiring must be completed in IN-OUT mode on the TK BUS clamp of power supply unit 346050, or the IN clamp of the audio/video node.

Actuator 346230

346040
BUS

* Door lock release pushbutton from entrance hall

346230

18V 4A

1 2 PL S+ S-

346230

S+S- = 18 V 4 A impulsive
250 mA holding current
(30 Ohm max)

P T M M J J
M
P

J M P   J M P

Actuator 346260

346040
BUS

* Door lock release pushbutton from entrance hall

* The control is not timed

346260

18V 4A

- TMP PL RC   C NC NO/S+ S-

ART 346260

T= -5 +45°C
IP 30

SCS

J M P   J M P

2-WIRES DOOR ENTRY SYSTEM
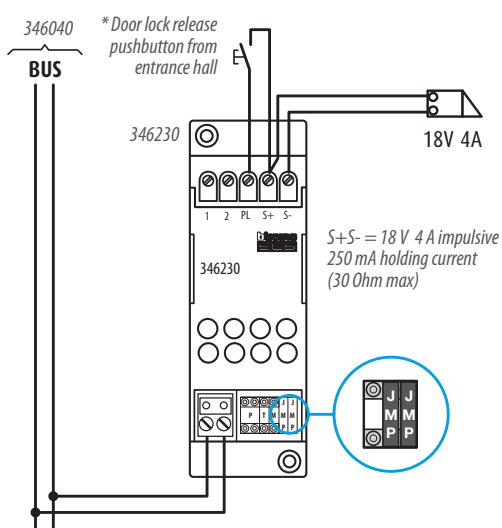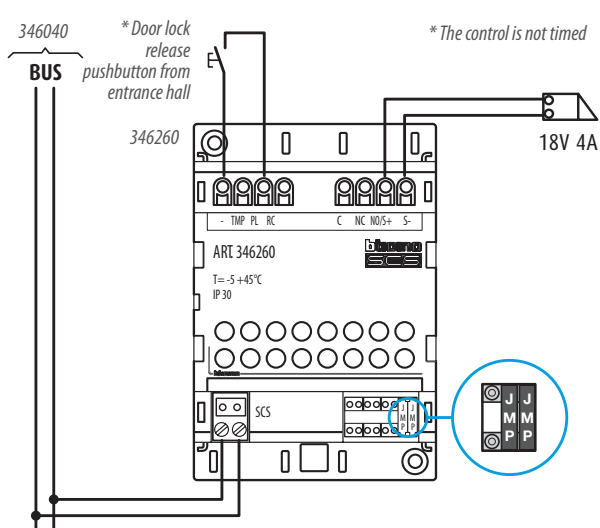
Auxiliary services – Staircase light control

BUS STAIRCASE LIGHT CONTROL WITH ACTUATOR 346210

(Installation in video systems)
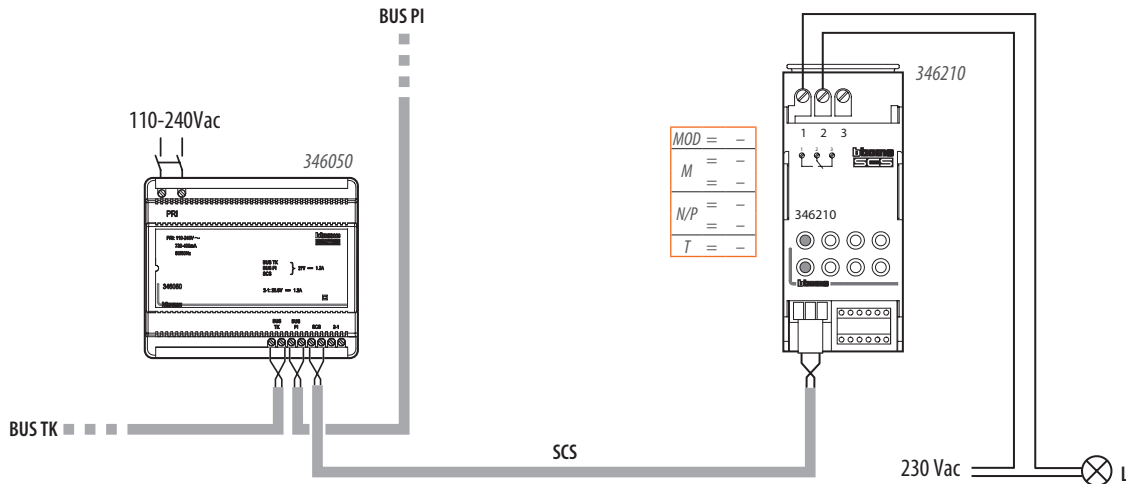
Wiring for staircase light control from the appropriate IU key, and the staircase light key of preset Entrance Panels.

WARNING: the (BUS PI), (BUS TK) and (SCS) outputs can be used at the same time respecting the total maximum absorption of 1.2 A.

BUS STAIRCASE LIGHT CONTROL WITH SPECIAL CONTROL L4651M2/H4651M2

(Installation in video systems)

By using the special control, the switching
on of the light is timed.
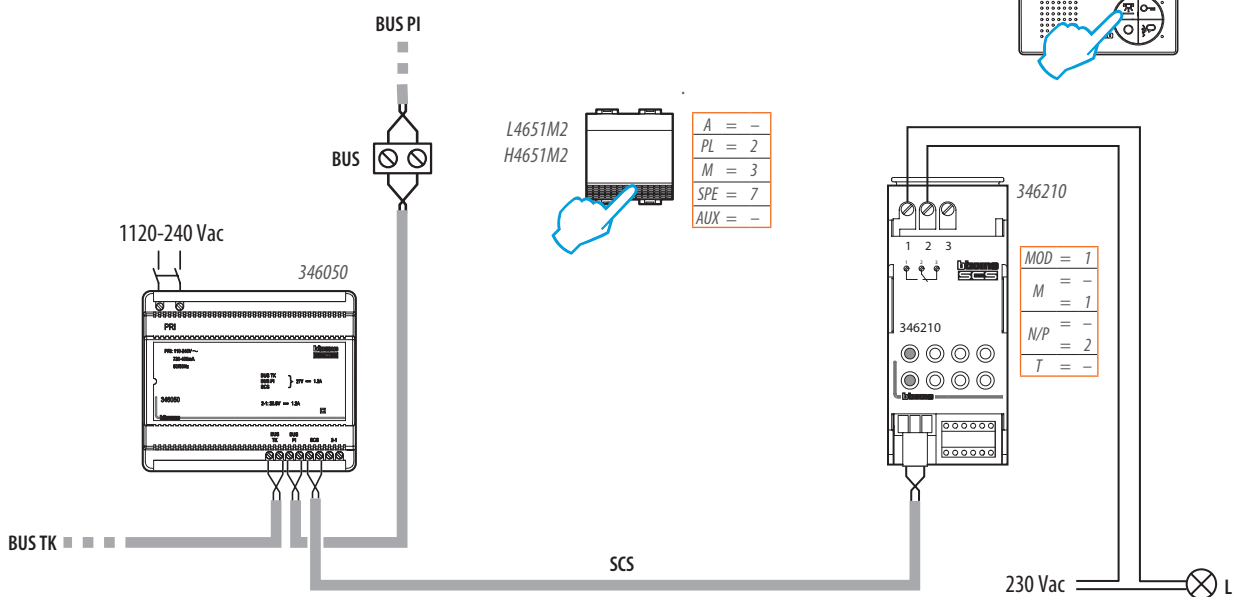
The special control acts on actuator 346210 configured to switch the lights on.
For further details, see the technical sheets of the special control and of actuator 346210.

NOTE: in audio systems, the wiring of the special control can be at any point within the system associated to IU = 2

STAIRCASE LIGHT CONTROL WITH INTERFACE 346833

Call to the floor interface 346833 gives the possibility of switching the staircase lights on using an appropriately connected pushbutton.

MOD = 0		
MOD = 1	Staircase	PL2-C
MOD = 2	Lights	
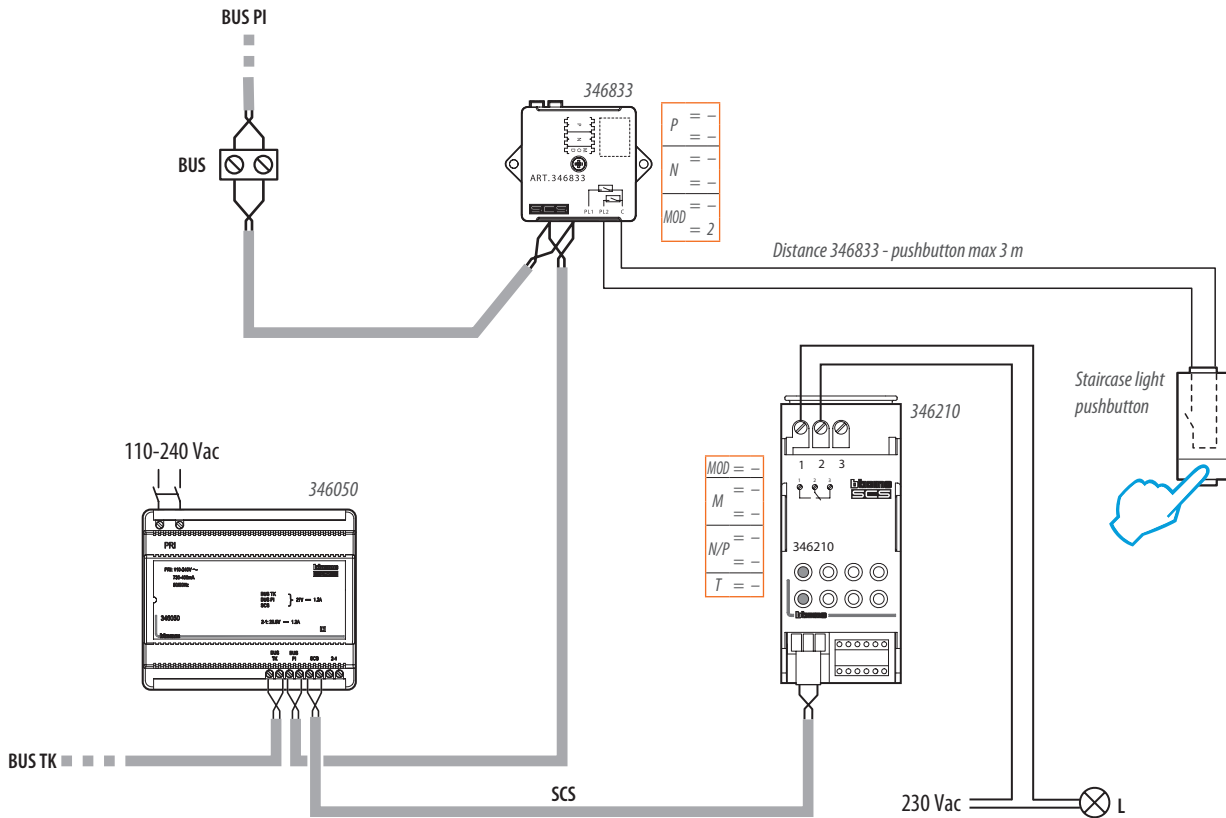
LIGHT CONTROL FOR THE ILLUMINATION OF THE CAMERA FIELD OF VIEW
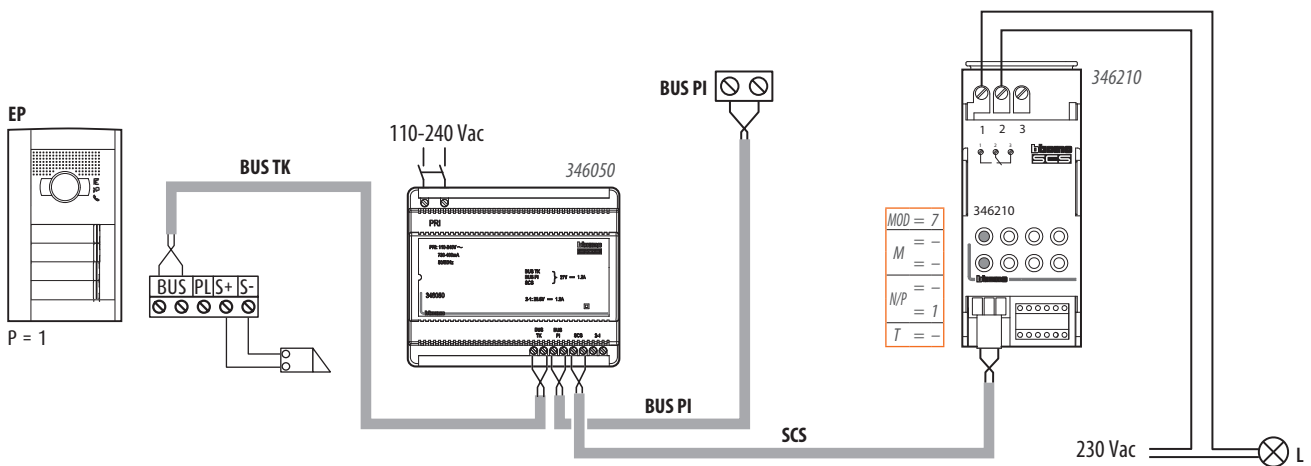
Closure of the contact upon call from the EP configured with P=1.
The contact opens after the call is ended and the handset is put down, or after 30 s (without answer).
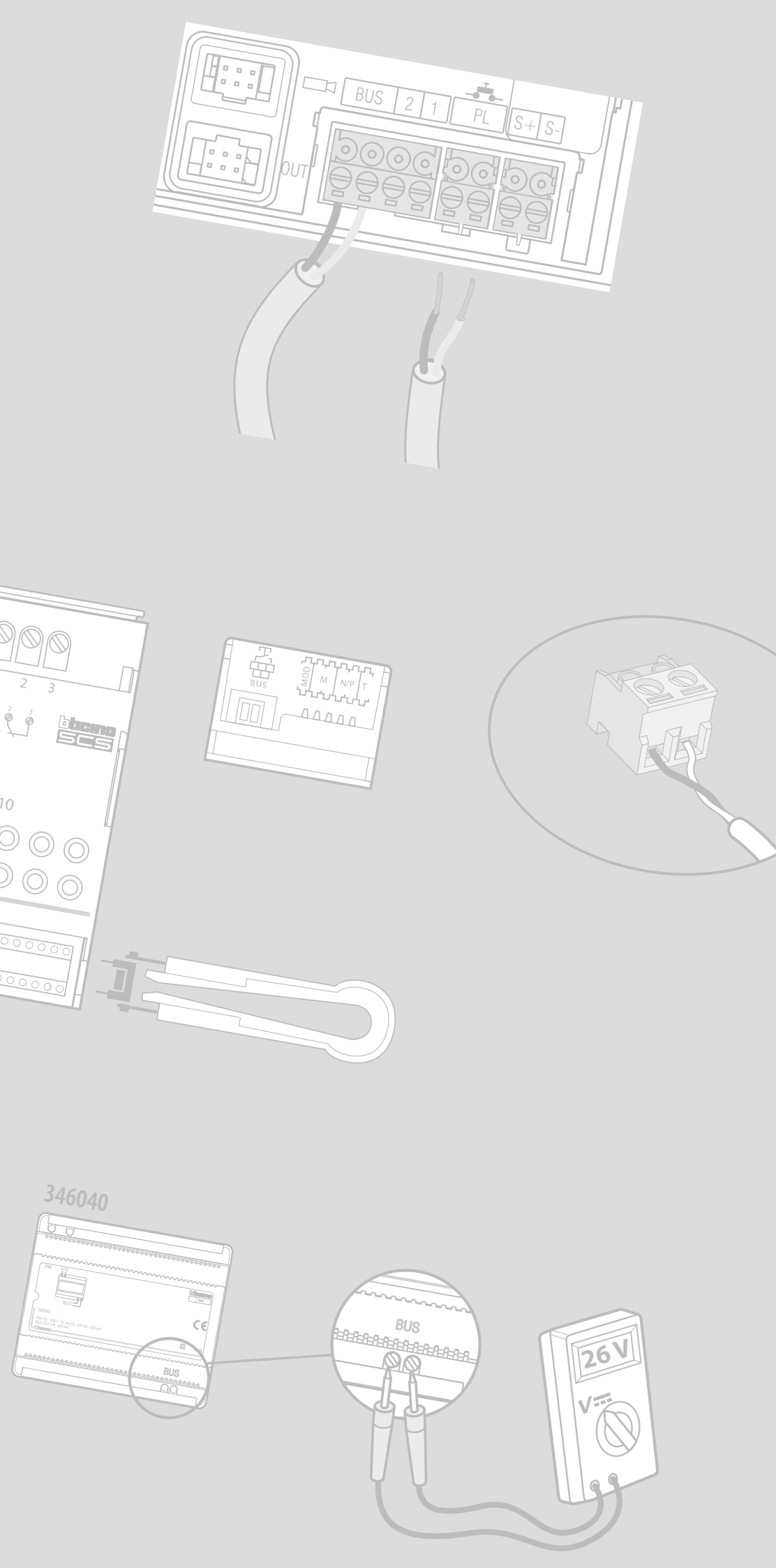
BUS 2 1 PL S+ S-

OUT

2 3

bticino
SCS

BUS MOD M N/P T

346040

BUS

BUS

26 V

V

Inspection and putting into operation of a 2 wires system

INSPECTION

After completing the installation of the 2 wires audio or video door entry system, before powering the circuit it will be necessary to control that all wiring is correct and that internal units, entrance panels, actuators and all other system accessories have been configured as required.
If all the checks give positive results, carry out the following system operation tests:

1) Power the system and wait 1 minute for all the devices to switch on. Make a call from the entrance panel to the first internal unit: this will send an electronic signal to the loudspeaker of the internal unit and a call confirmation sound to the entrance panel speaker module that has made the call.

When a call is made a confirmation sound is heard
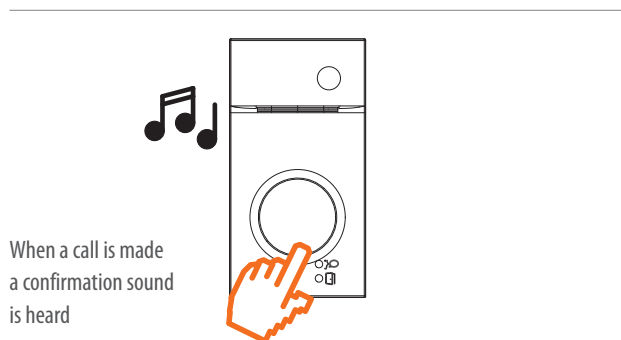
2) By plugging the appropriate configurator to the **M** housing, it is possible to disable the door lock sound or all the sounds at the entrance panel.

Example for SFERA entrance panels
(for other entrance panels the configurators are different)

Configurator	M = 0	M = 1	M = 2	M = 3
Tone status	All tones **enabled**	Door lock tone **disabled**	Call tone **disabled**	All tones **disabled**

3) When the internal unit rings, press the connection key or lift the handset to establish communication with the entrance panel. In video systems, after the call tone the video internal unit monitor switches on; if the call is from an audio only entrance panel, the monitor stays off. Check that sound travels in both direction (from and to the entrance panel), and that images are displayed correctly.
Make test calls from all the entrance panels to all the internal units of the system.

Test the bidirectional audio

Check the image quality
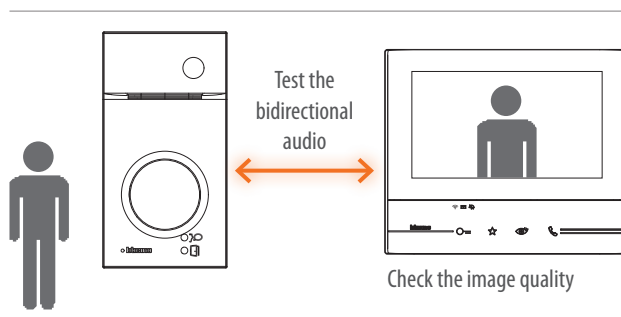
4) Check all the internal units to make sure that the door lock, entrance panel auto-switching on and staircase light keys (if present) are working correctly. Check that with the internal unit idle (no active call) the door lock button operates the door lock of the associated entrance panel, and that with the call active it operates the door lock of the entrance panel that has made the call.
With digital call module (display 352500 or display 352500 + keypad 353000), check that the address book contains the contacts of all residents and repeat the call test from paragraph (**1**).
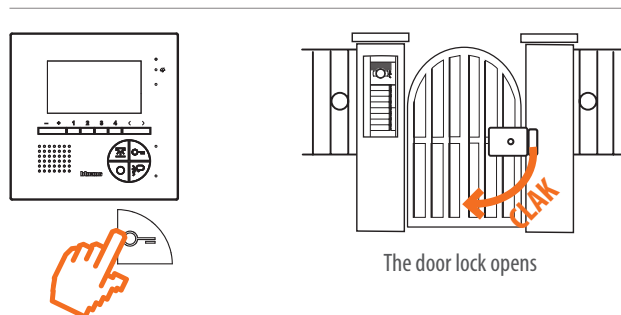
The door lock opens

5) Check that the auto-switching on / cycling pushbutton operates the entrance panel associated to the internal unit, that cycling is performed correctly (if several entrance panels are installed), and that the door lock pushbutton operates the door lock of the entrance panel activated with the cycling procedure.

The images recorded by the entrance panel are displayed on the internal unit monitor
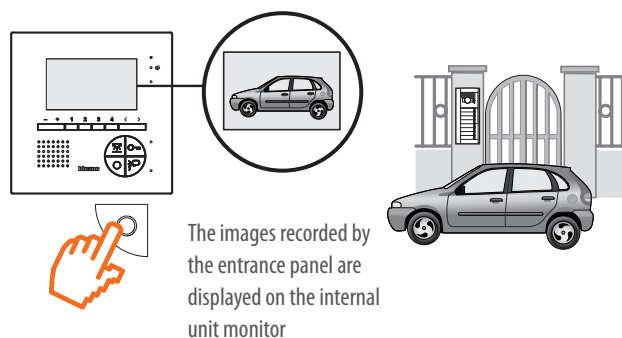
6) Check that during a conversation and for the 30 seconds after a call is sent the other internal units and entrance panels of the system (not involved in the communication) are unable to make calls. When a call is made, an engaged sound notification is heard at the entrance panel.

-Check that after 1 minute the internal unit is disconnected even if the communication has not been stopped.

- In case of isolated risers, repeat the test for each riser entrance.

Entrance panel temporarily excluded
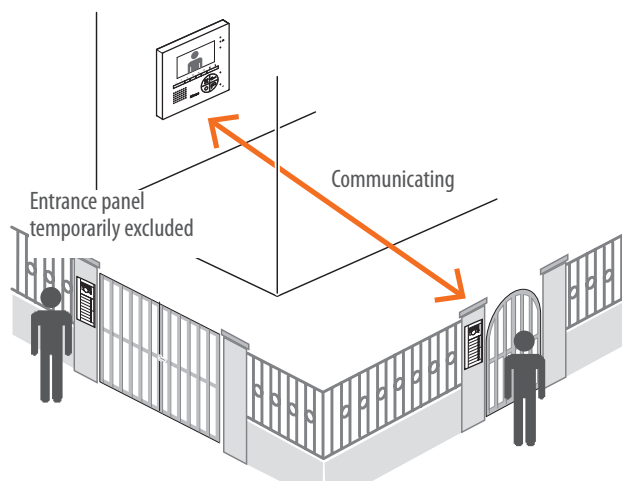
Communicating

7) For systems with Intercom function, check that it is possible to call other devices, and that during the call the other internal units not involved in the communication are disabled (when a call is made an engaged sound is heard).
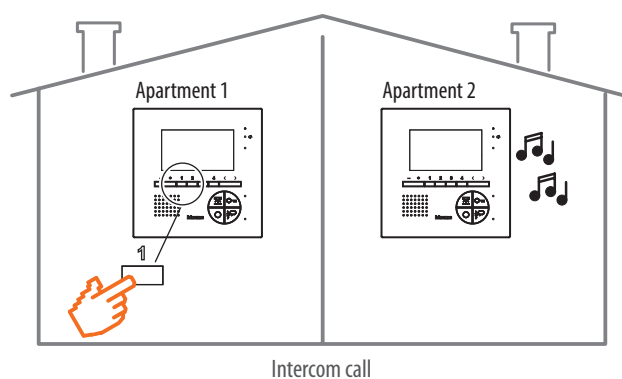
NOTE: the call from the entrance panel has priority on the Intercom call and will replace it.

Apartment 1   Apartment 2

Intercom call

WWW.BTICINO.COM

Inspection and putting into operation of a 2 wires system

If the system requires the use of one or more connected **Classe 300X13E** video internal units, it will be necessary to consider the following:

Apartment block or multi-family context

In **multi-family** systems, the Classe 300X video internal unit must be powered locally – clamps (**1 – 2**), using the additional power supply unit, item 346020.
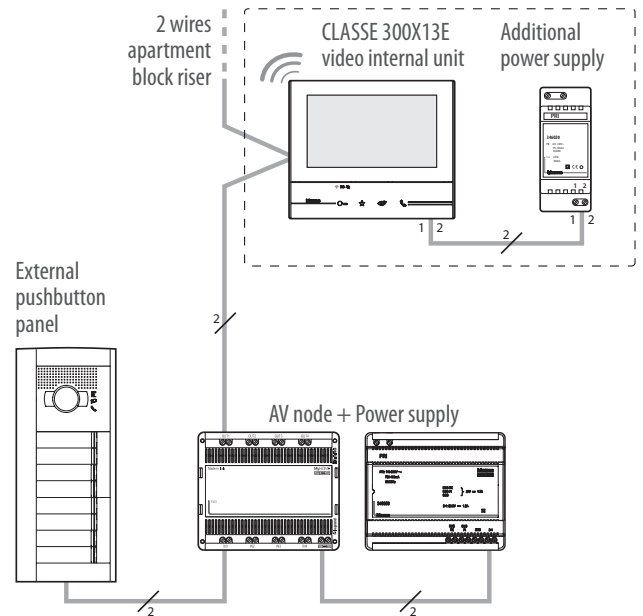
During the commissioning stage, the Classe 300X video internal unit and the smartphone must both be connected to the same Wi-Fi network.

The Wi-Fi network must be on a **2.4 GHz** band.
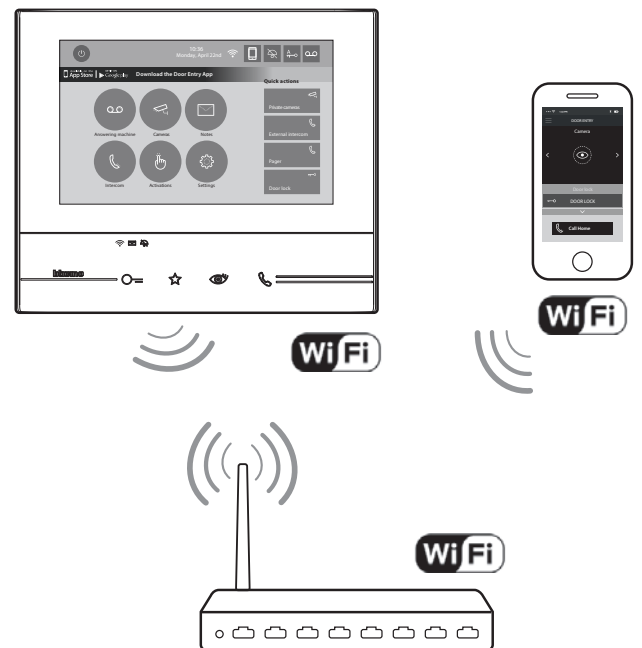
In case of abnormal operation, carry out a troubleshooting procedure, making reference **to the following DIAGNOSTIC - TROUBLESHOOTING section.**

Diagnostic - Troubleshooting

The troubleshooting procedure must be completed in a rational manner. Before carrying out any operations on the system, check the diagram and the type of system, its extension, that the devices are being used and are configured correctly.
With the appropriate splitting into sections, all the systems, even the more complex ones, can be traced back to a basic one to make the activities easier.

BASIC SYSTEM

2 wires audio and video systems can be simplified in line with the following block diagrams.

Legend:

PE P = Main entrance panel configured with (P = 0)

PI = Audio or video internal unit / apartment interface

ALIM = System power supply

DP = Video floor shunt

2 wires AUDIO system   2 wires VIDEO system
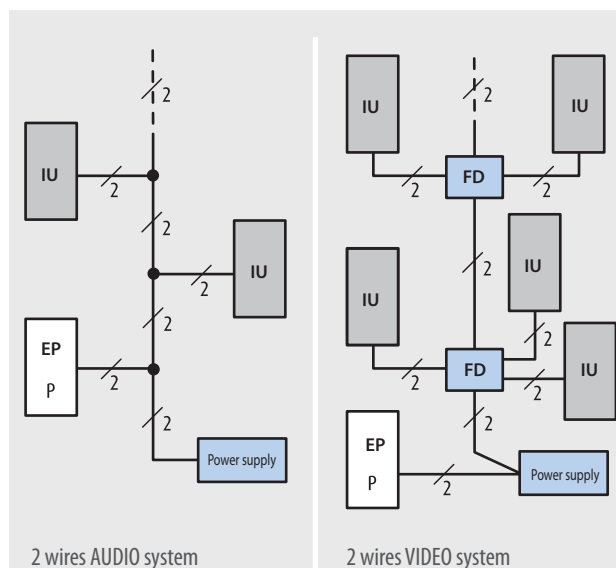
GENERAL CONTROLS

- Check that the installation distances have been respected and that the recommended cables have been used.

- Check the voltages (with the components connected) on the clamps of the system power supply unit (BUS TK, BUS PI, SCS 346050 clamps: 27 V; BUS 346040 clamps: 26 V).

If the voltages are different, check the power supply unit without load (no connected components). If the indicated voltages can be measured in this condition, it means that there is a short circuit on the system: separate the system into sections and repeat the checks. If the voltages are still different, check the network power supply and replace the system power supply unit if necessary.

- Check that the devices are working correctly (by connecting them to another point of the system).

- Check that the plug-in clamps are plugged in correctly and in the correct housings.

346050

346040

Check that the connections have been completed correctly.
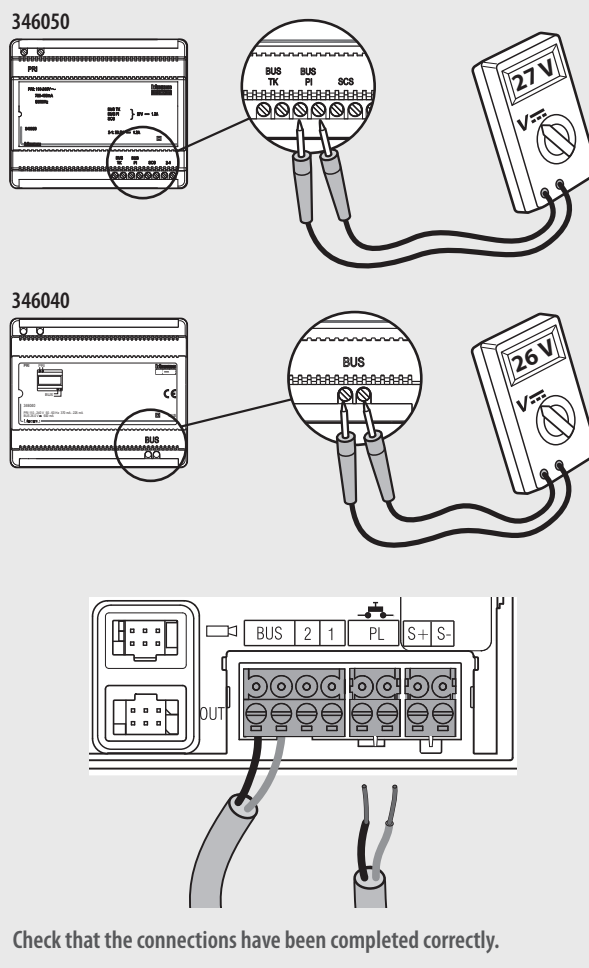
Diagnostic - Troubleshooting

Below is a list of the most common faults and their solutions.

TYPE OF FAULT

- The call sound is heard at the entrance panel, but no internal unit rings

SOLUTION

- Check the EP and IU configuration in (**N**).

- Check that the configuration is appropriate for the system (presence of apartment interface, system expansion interface, etc.).

- Check that the cables are correctly connected to the power supply BUS clamps.

Do not connect the BUS to clamps (2 - 1)
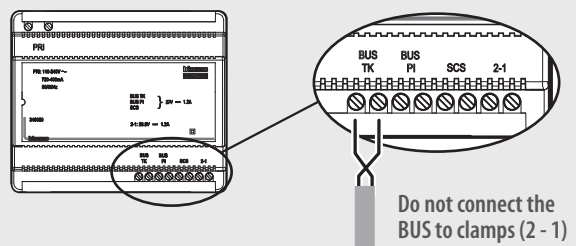
- When using an additional power supply unit (clamps 2 - 1). make sure that the BUS cable is also connected, and that the polarity requirement is met for clamps 2-1.

- Check the connection order of the entrance panel SFERA module and the corresponding IN - OUT flat cable connections

Example 1

Speaker module/ Audio video

Pushbuttons

Pushbuttons

Example 2

Speaker module/ Audio video

Door lock release RFID
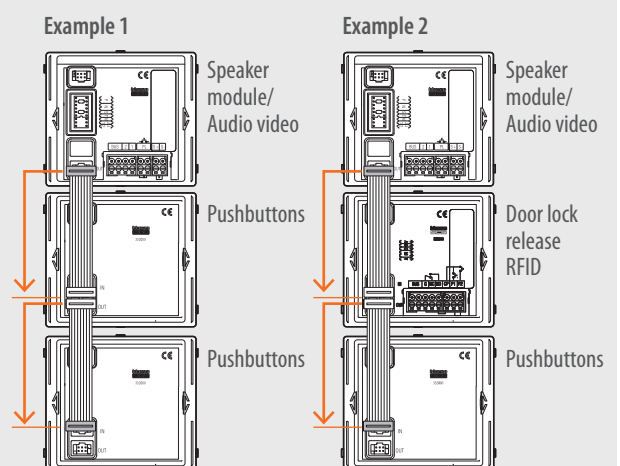
Pushbuttons

Warning : "advanced" function modules (353000 keypad and 353200 door opening RFID), must be connected before any pushbutton modules (352000 – 352100) of the system.

TYPE OF FAULT

– The internal unit does not ring

SOLUTION

- Check the IU configuration.

- Check that call exclusion is not active and the volume of the ringtone.

- Check the cables connections to the internal unit clamps.
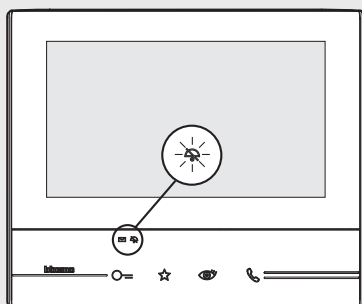
Classe 300
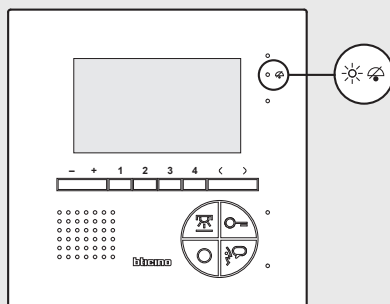
Classe 100V12E
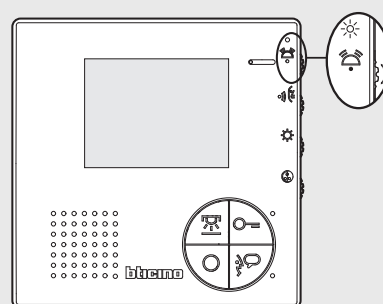
Classe 100V12B
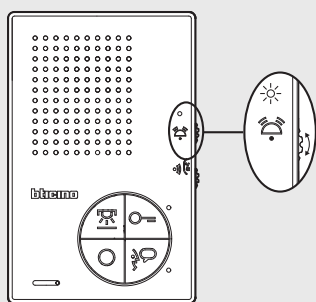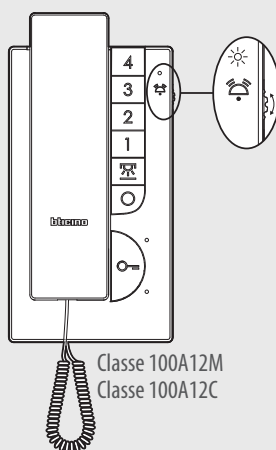
Classe 100A12B

Classe 100A12M
Classe 100A12C
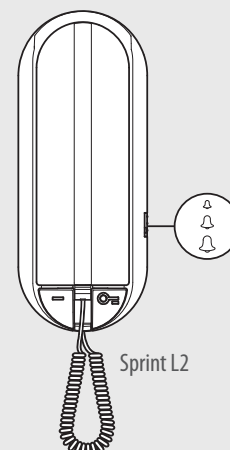
Sprint L2
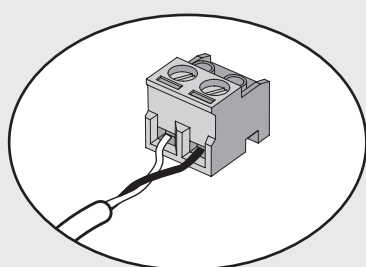
Diagnostic - Troubleshooting

TYPE OF FAULT

- The monitor switches ON but no image is displayed, or the image quality is poor.

SOLUTION

– Check that the internal unit microswitch (**ON – OFF**) is positioned **correctly (ON the last internal unit of the line)**.

- Check that all system connections and junctions have been completed correctly.

– Check that the entrance panel camera is focused correctly.

– Check that the internal unit is set to "**MASTER**".

– If using a Sfera entrance panel with wide angle N&D camera (352400), check its connection to the speaker module (351100).

– On the internal unit, check the display brightness, contrast and colour adjustments.

– Check that the maximum distances between entrance panel and internal unit are not exceeded.

- The door lock is excited for too long.

– On the entrance panel speaker module check that the configurator plugged in the (**T**) housing meets the timing requirements, as indicated in the specific technical data sheet.

- In single-family systems with intercom function, when a call is received from the entrance panel not all internal units ring.

– Check that a configurator (**9**) has been plugged to the housing (**S**) of the speaker module of the entrance panel.
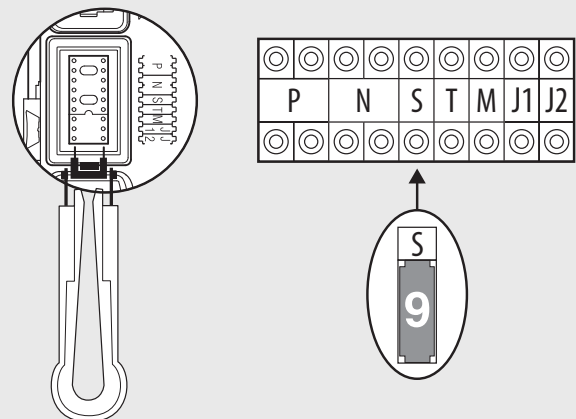
– Check that the internal units are correctly configured in **N**; refer to the connection diagrams found in the guide.

TYPE OF FAULT

- In single-family systems with intercom function, when call is sent from one internal unit to another, nothing happens.

SOLUTION

– Check the configuration (**M / MOD**) on the IU. Check that the operating mode assigned to the internal unit keys is consistent with the requested function.

Refer to the specific IU technical sheets.

J1	J2	N	P	M		N	P	MOD
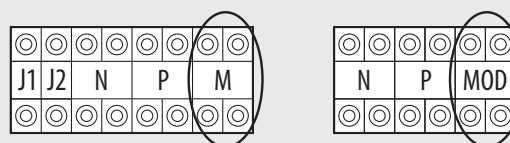
MODE	KEY	FUNCTION	NOTES
M = 04	1	**Activation of the EP** (configured with P+1) directly without call or activation of the actuator 346200 – 346210 (configured with P+1 and MOD=9)	
	2	**Intercom** inside the apartment, in systems with apartment interface 346850, or **intercom** among apartments in systems without apartment interface.	
	3	**EP door lock release** (configured with P+1), directly without call, or activation of the actuator 346200 - 346210 (configured with P+1 and MOD=5), or activation of door lock actuators 346230 - 346260 (configured with P+1)	
	4	**EP door lock release** (configured with P+2), directly without call, or activation of the actuator 346200 - 346210 (configured with P+2 and MOD=5), or activation of door lock actuators 346230 - 346260 (configured with P+2)	

– **The door lock control does not work**

– Check the characteristics and operation of the electric door lock.

– In order to rule out any entrance panel faults, open the door lock using the local pushbutton directly connected to the entrance panel.

BUS	2	1	PL	S+	S-

S

PS
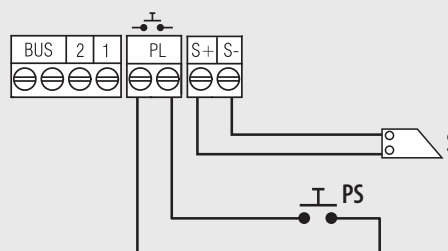
– If this works correctly, check the configuration (**P**) on entrance panels and internal units.

– Check the operation of the door lock with the system "**IDLE**".

– Check the operation of the door lock with the system "**CONNECTED**".

Diagnostic - Troubleshooting

TYPE OF FAULT

– The actuator 346210 does not work

SOLUTION

– In order to rule out any actuator faults, send the command using the local control directly connected to the device.
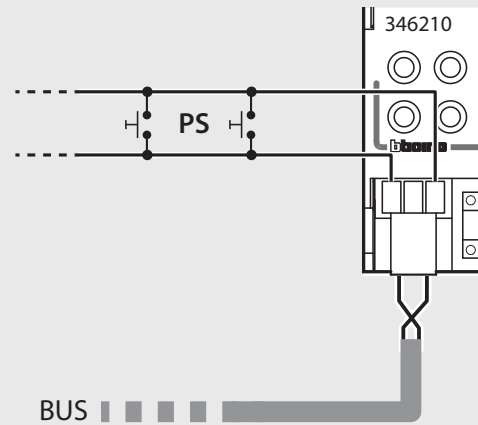
– Check the configuration of the actuator to make sure that it complies with the requirements of the technical data sheet.
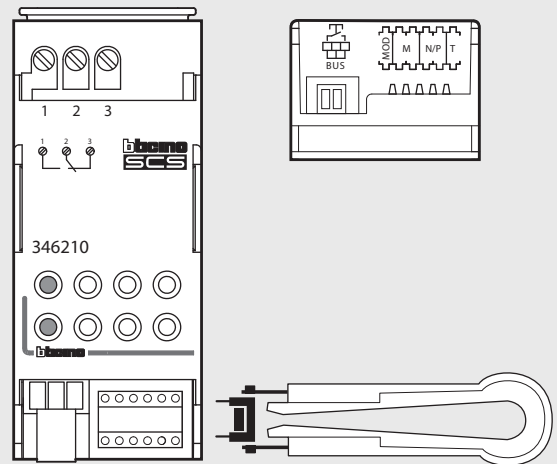
– Check the configuration of the internal unit and that the configurators are correctly plugged into their respective housings.

– Check the BUS wiring.

– Check the voltage on the BUS clamps.

TYPE OF FAULT

– The actuator 346230 does not work

SOLUTION

– Check the configuration of the actuator to make sure that it complies with the requirements of the technical data sheet.

– Check that the configuration is consistent with the mode of operation of the internal unit and the corresponding key associated to the actuator.

– Check if there is a need for "**JMP**" configurators, depending on the selected operating mode.
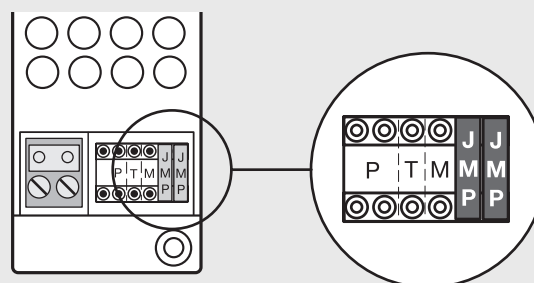
– In video systems with risers and line expansions, the image is degraded and of poor quality.

– Check that on the last internal unit of the apartment riser or line, the video signal impedance has been adapted (microswitch in the ON position).

– Check that the apartment interface (346850) or the system expansion interface (346851) have been installed, and the status - video signal level - indicated by the LED ▰◀

Green LED = **ok**

Green/red LED= **video signal near the limit**

Red LED = **no video signal or limit exceeded**
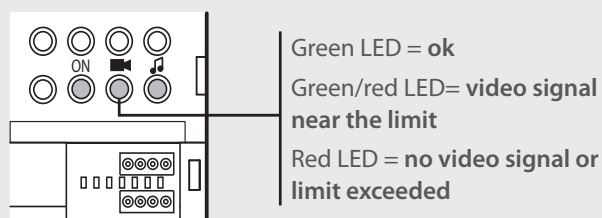
NOTE : in the audio systems, the LED is red.

Diagnostic - Troubleshooting

Systems with connected video internal unit **Classe 300X13E**

TYPE OF FAULT

- **No video door entry system call received on the smartphone**

SOLUTION

– Check the Wi-Fi signal level on the IU.
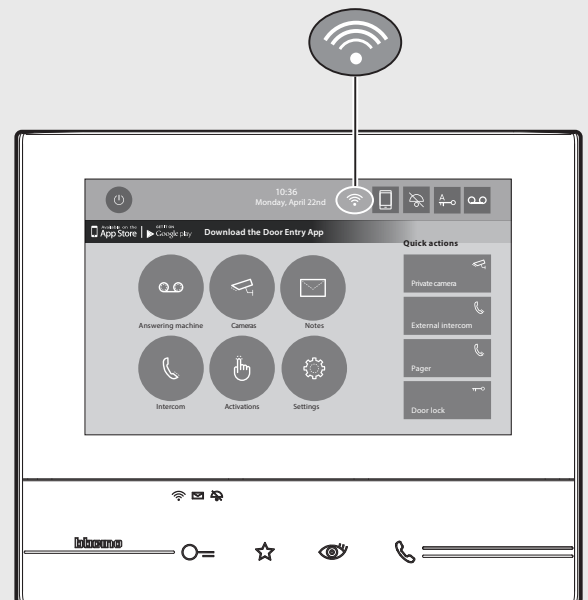
– Check that the router is actually connected to the Internet.

– Check that the date and time of the internal unit are correct.

– Check if any internal unit firmware updates are available.

– Check if any Door Entry APP updates are available.

– Check that PUSH notifications are enabled on your smartphone.
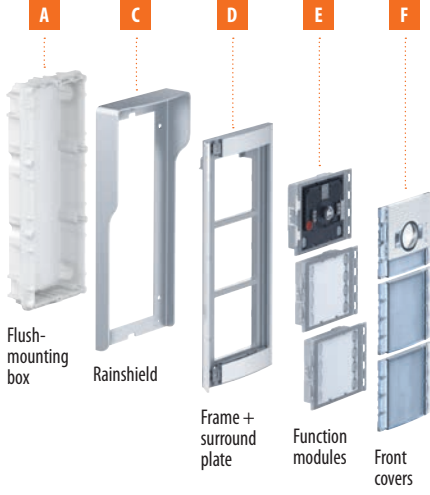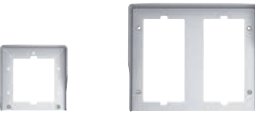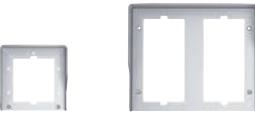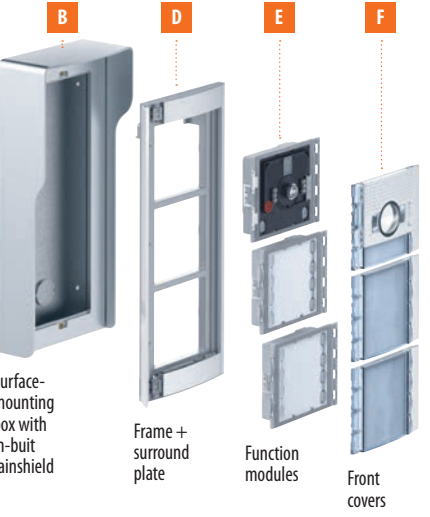
SFERA NEW
Examples to select parts of the system

FINISHES	INSTALLATION TYPE		FLUSH-MOUNTING BOXES		RAINSHIELDS (OPTIONAL)			FRAMES/PLATES	
	FLUSH-MOUNTING INSTALLATION		Cat.Nos	Pack	Cat.Nos		Pack	Cat.Nos	Pack

Allmetal (silver) — 1

FLUSH-MOUNTING INSTALLATION

A — Flush-mounting box
C — Rainshield
D — Frame + surround plate
E — Function modules
F — Front covers

FLUSH-MOUNTING BOXES (A):
- 350010 — 1 module — Pack 1
- 350020 — 2 modules — Pack 1
- 350030 — 3 modules — Pack 1

RAINSHIELDS (OPTIONAL) (C):
- 35051.. — 1 module — Pack 1
- 35052.. — 2 modules — Pack 1
- 35053.. — 3 modules — Pack 1
- 35054.. — 4 modules — Pack 1
- 352500 — 6 modules — Pack 1
- 35059.. — 9 modules — Pack 1

FRAMES/PLATES (D):
- 35021.. — 1 module — Pack 1
- 35022.. — 2 modules — Pack 1
- 35023.. — 3 modules — Pack 1

Allwhite (white) — 2

	INSTALLATION TYPE		SURFACE-MOUNTING BOXES			FRAMES/PLATES	
	SURFACE-MOUNTING INSTALLATION		Cat.Nos	Pack		Cat.Nos	Pack

Allstreet (grey) — 3

SURFACE-MOUNTING INSTALLATION

B — Surface-mounting box with in-buit rainshield
D — Frame + surround plate
E — Function modules
F — Front covers

SURFACE-MOUNTING BOXES (B):
- 35061.. — 1 module — Pack 1
- 35062.. — 2 modules — Pack 1
- 35063.. — 3 modules — Pack 1
- 35064.. — 4 modules — Pack 1
- 35066.. — 6 modules — Pack 1
- 35069.. — 9 modules — Pack 1

FRAMES/PLATES (D):
- 35021.. — 1 module — Pack 1
- 35022.. — 2 modules — Pack 1
- 35023.. — 3 modules — Pack 1

CHOOSE YOUR FINISH: Replace the dots in the Cat. No. with either 1, 2, or 3 to select the desired finish

DIGITAL FUNCTION MODULES			FRONT COVERS		
Cat.Nos		Pack	Cat.Nos		Pack

Speakers

E			**F** Audio front covers		
351000 Basic speaker module (FOR AUDIO SYSTEMS ONLY)		1	**35100..** Basic speaker module / **35101..** Basic speaker module 1 push-button / **35102..** Basic speaker module 2 push-buttons / **35104..** Basic speaker module 2 push-buttons/double row / **35108..** Basic speaker module 4 push-buttons/double row		1
351100 Speaker module		1	**35110..** Speaker module / **35111..** Speaker module 1 push-button / **35112..** Speaker module 2 push-buttons / **35114..** Speaker module 2 push-buttons/double row / **35118..** Speaker module 4 push-buttons/double row		1

Push-buttons

352000 4 push-buttons/ single row		1	**35203..** 3 push-buttons / **35204..** 4 push-buttons		1
352100 8 push-buttons/ double row		1	**35216..** 6 push-buttons/double row / **35218..** 8 push-buttons/double row		1

E			**F** Video front covers		

Cameras

351200 Audio/video		1	**35120..** Audio/video / **35121..** Audio/video 1 push-button / **35122..** Audio/video 2 push-buttons/double row		1
351300 Audio/video with wide angle camera		1	**35130..** Audio/video wide angle / **35131..** Audio/video wide angle 1 push-button / **35131..** Audio/video wide angle 2 push-buttons / double row	**354000** Cable for the connection or several push-button modules L= 620 mm	1
352400 Night/day with wide angle camera		1	**35240..** Night/day with wide angle camera		1

E			**F** Miscellaneous front covers		

Miscellaneous

352200 Name plate		1	**35220..** Name plate		1
352500 Graphic display		1	**35250..** Graphic display		1
352700 Inductive loop and control speech synthesis		1	**35270..** Inductive loop-speech synthesis	**35230..** Blanking reader	1
353200 Badge reader		1	**35320..** Badge reader		1
353000 Keypad		1	**35300..** Keypad		1

CHOOSE YOUR FINISH: Replace the dots in the Cat. No. with either 1, 2, or 3 to select the desired finish

FINISHES	INSTALLATION TYPE	FLUSH-MOUNTING BOXES		SUPPORT FRAMES		FRAMES/PLATES	
	FLUSH-MOUNTING INSTALLATION	Cat.Nos	Pack	Cat.Nos	Pack	Cat.Nos	Pack
	A **C** **D** **E** **F**	**A**		**C**		**D**	
	Flush-mounting box / Frame + support / Function modules / Front covers / Surround plate	350110 1 module	1	350315 1 module	1	350415 1 module	1
Vandal-resistant (ROBUR)		350120 2 modules	1	350325 2 modules	1	350425 2 modules	1
		350130 3 modules	1	350335 3 modules	1	350435 3 modules	1

	INSTALLATION TYPE	SURFACE-MOUNTING BOXES		SUPPORT FRAMES		FRAMES/PLATES	
	SURFACE-MOUNTING INSTALLATION	Cat.Nos	Pack	Cat.Nos	Pack	Cat.Nos	Pack
	B **C** **D** **E** **F**	**B** (*)		**C**		**D**	
	Surface-mounting box with in-built rainshield / Frame + support / Function modules / Front covers / Surround plate	35061.. 1 module	35064.. 4 modules	1	350315 1 module	1	350415 1 module	1
		35062.. 2 modules	35066.. 6 modules	1	350325 2 modules	1	350425 2 modules	1
		35063.. 3 modules	35069.. 9 modules	1	350335 3 modules	1	350435 3 modules	1

(*) **CHOOSE YOUR FINISH:** Replace the dots in the Cat. No. with either 1, 2, or 3 to select the desired finish - Refer to SFERA NEW finishes.
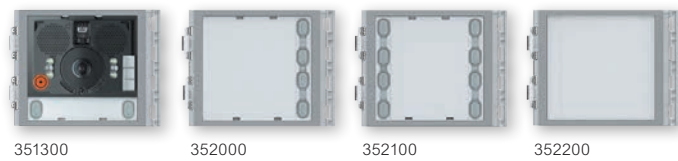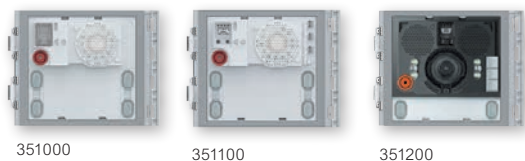
DIGITAL FUNCTION MODULES		FRONT COVERS	
Cat.Nos	Pack	Cat.Nos	Pack

Speakers

E

F Audio front covers

351000 Basic speaker module (FOR AUDIO SYSTEMS ONLY) — Pack 1	**351005** Basic speaker module	**351015** Basic speaker module 1 push-button	**351025** Basic speaker module 2 push-buttons	**351045** Basic speaker module 2 push-buttons/double row	**351085** Basic speaker module 4 push-buttons/double row — Pack 1
351100 Speaker module — Pack 1	**351105** Speaker module	**351115** Speaker module 1 push-button	**351125** Speaker module 2 push-buttons	**351145** Speaker module 2 push-buttons/double row	**351185** Speaker module 4 push-buttons/double row — Pack 1

Push-buttons

352000 4 push-buttons/ single row — Pack 1	**352035** 3 push-buttons	**352045** 4 push-buttons — Pack 1
352100 8 push-buttons/ double row — Pack 1	**352165** 6 push-buttons/double row	**352185** 8 push-buttons/double row — Pack 1

E

F Video front covers

Cameras

351200 Audio/video — Pack 1	**351205** Audio/video	**351215** Audio/video 1 push-button	**351225** Audio/video 2 push-buttons / double row — Pack 1	
351300 Audio/video with wide angle camera — Pack 1	**351305** Audio/video wide angle	**351315** Audio/video wide angle 1 push-button	**351325** Audio/video wide angle 2 push-buttons / double row — Pack 1	**354000** Cable for the connection or several push-button modules L= 620 mm — Pack 1
352400 Night/day with wide angle camera — Pack 1	**352405** Night/day with wide angle camera			

E

F Miscellaneous front covers

Miscellaneous

352200 Name plate — Pack 1	**352205** Name plate	— Pack 1
352500 Graphic display — Pack 1	**352505** Graphic display	— Pack 1
352700 Inductive loop and control speech synthesis — Pack 1	**352705** Inductive loop-speech synthesis	**352305** Blanking reader — Pack 1
353200 Badge reader — Pack 1	**353205** Badge reader	— Pack 1
353000 Keypad — Pack 1	**353005** Keypad	— Pack 1

351000

351100

351200

351300

352000

352100

352200

Pack	Item	Electronic modules
1	351000	**Basic speaker module** for the creation of 2 WIRES audio systems. Fitted with loudspeaker and microphone volume adjustment. It manages up to 100 pushbutton calls using additional double row pushbuttons. It can be used for opening an eleactrical door lock directly connected to the S+ and S- clamps (18 V 4 A impulsive - 250 mA holding current 30 Ohm max) and the connection to a local door lock release pushbutton on the PL clamps. To be completed with surround plate. The device must be physically configured.
1	351100	**Speaker module** for the creation of 2 WIRES audio & video systems. Fitted with loudspeaker and microphone volume adjustment. It can manage up to 100 pushbutton calls when using additional double row pushbutton modules. It can be used for opening an electrical door lock directly connected to the S+ and S- clamps (18 V 4 A impulsive - 250 mA holding current 30 Ohm max) and the connection to a local door lock release pushbutton on the PL clamps. Preset for additional power supply. Fitted with front LEDs for the notification of the operating status: door lock release, communication active, call put through, and system busy. Integrated optic sensor for the switching on of the night backlighting. To be completed with surround plate. The device can be configured either physically or using the PC and the TiSferaDesign software.
1	351200	**Audio video module** for the installation of 2 WIRES colour video systems. With Colour camera with 1/3" sensor and white LEDs for the lighting of the shooting field. Mist prevention heating resistance. Loudspeaker and Microphone volume adjustments. It can manage up to 98 pushbutton calls using the additional double row pushbutton modules. Horizontal and vertical camera position adjustment, +/- 10° in both directions. It offers the possibility of opening an electrical door lock directly connected to clamps S+ and S- (18 V 4 A impulsive - 250 mA holding current 30 Ohm max) and of connecting a local door lock release pushbutton on clamps PL. Preset for additional power supply. Fitted with front LEDs for the notification of the operating status: door lock release, communication active, call put through, and system busy. Integrated optic sensor for the switching on of the night backlighting. To be completed with surround plate. The device must be configured physically or using a PC and the TiSferaDesign software.

Pack	Item	Electronic modules
1	351300	**Wide angle audio/video module** for the installation of 2 WIRES colour video systems. With Colour camera with 1/3" sensor and white LEDs for the lighting of the shooting field. Mist prevention heating resistance. Loudspeaker and Microphone volume adjustments. It can manage up to 98 pushbutton calls using the additional double row pushbutton modules. It offers the possibility of opening an electrical door lock directly connected to clamps S+ and S- (18 V 4 A impulsive - 250 mA holding current 30 Ohm max) and of connecting a local door lock release pushbutton on clamps PL. Preset for additional power supply. Fitted with front LEDs for the notification of the operating status: door lock release, communication active, call put through, and system busy. Integrated optic sensor for the switching on of the night backlighting. To be completed with surround plate. The device must be configured physically or using a PC and the TiSferaDesign software
1	352000	**Additional 4-pushbutton modules arranged on single column.** To be used with speaker modules 351000 - 351100 and audio/video modules 351200 - 351300.Connection using the appropriate multicable supplied. Backlighting of nameplates controlled by the speaker module or the audio/video module connected. To be completed with surround plate
1	352100	**Additional 8-pushbutton modules arranged on double column.** To be used with speaker modules 351000 – 351100 and audio/video modules 351200 - 351300. Connection using the appropriate multicable supplied. Backlighting of nameplates controlled by the speaker module or the audio/video module connected. To be completed with surround plate
1	352200	**Nameplate module** normally used for displaying the house number or other notifications (e.g. Legend for calls using digital pushbutton panels, opening/closing times, etc.). Connection using the appropriate multicable supplied. Night backlighting controlled by the speaker module or the audio/video module connected. To be completed with surround plate

352400 352500 352700 353000 353200 346993

348200 348201 348202 348203 348204 348205 348206 348207 348402

Pack	Item	Electronic modules
1	352400	**Night & Day and wide angle camera module** for the installation of colour video systems. Fitted with 1/3" sensor with N&D function and automatic removal of the IR filter. IR LED for the lighting of the field of view. Mist prevention heating resistance. Automatic brightness adjustment. Connection to the speaker module (351100) using the multicable supplied. To be completed with surround plate
1	352500	**Graphic display module** to be used with speaker module 351100 or with audio/video modules 351200 – 351300 (connection using the multicable supplied). It can operate in two modes: call from address book, or digital call. The call from the address book gives the possibility of sending the call by scrolling on the display the names associated to the residents. It is possible to store up to 4000 residents names. Using the keypad module item 353000 it is also possible to directly call the apartment by entering the number corresponding to the resident. The digital call is also performed using the keypad module item 353000 by entering the numerical code. It is recommended that one or more nameplate modules, item 352200, are installed at the side of the pushbutton panel to display the correspondence between the numerical codes and the names of the users. It is possible to program the names in the address book in two different ways: manual inclusion using the pushbuttons of the display module or inclusion using a PC with the TiSferaDesign software installed, by downloading the file to the display module (RECOMMENDED). System power supply cuts do NOT cause the loss of memory data. To be completed with surround plate
1	352700	**Inductive loop and control speech synthesis module** to be used with the 351100 speaker module or with audio/video modules 351200 - 351300. Enable use by people wearing hearing aids (fitted with T selector) or blind people thanks to the connection status voice message synthesis (call active, call ended, no answer, busy, door open). It is connected to the speaker module using the appropriate multicable supplied. To be completed with surround plate. The device can be configured either physically or using the PC and the TiSferaDesign software

Pack	Item	Electronic modules
1	353000	**Keypad module** for door lock release, or for the digital call of the apartment (to be used with the display module). It is fitted with relay with contacts (C – NC – NO) and clamps (CP- P1 – P2) for the connection of a local door lock release pushbutton. The numerical code for the opening of the door lock can be programmed using the keypad itself, or using a PC after downloading the module programming file. It also has a programming reset pushbutton and LEDS for the visual notification of the access status. Night backlighting with LEDs. To be completed with surround plate. It is connected to the other modules using the appropriate multicable supplied. The device may also be used as a stand alone unit with independent power supply and operation per la sola apertura serratura. Configuration performed using physical configurators, or a PC with the TiSferaDesign software installed
1	353200	**RFID badge reader module** for the release of the door lock by swiping the badge. It manages up to 20000 badges. It's fitted with relay contacts (C – NO - NC) and clamps (CP - P1 - P2) for the connection of a local door release pushbutton. The badge for the release of the door lock can be programmed from the module itself, or using a PC after downloading the module programming file. It also has a programming reset pushbutton and LEDS for the visual notification of the access status. Night backlighting a LEDs. To be completed with surround plate. It is connected to the other modules using the appropriate multicable supplied. The device may also be used as a stand alone unit with independent power supply and operation. Configuration performed using physical configurators, or a PC with the TiSferaDesign software installed
1	346993	**Expander pushbutton module** that gives the possibility of connecting call pushbuttons to the SFERA speaker modules (items 351000; 351100; 351200; 351300). Each module can manage up to 8 call pushbuttons. It is possible to connect several expander pushbutton modules (max 96 call pushbuttons for each Entrance Panel)

		Transponder keys and programmer
10	348200	Black transponder key
10	348201	Red transponder key
10	348202	Green transponder key
10	348203	Blue transponder key
10	348204	Orange transponder key
10	348205	Grey transponder key
10	348206	Yellow transponder key
10	348207	White transponder key
1	348402	Table-top transponder key programmer

IP54

IK10

343091

343081

343071

348260

348261

Pack	Item	**LINEA 3000 Video entrance panel**
		with door lock release proximity reader
1	343091	Wall mounted 2-Wires video pushbutton panel with Zamak front cover, wide angle colour camera and proximity reader. Fitted with white LED for the lighting of the shooting field in low light conditions. Can be set up for one or two family installation. It provides the possibility of opening an electrical door lock connected directly to clamps S+ and S- (18 V 4 A impulsive, 250 mA holding current, 30 ohm max). Can manage a maximum of 20 badges (125 KHz) for electrical door opening (master system badge included). White LED backlight name plate. Protection degree IP54 – protection against mechanical impact IK10. Supplied 1 set of door opening badges made up of : 6 coloured badges and 2 clear discs.

Pack	Item	**Door lock release badge and clear discs**
1	348260	Set made up of 6 coloured badges which can be programmed to open the door
1	348261	Set made up of 2 programmable clear discs which can be programmed to open the door

Pack	Item	**LINEA 3000 Video entrance panel**
1	343081	Wall mounted 2-Wires video pushbutton panel with Zamak front cover and wide angle colour camera.. Fitted with white LED for the lighting of the shooting field in low light conditions. Can be set up for one or two family installation. It provides the possibility of opening an electrical door lock connected directly to clamps S+ and S- (18 V 4 A impulsive, 250 mA holding current, 30 ohm max). White LED backlight name plate. Protection degree IP54 – protection against mechanical impact IK10.

Pack	Item	**LINEA 3000 Audio entrance panel**
1	343071	Wall mounted 2-Wires pushbutton panel with Zamak front cover. Can be set up for one or two family installation. It provides the possibility of opening an electrical door lock connected directly to clamps S+ and S- (18 V 4 A impulsive, 250 mA holding current, 30 ohm max). White LED backlight name plate. Protection degree IP54 – protection against mechanical impact IK10.

343051

343061

350020

343072

343082

Pack	Item	**LINEA 3000 Rainshield accessory**
1	343051	Rainshield roof accessory for Linea 3000 (343071 – 343081 – 343091) entrance panels. To be purchased separately.

Pack	Item	**Linea 3000 Spare parts**
1	343072	Spare part front cover for Linea 3000 audio entrance panel 343071.
1	343082	Spare part front cover for Linea 3000 video entrance panels 343081 and 343091.

Pack	Item	**LINEA 3000 Flush mounting accessory + plastic box**
1	343061	Flush mounting frame accessory for Linea 3000 (343071 – 343081 – 343091) entrance panels. To be purchased separately.
1	350020	Plastic box suitable for the flush mounting installation of Linea 3000 entrance panels (343071 – 343081 – 343091) together with the specific frame accessory 343061. To be purchased separately.

2 WIRES SYSTEM
ENTRANCE PANEL
LINEA 2000

IP54   IK07

| 343031 | 343032 | 342911 | 342921 | 342931 | 342941 |

Pack	Item	**Wall mounted colour video entrance panel**
1	343031	2 WIRES video pushbutton panel with a call key and colour camera. Fitted with white LEDs for the lighting of the shooting field in low light conditions. Aluminium front cover. Nameplate lit by green LED
1	343032	As item 343031, but with 2 call pushbuttons

Pack	Item	**Wall mounted audio entrance panel**
1	342911	2 WIRES audio pushbutton panel with one call pushbutton for wall mounted installation. Aluminium front cover. Nameplate lit by green LED
1	342921	As item 342911, but with 2 call pushbuttons
1	342931	As item 342911, but with 3 call pushbuttons
1	342941	As item 342911, but with 4 call pushbuttons

LINEA 100

IP44   IK08

bticino

2 WIRES SYSTEM

343101   343102   343100

Pack	Item	**Pushbuttons audio entrance panel**
1	343101	2 WIRES audio pushbutton panel with 4 call pushbuttons for wall mounted installation. It's fitted with rainshield and internal contact (C - NO - NC) for the connection of an electrical door lock or external actuator (for the power supply to the electrical door lock allow for the installation of auxiliary transformer item 336482). Connections (PL) for a local door lock release pushbutton
1	343102	2 WIRES audio pushbutton panel with 8 call pushbuttons for wall mounted installation. It's fitted with rainshield and internal contact (C - NO - NC) for the connection of an electrical door lock or external actuator (for the power supply to the electrical door lock allow for the installation of auxiliary transformer item 336482). Connections (PL) for a local door lock release pushbutton

Pack	Item	**Digital call audio entrance panel**
1	343100	2 WIRES AUDIO digital call pushbutton panel for wall mounted installation. The device consists of a pushbutton panel with 16 keys and a digital display showing the operating status. Using previously saved numerical (SCS addresses) or alphanumerical (logical addresses) codes, it is possible to call the internal units, and for the residents to release the door lock using a dedicated numerical code. The pushbutton panel manages up to 4000 internal unit addresses (from 0 to 3999), as well as the direct call to the 2 WIRES switchboard. It's fitted with rainshield and internal contact (C - NO - NC) for the connection of an electrical door lock or external actuator (for the power supply to the electrical door lock allow for the installation of auxiliary transformer item 336482). Connections (PL) for a local door lock release pushbutton

IP54 IK07

308001
308011

308002
308012

308003
308013

308004
308014

308022

Pack	Item	**Aluminium finish pushbutton panel**
1	308001	Monobloc vandal-resistant 2 WIRES video pushbutton panel for 2 and 4 calls with aluminium finish. The item code includes: flush mounted box, frame, colour video and audio electronic module, prewired pushbutton module/s. Presetting for the mounting of transponder reader or key switch. Backlit call keys. Visual and sound notifications of the communication status for: call active, system busy, door lock status
1	308002	As item 30800 but for up to 8 calls
1	308003	As item 308001 but for up to 12 calls
1	308004	As item 308001 but for up to 20 calls
1	308005	As item 308001 but for up to 32 calls
		Wall mounted boxes
1	308021	Wall mounted box for pushbutton panels, items 308001-308011
1	308022	Wall mounted box for pushbutton panels, items 308002-308012
1	308023	Wall mounted box for pushbutton panels, items 308003-308013
1	308024	Wall mounted box for pushbutton panels, items 308004-308014
1	308025	Wall mounted box for pushbutton panels, items 308005-308015

Pack	Item	**Stainless steel finish pushbutton panel**
1	308011	Monobloc vandal-resistant 2 WIRES video pushbutton panel for 2 and 4 calls with stainless steel finish. The item code includes: flush mounted box, frame, colour video and audio electronic module, prewired pushbutton module/s. Presetting for the mounting of transponder reader or key switch. Backlit call keys. Visual and sound notifications of the communication status for: call active, system busy, door lock status
1	308012	As item 308011 but for up to 8 calls
1	308013	As item 308011 but for up to 12 calls
1	308014	As item 308011 but for up to 20 calls
1	308015	As item 308011 but for up to 32 calls

308040

308026

Pack	Item	**Digital call entrance panel**
1	308040	Monobloc vandal-resistant 2 WIRES digital call video pushbutton panel (in stainless steel), flush mounted or wall mounted installation (with specific box item 308026 sold separately). The item includes: flush mounted vandal-resistant steel box, audio and video module with wide angle colour camera, integrated graphic display, and alphanumeric keypad for direct apartment call, fast address book search, and door lock release using a code. Presetting for the installation of a T25 Vigik reader, or a key switch. Backlit display and BLUE keys. It is possible to store up to 4000 residents names. Visual, sound, or control speech synthesis communication status notification, for example: call active, system busy, door lock status. Direct control of an electric door lock 18V-4A impulsive, 250 mA holding current (30 ohm max). System power supply cuts do NOT cause the loss of memory data. **Selectable display menu languages are: Italian, English and French.** The device can be configured physically or using a PC with the specific software, which can be downloaded free of charge from www.homesystems-legrandgroup.com
1	308026	Wall mounted box for digital call entrance panel 308040

344642

344643

Pack	Item	**CLASSE 300X13E Connected video internal units**
1	344642	2 wires/Wi-Fi handsfree video internal unit with inductive loop, 7" Touch Screen LCD display and video door entry answering machine with call audio/video memory – light finish. It has capacitive keys for the control of the main video door entry functions: door lock release, handsfree connection, entrance panel activation /camera scrolling and Favorite key (can be configured to activate the quick actions most frequently used - eg: staircase lights control, Intercom, additional activations). Tactile guide for easy access to door lock and handsfree capacitive connection keys. LEDs used for: call exclusion, notification of messages from switchboard and note. Access to adjustments and functions using the touch display. NOTE function - for writing using the keypad, or for voice recording of messages and/or notes for the other residents of the apartment (e.g.: call plumber, do the shopping, etc.). Possibility of voice communication with the switchboard - if present in the system - after a specific call. The device must be configured by physically connecting the configurators, or using the menu, which will give better possibilities of customisation of associated functions and texts. Also, thanks to the Wi-Fi connection, you can associate the video internal unit to the Door Entry App (available for Android and iOS). You can manage the main video internal unit functions (receiving calls, opening the door lock, activating the entrance panel/cycling and extra activations).
1	344643	As item 344642, but dark finish

DOOR ENTRY is the App which lets you, using your smartphone, manage the video internal unit calls locally and remotely or with a simple touch open the gate, activate the cameras, manage the answering machine, and switch the garden timed lights on. Configuring the App needs just a few steps and, thanks to the BTicino Cloud, the remote connection is totally automated and managed with the maximum level of security.

344612

344613

346020

344632

336803

Pack	Item	**CLASSE 300V13E video internal units**
1	344612	2 WIRES handsfree video internal unit with inductive loop and 7" colour Touch Screen LCD display – light finish. It has touch sensitive keys for the control of the main video door entry functions: door lock release, handsfree connection, entrance panel/scrolling activation and favorite key (can be configured to activate the quick actions most frequently used - eg: staircase lights control, intercom, additional activations). Tactile guide for easy access to door lock and handsfree capacitive connection keys. LEDs used for: call exclusion, notification of messages from switchboard and memo. Access to adjustments and functions using the touch display. NOTE function - for writing using the keypad, or for voice recording of messages and/or notes for the other residents of the apartment (e.g.: call plumber, do the shopping, etc.). The device must be configured by physically connecting the configurators, or using the menu, which will give better possibilities of customisation of associated functions and texts. 16 different ringtones available. Wall mounted installation using the bracket supplied and table-top installation (with support 344632) to be purchased separately.
1	344613	As item 344612, but dark finish

Pack	Item	**Additional power supply**
1	346020	Additional power supply to be used to supply entrance panels and internal units locally. 2 DIN modular enclosure. Power supply 230 Vac at 50-60 Hz. The output provides 27 Vdc continuous low voltage, with maximum current of 600 mA and it is protected on the PRI side (with fuse) against overload and short circuit. It is a SELV double insulation safety device.

Accessories for table top installation

Pack	Item	
1	344632	Accessory support for the table top installation of all the Classe 300 range internal units.
1	336803	8 – Way cable with connector for the table top installation connection.

344522

344502

Pack	Item	**CLASSE 100V12E handsfree video internal unit**
1	344522	2 WIRES handsfree colour video internal unit with inductive loop, preset for different types of installations, depending on the accessories used: wall mounted, flush mounted, table mounted, with side-by-side handset, and tilted, both when wall mounted and when flush mounted. It has a 4.3" (16:9) colour LCD display. Keys available: entrance panel/scrolling activation, door lock release, staircase lights control, handsfree connection and 4 configurable keys. Depending on the configurators connected to (M), the 4 configurable keys will perform different functions (e.g. Intercom, additional door lock activation, generic activations). LEDs used for: call exclusion, door status, connection with the entrance panel. Possibility of audio and ringtone volume adjustment (with call exclusion), as well as display colour, brightness, and contrast adjustment, using the appropriate rocker keys, after accessing the menu using the dedicated keys. 16 different ringtones available For wall mounted installation, the bracket supplied must be used. For all other types of installation, the appropriate accessories must be purchased separately. The device must be configured
		CLASSE 100V12B handsfree video internal unit
1	344502	2 WIRES handsfree colour video internal unit for wall mounted or table-top installation (with specific support to be purchased separately). It has a 3.5" colour LCD display. Keys available: entrance panel/scrolling activation, door lock release, staircase lights control and handsfree connection. LEDs used for: call exclusion, door status, connection with the entrance panel. Independent adjustment for: bell volume (with call exclusion), loudspeaker volume, brightness and colour of the display. 16 different ringtones available. For wall mounted installation, the bracket supplied must be used. The device must be configured

CLASSE 100V12E
The solution that ensures maximum installation and functional flexibility

CLASSE 100V12B
The ideal solution for specifications: simple, compact, essential

344252

344262

344272

Pack	Item	**CLASSE 100A12B handsfree audio internal unit**
1	344252	2 WIRES handsfree internal unit for wall mounted or table-top installation (with specific support to be purchased separately). Keys available: entrance panel/scrolling activation, door lock release, staircase lights control and handsfree connection. LEDs used for: call exclusion, door status, connection with the entrance panel. Independent adjustment for: bell volume (with call exclusion) and loudspeaker volume. 16 different ringtones available. For wall mounted installation, the bracket (supplied must be used. The device must be configured
		CLASSE 100A12C handset audio internal unit
1	344262	2 WIRES internal unit with handset for wall mounted or table-top installation (with specific support to be purchased separately). Keys available: entrance panel/scrolling activation, door lock release and staircase lights control. LEDs used for: call exclusion, door status, connection with the entrance panel. Bell volume adjustment (with call exclusion) using the appropriate selector. 16 different ringtones available For wall mounted installation, the bracket supplied must be used. The device must be configured
		CLASSE 100A12M handset audio internal unit
1	344272	2 WIRES internal unit with handset for wall mounted or table-top installation (with specific support to be purchased separately). Keys available: auto-switching on / cycling, door lock release, staircase lights control and 4 configurable keys. Depending on the configurators connected to (M), the 4 configurable keys will perform different functions (e.g. Intercom, additional door lock activation, generic activations). LEDs used for: call exclusion, door status, connection with the entrance panel. Bell volume adjustment (with call exclusion) using the appropriate selector. 16 different ringtones available For wall mounted installation, the bracket supplied must be used. The device must be configured

CLASSE 100 A12B
The audio solution with handsfree advantages

CLASSE 100 A12C
CLASSE 100 A12M
The audio solution with handset

344572

344562
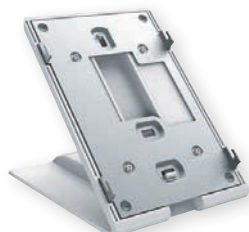
344552
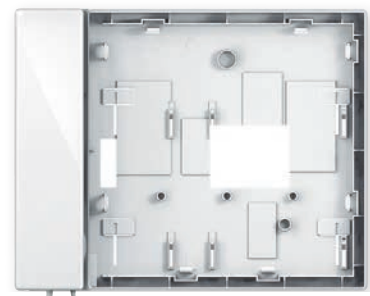
344582

Pack	Item	**Flush mounted installation accessory**
1	344572	Accessory device for the flush mounted installation of CLASSE 100V12E (344522) video internal unit. The box and the flush mounted bracket are supplied with the accessory

Pack	Item	**Device tilting accessory for flush mounted installation**
1	344562	Accessory device for the flush mounted tilted installation of CLASSE 100V12E (344522) video internal unit. This mode of installation enables the user to tilt the video internal unit, adapting adapting it to different viewing angles of the display (e.g. installing the devices at reduced heights for use by disabled people). The box and the flush mounted floating bracket are supplied with the accessory

Pack	Item	**Device tilting accessory for wall mounted installation**
1	344592	Accessory device for the wall mounted tilted installation of CLASSE 100V12E (344522) video internal unit. This mode of installation enables the user to tilt the video internal unit, adapting adapting it to different viewing angles of the display (e.g. installing the devices at reduced heights for use by disabled people). The wall mounted floating bracket is supplied with the accessory

Pack	Item	**Accessories for table support and cable**
1	344552	Accessory device for the table-top installation of all CLASSE 100 internal units and video internal units
1	336803	8-way cable with connector for table-top base installation

Pack	Item	**Handset accessory**
1	344582	Accessory device for the wall mounted or table-top installation with handset at the side (support to be purchased separately) for CLASSE 100V12E (344522), video internal unit. With this type of installation, the device can be used to communicate in both ways: using the handset or in handsfree mode. The accessory includes the basic support for the housing and the wall mounting of the video internal unit and the integrated audio handset. No. 2 supports 344552 are required for table-top installation (to be purchased separately)

SPRINT L2

344242

344232

Pack	Item	**SPRINT L2 audio handsets**
1	344242	2 WIRES audio handset (without the possibility of fitting with accessories) for audio systems and mixed audio /video systems. Wall mounted installation without the need of accessories. With door lock release key and auxiliary functions key (that can be configured). Ringtone volume adjustable on 3 levels. White
1	344232	As item 344242 but with call to the floor function

1 Simple and modern design

2 Ringtone volume, adjustable to 3 levels

3 Two pushbuttons:
- door lock release
- available for applications (e.g. control of staircase lights)

346310

346300

Pack	Item	Switchboard and accessories
1	346310	Switchboard for 2 WIRES audio and video systems. Allows access to various services (video door entry functions, door lock/staircase light management and apartment alarm monitoring) directly from the keypad or via the intuitive icon menu. The switchboard is supplied with an integrated table supporting frame and also features a 7" colour LCD display, receiver and speaker phone, dedicated keys for the main functions and keys which can be configured. The programming can be carried out directly from the device or via PC with TiSwitchBoardDevice software (supplied). The device can manage the phonics of the riser EP (i.e. wired downstream of interface 346851); it cannot however manage the apartment EP (i.e. wired downstream of interface 346850). The use of an additional power supply is recommended. It is possible to connect up to a max. of 16 switchboards (configured from 0 to 15). **WARNING: the switchboard cannot be used in systems with 2 WIRES-IP interface 346890. The new HIERARCHICAL mode is available only with the entrance panels of the following series: Sfera New, Linea 100, Minisfera, Linea 300.**
1	336982	White 8-way socket for table top installation of switchboard item 346310
1	336803	8 – Way cable with connector for the table top installation connection.

Pack	Item	SOFTSWITCHBOARD software
1	346300	Switchboard software for the management of audio and video door entry system calls. The software (Windows operating system compatible) can be installed on any desktop or laptop PC, and gives the possibility of receiving, managing and transferring the calls from the entrance panel and the handset. It implements home video monitoring, with cyclical display of the cameras, night and day functions, and the possibility of displaying the alarms in the various apartments. - Supported operating systems: Microsoft Windows XP Service Pack 2, Windows Vista and Windows 7. - Software required: NET Framework 3.5 or higher

Alarm reception and management

Camera enabling

Entrance panel call reception

Staircase light switching on

Door lock release

Intercom calls
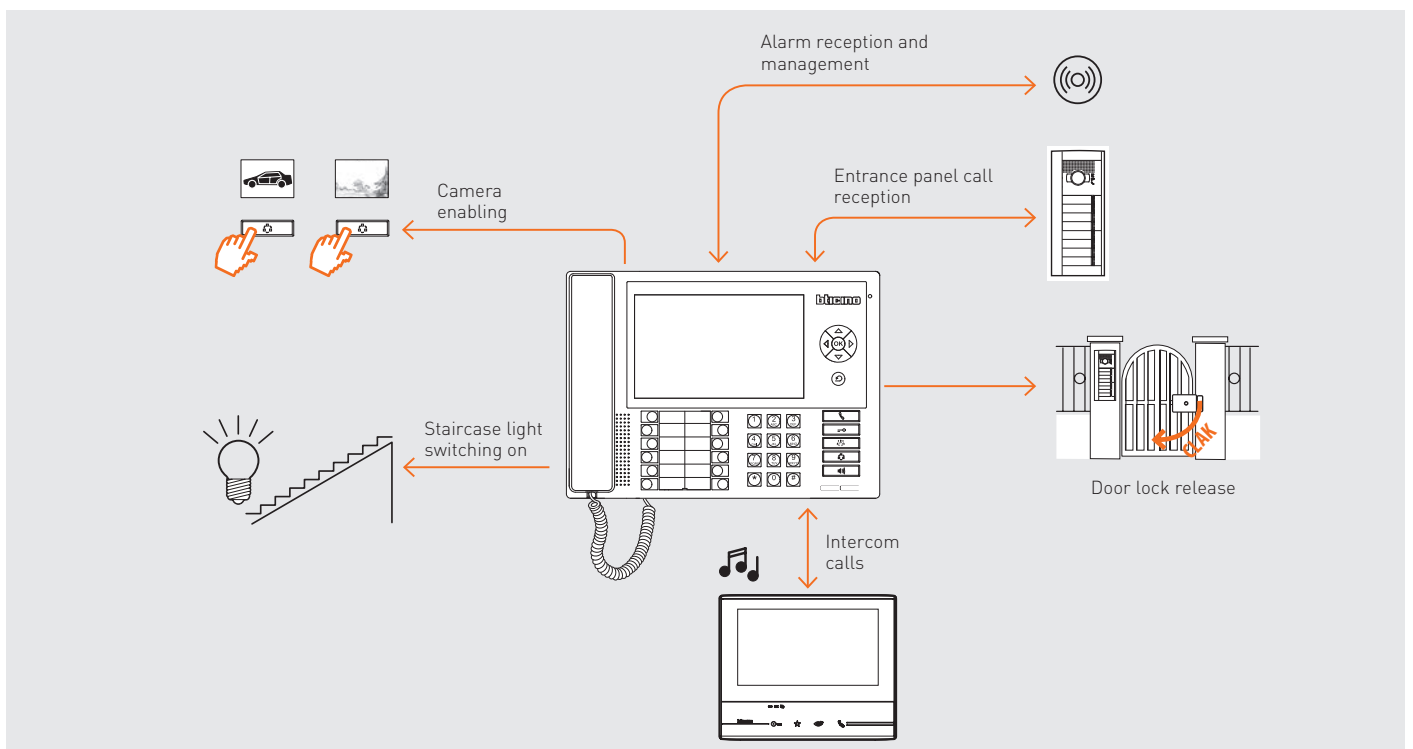
SYSTEM ACCESSORIES
Accessories

2 WIRES SYSTEM

346000 ▣ SELV 346030 ▣ SELV 346040 ▣ SELV F441 346850 346830 F441M

346050 ▣ SELV

Pack	Item	**Power supplies**
1	346000	Power supply for 2 WIRES audio and video systems in 8 DIN modular enclosure. Power supply 230 Vac @ 50-60 Hz. The output provides 27 Vdc continuous low voltage, with maximum current of 1.2 A. It is electronically protected (without fuse) against overload and short circuit. It is a SELV double insulation safety device.
1	346050	Power supply for 2 WIRES system in 6 DIN modular enclosure. Power supply 110 – 240 Vac @ 50 – 60 Hz. The output provides two power supplies in very low safety voltage (one on the 3 TK BUS, IU BUS and SCS clamps, one on the 1 - 2 clamp) to be used alternately and NOT at the same time. To be used in audio, video or mixed audio video systems. The video adapter is integrated in the device (item 346830 must not be used). It is therefore possible to avoid the use of the A/V node (F441) or the Multi-channel Matrix (F441M), if three junctions (MAX 2 IU + 1 TK risers or 1 IU + MAX 2 TK risers) are not exceeded in total from the clamps. It can also be used as additional power supply (1 - 2 output) for the local power supply of the preset internal units or entrance panels (in this case it is not possible to use other outputs). The device is electronically protected against overload and short circuit. It is a SELV double insulation safety device. The installation must be made in compliance with current regulations. The device must not be configured. **WARNING: the (IU BUS), (TK BUS) and (SCS) outputs can be used at the same time respecting the total maximum absorption of 1.2 A. WARNING: Disconnect the power supply for 5 minutes after overload or short circuit.**
1	346040	Power supply for 2 WIRES audio systems in 6 DIN modular enclosure. Power supply 110 – 240 Vac @ 50-60 Hz. The output provides 26 Vdc low rated voltage, and a maximum rated current of 600 mA and it is protected on the PRI side (with fuse) against overload and short circuit. It is a SELV double insulation safety device.
1	346030	Mini power supply with integrated video adapter to make small 2-WIRES video systems (intercom). 2 DIN modular enclosure. Power supply 230 Vac @ 50-60 Hz. The output provides 27 Vdc continuous low voltage, with maximum current of 600 mA and it is protected on the PRI side (with fuse) against overload and short circuit. It is a SELV double insulation safety device.
1	346020	Additional power supply to be used to supply the set up entrance panels and internal units locally. 2 DIN modular enclosure. Power supply 230 Vac @ 50-60 Hz. The output provides 27 Vdc continuous low voltage, with maximum current of 600 mA and it is protected on the PRI side (with fuse) against overload and short circuit. It is a SELV double insulation safety device.

Pack	Item	**Video mixers**
1	346830	Video adapter in 2 DIN modular enclosure. Allows the connection to the 3-BUS system. Systems can thus be made with 2 video entrance panels and 1 riser and with 1 video entrance panel and 2 risers. The device must be coupled to the power supply of system 346000
1	F441	Audio video node in 6-DIN modular enclosure set up with 4 input terminals and 4 output terminals. Can connect up to 4 source devices (entrance panels or cameras) in input and up to 4 2-WIRES video risers in output. The device must be used with the system power supply 346000. It must be used as an alternative to the audio video adapter 346830
1	F441M	Multi-channel matrix in 10 DIN modular enclosure. Set up for the connection of video entry system entrance panels, cameras and sound system sources in input and internal units and amplifiers in output. 4 inputs are dedicated to entrance panels/cameras and 4 to the sound system sources. It can be used to create multi-channel sound systems. The device must be used with the system power supply 346000. In the systems it replaces the video adapter 346830 and the audio video node F441

Pack	Item	**System interfaces**
1	346850	Apartment interface in 4 DIN modular enclosure. Can interface a dedicated apartment video door system with local CCTV, sound system and control of the Home automation applications to a 2-WIRES riser. The device must be configured using physical configurators
1	346851	System expansion interface in 4 DIN modular enclosure. Can double the length of the entrance panel-internal unit line, create risers with independent sound and expand the performance of the apartment system. The device must be configured using physical configurators

346891   346230   346260   346841   347400   346870
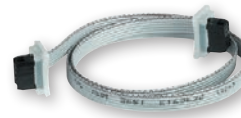
346210   346250   3499   354000

Pack	Item	**Interfaces with other BTicino systems**
1	346891	Can make very large mixed 2 WIRES/IP systems with a large number of devices, thanks to the creation of an IP backbone with 2-WIRES risers. The device must be configured using physical configurators or using the software
1	346150	8/2-WIRES interface in 6 DIN modular enclosure. Can make mixed video door entry systems (8-WIRES digital backbone/2-WIRES risers). The device must be configured using physical configurators
1	349410	Analogue/2 WIRES interface in 4 DIN modular enclosure. Can interface a dedicated apartment 2-WIRES video door entry system with cameras and control of the MyHOME applications to an analogue riser, digital 8-WIRES, audio TERSYSTEM and VIDEOPORTER 2000.

Pack	Item	**DIN actuators**
1	346210	Relay actuator in 2 DIN modular enclosure. Can switch on lights, open gates, repeat the call on bells (MOD=SLA) or control other devices from the video internal units. The device must be configured using physical configurators
1	346230	Door lock relay actuator in 2 DIN modular enclosure. Can supply power and activate an electrical door lock. The device must be configured using physical configurators
1	346260	Timed door lock relay actuator in 4 DIN modular enclosure. Can switch on lights, open gates or manage electro-magnetic door locks, timed door opening and door lock status (with NC contact). The device must be configured using physical configurators

Pack	Item	**Devices in basic enclosure**
1	346841	Floor shunt with 4 outputs Can make 2-WIRES video door entry systems with star wiring distribution. The device automatically adapts the video signal. Its small size means it can also be placed inside the flush-mounted box
1	346833	Call to the floor interface. By connecting a traditional pushbutton, the following functions will be possible: general call to the floor, addressed call to the floor, staircase lights on, and door lock release (specific actuator needed) and association of the video image to the call to the floor. The device must be configured using physical configurators
1	347400	Interface for the conversion of the coaxial signal into a 2 WIRES BUS signal. It can be used to connect to the BUS of the 2 WIRES video door entry system a camera with coaxial video output powered at 12 Vdc, with maximum absorption 150 mA and 1 Vpp video output (75 Ω). The device must be configured using physical configurators

Pack	Item	**Wiring accessories**
1	346870	2 WIRES video amplifier. In video systems wired using non-twisted wires, where the distance between the entrance panels and the internal unit exceeds 50 metres, it enables increasing such distance to up to 100 metres
1	346250	Relay module for gate opening to be used with LINEA 2000, LINEA 3000, MINISFERA and SFERA pushbutton panels. Can open door locks (NOT managed by BUS) by means of the entrance panel
5	3499	Line terminator. To be used to terminate the riser or apartment line, when the last installed device is not tted with line closing micro switch
1	354000	Flat cable for the connection of several SFERA NEW and SFERA ROBUR pushbutton modules. Length 620 mm

2 WIRES SYSTEM

346991   336904   391670   346982   346984   336910   391658   391662

Pack	Item	**Universal speaker unit and expansion module**
1	346991	The universal speaker unit can be used to install the 2 WIRES audio system in new or refurbished systems, where pushbutton panels of other manufacturers are present or required (mail boxes, patterned brass, compact sheet metal units, etc.), preset for a traditional speaker module (e.g. 2659N). The universal speaker unit has, as base, contacts for the connection of 8 call keys; to make systems with more keys (up to 56 using the 346000 power supply and up to 24 with the 346010 power supply one or more key expension modules must be used (1 every 8 pushbuttons).
1	346992	Expansion module for connecting more than 8 call keys to item 346991 - max. 6 modules (56 calls max.) with power supply 346000. Max. 2 modules (24 calls max.) with power supply 346010

Pack	Item	**Cable for systems**
1	336904	Specific cable for 2 WIRES video door entry applications with 2 twisted conductors. It can be installed in underground piping, in accordance with standards (CEI 20-13 and CEI 20-14). It ensures the best performance in video systems (higher distance between EP and Handset when compared with other cables). 200 m coil

Pack	Item	**Melodic bells**
1	346982	2 WIRES melodic bell - LIVINGLIGHT white. Can repeat the video door entry call in several rooms. Wall mounted installation with accessories and front cover plates of the LIVINGLIGHT series.
1	346983	As 346982 - LIVINGLIGHT anthracite
	346984	As 346982 - LIVINGLIGHT tech
	349412	As 346982 - AXOLUTE tech
	349413	As 346982 - AXOLUTE anthracite

Pack	Item	**Additional bell**
1	336910	Additional bell in neutral finish. Can repeat the video door entry call in several rooms. Wall mounted installation or in round box (with fastening clips)

Pack	Item	**2 wires indoor cameras**
1	391658	Flush mounted colour camera - LIVINGLIGHT white. 3.7 mm fixed optics, 1/3" CCD, resolution 380 horizontal lines. Fitted with microphone. The device must be configured using physical configurators
1	391659	As 391658 - LIVINGLIGHT tech
1	391657	As 391658 - LIVINGLIGHT anthracite
1	391663	As 391658 - AXOLUTE white
1	391661	As 391658 - AXOLUTE tech
1	391662	As 391658 - AXOLUTE anthracite

Pack	Item	**2 wires outdoor camera**
1	391670	Outdoor compact colour camera in IP 65 enclosure. 6 mm fixed optics, 1/3" CMOS, resolution 330 horizontal lines. The device must be configured using physical configurators
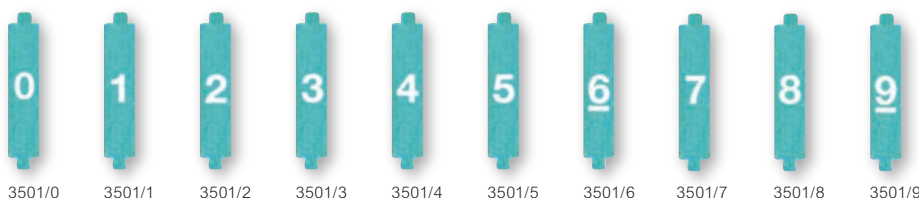
3501/0 3501/1 3501/2 3501/3 3501/4 3501/5 3501/6 3501/7 3501/8 3501/9   3501K

Pack	Item	**Configurators (package of 10 pieces)**
10	3501/0	Configurator 0
10	3501/1	Configurator 1
10	3501/2	Configurator 2
10	3501/3	Configurator 3
10	3501/4	Configurator 4
10	3501/5	Configurator 5
10	3501/6	Configurator 6
10	3501/7	Configurator 7
10	3501/8	Configurator 8
10	3501/9	Configurator 9
10	3501/JMP	Configurator JMP

Pack	Item	**Configurator kit**
1	3501K	Configurator kit consisting of: - 10 pieces for each type of configurator from 0 to 9 - 2 blue removable 8-clamp connectors - 2 green removable 2-clamp connectors - 1 configurator connection tool (3502) - 1 plastic screwdriver

PROFESSIONAL KITS

Maximum simplicity

The 2 Wires professional kits guarantee maximum simplicity and flexibility of installation. They are the ideal solution for making new systems and in renovations. Both audio and video systems require only 2 WIRES for the installation, so that existing wires can be used in the renovations. There is no need to respect polarity in the connections, giving maximum simplification in the installation work.

AUDIO KIT

LINEA 3000 ONE FAMILY AUDIO KIT – INSTALLATION EXAMPLE

230V~
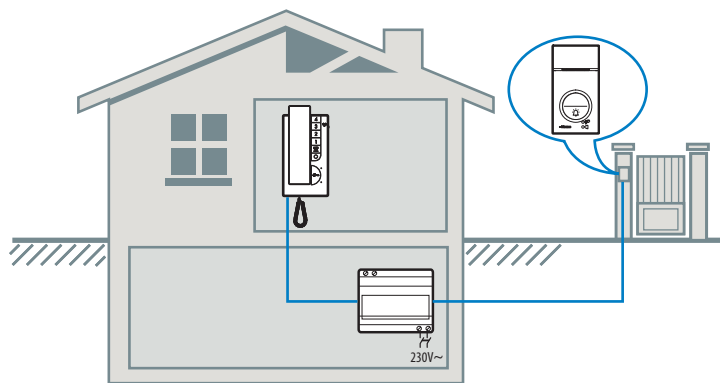
ONE FAMILY AUDIO KIT 361311

2 / **2** /

POWER SUPPLY

| 2 | Two family |
| 1 | One family |

Nina Jean

LINEA 3000
ENTRANCE PANEL

CLASSE 100
AUDIO INTERNAL UNIT

PROFESSIONAL SOLUTIONS
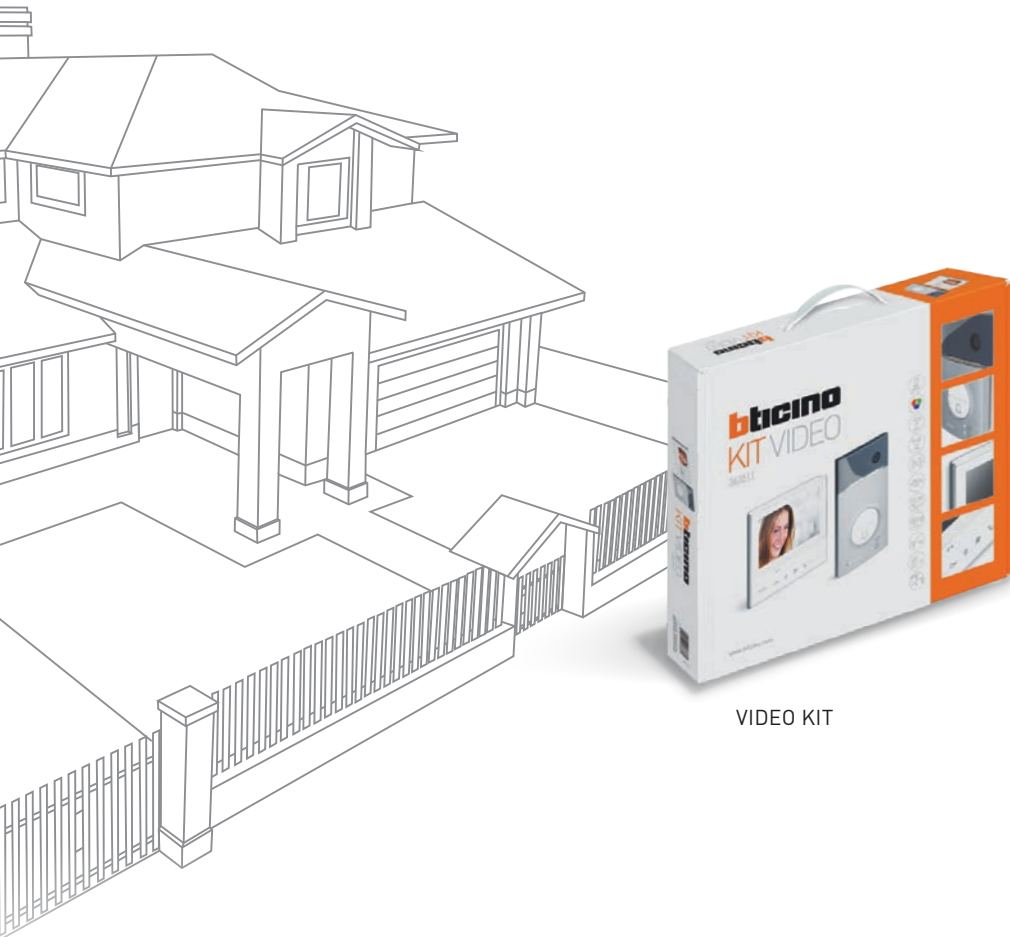
The 2 Wires kits are completely expandable and adapt to all installation needs.
They are perfectly compatible with the 2 devices (external pushbutton panels, internal units, video internal units, system accessories and cameras), allowing expansion without compromises.

VIDEO KIT

LINEA 3000 TWO FAMILY VIDEO KIT – INSTALLATION EXAMPLE
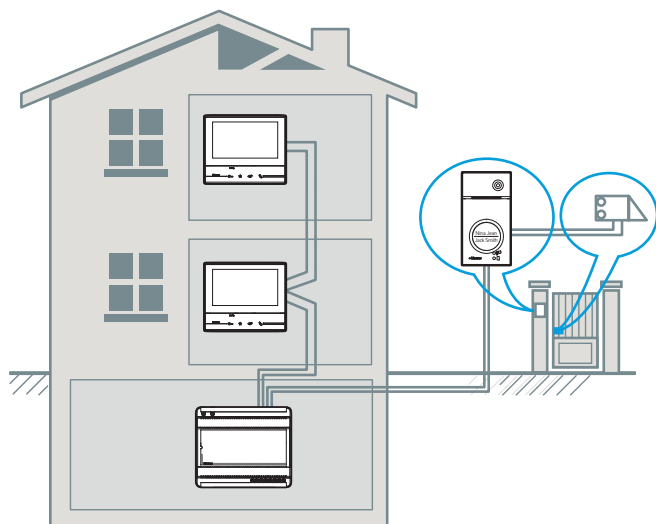
ADDITIONAL INTERNAL UNIT 344612
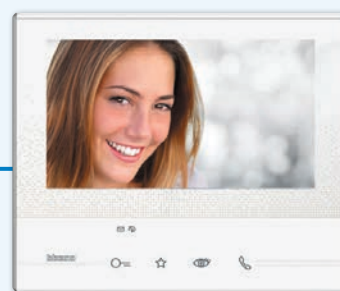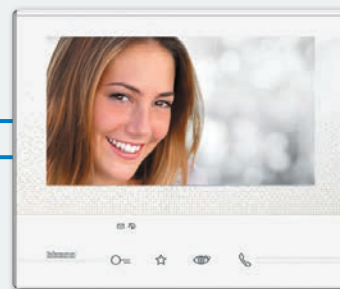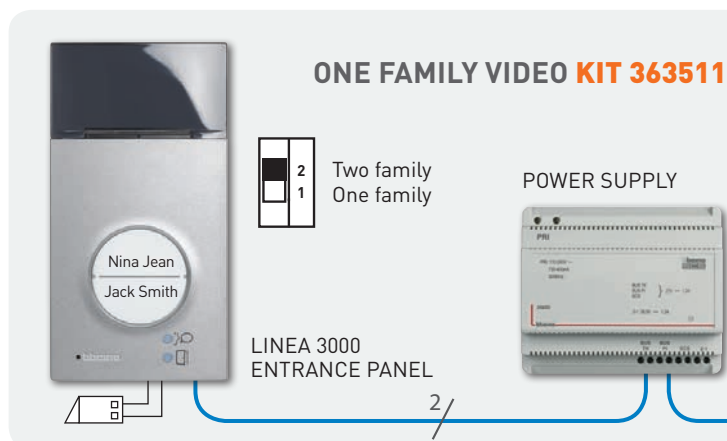
2

CLASSE 300
VIDEO INTERNAL UNIT

ONE FAMILY VIDEO KIT 363511

2
1
Two family
One family

POWER SUPPLY

Nina Jean
Jack Smith

LINEA 3000
ENTRANCE PANEL

2

2

2

2

CLASSE 300
VIDEO INTERNAL UNIT

363911
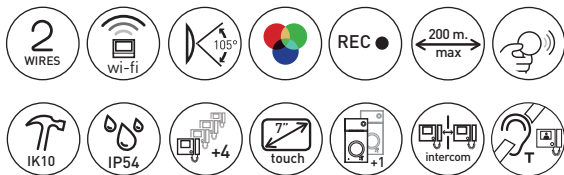
CLASSE 300X13E – LINEA 3000 hands-free video kit with call redirection on smartphone and door lock release key cards

One-family handsfree kit with: Classe 300X13E video internal unit in light finish with Wi-Fi, handsfree, Inductive Loop, 7" Touch screen LCD display and video door entry answering machine with call audio/video memory; LINEA 3000 pushbutton panel with zamak front cover, wide angle colour camera and proximity reader and with a kit of coloured key cards and two door lock release clear discs. Can be configured for one-family or two-family installations. It can manage a maximum of 20 key cards (125 KHz) for the electric door lock release (including the one for the system management). Nameplate lit by white LED. Can be wall or flush installed with specific accessories: (350020) flush mounted box with (343061) flush mounted accessory - to be purchased separately. Can be fitted with rainshield (343051) – to be purchased separately. The pushbutton panel has a protection index IP54 - protection index against mechanical impact IK10. Thanks to the Wi-Fi connectivity integrated in the video internal unit, it is possible to associate the device to the Door Entry App (available for Android and iOS). You can manage the main video internal unit functions (receiving calls, opening the door lock, activating the entrance panel/cycling and extra activations). The video internal unit has call audio/video memory and Inductive Loop function (to enable use by people wearing hearing aids fitted with T selector). It has capacitive keys for the control of the main video door entry functions: door lock release, handsfree connection, activation of entrance panel/camera scrolling and Favorite key (can be configured to activate the quick actions most frequently used - eg: staircase lights control, Intercom, additional activations).
Access to configuration, adjustments and functions using the touch display with graphic interface.
Wall-mounting or table-top installation with specific support (344632) - to be purchased separately.

Pack	Item	
1	363911	**Complete one family kit** (Easy switch to two families system by purchasing an additional internal unit - refer to 2 Wires system internal units range).

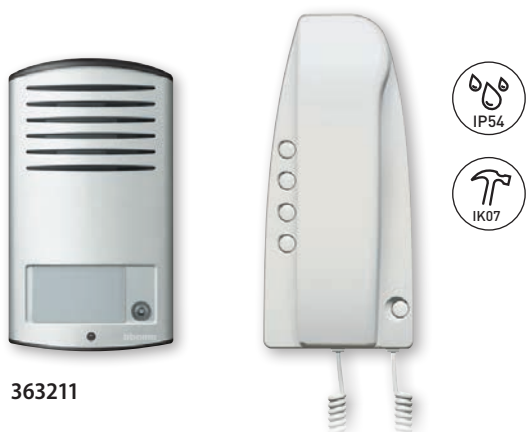**DOOR ENTRY** is the App which lets you, using your smartphone, manage the video internal unit calls locally and remotely or with a simple touch open the gate, activate the cameras, manage the answering machine, and switch the garden timed lights on. Configuring the App needs just a few steps and, thanks to the BTicino Cloud, the remote connection is totally automated and managed with the maximum level of security.

363511

| Pack	Item	**CLASSE 300V13E – LINEA 3000 hands-free video kit**
		One-family handsfree kit with: Classe 300V13E video internal unit in light finish with handsfree, Inductive Loop and 7" Touch screen LCD display; LINEA 3000 pushbutton panel with zamak front cover, wide angle colour camera. Can be configured for one-family or two-family installations Nameplate lit by white LED. Can be wall or flush installed with specific accessories: (350020) flush mounted box with (343061) flush mounted accessory - to be purchased separately. Can be fitted with rainshield (343051) – to be purchased separately. The pushbutton panel has a protection index IP54 - protection index against mechanical impact IK10. You can manage the main video internal unit functions (receiving calls, opening the door lock, activating the entrance panel/cycling and extra activations). The video internal unit has Inductive Loop function (to enable use by people wearing hearing aids fitted with T selector). It has capacitive keys for the control of the main video door entry functions: door lock release, handsfree connection, activation of entrance panel/camera scrolling and Favorite key (can be configured to activate the quick actions most frequently used - eg: staircase lights control, Intercom, additional activations). Access to configuration, adjustments and functions using the touch display with graphic interface. Wall-mounting or table-top installation with specific support (344632) - to be purchased separately.
1	363511	**Complete one family kit** (Easy switch to two families system by purchasing an additional internal unit - refer to 2 Wires system internal units range).

VILLA VIDEO KITS

365511   365521

Pack	Item	**CLASSE 100V12B – LINEA 2000** **handsfree colour kit**
		Handsfree kit consisting of: CLASSE 100V12B video internal unit and LINEA 2000 pushbutton panel with colour camera. The video internal unit has 4 keys for: door lock release, handsfree connection, staircase lights control and entrance panel/scrolling activation. Wall-mounted installation of the devices. Possibility of table-top installation of the video internal unit with specific accessory support (to be purchased separately). The push-button panel has a protection index against mechanical impact IK07 and protection index IP54.
1	365511	Complete one-family kit
1	365521	Complete two-family kit

VILLA AUDIO KITS

364211

366811

Pack	Item	**AUDIO HANDSFREE - LINEA 2000**
1	364211	One-family expandable audio kit with audio handsfree internal unit and LINEA 2000 pushbutton panel. The audio internal unit can manage with (1 – 2) pushbuttons on board two independent contacts (24 Vac/dc – 1 A max.) Entrance panel and internal unit are suitable for wall mounted installation. Expansion possibility using the specific additional handsfree internal unit 331650

Pack	Item	**SPRINT L2 – LINEA 2000 AUDIO** **handset audio kit**
		Audio kit with audio handset SPRINT L2 and LINEA 2000 pushbutton panel. 2 WIRES technology. The audio handset has a door lock release pushbutton and a pushbutton that can be configured for auxiliary functions (staircase light switching on, entrance panel activation, call to the switchboard). Devices suitable for wall mounted installation
1	366811	Complete one-family kit
1	366821	Complete two-family kit

VILLA AUDIO KITS

361511

Pack	Item	CLASSE 100A12B – LINEA 3000 hands-free audio kit
		One-family handsfree kit with Classe 100A12B handsfree audio internal unit and LINEA 3000 pushbutton panel with zamak front cover. Can be configured for one-family or two-family installations. Nameplate lit by white LED. Can be wall or flush installed with specific accessories: (350020) flush mounted box with (343061) flush mounted accessory - to be purchased separately. Can be fitted with rainshield (343051) – to be purchased separately. The pushbutton panel has a protection index IP54 - protection index against mechanical impact IK10. The internal unit has keys for: door lock release, handsfree connection, staircase lights control and entrance panel/scrolling activation. Independent adjustment for: bell volume (with call exclusion) and loudspeaker volume. Wall mounted installation with the bracket supplied or table-top installation with support 344552 - to be purchased separately.
1	361511	**Complete one family kit** (Easy switch to two families system by purchasing an additional audio internal unit - refer to 2 Wires system internal units range).
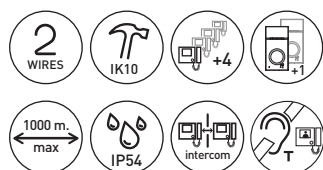
361311

Pack	Item	CLASSE 100A12M – LINEA 3000 handset audio kit
		One-family audio kit with Classe 100A12M audio internal unit and LINEA 3000 pushbutton panel with zamak front cover. Can be configured for one-family or two-family installations. Nameplate lit by white LED. Can be wall or flush installed with specific accessories: (350020) flush mounted box with (343061) flush mounted accessory - to be purchased separately. Can be fitted with rainshield (343051) – to be purchased separately. The pushbutton panel has a protection index IP54 - protection index against mechanical impact IK10.
1	361311	**Complete one family kit** (Easy switch to two families system by purchasing an additional audio internal unit - refer to 2 Wires system internal units range).

363211

Item	SPRINT AUDIO KIT - LINEA 2000		
363211	kit with SPRINT internal units and Linea 2000 aluminium colour pushbutton panel. Wall-mounted installation. One-family version		
363221	As 363211 - two-family version		
	Composition	363211	363221
-	Linea 2000 pushbutton panel (1 pushbutton)	1	-
-	Linea 2000 pushbutton panel (2 pushbuttons)	-	1
334202	SPRINT internal unit	1	2
336000	Power supply	1	1
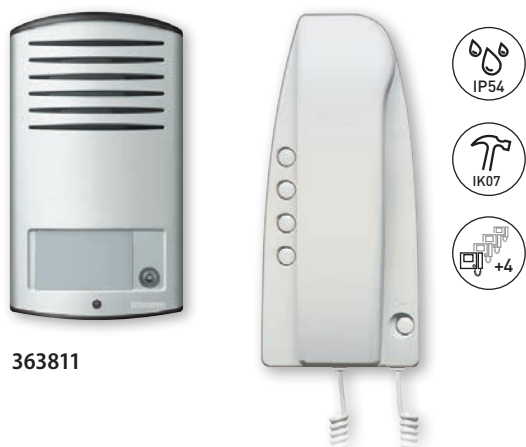
363811

Item	SPRINT ONE-FAMILY AUDIO KIT - LINEA 2000	
363811	One-family kit with SPRINT internal unit and LINEA 2000 pushbutton panel. Analogue technology with 2 wires wiring. Wall-mounted installation. It can be expanded with the specific additional internal unit item 331550	
	Composition	Quantity
-	LINEA 2000 pushbutton panel	1
-	SPRINT internal unit	1
336842	Transformer	1

	ACCESSORIES
331550	Specific additional internal unit

230V~

OLD BELL SYSTEM

230V~
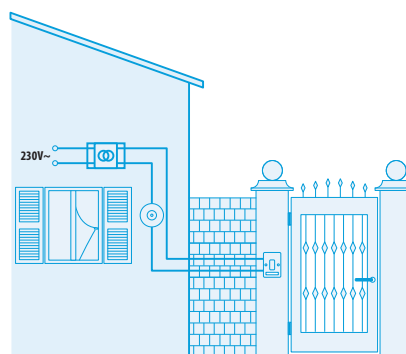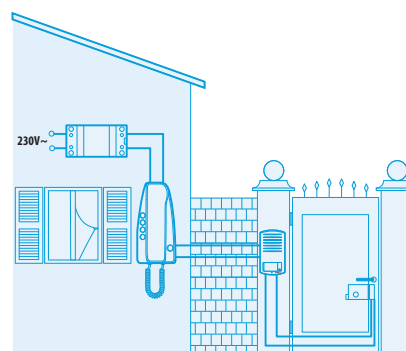
NEW DOOR ENTRY SYSTEM

Technical datasheets

The technical data sheets show detailed information about each individual device : entrance panels, audio internal unis, video internal units and system accessories. The information related to each specific device, are generally the following.

- Description of the device;
- any related articles;
- technical and dimensional data;
- configuration detail;
- any connection diagrams;
- any specific functions.

The technical sheets can be consulted and downloaded by accessing to our E-Catalogue

www.catalogue.bticino.com

NOTE

NOTE

BTicino SpA
Viale Borri, 231
21100 Varese - Italy
www.bticino.com

bticino

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