



DOOR ENTRY SYSTEMS

## EXTENDED USER INSTRUCTION OF FAM-P AND FAM-PV DOOR ENTRY SYSTEMS

---



---

62-002 Suchy Las, ul. Diamentowa 7, tel./ fax 61 843 93 71

[www.aco.com.pl](http://www.aco.com.pl)

## TABLE OF CONTENTS

I. GENERAL INFORMATION .....	4
II. TECHNICAL PARAMETERS.....	5
III. USING THE PANEL.....	6
IV. ADDITIONAL MODULES .....	10
V. MOUNTING AND CONNECTING THE PANEL.....	11
1- ASSEMBLY .....	11
2 - CONNECTING THE PANEL.....	12
3- WIRING DIAGRAMS FOR SINGLE PANEL INSTALLATION .....	16
VI. INSTALLATION AND CONNECTION OF RECEIVERS .....	21
VII. VOLUME LEVEL ADJUSTMENT .....	21
VIII. OPERATION OF MORE THAN ONE PANEL .....	21
1 - INSTALLATION OF THE SLAVE PANEL .....	23
2 - PROGRAMMING THE SLAVE PANEL .....	23
3 - WIRING DIAGRAM OF INSTALLATION WITH MULTIPLE PANELS.....	24
IX. DOORMAN FUNCTION .....	31
X. PANEL PROGRAMMING .....	31
0 - SERVICE DOOR OPENING .....	32
1 - ACCESS CODE CHANGE (RESIDENT, ADMINISTRATOR) .....	32
<i>Modification of user's access code.....</i>	32
<i>Modification of administrator's initial access code .....</i>	33
2 - SETTING E-LOCK OPENING TIME.....	33
3 - SETTING THE NUMBER OF RINGTONES, PERMISSION TO CALL APARTMENT .....	33
4 - TURNING ON - OFF THE DOOR OPENING SIGNAL IN THE APARTMENT .....	33
5 - SETTING ONE OF FOUR RINGTONES .....	34
6 - TEST ACTIVATION OF THE E-LOCK AND CALLING THE RECEIVER FROM APARTMENT .....	34
7 - CHANGING THE INSTALLER'S PASSWORD.....	34
8 - SETTING THE DIRECT CALL BUTTON ADDRESS.....	35
9 - ENTERING NEW ACCESS CODE TABLE .....	35
XI. PANEL PROGRAMMING VIA A PC .....	35
XII. INSTALLING THE BUTTON FOR ADDITIONAL INPUT .....	39
XIII. RESTORING FACTORY SETTINGS OF THE PANEL .....	39
XIV. FACTORY SETTINGS .....	39
XV. MAINTAINING CLEANLINESS.....	40
XVI. SAFETY RULES FOR INSTALLATION AND USE.....	40
XVII. RULES FOR STORING WASTE ELECTRICAL EQUIPMENT .....	40
XVIII. TROUBLESHOOTING .....	41

**The panel must not be installed without reading the instructions below.**

**Hint:**

Brief description of programs in the service menu (installer mode), which is available in models with a numeric keypad:

Programme No.	Function
0.	Service door opening
1.	Change the opening code (resident, administrator)
2.	Setting E-lock reset time
3.	Setting the number of ringtones, permission to call apartment
4.	Turning the door opening signal off - on
5.	Setting one of four ringtones
6.	Test activation of the E-lock and uniphone call from apartment
7.	Changing the installer's password
8.	Setting the direct call button address
9.	Entering a new access code table

## I. GENERAL INFORMATION

---

Familio P and PV are a series of digital panels with an option of dialling the apartment number from the numeric keypad and/or direct dialling buttons and with access control function (opening the entrance door with a code and/or proximity key fob). Depending on the version, the panels can feature up to two direct dialling buttons with a backlit space for name and/or an illuminated numeric keypad as well as with an RFID reader (ACC) in the Unique 125Hz standard embedded in the bottom description field. The panels are also capable to interface with different external devices.

The devices work in a two-wire installation for passive audio systems (such as INS-UP720BX), in four-wire installations for active audio systems (such as UP800) and in installations based on UTP cable for Video version (such as INS-MP7). It is recommended to use UTP cat. 5e/6. The Familio series will work with all P system panels, namely INSPIRO, CDNP and with all P system receivers. The panels can work in mixed audio and video systems (provided that the whole system is supplied with DC).

Panel front is made of stainless steel, which provides effective protection against devastation and weather conditions. The built-in PV series colour camera is adjustable in horizontal and vertical plane, and with IR illumination the images can be viewed even in darkness.

Familio panels are easy to operate, functional, their installation is simple and feature configuration options and a lot of parameters can be changed in the settings. Certain settings can be changed directly from the service menu available for panels with numeric keypad, while all settings are available via **FAM\_P** computer program (PC/Windows). Adding (deleting / archiving / transferring between panels) proximity fobs can be done using the **ACC\_v3** software (PC/Windows). In order to connect the panel to a PC, a special **CDN-USB** cable should be purchased separately (cable suitable for all ACO products). The software mentioned is available for free and can be downloaded from [www.support.aco.com.pl](http://www.support.aco.com.pl)

Familio series digital door entry units can be expanded into complex multi-entry systems that combine many panels, for instance: closed housing estates, gate house, main gate, building entrances etc. In practice this makes it possible to call an apartment both at the entrance to the site as well as the entrance to a building or staircase. Their other advantage is the possibility to individually program the ringing parameters for each apartment, by choosing one of the four available signals and signal repetition in the ringing cycle. With two pre-programmed additional numbers it is possible to call one uniphone using three different numbers (each with different ringing settings), such as in a tenement house where one uniphone is used by several apartments on the same floor. The panels can also control an additional door using tenant's access codes (MINI I/O module or CDN-I/O). For detailed information on the operation and capabilities of the panels refer to this manual.

The advantages of FAM-P and FAM-PV series panels include (depending on version):

- ↓ White backlight
- ↓ Settings storage and programming via a PC (optional CDN-USB cable to be purchased separately),
- ↓ Easy to use - adapted for people with hearing or vision impairment (optional Braille keypad),
- ↓ Two-wire installation for passive audio receivers
- ↓ No eavesdropping on calls from other receivers,
- ↓ Individual front door opening code for each unit,

- ↓ Individual code controlling an additional output (such as second gate) for each apartment,
- ↓ Delayed and further door opening in a multi-panel system,
- ↓ Door opening with administrator's code,
- ↓ Emergency door opening in case of line failure,
- ↓ Individually set call ringtones for apartments,
- ↓ Individually set number of rings for apartments,
- ↓ Individually adjustable ringing volume levels for apartments,
- ↓ Supports up to 150 physical addresses, including two additional numbers (only version with numeric keypad - "ZS")
- ↓ Direct call buttons
- ↓ Programmed receiver test modes,
- ↓ Option to set any code table - easier service,
- ↓ Service inspection of uniphone by the installer during installation,
- ↓ Service activation of E-lock during its adjustment or installation,
- ↓ Option of door opening or direct call with additional external push button - built-in INPUT,
- ↓ Modern, stainless steel panel front,
- ↓ Resistance to corrosion and vandalism,
- ↓ Flush or surface mounting
- ↓ Backlit tenants' list,
- ↓ Option of combining a number of panels in one system,
- ↓ Interface with a number of additional external modules,
- ↓ Doorman function
- ↓ Panels can be customised to individual requirements,
- ↓ Adjustable camera position in each direction (FAM-PV panels)
- ↓ Option of image viewing in darkness - infrared illumination (FAM-PV panels)
- ↓ Support for proximity key fobs (version with built-in ACC): up to 192 key fobs

FAM-P (audio) series includes versions of panels that are both surface mounted (NT) and flush mounted (PT), with code lock (ZS), with direct dial buttons (xNP, where x means the number of buttons) and with proximity key fob reader (ACC).

The FAM-PV (video) series panels that are flush mounted (PT), surface mounted using a dedicated frame (PNT2-FAM-PRO/PV), with code lock (ZS), with direct dial buttons (xNP, where x means the number of buttons) and with proximity key fob reader (ACC).

**White backlit, stainless steel keypad featuring a modern design ensures trouble-free operation for many years. Keypads like this are widely used by telecoms in modern equipment, easily accessible to the public particularly vulnerable to devastation.**

## II. TECHNICAL PARAMETERS

---

### 1. FAM-P Panels:

- \* Power supply: 11.5V AC  $\pm 5\%$  or 15V DC (13.5 - 15.5V DC)
- \* Power consumption in standby mode:  $\sim 1.3W$
- \* Current consumption: max. 130mA, without E-lock
- \* Support for proximity key fobs (ACC version): max. 192 key fobs
- \* Permitted load of E-lock output: 1A
- \* Front: stainless steel; mounted with 3mm Allen (hexagon) screws

- \* Required space for flush-mounted panel: 197 x 90 mm (H/W/D)
- \* Hole dimension for flush-mounted box: 180 x 74 x 33 mm (H/W/D) with add-on 180 x 74 x 50 mm module
- \* Space required for surface panel mounting: 177 x 70 mm (H/W)
- \* Space required for flush-mounted panel with surface-mount adapter (PNT2-FAM-P): 199 x 92.4 mm (H/W)
- \* Hole dimension for flush-mounted adapter (FAM-R-S-NT/PT): 180.5 x 77 x 25 mm (H/W/D)

## 2. FAM-PV panels:

- \* Power supply: 15V DC (13.5 - 15.5V DC)
- \* Power consumption in standby mode: ~2.8W
- \* Current consumption: max. 260mA, without E-lock
- \* Support for proximity key fobs (ACC version): max. 192 key fobs
- \* Permitted load of E-lock output: 1A
- \* Front: stainless steel; mounted with 3mm Allen (hexagon) screws
- \* Required space for flush-mounted panel: 286 x 90 mm
- \* Hole dimension for flush-mounted box: plastic box 269 x 73 x 32mm
- \* Required space for surface-mounted panel with flush-mounted adapter (PNT2-FAM-PRO/PV): 288.4 x 92.4 mm (H/W)
- \* Hole dimension for flush-mounted adapter (FAM-R-M-NT/PT): 270.5 x 77 x 36 mm (H/W/D)

## III. USING THE PANEL

---

To call an apartment, press the appropriate ringer button (direct call button) - the receiver in the apartment being called will start ringing. For the video version, a camera image will also appear in the monitor during the call (by default, captured at the panel from which the call was made). Direct call buttons are by default assigned to addresses from the bottom: address 1 (bottom button) and successively up to address 6 (top button). It is also possible (after changing the settings via the PC program or directly on the panel numeric keypad: function "change of factory settings" - page 22) to call apartments by selecting apartment number using the keypad buttons, in a conventional manner as in the case of CDNP panels or INSPIRO panels (FAM-P/PV-ZS panels with code lock only, without direct call buttons have this option set by default). In this case, the receiver in the apartment will start ringing after approx. 3 seconds.

First, the panel sends ringing tones (two ringtones by default, the number of ringtones can be changed in program 3 of the service menu or via the PC program) and sets itself to stand by waiting for the handset to be picked up. If the handset is not picked up within 20s, another single signal is sent and the panel continues waiting for 20s. If the call is not answered within some 40s, the ringtone is automatically ended and the panel returns to standby mode. Calling an apartment can always be cancelled with the "#" key or any direct call key.

If the call is answered during the waiting time (handset is picked up), the call will be established. Now conversation is possible and the entry door and/or a second gate (connected to the panel from which the call is in progress) can be opened. The call may last up to 2 minutes, unless the call is terminated earlier (handset is hanged up) or the call is interrupted by pressing "#" (the call time can be shortened via the PC program).

The panel detects a line short circuit - signalled by blinking keypad backlight. During this time, E-lock can be activated by pressing any button and building can be entered. When the correct state of the line is detected (when short circuit ceases), the panel is automatically restored to normal operation.

An additional output module with relay can be connected to the panel, for instance to control a second gate. For Familio P and PV panels a special MINI I/O module is dedicated to be mounted directly in the panel. It features NO, NC relay output. It can be used to control lights in the hallway or open an additional gate, etc. Alternatively, the CDN-I/O module with dual relay outputs can be used. All FAM-P and FAM-PV panels feature an output for direct connection of an E-lock, also reversible E-lock. In order to connect a device other than an electric door strike, a relay needs to be connected in its place as per the diagram on page 15 or the CDN-PK relay module needs to be used.

When opening the door, the panel generates an audible signal (information for persons with vision impairment) and the keypad backlight blinks (information for persons with hearing impairment). The opening time (by default 4 seconds) can be changed via the PC program or from the service menu - program 2.

The front door can be opened in the following manner:

- \* *With the push button on receiver in the apartment*

The door will open upon pressing the opening button ("key") on the receiver during an active call. During one call (conversation) it is possible to open the door three times, after which the call is automatically terminated.

It is possible to open without having to connect with the apartment. In this case, on classic uniphones the handset must be picked up and the open button pressed three times, on active receivers (INS-UP720MR, UP800/MP800, INS-MPx) the open button must be pressed once (without having to pick up the receiver).

- \* *Opening additional door with the uniphone F2 button*

Opening (activation of the relay in the optional I/O module) is possible by pressing the F2 button on the receiver during an active connection. To open a second door without connecting with an apartment, connect the wires from the second door directly to the receiver (only selected receiver models, for instance: INS-UP720M / INS-UP720MR, UP800(G2), MP800G2). Default setting for the relay is 2 seconds (can be changed using the software). It is possible to activate the relay of an I/O module (CDN-I/O only) without receiver in the apartment picked up - for this panel settings have to be changed (section on I/O module) using the PC software (the opening method is identical with and replaces the opening method for doors without receiver in the apartment picked up described above).

- \* *Opening with the proximity key fob (ACC)*

To open the door place the key fob to the lowest description window with the panel in the standby mode. In case the key fob is not registered, the panel generates fast beeps. In order to add proximity key fobs use the free **ACC\_v3** software, version v3.5 or higher, and connect the panel to the PC using the optional **CDN-USB** cable (to be purchased separately). The software is available at [www.support.aco.com.pl](http://www.support.aco.com.pl)

- \* *Opening with access code (default setting, except Fam-P-ZS and Fam-PV-ZS)*

In order to open the door, use one of the two codes by entering it directly on the keypad. The default codes are:

- for the bottom key: 1111
- for the top button: 2222

**Note!** It is recommended to change the codes upon installation of the panel is complete.

The code can be changed by the user as follows: Enter the current code, then within 1.5 second press and hold the "key" button (for approximately 4s), until the panel emits up-modulated sound. Then enter a new four-digit code, which the panel will confirm with a sound.

The panel has a function to notify residents when the code is used (door opening signal). When the correct code is entered, a short triple beep sounds in the receiver to which the code is assigned (this function can be deactivated using the software or directly from the service menu - program 4).

*\* Opening additional door with a code or a key fob (default setting)*

Opening (activation of the relay in the optional I/O module) directly from the panel is possible when the opening code is preceded by pressing the key twice. When using a proximity key fob, press the key button once before applying the key fob.

*\* Opening with access code (optional, default setting for Fam-P-ZS and Fam-PV-ZS)*

If the panel is configured to handle calls from numeric keypad (as in the case of CDNP or INSPIRO panels), to open with the user code, select the apartment number on the keypad, confirm it with the "key" button and select the four-digit entry code assigned to the apartment (physical address of the receiver). The opening codes are separate for each apartment and correspond to the code table, which can be changed/entered using service program #9.

By default, the code table is only added to panels FAM-P-ZS and FAM-PV-ZS. For other versions of the panel, use the code table that is used in the panel/master panel or generate it using the "ACO Code Generator" available at [www.aco.com.pl](http://www.aco.com.pl) in the user zone or at [www.aco.com.pl/aco\\_generator/](http://www.aco.com.pl/aco_generator/)

The website can also be used to prepare name tags for residents, containing the apartment number, the opening code and instructions for its use. A name tag may include a logo and one line of text for company name and phone number etc..

If the code table number is "9999", opening with the user code is disabled.

*\* Opening with administrator's access code (optional setting, default setting for Fam-P-ZS and Fam-PV-ZS)*

If the panel is configured for dialling from the numeric keypad (conventional method, as in case of CDNP or INSPIRO panels), opening with the master code is possible by selecting the "key" button on the panel keypad, and then the 6-digit master code (the code can be shortened to the first 4 digits - setting via the PC program). This code is used by persons such as technicians, postmen, housekeepers, etc. Two such codes can be entered in the panel.

*\* Service opening - using program 0*

Service opening is possible by entering the service programming function for panels with numeric keypad and selecting "0" on the keypad. When door opening is activated, the programming function is automatically exited.

*\* Opening with any keypad button in case of line failure*

In case of uniphone line short-circuit, which makes it impossible to call any apartment, pressing any key will open the door (short-circuit of uniphone line is signalled by flashing keypad backlight).



*\* Opening with additional push button*

The panel features an additional INPUT, which is configured by default as additional opening - when shorted to ground it activates door opening. Such opening while the call is pending completes the procedure of calling the apartment.

This input can be connected to any NO button such as INS-OB, code lock, card access reader, motion detector etc. The input is protected against a permanent circuit short-circuit (short circuit triggers it's disconnection from the system until released).

*\* Further door opening*

The slave panel features the so called a further door opening function. If the master panel opens the door and terminates the call or opens the door with an access code or proximity key fob, the waiting time is automatically activated in the next slave panel. During this time, pressing any button (except "#") activates door opening. This option is enabled only in those slave panels through where the call originated or which must be used (passed) to reach the apartment assigned to the access code or proximity key fob used. Standby mode can be cancelled with the "#" button. If the parameter "Open after delay" is activated, after the pre-set delay time has passed the door will be opened automatically without pressing any key. The wait time is set in each slave panel. The further door opening pulse must be enabled on the master panels. The function is disabled in the panels' default settings and can be enabled using the software.

*\* Opening using the input from the additional module*

The panel can be used for opening via an additional module, such as an I/O module. The module is connected to the EXTMOD socket on the panel board and configured via the PC program.

*\* Automatic opening when calling an additional number*

If the "Auto door opener" function is enabled (for additional number only) and the handset is not hung up (picked up), door opening will be activated automatically after the first ringing signal. If the handset was hung up during the first ringing tone, the panel works normally - the handset can be picked up and communication is possible. The automatic opening function is commonly used in commercial buildings

- letting people in is done by simply lifting the handset; after business hours the handset is hung up and the door entry unit works normally. For this purpose, the recommended receiver model is INS-UP720B/XM. For certain active receivers (for example UP800/MP800/INS-MP7) it is possible to activate the auto-opening function independently.

*Additional numbers.*

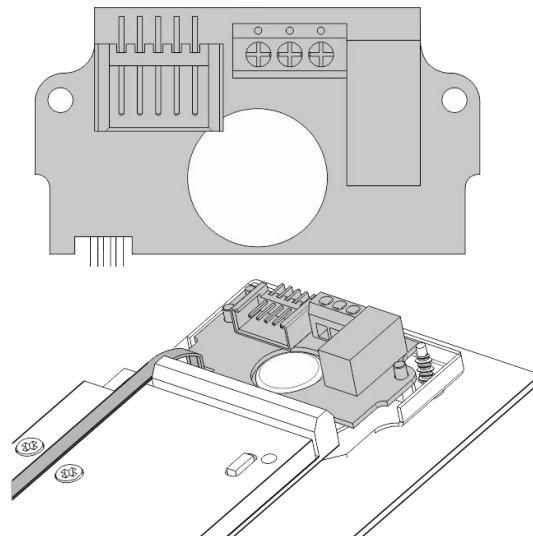
Two additional supported numbers can be added for the ringing operation mode using numeric keypad buttons. These can be any number in the range of 1-999 (disabled by default), to which physical addresses of receivers can be assigned. Additional numbers can be assigned to the same receiver so that it can be called using three different numbers (for instance two additional numbers and one primary number). Each such additional number may be configured with different ringing parameters (ringtone and number of signals).

If the primary numbers and additional numbers overlap, the latter have priority and calling in these cases is always made according to their settings. The access codes are the codes in the table, corresponding to the physical address of the receiver.

## IV. ADDITIONAL MODULES

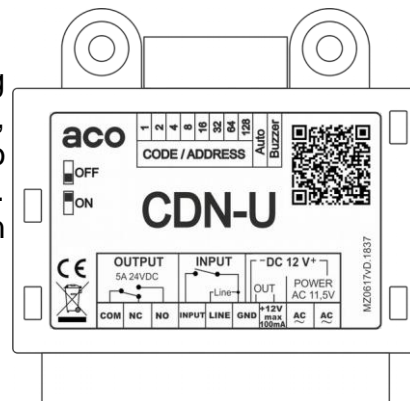
### MINI I/O module (additional output)

Expansion module to control a second gate or other home automation and external devices. Mounted directly on the Familio P/PV panel. It features a relay output. The module can be used for instance to control the opening of an additional or main gate, to operate the staircase lighting, to control the barrier, etc. The module parameters are set via the PC program for changing Familio panel settings (**FAM\_P**). More information at [www.aco.com.pl](http://www.aco.com.pl) Description of module configuration - chapter XI.



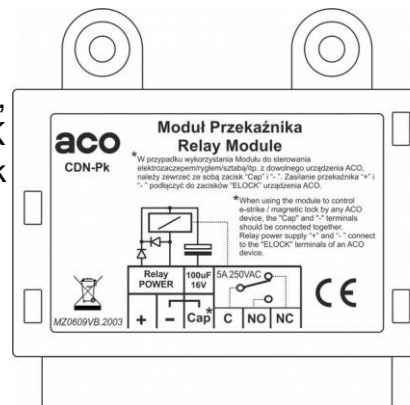
### CDN-U signalling module with opening function

This module can be used to connect additional devices signalling ringing in the apartment, for instance additional bells, light bulbs, signallers etc. for persons with disabilities. The module also enables automatic door opening without picking up the handset. The module can operate independently (built-in sounder) and in parallel with the receiver.

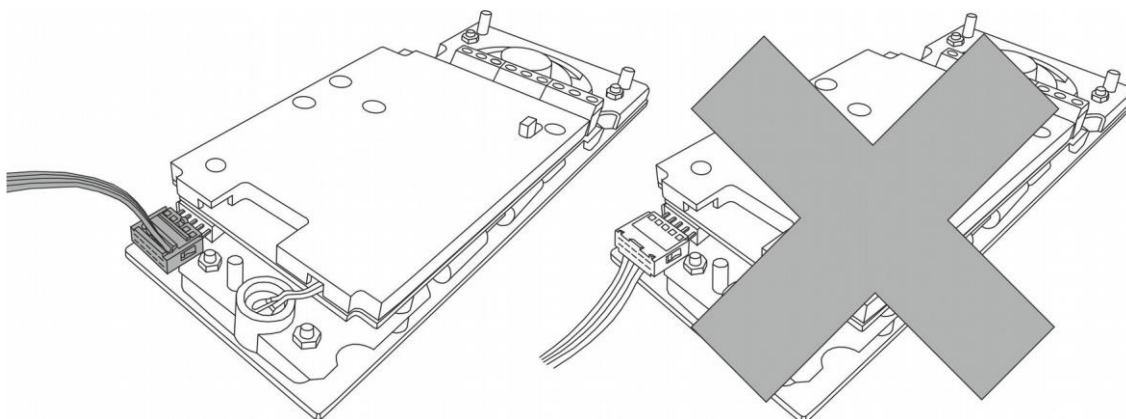


### CDN-Pk module

Relay module, with NO and NC contacts, cooperating with all CDN, INSPIRO, FAMILIO panels. It enables connection to the ELOCK output of an electromagnetic jumper, gate control, barrier or E-lock with specific requirements, etc.

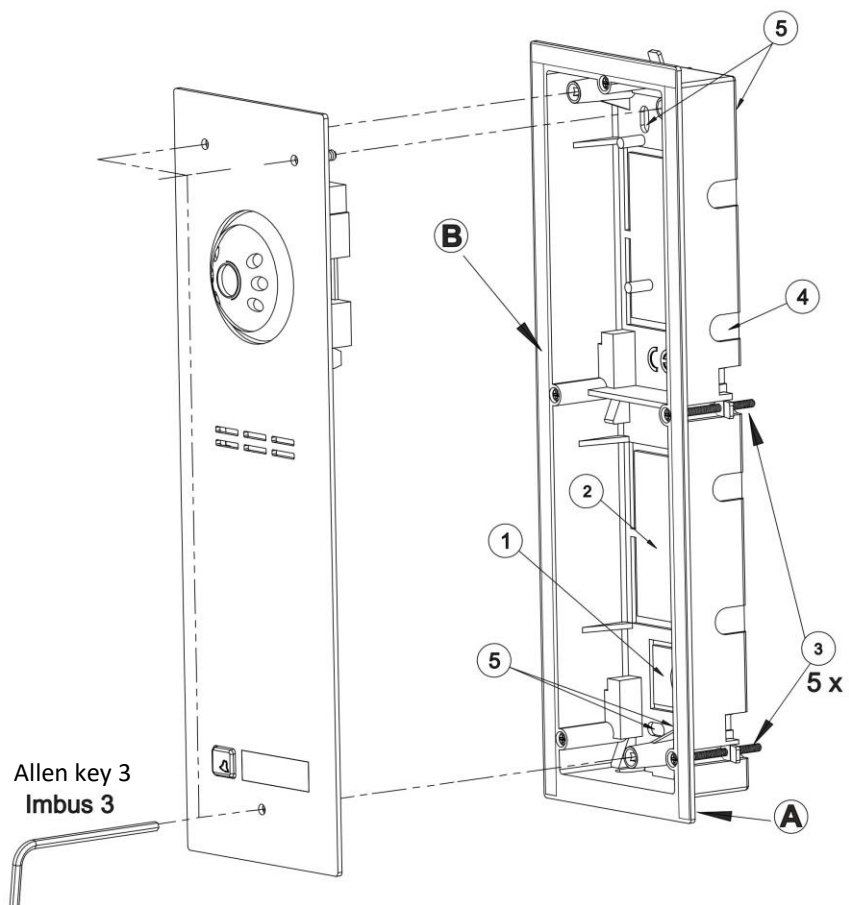
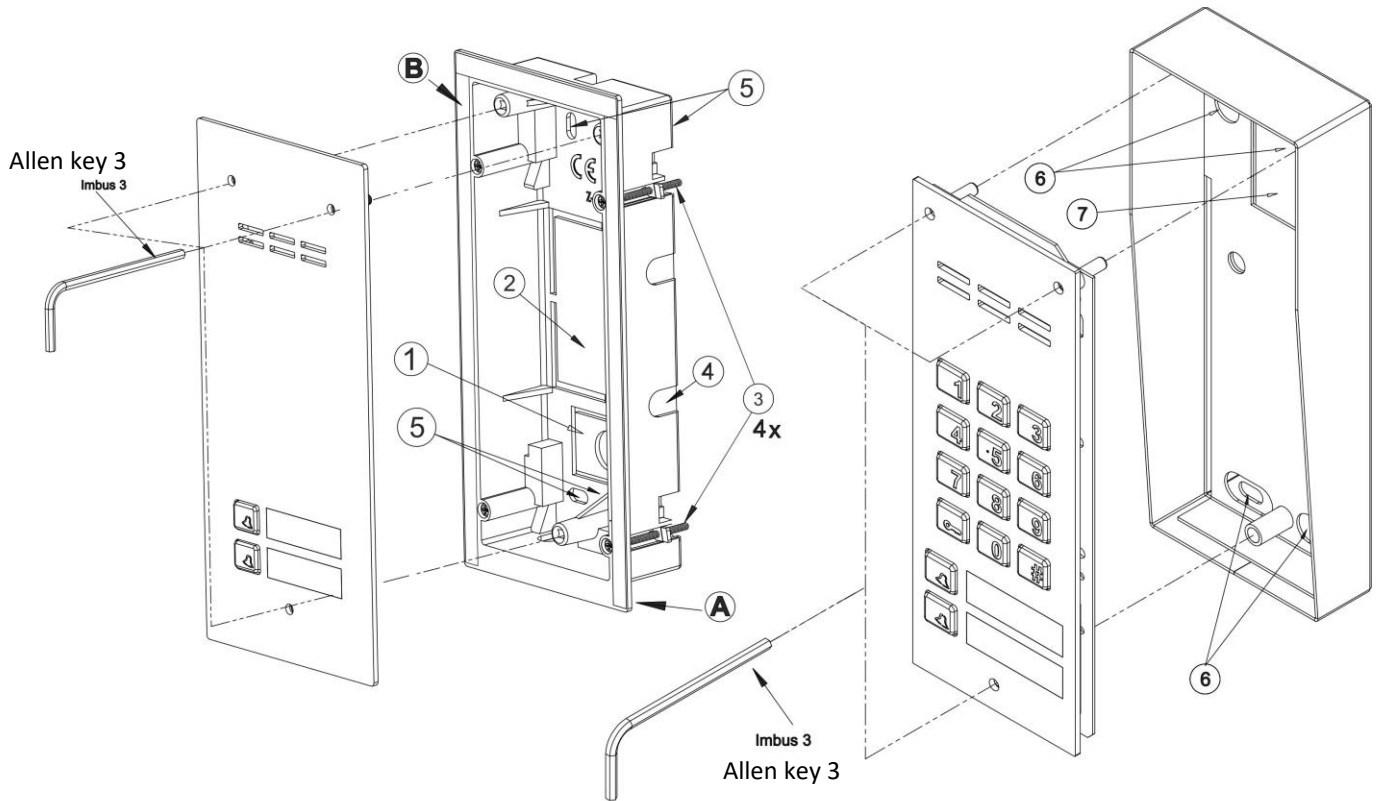


**PLEASE NOTE! Connect all additional modules to EXTMOD output, including CDN-USB as shown in the figure on the left.**



# V. MOUNTING AND CONNECTING THE PANEL

## ASSEMBLY



The panel should be assembled so as to minimise the impact of adverse weather conditions, in particular water.

Install the flush-mounted back box (or flush-mounted adapted) in the appropriate wall opening, using holes **5** and rawplugs (or screws) as well as gypsum; make sure that the back side of the box flange **A** is flush with the mounting surface. When mounting on a steel pole (similar structure with a maximum wall thickness of 32 mm), use an additional set of gaskets and screws 3 - available as an option. Run the wires through hole **1** in the box base (cut out the cap if larger hole is needed). Use additional holes **4** for makeshift installation with nails etc. when mounting the unit in soft materials such as polystyrene. Holes **4** also make installation easier when using mounting foam. The cover cap **2** should be cut out in order to install the add-on module in its place. For the best possible tightness, cut out only those holes that are necessary to install the panel. Check the condition of the gasket on box **B**. Cracks, deformations and soiling of the gasket may lead to loss of tightness.

Install the flush-mounted back box in a suitable place, using holes **6** holes and rawplugs or suitable screws. Lead the wires through hole **7** in the box base.

Then screw evenly all screws of the housing to the back box using a 3mm Allen wrench.

Make sure that the camera is installed at the desired height. Typically that height is 1.60 m from the ground. For optimal field of view of the camera, verify the installation location and position of the panel by trial and error. Avoid locations where the camera lens may be exposed to direct, perpendicular, light (from the sun, street lamps, etc.).

## 2 - CONNECTING THE PANEL

---

All connections in the installation must be soldered!

The following wires need to be arranged to the unit:

- 2 wires x 1mm<sup>2</sup> - power supply from the Audio system transformer or power supply from the DC power supply (15VDC) for the Audio/Video system

- 1 wire in yellow green insulation - to connect the housing's grounding (PE)

- 2 wires x 0.75mm<sup>2</sup> - for E-lock,

- 2 wires x 0.5 mm of door entry cable to connect receivers - for Audio systems with passive receivers (such as INS-UP / INS-UP720B/X/M), or

- 4 wires x 0.5 mm of door entry cable to connect receivers - for Audio systems with active receivers (such as INS-UP720MR / UP800), or

- 1 x UTP cable (min. cat 5e) - for video systems

**Note!** All RJ45 plugs on UTP must be crimped in **T568B** standard.

If cross-sections are smaller and connections that are too long, voltage drops may occur, causing the panel to malfunction. To extend the length of cables, their cross-section must be increased.

Insufficient power supply, too small cable cross-section and too long connections (voltage drops) may cause device operation disturbances (such as audio channel disturbances: buzzing or reset system trip and device restarting, especially when opening the E-lock).

**Note!** Mixing passive receivers with active receivers (including monitors) is not recommended, as this may cause the entire system to malfunction.

**Important!** Use a DC power supply (+15VDC) that has terminals for PE conductor connection. This eliminates interference (buzzing) in the audio channel, especially in the hands-free receivers, and ensures trouble-free operation of the entire system.

If the power supply has no PE connector, the **MOD-PE-GND** module can be used, available from Aco, to connect the PE conductor to the intercom system.

**Maximum lengths of signal cables (of the line or bus).**

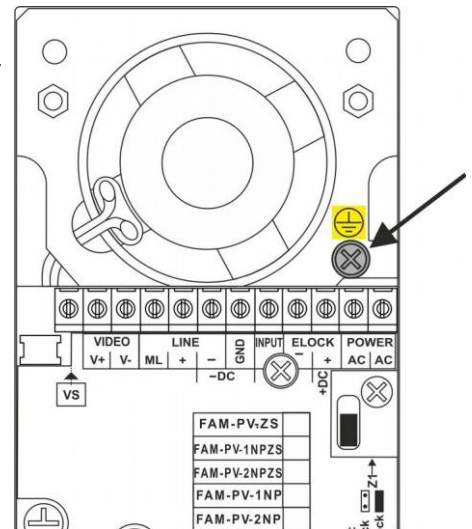
The cross section (resistance) of the bus for digital transmission and audio track (LINE terminals) has a significant impact on the maximum bus length for both Audio and Video systems. For typical cable cross sections (0.5mm) the maximum distance is 300 m.

This distance increases with increasing wire cross section:

- with 1 mm<sup>2</sup> wire the distance can be increased to 400 m
- with 1,5 mm<sup>2</sup> wire the distance can be increased to 600 m
- with 2,5 mm<sup>2</sup> wire the distance can be increased to 1000 m

Use CDNV-RJ45 module to increase the cross-section of the above mentioned cables (UTP) in the video system. When necessary, the video signal should also be amplified with the CDNVRAU-DIN splitter, using the amplified output.

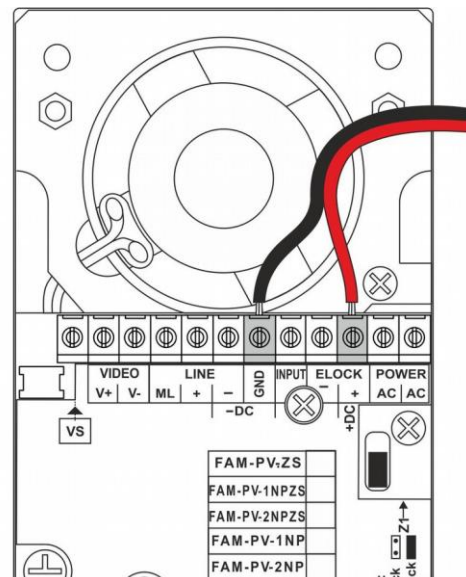
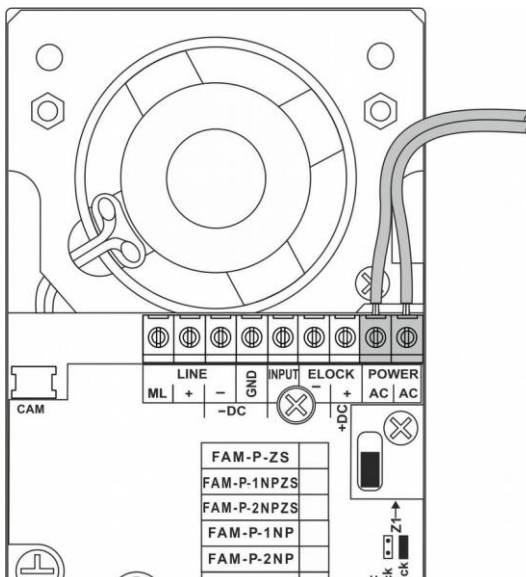
**PLEASE NOTE!** For proper operation and to ensure safety of use, connect the panel in its installation point to earth by connecting the grounding terminal (see picture) on the panel with a suitable protective installation (PE).



**Panel power connection:**

Transformer - TR 11.5V AC

DC power supply - 15V DC



Audio

Audio / Video

1. FAM-P panels only:

11.5V AC supply voltage is connected to the POWER (AC/AC) terminals, while if 15V DC power supply is used, the supply voltage is connected to the +DC (+ELOCK) and -DC (GND) terminals.

2. FAM-PV panels only:

use only DC supply voltage of 15V DC and connect it to the +DC (+ELOCK) and -DC (GND) terminals of the panel.

Connect the E-lock, no specific polarity to be observed, to "ELOCK" terminals.

Audio panels and passive receivers (without power supply) are wired to apartments using a two-wire intercom cable, and the uniphone terminals should be connected in parallel and connected to the "LINE" terminals on the panel. Make sure that the "+" uniphone terminal is properly connected to "LINE +" on the panel and the "-" uniphone terminal is properly connected to "LINE -" on the panel. Improper wiring of even one uniphone will cause bad operation of the entire system.

Audio panels and passive receivers (power supply of receivers is necessary) are wired to apartments using a four-wire intercom cable, where the LINE terminals of uniphones are connected in parallel and connected to the "LINE" terminals on the panel, and the "+DC"/"-DC (GND)" terminals of uniphones are also connected in parallel and connected to the "+DC"/"-DC (GND)" terminals on the panel. Make sure that the "+" uniphone terminal is properly connected to "LINE +" on the panel and the "-" uniphone terminal is properly connected to "LINE -" on the panel. Improper wiring of even one uniphone will cause bad operation of the entire system. It is recommended to use UTP cable in T568B standard and CDNARU-DIN audio splitters. **Note!** For active audio receivers, DC power supplies must be used throughout the system (transformers are not permitted). For a greater number of active receivers, the number and power of power supplies should be selected based on the number of receivers in the entire system - detailed information can be found in the assembly instructions for the active receivers used.

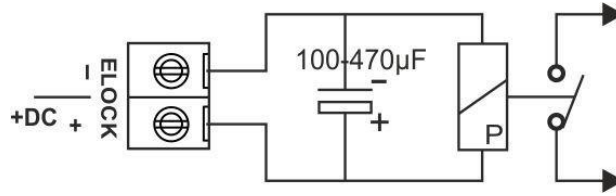
In the case of video panels, the wiring between the panel and the monitors (bus) requires UTP cable in T568B standard (all wires must be used). All RJ-45 plugs must be crimped with the same wire order. Use video splitters to connect more receivers, and arrange the bus in such a way that the UTP cable starts from the panel. Connect the wires to the panel terminals as per the diagram and UTP colours. The bus is then connected to the main input of the first splitter (RJ-45 plug). Then connect the main output of the splitter to the main input of the next splitter and so on. The monitors are connected using individual outputs of the splitters. It is recommended to connect the power supply from the closest panel to the first splitter (the "auxiliary power" jumper is removed in the splitter). The distance from the slipper with connected power supply to the receiver must not exceed 70m, while using additional power supplies, the total distance between the first panel and the last monitor can be up to 300m. The installation can also be arranged in such a way that all splitters are installed in one place and connection are made to each monitor (in this case the maximum distance from the splitter to the monitor is 70m, unless the power supply is connected directly to the monitor - then the maximum distance from the panel to each monitor is 300m). All distances are given for twisted pair UTP cat. 5e. In system with multiple video panel (Master / Slave), panels must also be connected using UTPs. - for more information, see chapter: VIII. OPERATION OF MORE THAN ONE PANEL

**Note! Before turning the power on, check for possible short circuits between the wires and make sure that the wires conduct current and are properly connected to RJ45. It is recommended to use UTP tester for computer networks - remember to test connection without connected aco devices !**

If the panel is powered from a buffer PSU with a battery, 13.8V voltage is connected to the "+DC" and "GND" terminals of the panel respectively.

**NOTE! The "ELOCK" output is designed for connecting an E-lock only.**

If it is necessary to connect another device, connect it using the contacts of a relay (12V coil) connected to "ELOCK" terminals with an additional 100 - 470 $\mu$ F electrolytic capacitor (depending on relay type), as per the diagram:



ACO offers off-the-shelf CDN-PK modules, which can also be used.

The panel may also work with reversible E-lock (closed after applying voltage). The same wiring diagram applies and the activation of this option is done via the PC program and the Z1 jumper must be installed in the panel (available under the panel terminals). When working with reversible E-locks, voltage appears on "ELOCK" output depending on transformer or DC power supply used (15VDC) - use suitable reversible E-lock or **MOD-DC-12V** module which will supply 12V DC to the reversible E-lock.

When wiring is completed and verified as correct, turn on the power supply.

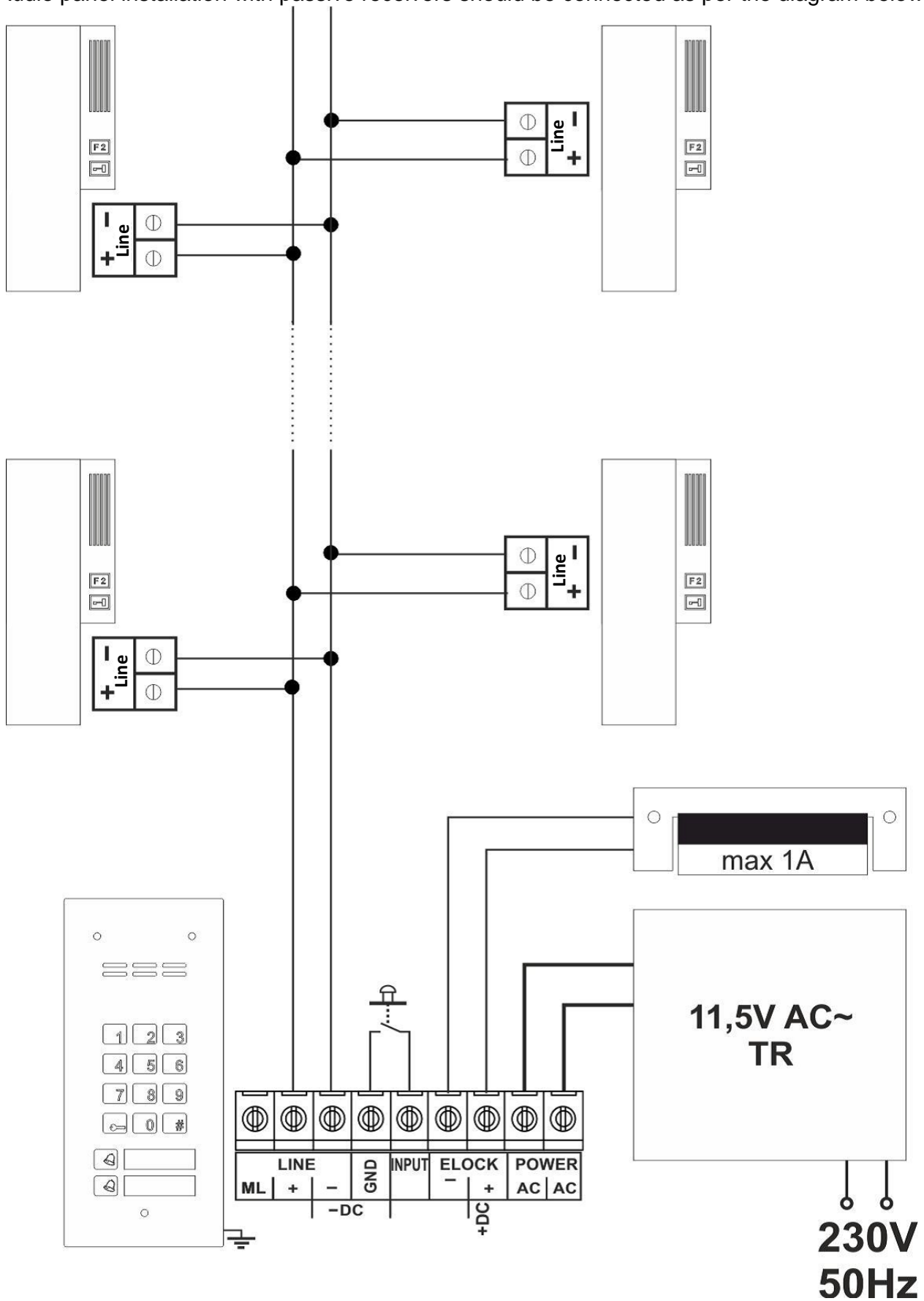
After the panel counts down approx. 30 sec (this time is required for setting uniphones working conditions and is indicated by an audible signal) the sound volume during a call should be adjusted as per Chapter VII of this manual.

Then screw evenly all screws of the housing to the base using a 3mm Allen wrench.

**NOTE! When setting up the panel-receiver connection, unwanted audible signals may occur, the level of which does not distort the content of the transmitted message, nor does it significantly impair the comfort of conversation.**

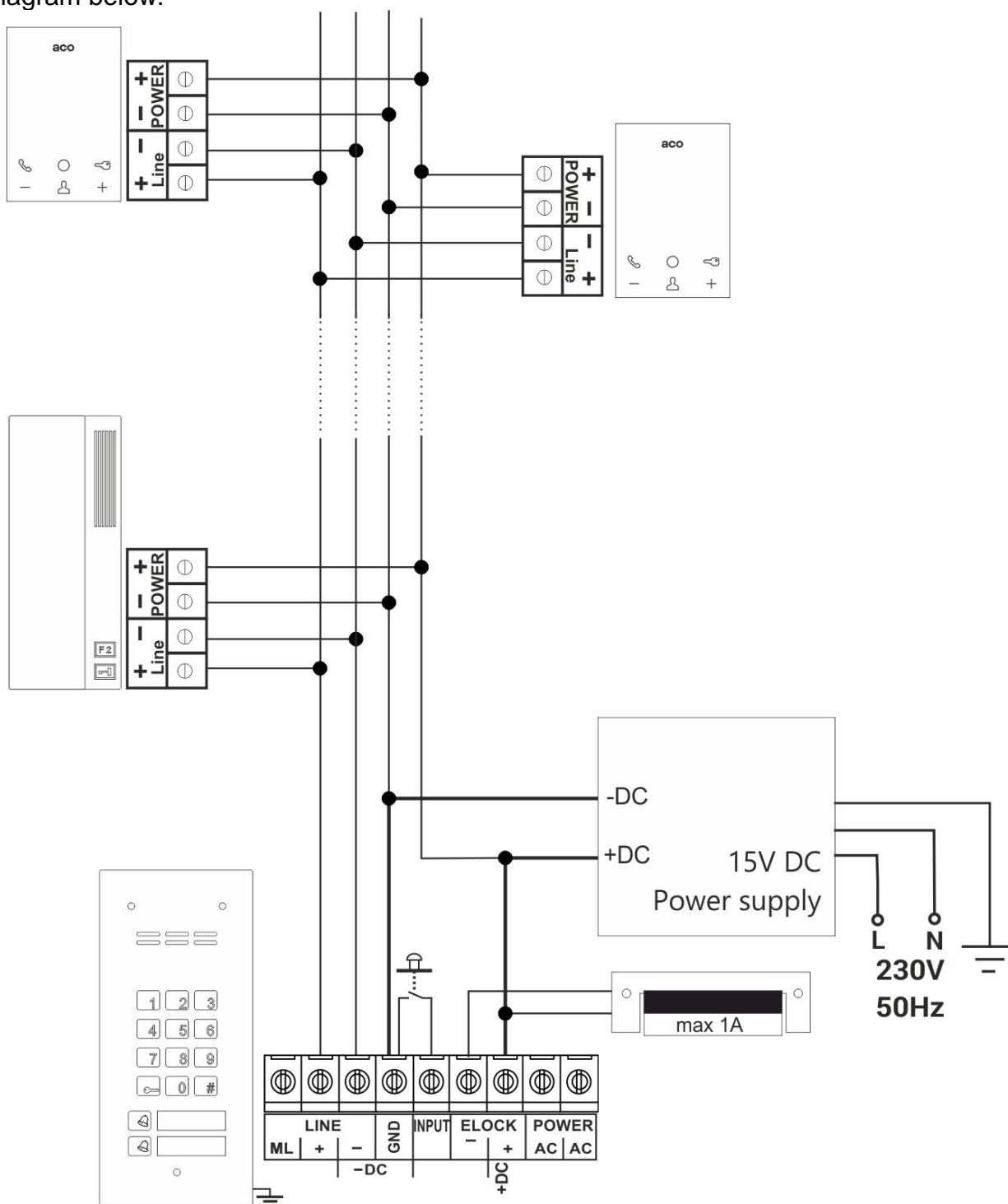
### 3- WIRING DIAGRAMS FOR SINGLE PANEL INSTALLATION

Audio panel installation with passive receivers should be connected as per the diagram below:

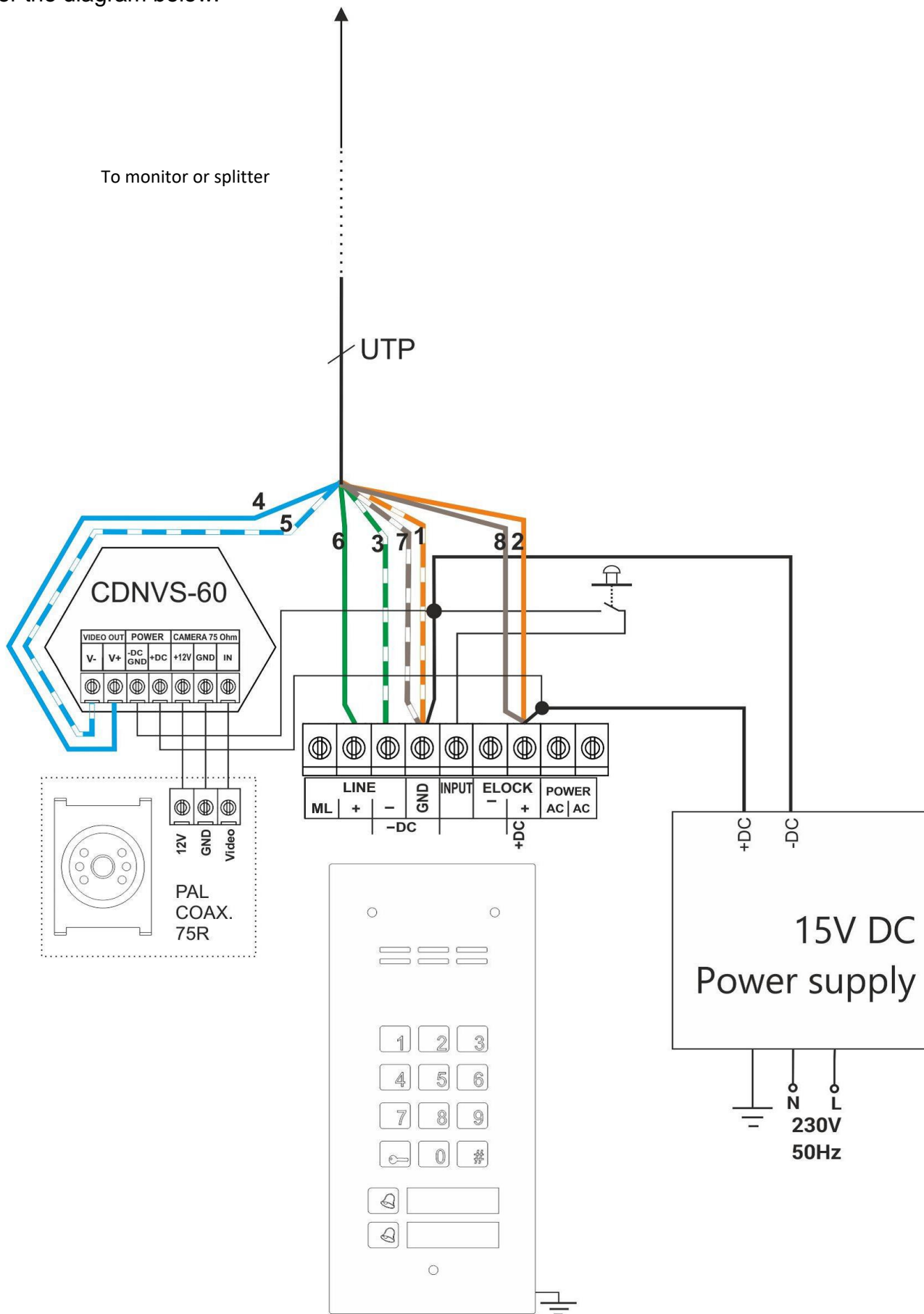




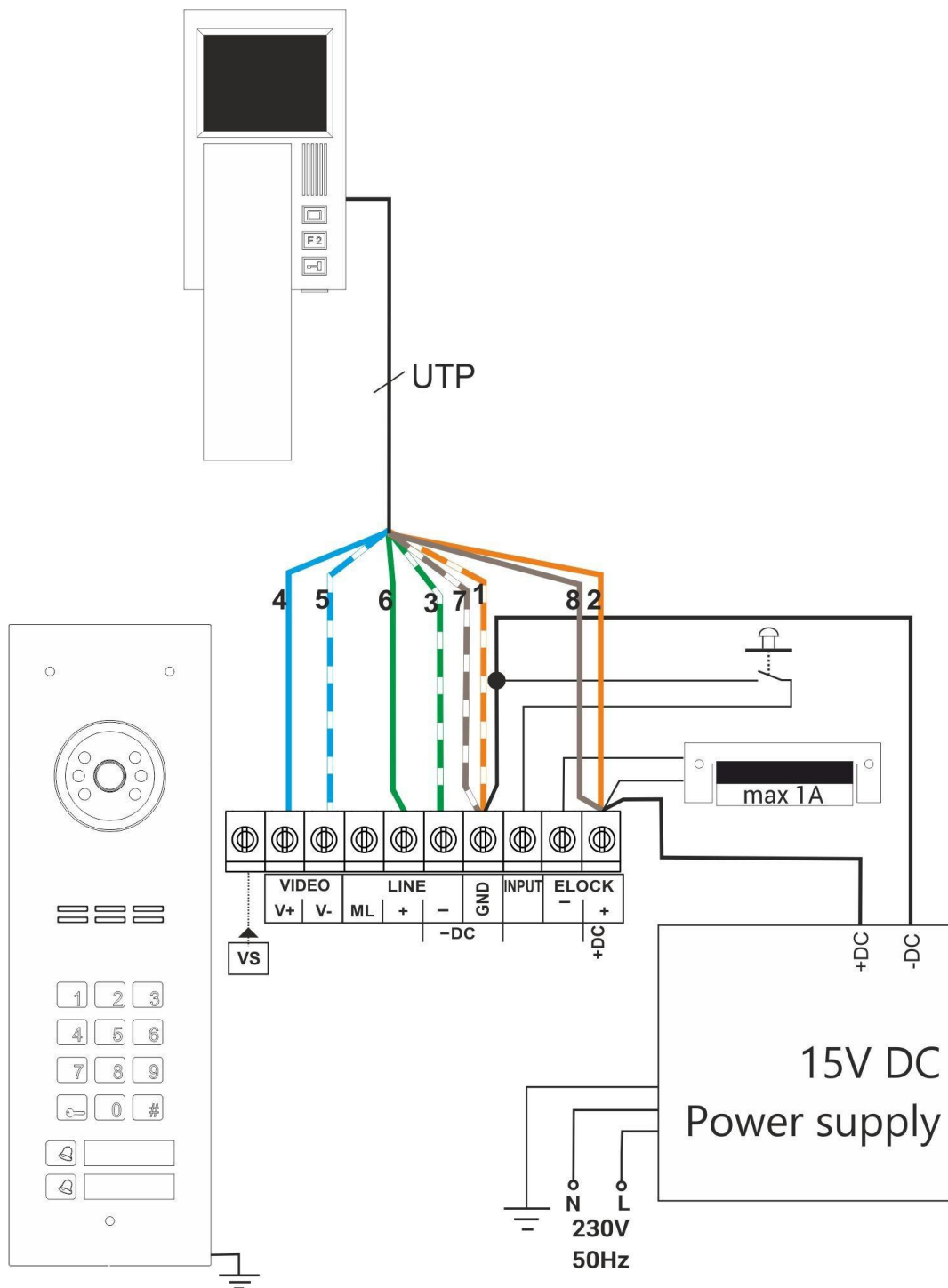
The installation of audio panels with active receivers should be connected as per the diagram below:



The installations of audio panel with additional external camera and monitors should be connected as per the diagram below:



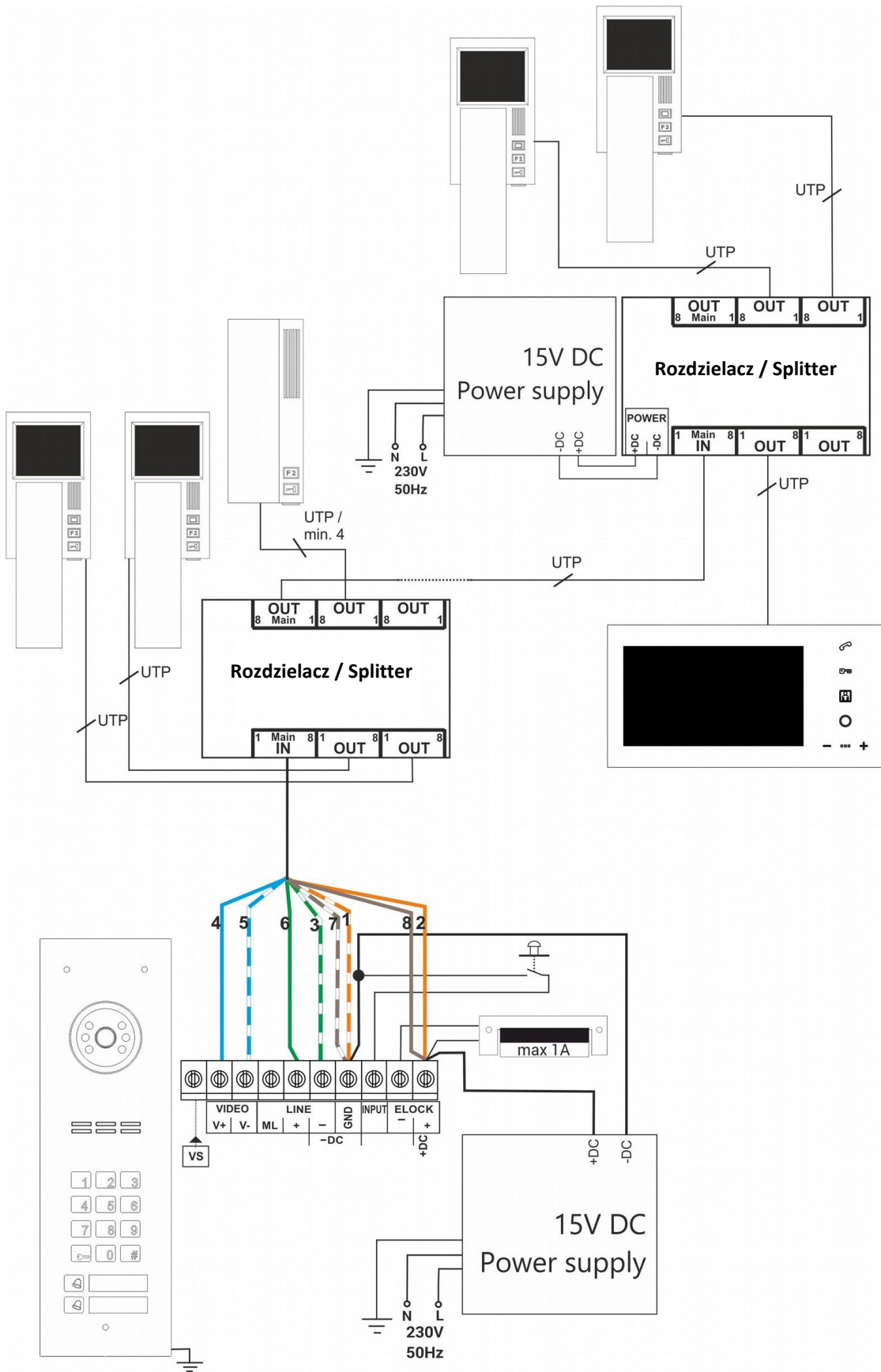
Video panel installation with one monitor should be connected as per the diagram below:



**NOTE!**

If the system features only one monitor, no video splitter is necessary and the monitor is connected at the end of the UTP bus leaving the panel. It is then absolutely necessary to connect the monitor power supply by connecting the bus cable: orange and brown together to "+DC" terminal of the panel (in this case the maximum distance between the panel and the monitor is 70m). If the additional power supply is connected directly to the monitor, the distance (between the panel and the monitor) can be extended to 300m. When using Video splitters with additional power supplies, cable length may also be extended up to 300m (between the panel and the monitor), assuming that the splitter, with a power supply connected to it - is within 70m from the monitor.

Video Panel with several monitors should be connected as per the diagram below:



## VI. INSTALLATION AND CONNECTION OF RECEIVERS

---

Receivers (uniphones or video monitors) should be mounted as per the included installation instructions. When connecting the device make sure that the physical address is correctly in the receiver. By default, physical address "1" corresponds to the bottom call button on the panel, physical address "2" corresponds to the second from bottom call button, etc. **Note!** In a system with passive uniphones (2-wire bus, non-powered uniphones) it is very important to avoid having uniphones with the same addresses - each uniphone in the system must have its individual physical address set. However, a system with active receivers (4-wire bus or UTP, receivers require power supply), may feature receivers with the same physical addresses (they ring at the same time, and the conversation can be conducted only in the one that answers the call first, others will switch off).

Before connecting the receivers, make sure that all RJ45 connectors are crimped correctly (the same way), that no short circuits on wires are present and that wires conduct properly. If even one RJ45 connector is badly crimped or in case of a short circuit between wires, the receivers, splitters and panels may be damaged. For INS-UP720MR and UP800 uniphones a standard intercom cable can be used instead of a UTP cable - connect at least four wires, paying attention to proper connection (polarisation) of "Line -", "Line+" terminals and "-DC POWER (GND)", "+DC POWER" power supply.

## VII. VOLUME LEVEL ADJUSTMENT

---

The volume level of the panel is pre-set, but it should be changed to suit individual conditions and needs.

The volume level settings can be accessed, when connected to the receiver, as follows:  
adjust the sensitivity of the panel microphone using the "**MIC**" potentiometer

- adjust the panel speaker volume level using the "**SPK**" potentiometer

As the MIC and SPK values are set, turn the "**BALANCE**" potentiometer to determine the position of the excitation points (squeak) in the loudspeaker and set the potentiometer halfway between these points (to move it as far away as possible from the position where excitation/squeaking occurs). If the BALANCE potentiometer cannot be set to a position where no excitation occurs - reduce the sensitivity of the panel microphone and/or the volume of the panel loudspeaker. In a mixed system with different receivers, the adjustment should be made for loudspeaker receivers by setting the maximum call volume on the receiver - when the call is "disturbed", the panel speaker volume and/or microphone sensitivity should be reduced. Make sure that the microphone on the loudspeaker receiver is not covered by an object or is not too close to an object. **PLEASE NOTE!** In the latest panel versions, the microphone is located in the hole of the bottom panel mounting screw - all adjustments and tests should only be done when the screw is firmly tightened to the mounting frame/mounting box!

## VIII. OPERATION OF MORE THAN ONE PANEL

---

Familio series panels are suitable for combining a number of panels in one door entry system. Connect the system as per the diagram. Familio panels (FAM-P and FAM-PV) are versatile and the same type of panel can be used as both master and slave panel.

The first panel in the system is the "Master panel" and all other panels are "Slave panels". Familio door entry systems may feature only one master panel.

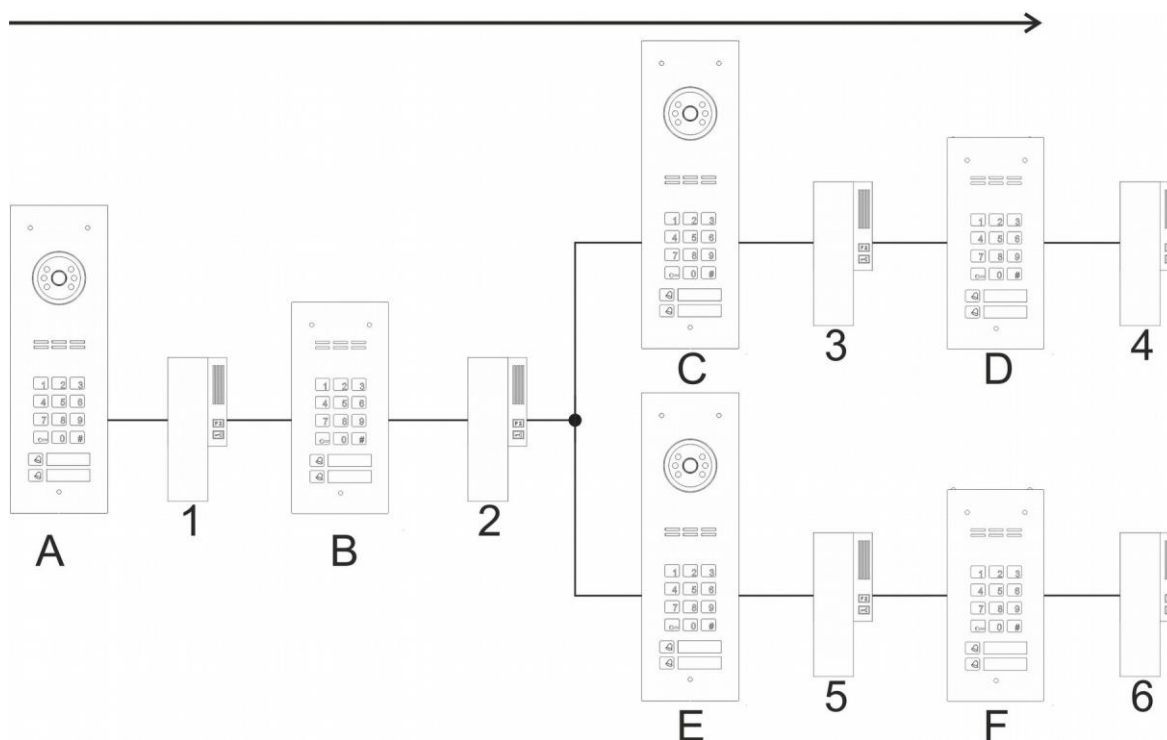
When a call originates from the panel, conversation, door opening and control of a second gate or F2 function are possible. Door opening (default control of the E-lock) and control of function F2/ 2nd gate (I/O MINI relay module) is possible only on the panel from which the call originated.

During a call or conversation, the image will automatically be shown only from this panel (the image cannot be switched). In standby mode (no call) only the master panel can be used to control door opening (default option) or a second gate/function F2 (after changing the panel settings). After switching on the preview in the receiver in standby mode (no call), the image will be displayed from the Master panel (default setting) or from the Slave panel (after changing the panel settings and depending on the installation layout).

Other panels in the system, which are not involved in the call or conversation (panels assigned to the receiver in the apartment being called), will be inactive (or busy), and when attempting to call using them, they will generate a "busy" signal (a signal similar to a busy phone signal). Panels in busy mode can be used to open the door with an access code or proximity card, and an additional INPUT (when leaving the building).

A call may originate from panels that are not involved in the call or conversation, and during an active call from other panels, only if the selected apartment number is not within the range of the busy panels.

Calling and connection topology of "Slave" panels is shown in the figure below (where: "A" is the Master panel, "B, C, D, E, F" are Slave panels). Only those receivers that are physically connected "behind" (or downstream) the panel - can be called. No "reverse" call is possible - a call to receivers connected "before" (or upstream) the panel from which the call is to be made. Panel "A" can call all receivers, "B" can call all receivers except "1", "C" can call "3" and "4", "D" can call "4". Similarly, "E" can only call "5" and "6", and "F" can only call "6" receivers. Several calls in the system: when calling receiver "4" from panel A, panels "E and F" can be used at the same time (others will display "busy"). When using "B" to call "3", "A" can be used to call "1", "D" can be used to call "4", E can be used to call "5 and 6", "F" can be used to call "6", and so on. It is possible to set any number of parallelly connected C, D and E, F branches.



Panels support further door opening function. With further door opening function, after opening the door from the panel upstream other panels, waiting for door opening in next panels is automatically activated - a countdown is started. During this time pressing any keypad button (except "#") will immediately start the door opening. Waiting will turn off automatically after the pre-set time. It can also be turned off at any time by pressing the "#" button.

The further door opening function must be activated in the panel settings by activating the "Further door opening impulse", which is sent to subsequent panels, and by setting the wait time for opening after receiving this impulse. Optionally, "auto-opening" can also be enabled - after a waiting time the panel will open the door without having to press any button. By entering the right times, the entry is seamless, even with multiple panels. In default settings the further door opening function is disabled.

**Make sure to set the correct ranges of supported physical addresses in the panels. These ranges must not overlap, as it may cause the entire system to malfunction.**

A system in which multiple FAM-P and FAM-PV panels are installed will operate correctly only if the number of physical addresses in the system remains at 150 or below (from the pool of 255). If the number of apartments exceeds 150 or if their numbers repeat, use the Inspiro+ or CDNP series panels (which support 255 apartments). Familio series panels are compatible with CDNP and Inspiro series panels, and can work together in one door entry system.

## 1 - INSTALLATION OF THE SLAVE PANEL

---

Installation of multiple Familio panels in video version also requires a bus made only with UTPs, with the difference to the CDNP/INSPIRO systems being that only one UTP cable can be arranged to the "slave" panel and a special "Intermediate combiner to FAM-PV" (symbol: FAM-PV-Sp) must be installed at the end of the UTP (max 100m). The UTP is arranged to the combiner from the previous (upstream) panel and then from the combiner to the next panel or directly to monitors (splitters). The combiner is not used in the first Familio master panel.

If several Familio audio panels are installed, two bus wires are arranged to the first panel: Line+, Line- and Line+ are connected to the ML terminal of the next panel (Line- to Line-). Similarly, two wires, Line+ and Line-, are arranged to the next panel entering ML and Line- terminals, etc.

If the first panel is an audio panel, and further panels are video panel, the bus wires are arranged to the first video panel: Line+, Line-, and -DC POWER and Line+ are connected to the ML terminal of the next panel (Line- to Line-, and -DC POWER to -DC POWER). If the first panel is a video panel and the next one is an audio panel, the "Combiner with no camera" (symbol: CDNVSbk) must be used at the audio panel; the combiner may be installed at a distance from the audio panel; UTP to the combiner must be arranged from the video panel; the UTP bus must be arranged to the splitters, and the 4-wire bus to the audio panel (Line+, ML, Line- and -DC POWER). If the last panel is an audio panel, the power supply (+DC POWER) should be connected to the combiner with no camera.

When using CDNP/INSPIRO panels, connect them as per their installation instructions. They are fully compatible with the FAM-P and PV series and are combined similarly.

**The system must run on one type only of power supply - the recommended power supplies are DC power supplies. For audio devices and passive receivers, AC power can be supplied from transformers, but each device must be powered from a separate transformer and DC and AC power supplies (transformers) must not be mixed in one system. The entire system needs to be powered from the same phase.**

## 2 - PROGRAMMING THE SLAVE PANEL

---

The Familio panel can work both as a slave and master panel. Programming the Familio panels is described in chapter X. Each panel must be programmed individually and each panel may feature different settings, for instance:

- Installer's code
- door opening time,
- ringtone (to identify the panel from which the call originated)
- other settings

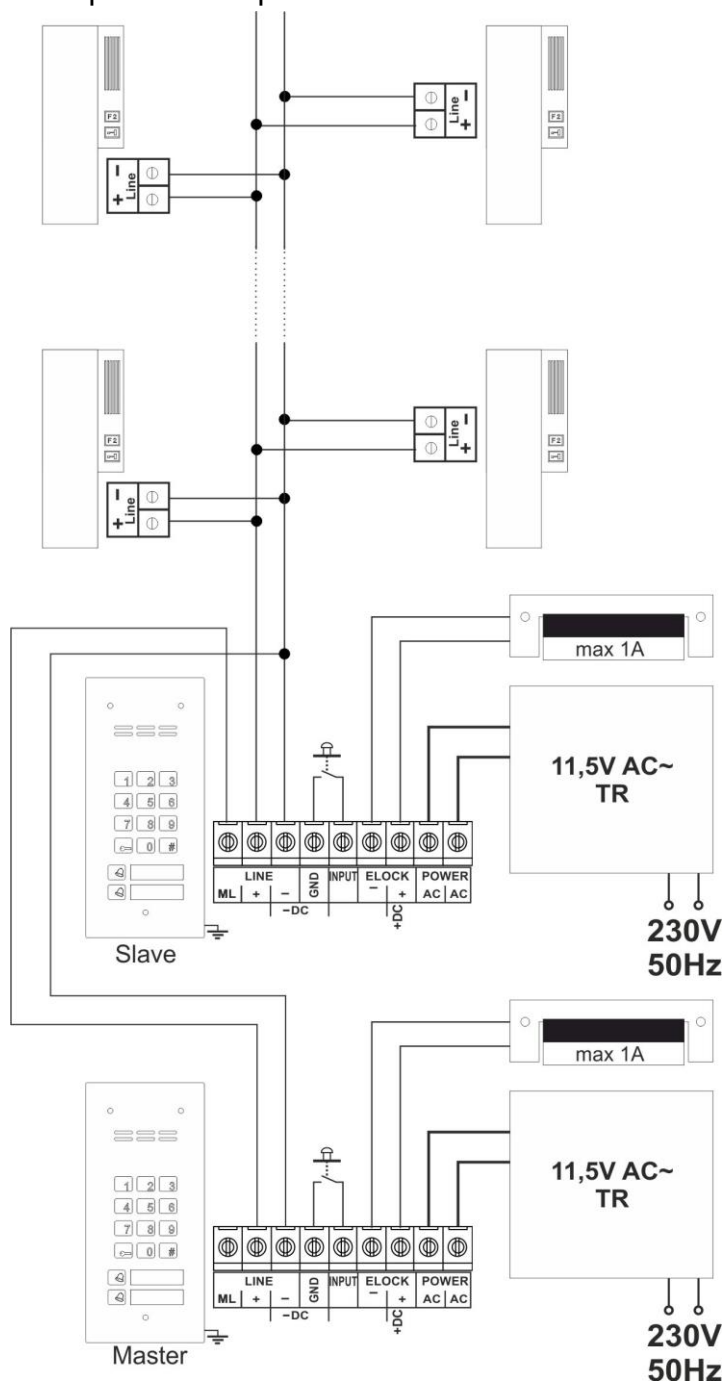
At the same time, for easier operation by users, it is recommended to set the same door opening codes in all panels (or the same code tables - then the door opening codes will be the same for all apartments).

For proper operation of a system with multiple panels, configuration is required for:

- the number and range of apartment addresses that a panel is to support
- possible further door opening - further door opening delay and sending further door opening pulse.

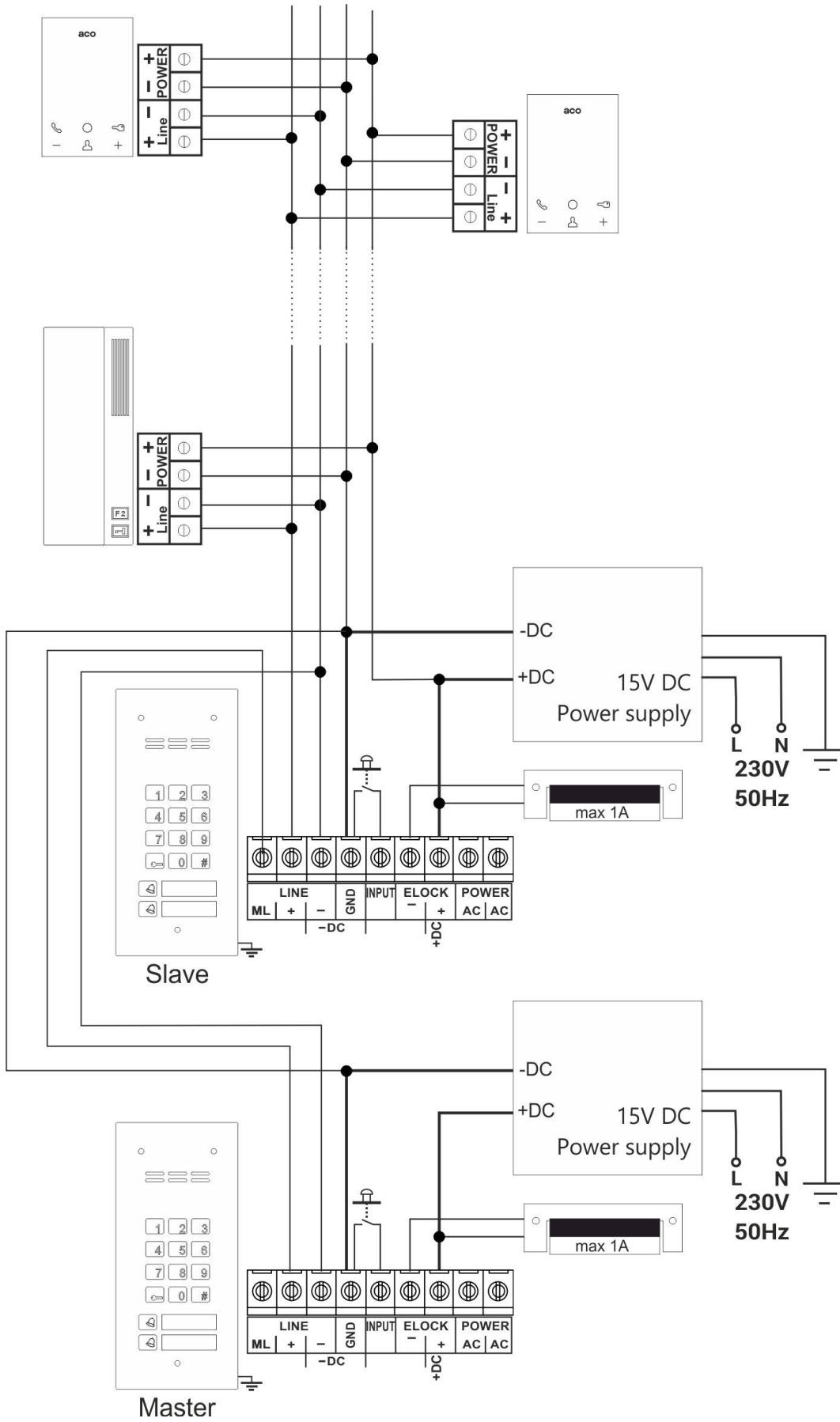
### 3 - WIRING DIAGRAM OF INSTALLATION WITH MULTIPLE PANELS

Installations of multiple audio panels with passive receivers should be connected as per the diagram below:



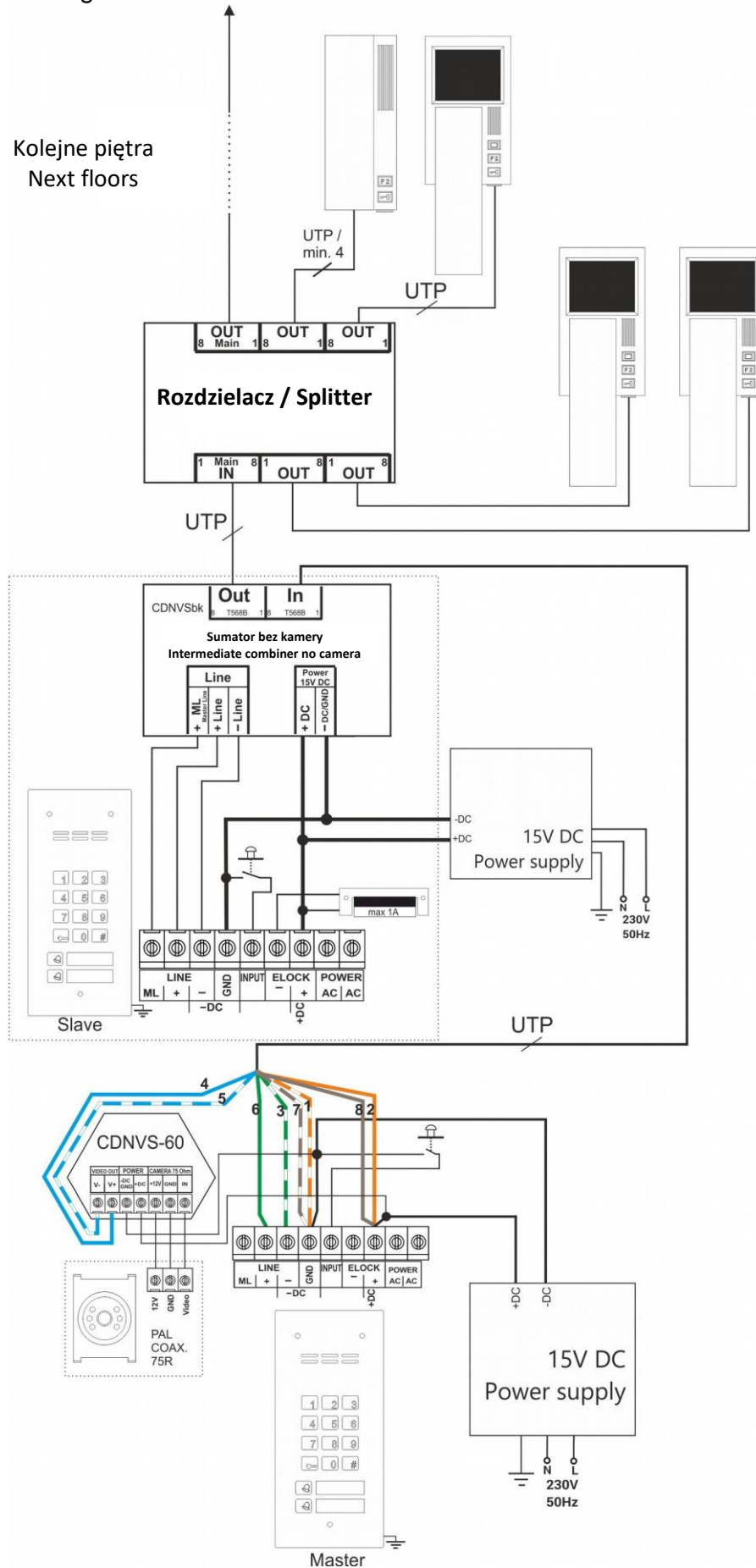


Installation of multiple audio panels with active receivers should be connected as per the diagram below:

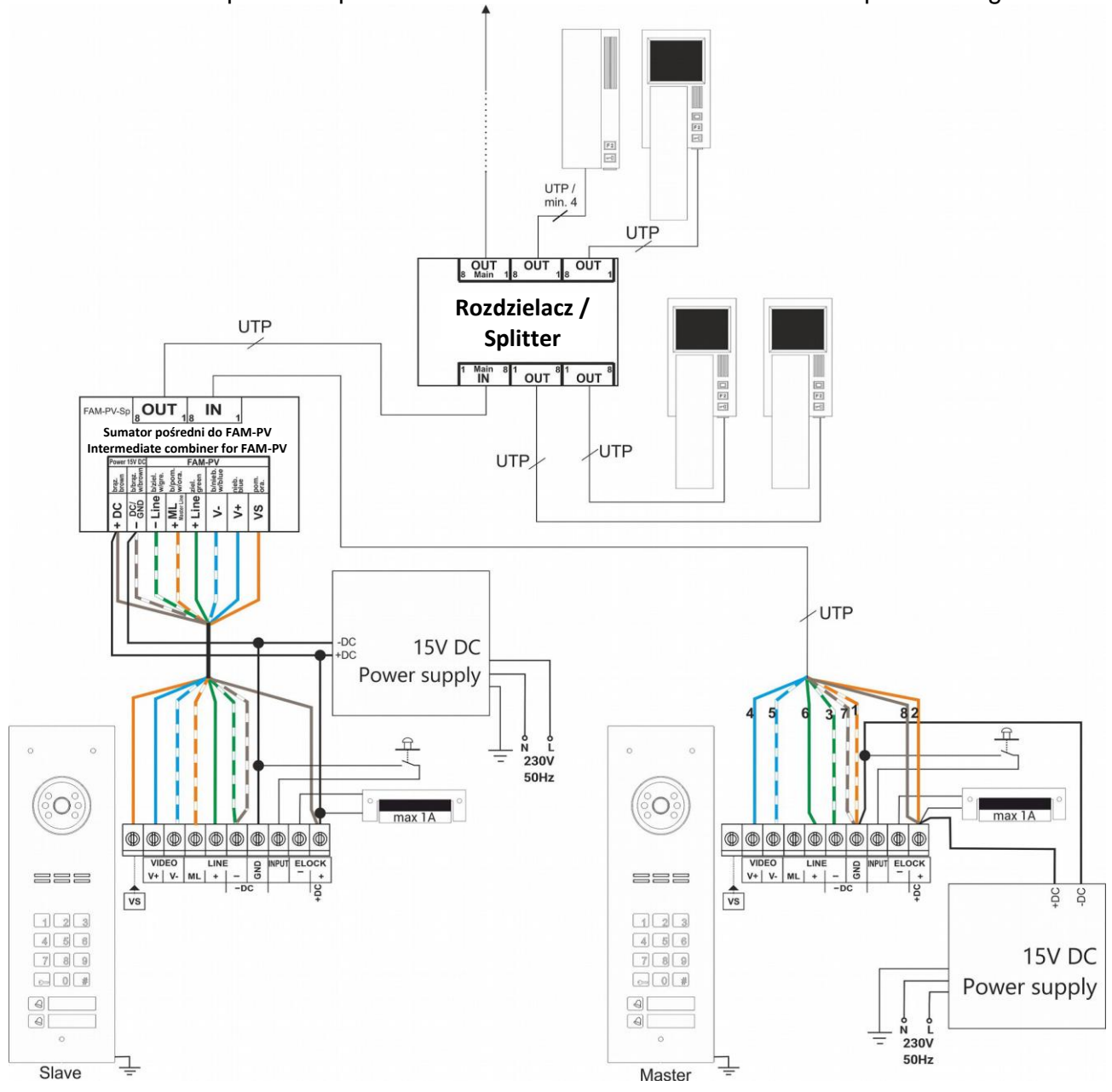


Installation of multiple audio panels with additional external camera and multiple monitors should be connected as per the diagram below:

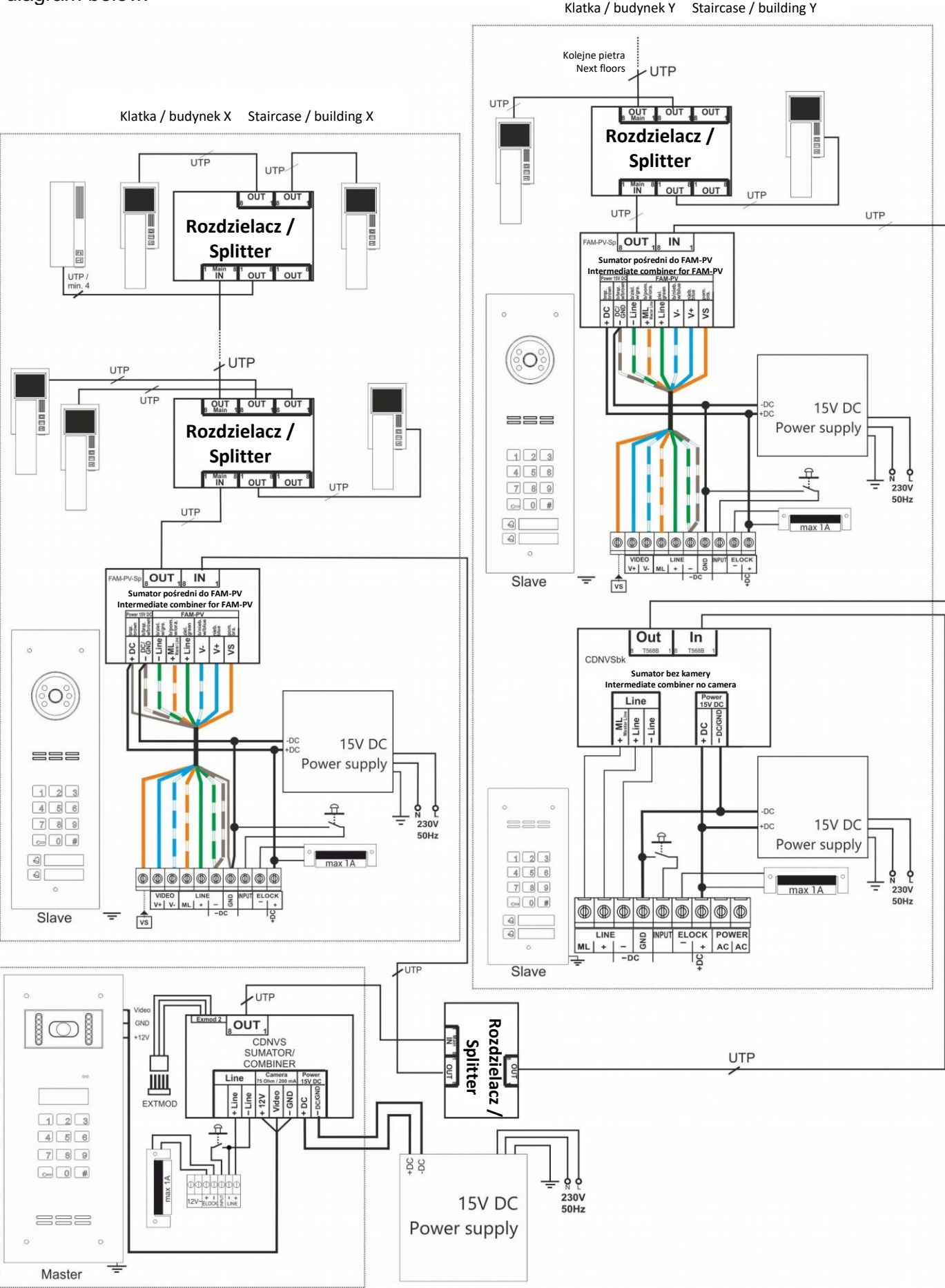
Kolejne piętra  
Next floors



Installation with multiple video panels and monitors should be connected as per the diagram below:

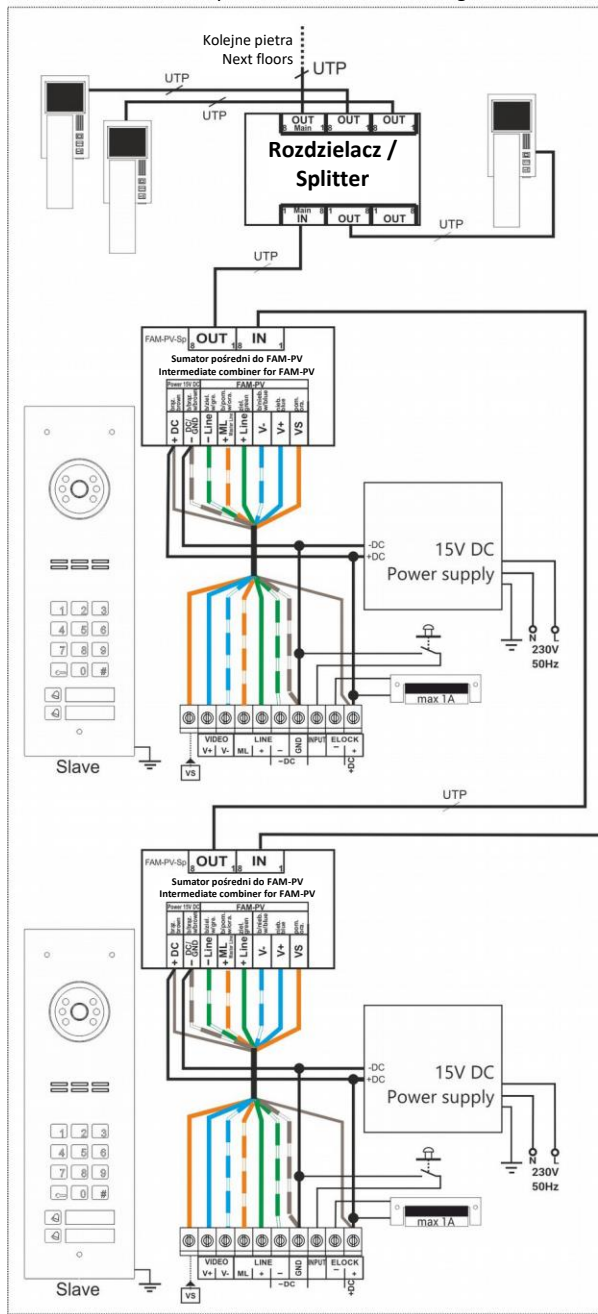


Installation with multiple video panels and INSPIRO/CDNP panel should be connected as per the diagram below:

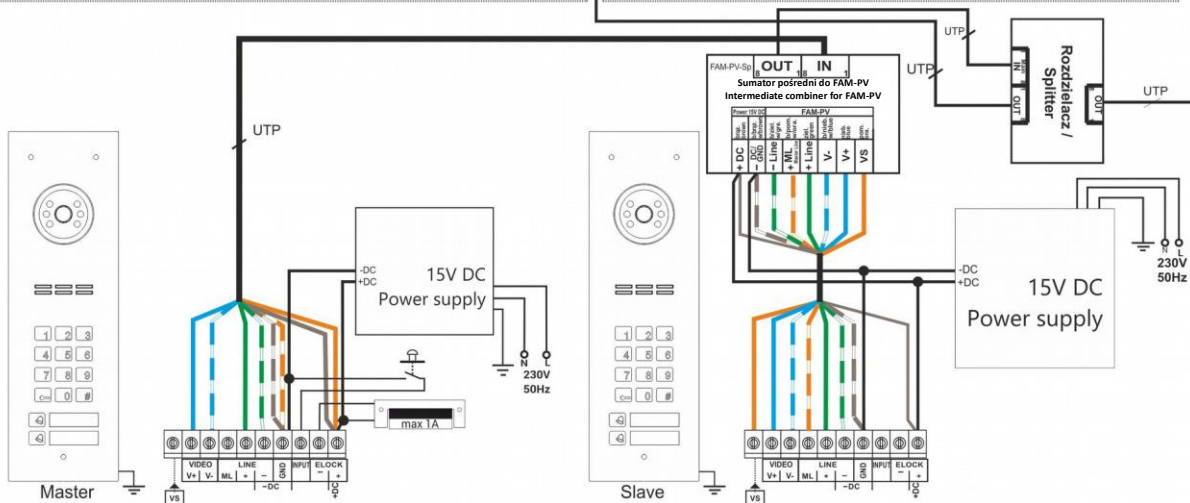
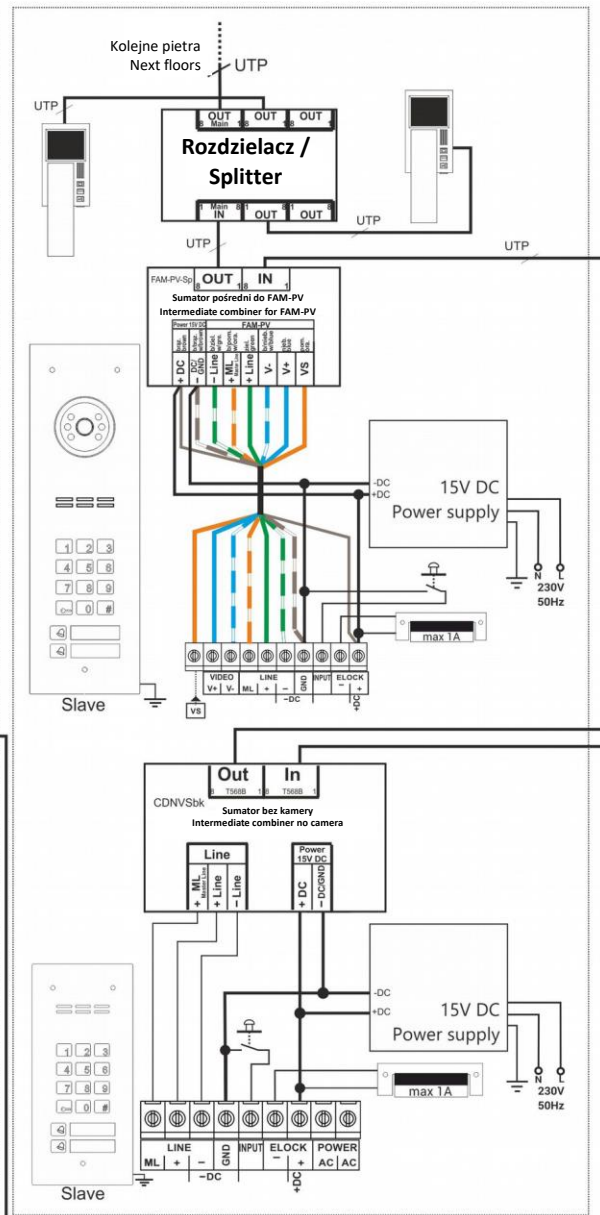


Installation with multiple video panels, distributed among buildings / staircases should be connected as per the diagram below:

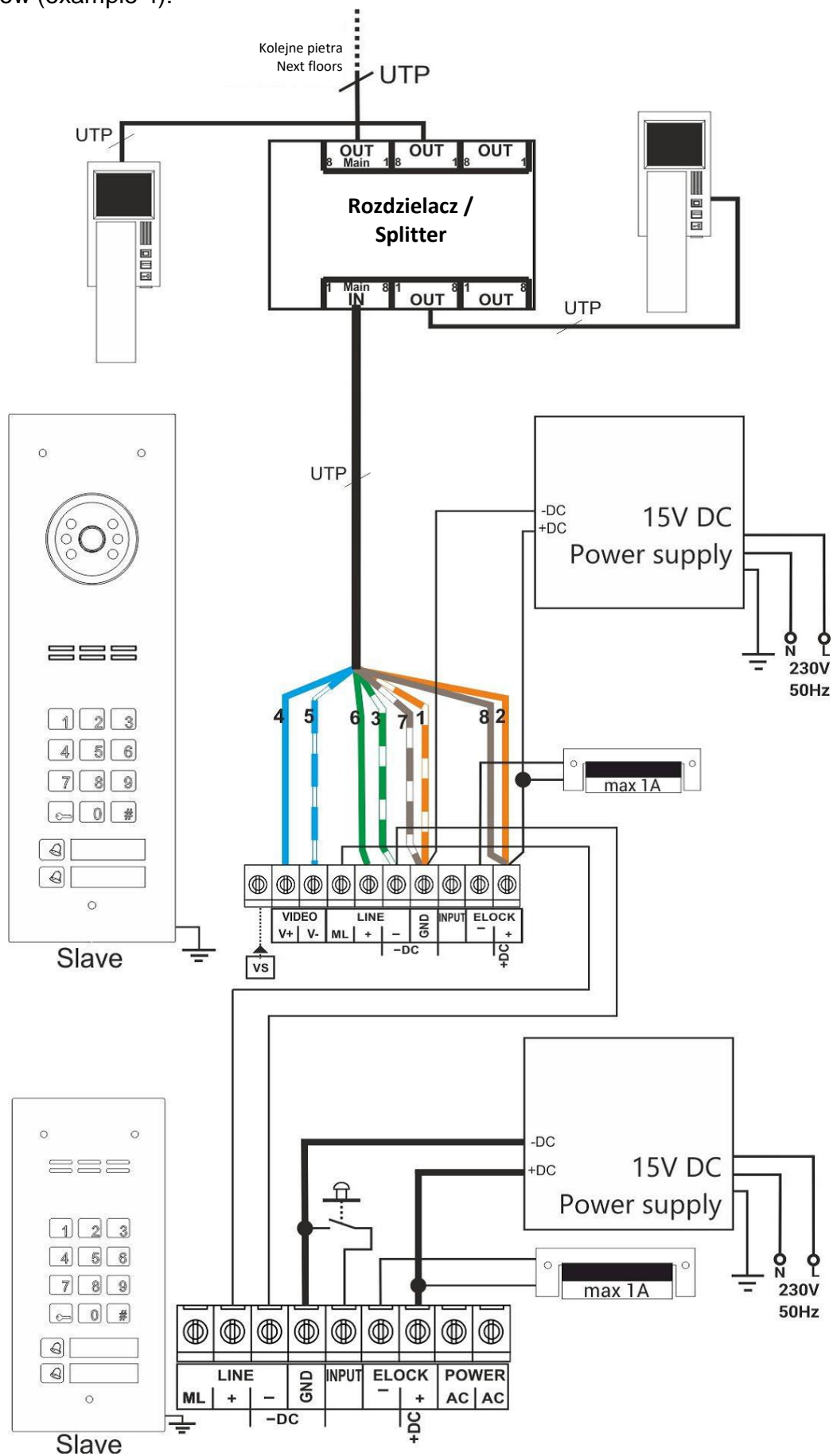
Klatka / budynek X Staircase / building X



Klatka / budynek Y Staircase / building Y

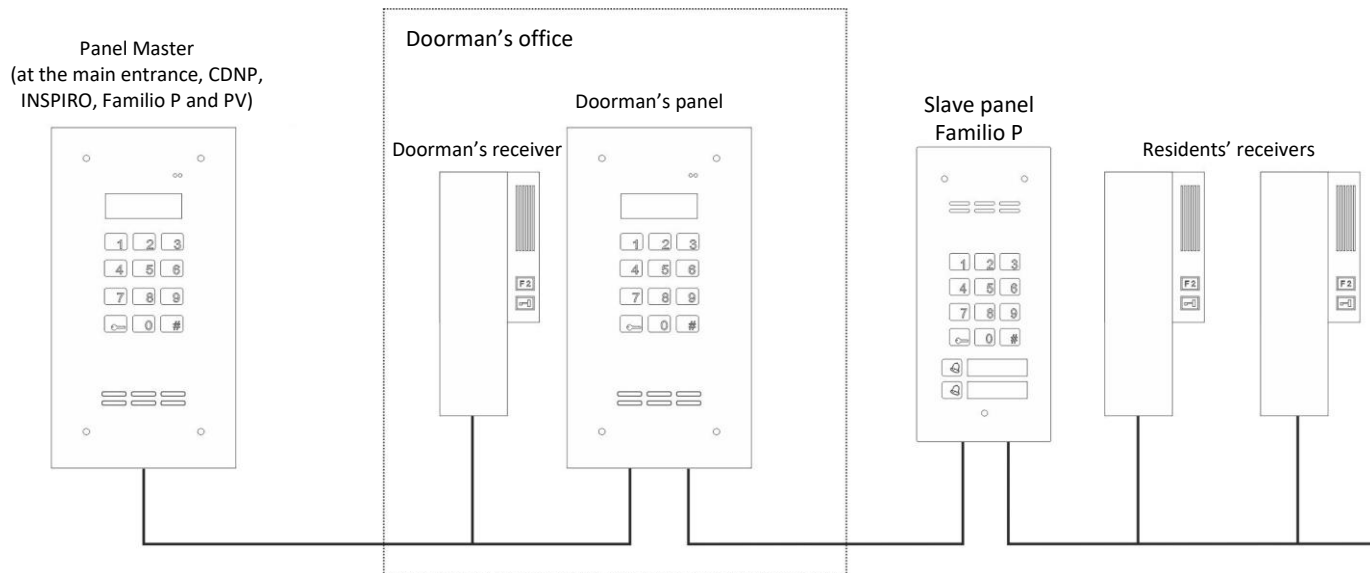


Installation with two panels, the first of which is an Audio panel should be connected as per the diagram below (example 4):



## IX. DOORMAN FUNCTION

In doorman function (doorman's call), upon **closing contacts of the additional INPUT** of the panel, each call to any number will always be forwarded to doorman's receiver, whose number is set as the auxiliary input value. Auxiliary input contacts can be activated by a clock etc. Doorman's receiver number address must be outside the range of receivers, supported by the panel located in the gatehouse. The call forward function should be activated in the panel settings.



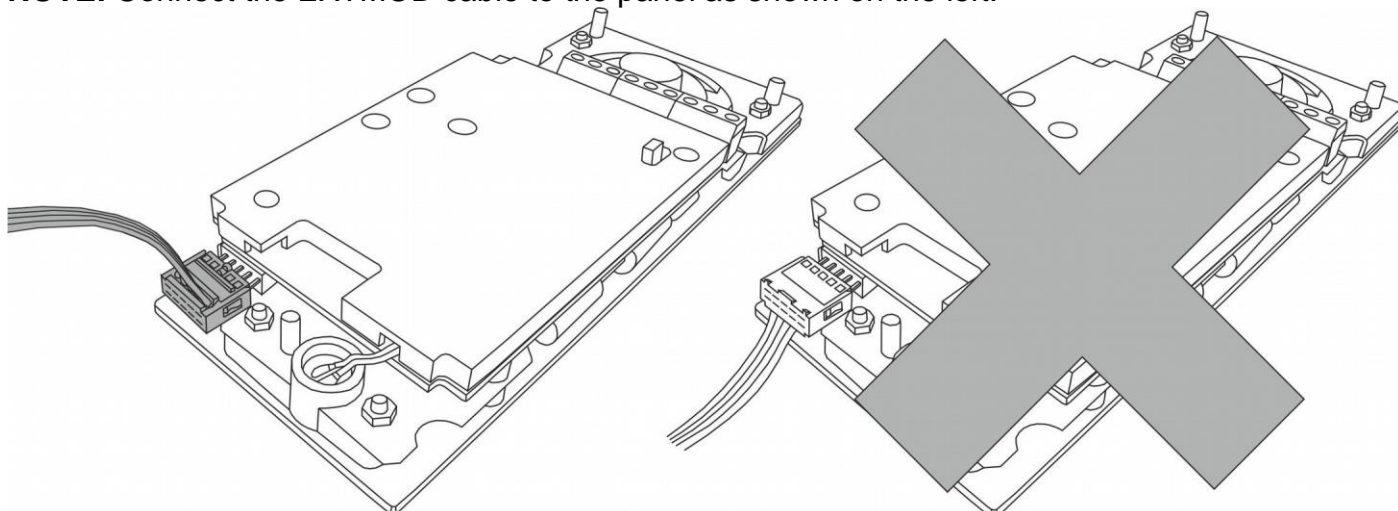
## X. PANEL PROGRAMMING

It is possible to change a number of operating parameters of the panel (such as individual access codes, opening time, ringtone, etc.) Service programs are also available to facilitate installation and repairs.

Basic parameters can be changed using the service menu, accessible from the panel's numeric keypad, access to which is protected by the installer's password.

All settings can be accessed and archived using a PC and the free "FAM\_P" software (can be downloaded from [www.support.aco.com.pl](http://www.support.aco.com.pl)). An optional programming cable (CDN- USB) is required to connect the panel to a PC; the cable must be purchased separately.

**NOTE!** Connect the EXTMOD cable to the panel as shown on the left.



All panel settings are stored in permanent memory and are not lost when the power is turned off. Panels without numeric keypad (code lock) can only be programmed via a PC.

To enter service menu (panel settings programming mode) on panels with numeric keypad, press the " **key**" button and enter the eight-digit password: "1507xxxx". The first four digits of the password "1507" are a fixed digits and the following digits "xxxx" are the four-digit installer's password (by default 0000). Entering the settings programming mode is confirmed by an up-modulated sound. Programming mode activity time is limited to 10s counting from the last change. Use the "#" button to exit the programming mode. The installer's password is set to "0000" by default and must be changed after installation! (Program No. 7).

After entering the service menu, enter the program number (from 0 to 9) that corresponds to relevant settings. After entering the program number, the panel counts down the appropriate number of short beeps (depending on the program number) and confirms entering the relevant program with a short up-modulated beep. To stop programming at any time and exit the program, press the "#" button - the changes will not be saved then.

**EXAMPLE:**

To enter the panel programming function with 0000 installer's code, press the "**key**" followed by 1507 (fixed digits) and 0000.



Entering the programming mode is confirmed by an up-modulated sound. After this step, enter the number of the desired program.

**The following programs are available on the panel:**

**0 - SERVICE DOOR OPENING**

---

Select program "0" to start door opening (for a pre-set time) and automatically exit the programming function. This program also disables (if enabled in program 6) the function of service calling of the receiver in apartment.

**1 - ACCESS CODE CHANGE (RESIDENT, ADMINISTRATOR)**

---

The code can be used for door opening (for instance to activate E-lock ) or to activate another device connected to the ELOCK output (for instance via the CDN-PK relay module); it can also be used, upon pressing the "key" button twice, to activate the relay output of the I/O MINI module (for instance to open gate 2).

**Note!** By default, panels, except those with numeric keypad only, are set to simplified code changing mode - see chapter III - USING THE PANEL  
For versions with only a numeric keypad (or after changing the default settings), use the method described below.

**Modification of user's access code**

Changing the code of apartment 9 to 4256: Enter 9 as apartment number, confirm with the "key" button, and then enter the four digits of the new code in sequence. It will be stored in the memory for apartment No. 9.



Note that when using the **Code Table**, (which can be generated from [www.support.aco.com.pl](http://www.support.aco.com.pl) or which is supplied for versions with numeric keypad only), the access codes correspond to physical addresses set in the receiver, which is important when offsets are pre-set. When factory settings are restored, so are the codes, to the pre-set code table. To lock the access codes completely, set the "9999" code table.

### **Modification of administrator's initial access code**

Enter 0 as apartment number, confirm with the "key" button, and then enter the six digits of the new code in sequence. Upon entering the last digit, the code will be stored in unit's memory as administrator's code. The new will erase the previous code value. The code is also erased when the panel is reset to factory default settings. Do not enter a code starting with 1507, as these are the initial digits of the installer's password (the panel will exit the programming mode).

Opening with the administration's code is called by selecting the "key" button and entering the six digits of the administrator's code (or only the first four digits - after changing the panel configuration via a PC). The second administrator's code can only be set via a PC.

The administrator's code is not pre-set.

### **2 - SETTING E-LOCK OPENING TIME**

---

This program can be used to change the opening time, that is the E-lock operating time, from 1s to 10s by entering a digit between 0 and 9 (0 means 10 seconds). When the panel is reset to factory settings, the time is set to 4s.

### **3 - SETTING THE NUMBER OF RINGTONES, PERMISSION TO CALL APARTMENT**

---

This program can be used to change the number of ringtones from 1 to 7 for selected apartments. Entering "0" as the number of ringtones makes calling selected apartment impossible. Enter the number of the apartment (if changes are to be made for all apartments at the same time, select "0") and confirm with the "**key**" button. Then enter the number of ringtones. A maximum of 7 ringtones for ringing can be set. The selected setting is stored in memory.

The receiver in the apartment with disabled ringtones will still support door opening with an access code and will emit the door opening signal (use program 4 to disable it).

**NOTE!** - When changing the number of ringtones simultaneously for all apartments, ringtones to the previously deactivated apartments will be reactivated.

### **4 - TURNING ON - OFF THE DOOR OPENING SIGNAL IN THE APARTMENT**

---

When the door is opened with the resident's access code or ACC proximity key fob, a short beep is heard in the resident's apartment (door opening signal). This program is used to disable or enable this signal in selected apartments. By default it is switched on. Enter the apartment number (if changes are to be made for all apartments at the same time, select "0") and confirm with the "**key**" button. Then enter digit "1" to activate the door opening signal or digit "0" to deactivate it. The selected setting is stored in memory.

## 5 - SETTING ONE OF FOUR RINGTONES

---

This program is used to set one of four ringtones for each apartment individually. Enter the apartment number (if changes are to be made for all apartments at the same time, select "0") and confirm with the "**key**" button. Then, enter a digit between 1 and 4 defining the number of the ringtone - if setting for individual apartment, the selected ringtone will be activated for a moment after each entry - confirm the selected ringtone with the "**key**" button. From this point on, the pre-set ringtone will be heard in the apartment. The ringtone is set separately for each panel, so different ringtones can be set in different panels; this way the resident is able to identify the panel transmitting the call.

After restoring the factory settings of the panel, the ringtone 3 will be selected for all apartments.

## 6 - TEST ACTIVATION OF THE E-LOCK AND CALLING THE RECEIVER FROM APARTMENT

---

The function of test activation of the E-lock is useful during its adjustment or installation.

Activate it by entering "0". When the function is active, each time the "**key**" button is pressed, the E-lock is activated (for the pre-set time). Use the "**#**" button to turn the function off.

The option of service calling of the receiver from apartment is activated during system installation in order to enable the installer's self-check if the receiver work OK (ringing, broadcast channel and opening) directly from the apartment. With the receiver's handset lifted, press the door opening button three times (for passive receivers) or press the door opening button once (for active receivers). The panel will confirm receipt of this information with a triple beep in the handset (wait a moment for it). When the signal is heard, hang up the phone. After a short while, the panel will automatically ring this receiver. **Note!** This function is not available for loudspeaker receivers!

The function of service calling of a receiver from apartment can be activated by entering the number of the receiver to be verified and confirming it with the "**key**" button. When this function is active, the button illumination flashes and the system can be used as usually. The function is active for about 30 minutes. The function can be deactivated by running program 0 - service opening of E-lock.

## 7 - CHANGING THE INSTALLER'S PASSWORD

---

This program can be used to enter 4 digits of the new installer's password.

If the new password is to include numbers, for example, 5432, then enter these digits one by one. Upon entering the last digit, the new password will be stored in memory.

### **NOTE!**

Installer's password cannot be restored!!! Setting the password to 0000 requires restoring factory settings, which will lead to losing all previously changed settings.

**If restoring memory settings via a PC is also disabled, it will be impossible to unlock the panel. Then only the manufacturer may restore the default installer's password after returning the device to Aco service (proof of purchase of the device or confirmation of the right to configure the device is required).**

## 8 - SETTING THE DIRECT CALL BUTTON ADDRESS

---

Enter the physical address of the receiver to which the direct call button is to be assigned and confirm with the "**key**" button. Now press the selected button and hold it for about 10 seconds. The address previously assigned to this button will be overwritten. Entering 0 deactivates the button.

By default, the direct call buttons are:

- bottom key: address "1"
- second key from the bottom: address "2", etc.

## 9 - ENTERING NEW ACCESS CODE TABLE

---

This program is used to enter the four-digit number of the code table, used by the panel to generate 255 individual access codes for residents. Upon entering the table, the procedure of entering all the codes into the memory is launched and is indicated by an audible signal.

The pre-set installer's password remains unchanged (change it in program 7).

Order numbers in the provided code table (1 to 255) always correspond to the physical addresses in the receivers (irrespective of shifts and other settings).

The function of opening with an access code can be disabled by entering the code table number "9999".

In systems with multiple units (Master / Slave), by entering the same number of the code table in each panel, the same access codes for residents are set across the whole system.

For panels with only a numeric keypad, the code table number is entered in accordance with the code table supplied. Any code table can be generated and name tag printed along with instruction for residents on [www.support.aco.com.pl](http://www.support.aco.com.pl).

## XI. PANEL PROGRAMING VIA A PC

---

The "FAM\_P" software can be downloaded from [www.support.aco.com.pl](http://www.support.aco.com.pl). It can be used to configure all options available in the panel.

*Parameter:*

<b>Option</b>	<b>Functionality</b>
Uniphone address - From	Lower value of the physical address limiting the panel range
Uniphone address - To	Upper value of the physical address limiting the panel range
Offset	Offset value between the number entered using the numeric keyboard and physical address sent by the panel
Lock time [s]	Door opening time (E-LOCK output activation time)
Delay [s]	Time during which the further door opening function is active after receiving the further door opening pulse from the upstream panel
Installer's password	The last four digits of the installer's password
Administrator's code	Full administrator's code (No. 1 and 2 respectively)
Additional range - from	Lower value of physical address value limiting the additional range
Additional range - to	Upper value of physical address value limiting the additional range
Button 2	Physical address dialled with second from bottom direct dial button
Button 1 - lower	Physical address dialled with bottom direct call button

*Parameters part 1 and 2:*

<b>Option</b>	<b>Functionality</b>
Additional INPUT	Function activated by short-circuiting additional INPUT
Opening delay INPUTa	Time delay between INPUT contacts shorting and Opening (ELOCK output activation). The function "Opening after delay" must also be activated
Opening after delay	Automatic opening of the E-lock after the end of the countdown from the "Further door opening pulse" or "INPUT Opening Delay"
Further door opening pulse	Activation of sending a further door opening pulse to other panels
Offset dir. (Yes+, No-)	Direction of the offset between the number selected from the numeric keypad and the physical address sent by the panel (+: adding the offset value to the physical address; -: subtracting the offset value from the physical address)
x10 further door opening delay	Activation of the 10 times multiplier for the "Delay [s]" parameter value (for the further door opening function)
Reset option	Permission to restore factory settings using panel keys
Camera from slave panel	Activate this function in one of the slave panels from which preview of the image in standby mode is desired (after calling the preview from the monitors)
4-digit administrator's code	Enabling the restriction of the administrator's code from 6 to 4 digits
Doorman's call	Enabling the doorman's call by shorting the INPUT
"Call only" button.	Permitting calls only from direct call buttons (no calls from numeric keypad)
Keyless codes	Permitting opening with the resident's code without having to enter the apartment number and press the "key" button (function available only with the "Call only button" function activated and only for the first two codes - direct call buttons)
Reversible opening	Activation of the reversible E-lock

*Other parameters*

<b>Option</b>	<b>Functionality</b>
Maximum conversation time	Conversation time in [S]. When the time expires, the panel will automatically terminate the connection
Maximum number of openings	The value of this parameter determines the number of times the door can be opened during the call. When the number is exceeded, the panel will automatically terminate the connection

*I/O module - Port 1 and 2 (Port 2 controls operation of the MINI I/O module):*

<b>Option</b>	<b>Functionality</b>
Input value	Parameter value for the input function
Output value	Parameter value for the output function
Function No.	Number of the function executed by an I/O module port (description of the function can be found, when selected, in the program)

A detailed description of individual functions and an example of their use can be found in the table on the next page.

<b>Description of operation</b>	<b>Application example</b>	<b>Settings</b>	<b>Remarks</b>
Activation of the OUTPUT for a pre-set time after closing the INPUT contacts	Gate control with third wire from the receiver (only INS- UP720M, INS-UP720MR)	IN=0 OUT=t (t: time from 1 to 255 s) NrF=0	For P2 Port, the function works only during a call
Activation of the OUTPUT for a pre-set time simultaneously with triggering the E-lock	Automatic staircase light switch on when door is opened Control of a second E-lock with one control panel and two doors	IN=0 OUT=t (t: time from 1 to 255 seconds) NrF=1	For P1 port, the function works only for physical addresses set in P24
Activation of apartment call procedure after closing the INPUT contacts	Direct uniphone call (external direct call button)	IN=y (y: receiver physical address from 1 to 255) OUT=x (x: has no effect) NrF=1 or 2 or 3	Works for function No. 1 or 2 or 3
Activation of the E-lock after closing the INPUT contacts	Activation of the E-lock from an external push button	IN=0 OUT=x (x: has no effect) NrF=1 or 2 or 3	It works for function No. 1 or 2 or 3. E-lock triggering time as for standard opening
Activation of the OUTPUT for a pre-set time after pressing the F2 key on the uniphone or after selecting the code preceded by the double pressing the key button	Gate control using standard two wires from the camera and code from the keypad	IN=x (x: has no effect) OUT=t (t: time from 1 to 255 s) NrF=2	Control from uniphone works only during a call
Activating the E-lock without making a call	Pick up the handset and press the "key" button three times For INS-UP720MR and INS- MPR, press the "key" button once without lifting the handset	N=x (x: has no effect) OUT=0 NrF=3	Works only for P1 port, no need to connect the CDN-I/O module
Activation of the OUTPUT for a pre-set time without making a call	Pick up the handset and press the "key" button three times For INS-UP720MR and INS- MPR, press the "key" button once	IN=x (x: has no effect) OUT=t (t: time from 1 to 255 s) NrF=3	Works only for P1 port
Activation of the OUTPUT for a pre-set time after pressing any key on the unit/panel or expansion module	Automatic light switch on in front of the entrance / on the staircase	IN=x (x: has no effect) OUT=t (t: time from 1 to 255 s) NrF=3	Works only for P2 port

Example settings can be found in the table on the next page

Example settings:	Settings		Remarks
Opening the second gate using the code ("double key"), using the F2 button on the uniphone and opening the gate without making a call (pick up the handset and press the "key" button three times)	Port P1: IN=x (x: has no effect) OUT=0 NrF=3	Port P2: IN=x (x: has no effect) OUT=t (t: time from 1 to 255 s) NrF=2	Connect outputs of port P1 and P2 in parallel ("N" with "N", "NO" with "NO" )  For INS-UP720MR and INS-MPR it is enough to press the "key" once without lifting the handset
Opening the second gate using the code ("double key"), using the F2 button on the uniphone and activating the E-lock without making a call (pick up the handset and press the "key" button three times)	Port P1: IN=x (x: has no effect) OUT=t (t: time from 1 to 255 s) NrF=3	Port P2: IN=x (x: has no effect) OUT=t (t: time from 1 to 255 s) NrF=2	For INS-UP720MR and INS-MPR it is enough to press the "key" once without lifting the handset
Opening the second gate using the code ("double key"), using the F2 button on the uniphone without making a call via the third wire to the uniphone (only INS-720M, INS-720MR)	Port P1: IN=0 OUT=t (t: time from 1 to 255 s) NrF=0	Port P2: IN=x (x: has no effect) OUT=t (t: time from 1 to 255 s) NrF=2	Connect outputs of port P1 and P2 in parallel ("N" with "N", "NO" with "NO" )

*Additional number 1 and 2:*

Option	Functionality
Additional number 1	Value dialled from numeric keypad for additional number 1
Address	Physical address to which the panel will call after dialling the additional number
Tone	Ringtone in the apartment after dialling the additional number
Number of ringtones	Number of ringtones during a call to the apartment after dialling the additional number
Sound volume	Volume during a call to the apartment after dialling the additional number
Auto-opening*	Enabling auto-opening (door opening / activating the ELOCK output) after a call from the additional number, if a hung-up handset is detected in this apartment
Only calling	Disabling a call to a selected apartment (uniphone will only ring, the panel will not establish a call after picking up the receiver)

\* If this function is activated and the handset is not hung up during a ringing tone, door opening will start automatically after the first ringing tone. If the handset was hung up during the first ringing tone, the panel works normally - the handset can be picked up and communication is possible. The automatic opening function most commonly used in commercial buildings - letting people in is done by simply lifting the handset; after business hours the handset is hung up and the door entry unit works normally.

When the physical addresses of the direct call buttons correspond to additional numbers, they can also perform the auto-open function.

If the primary numbers and additional numbers overlap, the latter have priority and calling in these cases is always made according to their settings. The access code of an active additional number is the code of its physical address.

## **XII. INSTALLING THE BUTTON FOR ADDITIONAL INPUT**

---

The panel features an additional input which, depending on the settings, can be used for direct activation of the ELOCK output or for direct calling to a selected uniphone address.

A normally open (NO) monostable pushbutton is connected to its terminals. When the button is short-circuited, the corresponding function is called up.

The panel features input protection against permanent short circuit. In case of a button failure and its permanent short-circuit, the panel will perform the active function only once. Only after removing the short circuit, the panel will again respond to the input status.

## **XIII. RESTORING FACTORY SETTINGS OF THE PANEL**

---

Turn the panel power supply off, wait 5 seconds, turn the power on again. The panel will beep for 30 seconds. Press the "#" button during this time and press at the same time (immediately) press:

- keys 1 and 7 to restore the lower key code to 1111
- keys 2 and 7 to restore the second key code to 2222
- keys 2, 5, 8 to restore all factory settings, including both codes, and to delete all the proximity fobs from the memory
- keys 1, 4, 7 to disable the "Call only buttons" and "Codes without a key" functions (the Familio panel will operate as usually like, for instance CDNP/INSPIRO, i.e. calls can be made directly from the numeric keypad, and the codes must be preceded by the apartment number and the button) of the button.

Once the factory settings are successfully restored (or settings changed), the panel will generate an appropriate audible signal, which may last for a long moment (stop pressing the keys and wait for the signal to finish).

For models without numeric keypad, turn off the panel power, wait for 5 seconds, turn on the power again, after the first beep, press and hold the lower direct call button until the factory settings restore procedure is launched (the panel will start beeping - stop pressing the key and wait for the signal to finish).

**Restoring the factory settings is only possible when the software is not locked ("Reset possible").**

## **XIV. FACTORY SETTINGS**

---

- The direct call buttons select physical addresses, respectively, from the bottom: between 1 and 6
- Code table with the default or most recently entered number (only FAM-P-ZS and FAM-PV-ZS)
- Installer's password "1507 0000"
- No administrator code 1 and 2
- No call offset (offset = 0)
- Calling possible only from direct call buttons (except FAM-P-ZS and FAM-PV-ZS)
- Range of supported apartments from 1 to 10 (only FAM-P-xNPZS, FAM-PV-xNPZS, FAM-P-ZS, FAM-PV-ZS)
- Range of supported apartments from 1 to 150 (only FAM-P-xNP and FAM-PV-xNP)
- Call volume for all apartments - level 2
- Ringtone for all apartments - No. 3
- The number of ringing signals for all apartments - 2

- E-lock opening time - 4 [s]
- Further door opening function deactivated
- Additional INPUT: Open (value "0")
- Restoring the factory settings (reset) of the panel from the keypad enabled
- Additional range set to from 1 to 255
- Code opening without key (except FAM-P-ZS and FAM-PV-ZS)
- Code for the bottom button (apartment 1): 1111 (except FAM-P-ZS and FAM-PV-ZS)
- Code for the top button (apartment 2): 2222 (except FAM-P-ZS and FAM-PV-ZS)
- I/O function active: second gate opening
- I/O function active: basic opening having to connect with the apartment
- Maximum conversation time: 120 [s]
- Maximum number of openings: 3
- No proximity fobs stored in memory

## **XV. MAINTAINING CLEANLINESS**

---

Clean the panel with a damp or antistatic cloth. Do not use any solvents!

**IMPORTANT!** When disinfecting panels made of stainless steel, use cleaning agents based on alcohol only. Any chlorides (which are present in common cleaning products) are harmful to the steel surface, causing abrasion of its natural protective coating and increasing the risk of corrosion.

## **XVI. SAFETY RULES FOR INSTALLATION AND USE**

---

- Installation should be carried out by a qualified installer
- Before removing the panel, turn off the power supply
- Avoid unstable power sources and electrical surges as these may cause malfunction or damage to the equipment
- It is mandatory to ground the housing (via the marked terminal on the panel housing) using a suitable PE.
- When trained to operate the system, the user should be briefed that any errors in its operation may only be corrected by a qualified and authorised person.
- Do not expose the panel to any kind of corrosive chemicals, as this may damage the unit.
- The applicable OHS regulations must be observed when working on the door entry system.

## **XVII. RULES FOR STORING WASTE ELECTRICAL EQUIPMENT**

---

Waste electrical equipment must not be disposed of with other waste. It should be stored in places designated for this purpose. For this purpose, please contact the responsible institutions or companies involved in waste recycling - Directive 2002/96/EC of 27.01.2003



## XVIII. TROUBLESHOOTING

Keypad not working	Check power supply. Turn the power off for approx. 15s and turn it on again, if this doesn't work - notify the maintenance staff.
After dialling the number, the panel calls two or more apartments	The probable cause is malfunctioning of one or more uniphones.
	Check whether or not uniphones have the same physical addresses assigned.
Distortion of during conversation or buzzing in the receiver.	When connected, see whether or not the supply voltage is lower than 12V (between GND and ELOCK+ terminal). Each panel in the system must feature a separate power supply.
Door opening signalled by the unit but E-lock won't work	Check E-lock or E-lock connection to the panel. Check whether or not the supply voltage (between the GND and ELOCK+ terminals) during door opening drops below 10V.
Squeaking sound during connection with the receiver	Adjust microphone and speaker volume and balance (Chapter VII).
After call and picking up the uniphone, the panel won't initiate the connection (continues ringing)	Check the resistance of the uniphone line. The resistance between the farthest ends of the line must be less than 60ΩΩ Otherwise, solder the connections, check or replace the wiring, leave larger wire cross sections.