EXTENDED USER INSTRUCTION FOR THE CDNP5, CDNP6 (CDNP6ACC) DIGITAL DOOR ENTRY SYSTEM

ACO Sp. z o.o. sp. komandytowa, 62-002 Suchy Las, ul. Diamentowa 7, phone/fax +48 790 709 062
www.aco.com.pl

Table of contents

It is forbidden to install the units without first reading the following instructions.

I. GENERAL INFORMATION

CDNP is a door entry unit with digital dialling as well as apartment number display and access control function (front door code opening). It features a large, blue backlit LCD display and a blue backlit keyboard. A special sensor (only CDNP6 series) activates a display heater when the temperature drops (below 5^{o}C) to greatly improve display readability. The CDNP unit can be integrated to work with conventional and electronic name display modules. It can also support different external devices such as proximity card readers.

The device requires a double wire installations (audio version) or a T568B standard UTP (Video version). They are suitable for use with uniphones featuring digital decoding: INS-UP, INS-UP720, UP800 or INS-MP, INS-MP7 and MP800/UP800V video inside units. It is possible to expand them with different additional modules. They will also work with door entry units of other CDNP series (Master / Slave mode).

CDNP housing is made of aluminium alloy to ensure effective protection against devastation and weather conditions. CDNP units are easy to operate, functional, their installation is simple and are adaptable to the changing requirements of contemporary housing construction.

CDNP digital door entry units can be expanded to complex multi-entry systems that combine a number of units, for instance residential estates with access control, 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 units, with connected additional CDN-ACC module, also support door opening using proximity cards and RFID key fobs (in Unique 125 kHz standard). Series "6" units are also available with internal, built-in proximity key reader - the CDNP6ACC version.
The control unit can also support control of an additional gate, etc., from uniphone (button F2), by means of individual resident codes or proximity cards/key fobs (for CDNP6 series master panels by means of built-in second relay output, for slave panels by means of an optional CDN-I/O input/output module). With CDN-USB cable and corresponding "CDNP" or "ACC" software (for key fob management by CDNP6ACC) downloaded free of charge from www.aco.com.pl, it is possible to program settings, create backups and transfer settings to other units. For detailed information on the operation and capabilities of CDNP units refer to this manual.

Their other advantage is the possibility to individually program the ringing parameters for each apartment, by choosing one of the four available signals, signal repetition in the ringing cycle, door opening signal and automatic opening. With eight programmed additional numbers it is possible to call one uniphone using many 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.

Door entry units feature one built-in input activated by short circuit to ground. It is used to connect an external “doorbell" button, such as INS-OB.
The default operating mode is direct opening of the door (E-lock activation) - for instance when leaving the staircase. It is also possible to set door opening delay or switch to direct call mode.

The door opening delay is programmable in installer's menu and the mode settings can be changed using a computer software.

The units also feature a second built-in relay output (only CDNP6 Master units), which can be used to control additional devices such as another gate, lighting, etc. These additional devices can be controlled both from the uniphone (F2 button) as well as by using individual resident codes or proximity cards/key fobs. Slave panels require an optional CDN-I/O input/output module with 2 NO/NC relay outputs and two inputs activated by short circuit to ground. The CDN-I/O module may also be used in Master panels and can support a number of applications, described in the computer program or on the website.

The unit features an output for connection of a standard or reversible E-lock. Use CDN-PK relay module to connect another device in place of the E-lock.
It is also possible to use one door entry unit to control two pairs of doors - to open the right apartment door (CDN-I/O module required). Apartments can be freely assigned for opening specific door.

Use the optional CDN-USB cable and the computer software that can be downloaded free of charge from www.aco.com.pl to program settings, create backups and transfer settings to other units. Unit settings can be managed using the "**CDNP**" software, while proximity cards and key fobs - using the "**ACC_v3x**" software.

II. TECHNICAL PARAMETERS

* Number of subscribers (individual addresses): up to 255, programmable.
* Six-character, large and heated LCD display (enhanced readability at low temperatures - only CDNP6),
* Door unit current consumption: max. 250 mA without E-lock and additional modules (max. 100 mA for CDNP5),
* Current consumption of additional modules:

- electronic resident list module (230E module): 90mA
- RFID proximity card and key fob reader module: 40mA
- CDNVK camera module: 150mA

- illuminated description window modules: 5mA
  - Permitted load of E-lock output: 1A (0.5A for reversible)
  - Permissible load - second output (relay): 2A, 30VDC;
  - Maximum line length: Audio 300m*, Video: 70m to last power supply - max 300m* using additional power supplies, (*length for cable cross sections 0.5mm - refer to page 13 for more information)
  - Housing: powder coated aluminium alloy casting with 3mm hexagon screws.
  - Surface mounted unit dimensions: 207 x 90 x 30mm,
  - External dimensions of the frame for flush mounting: 230 x 110 x 22mm, (355 x 110 x 22mm with CDN6n/p module, 290 x 110 x 22mm with other additional modules),
  - Hole for flush mounting: 215 x 95 x 21mm,
  - (335 x 95 x 21mm with CDN6n/p module, 275 x 95 x 21mm with other additional modules),

III. OPERATION

In standby (factory settings) the unit display shows "**aco**". Using the P22 software, this can be changed to any other 6-character inscription or to 6 different screens (6 characters each) can be entered using a PC, displayed in cycles with a fixed interval. Heated display (CDNP6 series only) for better readability at low temperatures.

To call an subscriber, their number must be selected using the keypad (the number will appear on the display). Within 3 seconds the uniphone in the apartment will start ringing.

First, the unit sends ringing tones (as set in P3 software - by default 2) and sets itself to stand by waiting for the handset to be picked up. If the call is not answered within 20s, another single signal is sent and the unit continues waiting for 20s. While awaiting for the call to be answered, the display backlighting will blink. If the uniphone handset of the selected apartment is not picked up within approximately 40s, standby condition will be automatically cancelled and the system will switch from calling to standby mode. Calling can be cancelled with the “#” button.

If the handset of the uniphone is picked up at the apartment during the waiting time, its connection with the unit will be established. The display will become brighter. Now conversation is possible and the entry door can be opened. The call will last approx. 2 minutes unless the uniphone handset is hanged up or the connection is terminated with the use of the "#" button.

Two additional supported numbers can be added to the unit (program P15). These can be any number in the range of 1-999, to which physical addresses of uniphones can be assigned.

Additional numbers can assigned to the same uniphone 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 (ring tone, volume, 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. Individual access codes for opening are the codes in the table, corresponding to physical addresses of uniphones (set in uniphone jumpers).

The unit detects a short-circuit of uniphone lines - displaying the flashing "**LineEr**" message. During this time, E-lock can be activated by pressing any button and building can be exited. When the correct state of the line is detected (when short circuit ceases), the unit is automatically restored to normal operation.
An additional CDN I/O expansion module can be connected to the unit. It features 2 NO, NC relay outputs and two inputs activated by short circuit to ground. It can be used to control lights in the hallway or open an additional gate, etc.

The unit features an output for direct connection of a standard E-lock or reversible E-lock - in case of CDNP6. Use CDN-PK relay module to connect another device in place of the E-lock.

The door can be opened:

1. With the "key" button on receiver in the apartment

The door will open upon pressing the opening button ("key") on the receiver. Typically, the door can be opened **only** during connection (conversation). During one connection the door can opened three times (that together with enabling the second output - F2), after which the connection will terminate automatically (the parameter can be set to: 1, 2 or 3). The door can also be opened without having to connect with the apartment - refer to the I/O module settings in the computer program for details. 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.

2. With user's access code

Use the unit keypad to select the apartment number, confirm with the "**key**" button and enter the four-digit entry code for the apartment. The entry code is unique for each apartment and can be easily changed. These codes are provided in tables. Each table has its unique number, used to generate 255 different access codes for residents.

Full table with residents' codes or residents' name tags together with use instruction can be printed using the "ACO Code Generator" available at www.aco.com.pl - user zone ("download"). A name tag may include a logo and one line of text for company name and phone number etc..
In Master panels the code table is entered at the factory as a 4-digit number at the back of the unit; the same table must then be entered in Slave panels. The installer can check (in P1 program) the current value of each code and change it if necessary. Users can also change this code by themselves (refer to P16 bit7 software for description and activation).

For the code table number "**9999"** opening with a user's code is disabled.

3. With proximity card or key fob

Units with the ACC proximity reader can be used with proximity card or key fob (resident's or administrator/installer's), programmed in the unit. A card or key fob which is not programmed will generate a "beep" sound twice.

4. With administrator's access code

To get access using the administrator's code, press the "**key**" button on the keypad and then enter the six-digit administrator's code. This code is used by persons such as technicians, postmen, housekeepers, etc. In the P1 software it is set as apartment No. 0.

5. With any key on the keypad in case of a malfunction

If calling an apartment is not possible due to a failure (such as short circuit on uniphone lines - message: "**LineEr**"), door can be opened with any key on the keypad.

6. With additional external button

The unit features an additional input. If value 0 is set in the P12 software, this input functions as additional opening - when short circuited, the E-lock is activated for time set in the unit (delay is configurable). Such opening while the call is pending completes the procedure of calling the apartment.
Any NO button, code lock, motion detector etc. can be connected to this input. The input is protected against a permanent circuit short-circuit (short circuit triggers it's disconnection from the system until released).

7. Further door opening function in Slave panels.

The slave unit features the so called a further door opening function. In the master panel, after opening the door and ending the conversation, or opening with a unique code (or proximity card), downstream Slave unit automatically activate the "waiting time" (marked with the key symbol on the display; the signal also activates waiting time countdown). During this time, pressing the "**key**" button activates the E-lock. This option is possible only in those slave units through which the connection was made. When opening with a unique code (or proximity card), in those units that must be passed to reach the apartment to which the opening code (or card) is assigned. Standby mode can be cancelled with the "#" button. If bit 1 in P16 is set to ON, the E-lock will automatically engage after the pre-set delay time has elapsed. The waiting time is set in P6 of each slave unit. The further door opening pulse must be enabled (bit 4 in P16) in the master unit. For more information, refer to the P6 and P16 program description - bit.1 and bit4. By default this function is disabled.

8. Input from additional module.

For this unit door opening is also possible via an additional module such as: CDN I-O, CDN ACC proximity card and key fob reader, or internal proximity key reader (CDNP6ACC) built into the unit.

9. Automatic opening when calling

Automatic door opening after the first ringing tone. When the handset is not hung up and this function is enabled, the door will open automatically after the first ringing tone. If the handset was hung up during the first ringing tone, the unit works normally - the handset can be picked up and communication is possible. This 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. For more information, refer to description of additional numbers - P15 program.

When the E-lock is being opened the display shows "**Enter**" (for persons with hearing impairment) and a signal is heard from the loudspeaker (for persons with sight impairment).
The E-lock operation time and delay can be changed in P6 (by default it is 4 seconds without delay).

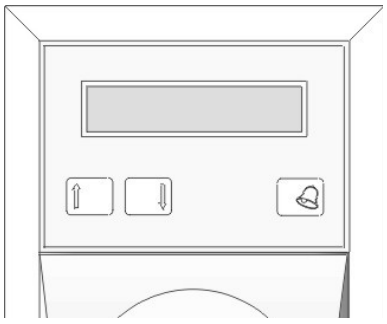
Control of the built-in second relay OUTPUT:

The OUTPUT exit (CDNP6 Master units only) can be activated upon pressing the F2 button in the receiver or entering the user code - in which case the "key" button must be pressed twice before entering the code, which is the same as the basic access code. Typically, exit is possible only during the connection (conversation). Exit can also be activated without having to connect with the apartment - refer to the I/O module settings in the computer program for details.
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.
The response time and functions of the OUTPUT exit can be changed via the computer program (similar as for port 2 of the CDN-I/O module). The default response time is 1s. Slave panels must feature an optional CDN-I/O module.
At exit the display shows "**OUT-2**".
Exit control for individual premises can be disabled.

In units with the ACC proximity reader, the second output can also be activated without pressing the "key" button and the proximity card or proximity key fob (resident's or administrator/installer's).
The unit detects a short-circuit of uniphone lines - displaying the "**LineEr**" message. During this time, E-lock can be activated by pressing any button and building can be exited. When the correct state of the line is detected (when short circuit ceases), it is automatically restored to normal operation.
Refer to the "Solving common problems" section at the end of this manual for more information and description of common problems.

IV. DESCRIPTION OF ADDITIONAL AND SPECIAL MODULES

The CDNP door entry units support a great number of additional and special modules. Additional modules can be added independently (can be purchased as separate modules).
NOTE! Modules may only be connected with the power supply switched off.

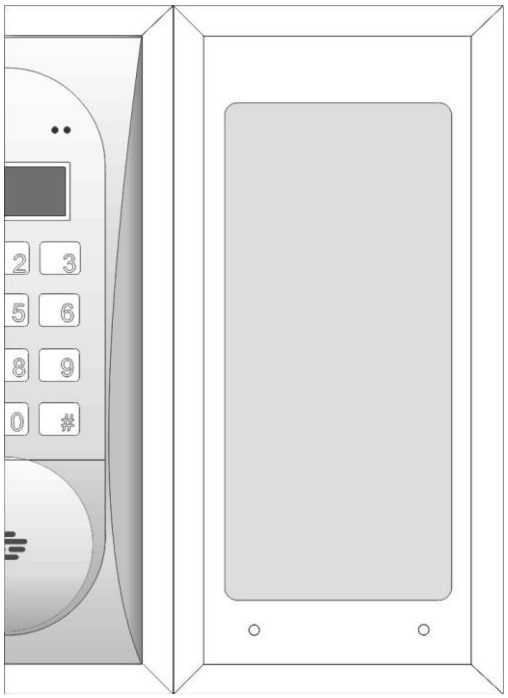


The following module types are available:

230E module - electronic resident list module. Names (16 characters in the top line and 11 in the bottom line) are arranged alphabetically and can be viewed on the LCD display using two buttons. It only displays apartments with assigned tags (names). Pressing the bell button activates calling the name being displayed.

The display time is limited to some 10s. After 10 seconds the display switched to Intro, where any text can be typed in two lines of 16 characters each, for instance building address, name, servicing company telephone number, etc. Upon selecting the apartment number on unit's keypad, the display will show relevant data for that number. The module needs to be connected to the "EXTMOD1" or "EXTMOD2" input of the unit and programmed directly from the keypad (P19 program) or via the special CDN-USB cable and using the appropriate software ("230E") which can be downloaded free of charge from www.aco.com.pl (Note: for modules version 7.00 and above, programming is possible via a PC only). 4 different start screens can be uploaded using this software (2 x 16 characters); they will be displayed in sequence at the interval of 1s to 15s, depending on the setting.

ACC Module - proximity card and key fob reader in Unique 125 kHz standard (radio frequency - RFID). The module operates at radio frequency and is used for door opening with a card or key fob. It supports 6 cards or key fobs for each apartment plus 6 additional cards or key fobs, hence a maximum of 1530 cards or key fobs are supported. It is also possible to use the same cards to open an additional gate etc. - by pressing the "key" button before moving the card or key fob towards the reader (CDN I-O module is required to operate this function).
The CDN-ACC module needs to be connected to the "EXTMOD1" or "EXTMOD2" input of the unit and programmed directly from the keypad in the "M-ACC" program (P20) or from a PC via the special CDN-USB cable and using the appropriate software ("ACC") downloaded free of charge from www.aco.com.pl.

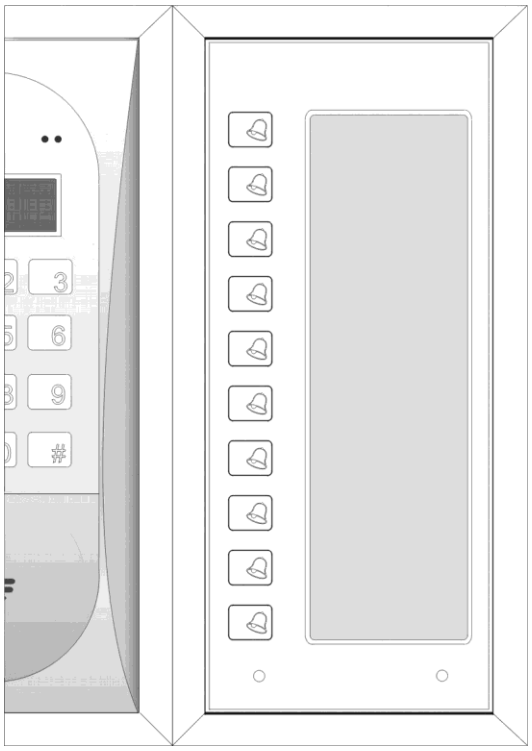


Available for purchase are also 17N, 6N, 5N modules with RFID proximity card and key fob reader hidden under the name list window.

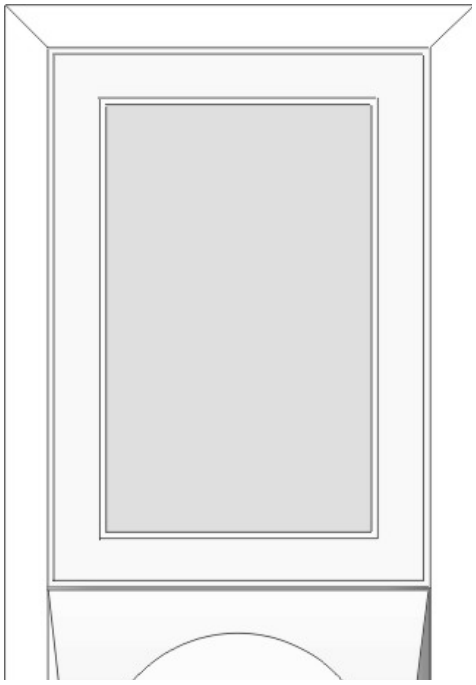
CDN 17N module

The illuminated window, 68mm wide, 160mm high, is suitable for entering address information, dialling information or name list. For easier installation of the unit and name module frames, connect them together using the provided connectors. They can be mounted side by side or one above the other.

The backlight is powered by 12VAC (unit terminals: 12VAC), or 15VDC (unit terminals: +DC (+ELOCK) and GND (- LINE)).

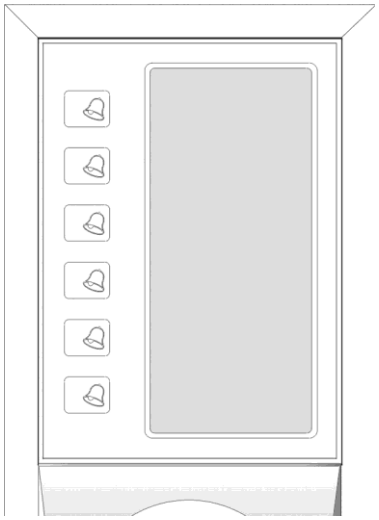


10NP module: 10 buttons + window.
It is used to call selected apartments directly. Each button can be programmed with a number to call. It features backlit buttons and a backlit window (52mm wide and 160mm high) for description.
For easier installation of the unit and name module frames, connect them together using the provided connectors. They can be mounted side by side or one above the other.
The module needs to be connected to the "EXTMOD1" or "EXTMOD2" auxiliary input of the unit, and the numbers are programmed directly from the keypad in the "**M-xNP**" (P21) program, or via a computer, via the special CDN-USB cable and using the appropriate software ("FAM_P" from v1.3) downloaded free of charge from www.aco.com.pl. The frames are screwed with screws using a 3mm allen key.



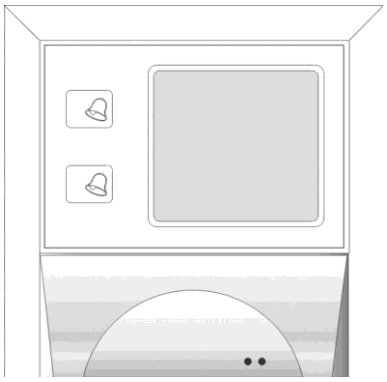
6N module
The illuminated window, 68mm wide, 160mm high, is suitable for entering address information, dialling information or name list (app. 15 in total).

The backlight is powered by 12VAC (unit terminals: 12VAC), or 15VDC (unit terminals: +DC (+ ELOCK) and GND (- LINE).



6NP module: 6 buttons + window.
It is used to call selected apartments directly. Each button can be programmed with a number to call. It features backlit buttons and a window (52mm wide and 102mm high) for description.
The module needs to be connected to the "EXTMOD1" or "EXTMOD2" auxiliary input of the unit, and the numbers are programmed directly from the keypad in the "**M-xNP**" (P21) program, or via a computer, via the special CDN-USB cable and using the appropriate software ("FAM_P" from v1.3) downloaded free of charge from www.aco.com.pl.

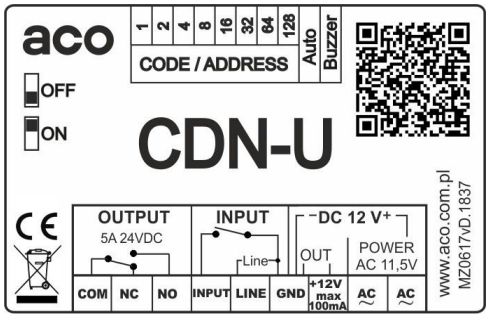
5N module - The illuminated window, 68mm wide, 40mm high, is suitable for entering address information, dialling information or name list (app. 15 in total). The backlight is powered by 12VAC (unit terminals: 12VAC), or 15VDC DC (unit terminals: +DC (+ ELOCK) and GND (- LINE).



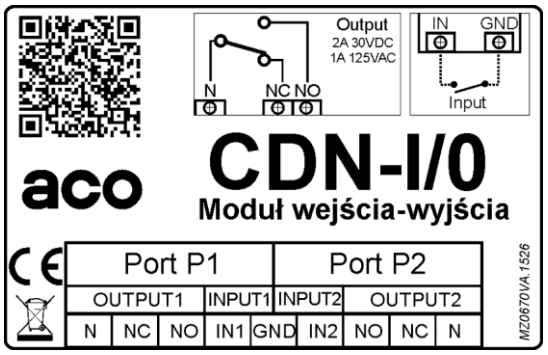
2NP module: 2 buttons + window.
It is used to call selected apartments directly. Each button can be programmed with a number to call. It features backlit buttons and a window (52mm wide and 46mm high) for description.
The module needs to be connected to the "EXTMOD1" or "EXTMOD2" auxiliary input of the unit, and the numbers are programmed directly from the keypad in the "**M-xNP**" (P21) program, or via a computer, via the special CDN-USB cable and using the appropriate software ("FAM_P" from v1.3) downloaded free of charge from www.aco.com.pl.

All name modules are backlit and the front glass is made of scratch-resistant polycarbonate.
Programs for printing cards, programming electronic modules (via USB cable) are available at www.aco.com.pl.

CDNVK module - camera module used in CDNV video door entry system.
The module features a built-in high-resolution colour camera (min. 600 lines) with a 2.8 mm wide angle lens. It features IR LED (infrared) backlight that automatically switches on after dusk and ensure image visibility in the dark (monochrome). The video output of the camera is a PAL (symmetrical) signal, so it requires a combiner, which can be connected the camera module.
Typically, the combiner is installed directly in the door entry unit and provides power supply to the camera module as well as converts the PAL signal into a differential signal transmitted in ACO video door entry system bus, based on UTP (min. cat 5e). This type of bus is used for all video inside units.
CDNVS combiner mode must be used for Master panels and CDNVSp - for Slave panels.
Combiner modules are connected only to the "EXTMOD2" port (top port).



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 etc. for persons with hearing impairment. The module also enables remote or automatic door opening without picking up the handset.
The module can operate independently (built-in sounder) and in parallel with uniphone. For proper operation power supply must be connected from a separate 10.5 - 12V~ transformer or 12V power supply unit (voltage from the "EXTMOD" connector can be used), uniphone lines must be connected to the L+, GND terminals and proper apartment number needs to be set using switches. The output of the module are NO contacts of 1A relay. To open the door, connect a bell (monostable) NO switch to the INPUT and GND and set the switch to the "ON" AUTO position. Short circuiting this input permanently will automatically: answer the call, open the door and end the call. When the AUTO switch is in the "OFF" position, the module will short circuit the OUTPUT when ringing. The module has a built-in buzzer, activated by the "Buzzer" switch.



CDN-I/O Input-Output Module

This module features two programmable ports: **P1** and **P2**. Each of these ports has an INPUT and a relay OUTPUT.

Inputs can be used for calling or opening and outputs can be used as control of opening an additional entrance gate, switching on the staircase lighting, etc. Module parameters are set using the P18 program. Refer to page 52 for module configuration description.

V. OPERATION OF THE CDNP UNIT

The unit can be used with uniphones featuring digital decoding, such as: **INSPIRO**, **INS-UP720** or **INS-MPR type (3.5 inch and 4 inch)** monitors.

Terminals of all uniphones are connected in parallel to corresponding "Line +" and "-" terminals of the unit. For video systems, the monitors should be connected via active splitters (CDNVRa). In the standby mode of the unit, the voltage on uniphone line (audio line) is approx. 9V, while during calling it goes up to approx. 12V.

As the handset is picked up (uniphone activated), the line is loaded and the voltage drops to approximately 5 V, which the unit recognises as permission to connect the call. If voltage drop below 5V other then during a connection or a call is recognised as a short-circuit by the unit - the display shows “**LineEr**”. The line is then de-energised and checked, at certain time intervals, if the short circuit is still present. When the correct state of the line is detected (when short circuit ceases), the unit is automatically restored to normal operation.

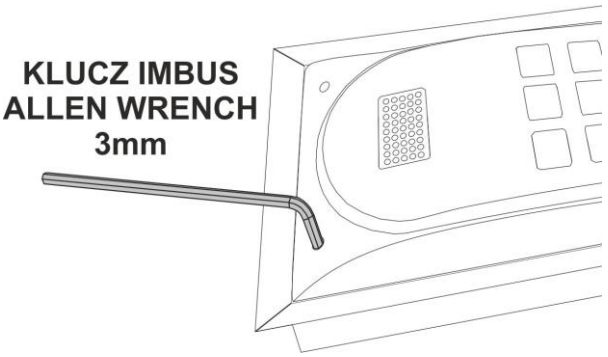
The E-lock is controlled by AC voltage generated by the unit and specially formed for this purpose, therefore it is possible to supply the unit with DC voltage source - for instance a buffer PSU with a battery.

VI. INSTALLATION OF THE UNIT

Install the unit on building wall (vestibule, sheltered wall, east wall, etc.) so that to minimise the effect of adverse weather conditions. The recommended height of installation of the unit is such that it can be used by children (some 1.35 m) and persons with disabilities (persons with sight impairment, in wheelchairs, etc.).

Make sure that the panel of video systems 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.).
The base plate for surface mounting of the unit is installed to the floor with rawlplugs or appropriate screws. Install the flush-mounting frame of the unit in the appropriate wall opening using rawlplugs and gypsum (wait for the gypsum to dry before screwing the outside unit to the mounting frame). Lead the wires through the holes in the frame.
Auxiliary holes around the frame are used for makeshift installation with nails etc. when mounting the unit in soft materials such as polystyrene. These holes also help when mounting the unit using mounting foam.
Upon completion of the installation the top holes of the frame must be plugged (with mounting foam or plaster). Then screw evenly all screws of the housing to the frame using a 3mm Allen wrench.



- CONNECTIONS

Connect the following wires to the unit:

- 2 wires x 1mm^2 - power supply to the transformer - for the Audio system or power supply for the DC adapter (15VDC) of the Audio/Video system
- 1 wire in yellow green insulation - to connect the housing's grounding
- 2 wires x 0.75mm^2 - to E-lock,
- 2 wires x 0.5mm^2 of intercom cable to connect receivers - for Audio system

or

- 1 x UTP cable (min. cat 5e) - for the video system (the first master unit in the system)
- 2 x UTP cable (min. cat 5e) - for the video system (further slave units in the system)

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

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^2 wire the distance can be increased to 400 m
- with 1,5 mm^2 wire the distance can be increased to 600 m
- with 2,5 mm^2 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 a separate device.

The maximum lengths of the other cables are described below.
It is recommended that the connection between the unit and the E-lock and the power transformer be made using a 1 mm^2 cross-section cable (such as LY1,0). Use similar cable to connect power supply of video systems (15VDC) to the combiner located in the unit frame.

PLEASE NOTE! To ensure proper functioning and use safety, connect the door entry unit (in metal frame) in its installation point to earth by connecting the grounding terminal on unit's body with relevant protective installation (PE).

For wires of other cross-sections use the following formula to calculate the voltage drop:

$$\rho\ U = \frac{2 \times L[m] \times I[A]}{57 \times S[mm^2]} [V]$$

Where: L - wire length from the unit to the transformer, e.g.: - 15m.
I - current - unit during opening - 0.44A (with backlit name tag module)
S - cable cross-section e.g.: - 1.0 mm^2

$$\rho\ U = \frac{2 \times 15 \times 0.44}{57 \times 1.0} = 0.23V$$

PLEASE NOTE! The maximum voltage drop is 1.2V, or 10% of power supply voltage. The maximum cable length for E-lock circuit is 7 m, for power supply circuit - 15 m. Too small cross-sections and extensive wire lengths may cause voltage drops during connections or opening (E-lock release), leading to interference or resetting (restart) of the unit.

2. Power supply connection:

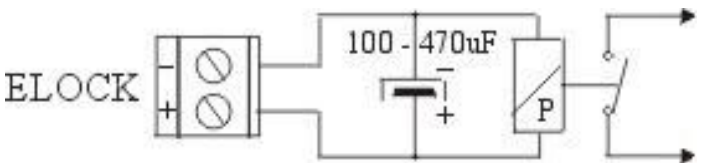
In case of passive audio receivers (2-wire receivers) the door entry unit is supplied from a mains transformer, the supply voltage is 11.5VAC, connection to AC/AC terminals (12V~). Recommended mains transformer is TR 11.5V 1.2A or TR DIN 11.5V 1.2A, available from ACO.

In case of active audio receivers (that require power supply), the door entry unit uses 15VDC DC power supply, connection to +DC (ELOCK+) and GND (LINE-) terminals. Same can also be used for passive receivers.
For VIDEO systems, 15VDC supply voltage is connected to combiner module terminals: +15V and GND. In both cases the recommended power supplies are available from ACO.
It is possible to connect a buffer power supply to the same terminals (buffer power supply must ensure 15V, alternatively use an off-the-shelf inverter that supplies 15V from 12V to 15V input voltage).

3. Connecting the E-lock:
E-locks without any specific polarity are connected to "ELOCK" output terminals. This output is used for direct connection of the E-lock; it generates AC voltage during opening (hence the outside unit may be supplied from a DC voltage source). It is recommended to use (non-reversible) E-locks that work on 8V to 12V.

It is also possible to connect a reversible E-lock (opens when de-energised). This option can be activated by in the installer's menu No. P10 and upon closing the Z13 jumper (if presnet). In this case, "ELOCK" is energised when in standby and de-energised during opening. When power supply is provided from a transformer and a reversible E-lock is used, transformer power is calculated using the following formula: P[W] = (12V * E-lock current [A] + 4W) * 1.6. Insufficient transformer power causes "buzzing" during conversation. 15VDC power supply is recommended. Note! In case of reversible E-locks, voltage appears at the "ELOCK" output depending on the power supply or transformer used - use suitable reversible E-lock. It is also possible to use the MOD-DC-12V module for 12VDC power supply of reversible E-lock if the door entry unit is supplied by a 15VDC power supply or a transformer.

4. Connecting another device in place of an E-lock:
If E-lock needs to be replaced by another device instead, use a relay (12V coil) connected to "ELOCK" terminals with an additional 100 - 470µF electrolytic capacitor (depending on relay type), as per the diagram:



ACO offers off-the-shelf CDN-PK modules.

Relay contacts can be used as needed - it is recommended to power the unit connected to relay contacts from a separate power supply. Do not connect other inductive loads (such as an E-lock) via a relay from the same transformer that powers the door entry unit.

5. Connection of the receivers (wiring - topology):

Refer to chapter V for details on receiver wiring.

Passive audio receivers (2-wire) are wired using a 2-wire intercom cable, and the terminals of all receivers are connected in parallel and connected to the "**LINE**" terminals of the door entry unit. Make sure that **+** terminals of the receiver are properly connected to **LINE+** of the door entry unit and **-** terminals of the receiver properly connected to **LINE -** the door entry unit. Improper wiring of even one receiver will cause bad operation of the entire system.

Same with active audio receivers that need two additional wires for power supply. All power and LINE terminals of the receivers are to be connected in parallel. In small systems one power supply will support both the receiver and the door entry unit - in each case a DC power supply. For larger installations that require additional power supplies for receivers, LINE and -DC (GND) terminals of all receivers should always be connected in parallel then connected to door entry unit, and the +DC to -DC terminals for additional power supplies.

For Video systems, the entire wiring must be made using UTPs in T568B standard, min. cat 5e standard (all wires to be used); these systems also require optional combiner modules: for Master devices: **CDNVS**, for Slave devices: **CDNVSp.**

Note! All UTPs should be ended with an RJ-45 plug, making sure that the same wire sequence is maintained.

UTP should origin at the door entry unit (combiner output), to the main input of the first splitter, then the main output of the splitter is to be connected to the main input of the next splitter and so on. The last splitter must be a terminal splitter or a video terminator jumper.

All splitter in video systems must be active and the monitors are to be connected using relevant outputs of the splitter. Monitors on cat 5e UTPs should be connected at a distance of 70m or less from the connection point, while the whole system must remain within 300 m. Additional power supplies can be connected directly to the splitters - then the right jumper in specific splitter must be removed. Another way to wire the installation is to keep all active splitters in one place and branch to each monitor.

In system with multiple video door entry units (Master / Slave), panels must also be connected with UTPs.
In simple video installations with only power supply unit (connected to the combiner), the maximum distance between the door entry unit and terminal monitor is 70 m. Connect additional power supplies to distributors or directly to monitors in order to couple monitors over longer distances.

With additional wires (refer to the beginning of the chapter for information) and with CDNVRau-DIN active splitters (offered by ACO) to amplify the video signal, video installations may have up to 1000 m.

Typically, the monitor is powered using UTPs (double pair) via a combiner, intermediate combiner or splitter and turns on automatically when its address is called, and turns off when the connection is ended. In this setup one 15VDC / 2.8A power supply supports 5 splitters. When the option of image viewing at any time is enabled in the monitor (without having to call from the panel), the monitors should be powered via splitters following the rule of one 15VDC / 2.8A power supply per 8 monitors. When several monitors may call at the same time (have the same address) this must be taken into consideration when selecting the number of power supplies (assume one 15VDC / 2.8A power supply per 6 monitors calling at the same).

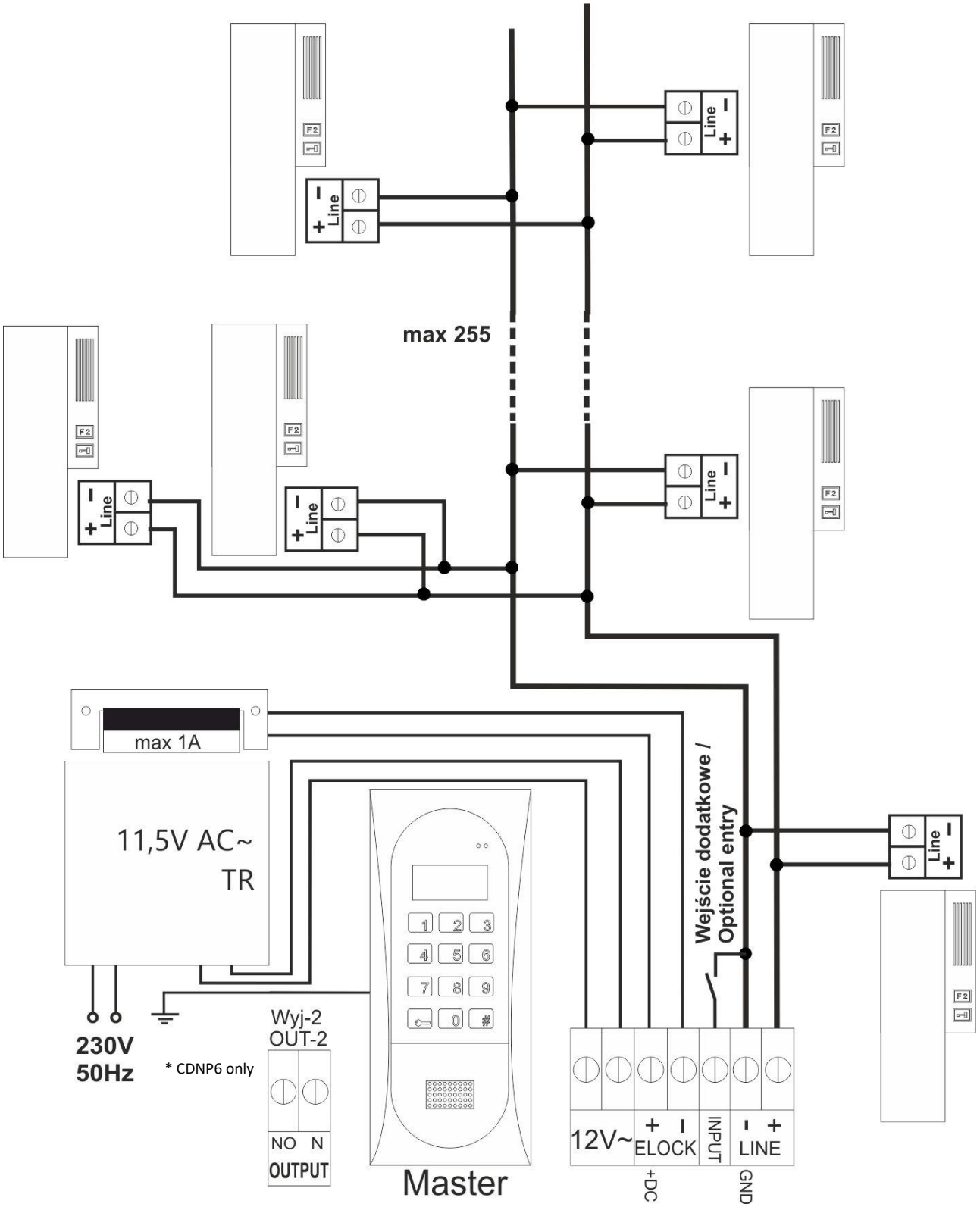
Combiners supply power to the door entry unit via a ribbon cable connected to the EXTMOD2 port. Combiners can be installed at a further distance from the door entry unit - in which case the door entry unit must be supplied using a dedicated wire: +DC and GND panel terminals connected to +15V and GND combiner terminals . In CDNVS combiner the ribbon cable needs not be plugged in. In CDNVSp intermediate combiner the ribbon cable must be plugged in (control of the camera image in slave door entry unit) - use the ARK-RS module, offered by ACO, as ribbon cable extension.

Refer to chapter "Connecting more door entry units in the system" for more information on master/slave systems. Visit www.aco.com.pl to download sample video installation diagrams.

6. Before initial power-up:
When wiring is completed and verified as correct (use a meter to check for possible short circuit in the uniphone line and between other terminals). Before plugging UTP to the monitor, splitter and combiner, it is absolutely necessary to check if all RJ-45 plugs are properly crimped, check for short circuits between wires and for continuity of cables.

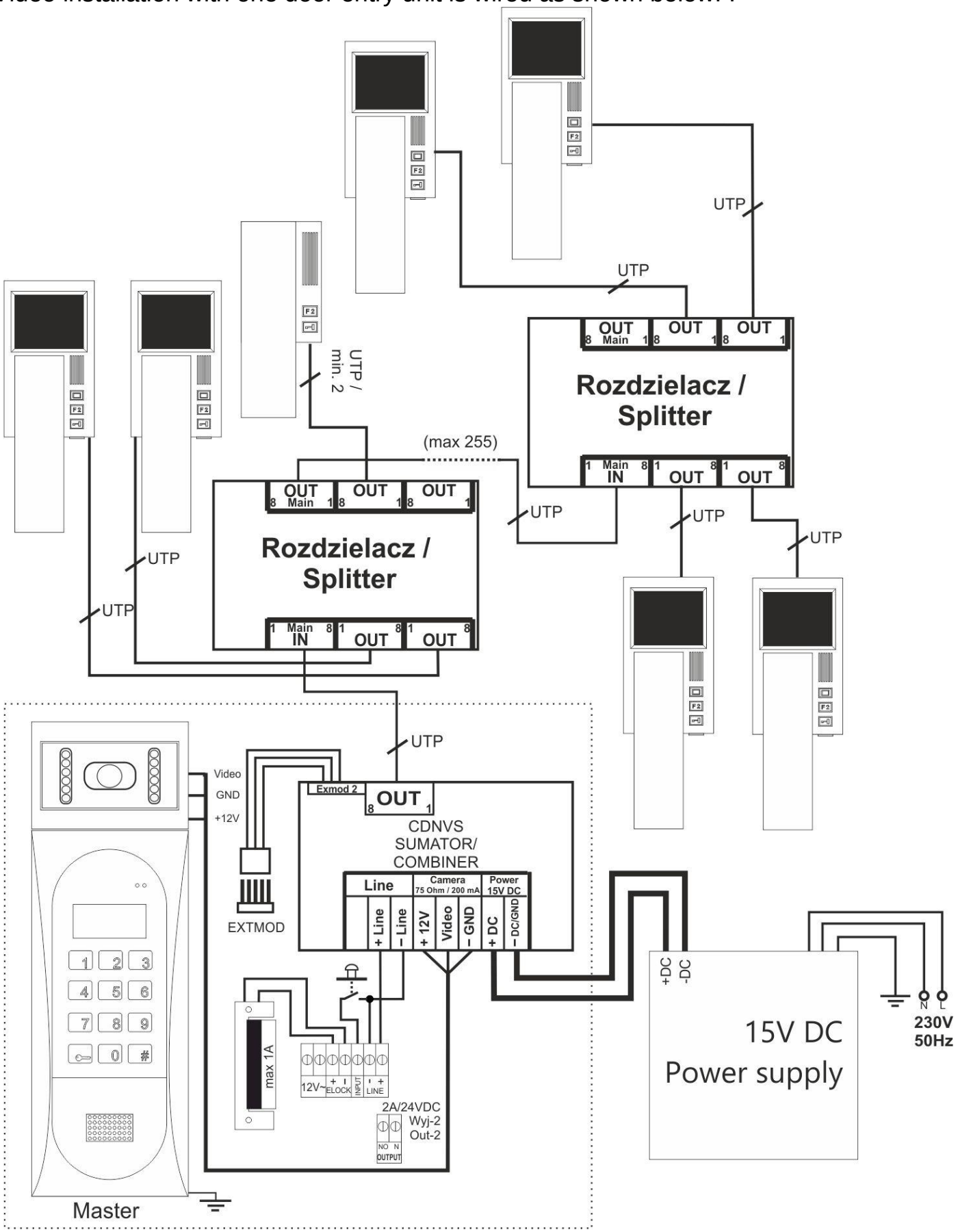
WIRING DIAGRAM - INSTALLATION WITH ONE UNIT

Installation with one unit is wired as shown below:



All connections in the installation must be soldered!

Video installation with one door entry unit is wired as shown below: :



The maximum distance to the last monitor is 70m from the Video system power supply. In case of specific projects of video system, this distance can be increased up to 300m (for cat5e). The maximum distance for transmission of audio/video signal in the system is 300m (for cat5e). When using active splitters (as in the diagram above), the distance between the monitor and the splitter is arbitrary (keeping the maximum distances in the system - 300m and 70m from the power supply).

When wiring is completed and verified as correct (use a meter to check for possible short circuit in the uniphone line and between other terminals), turn on the power supply. The unit will start counting down approx. 30s, displaying it (**this time is needed for the uniphones to establish the work conditions**), then the software version number and "**ACO**" intro will be displayed.
Note! During the final start-up of the unit, the countdown (30s)must not be interrupted as this time is needed to charge uniphones - otherwise the control panel may malfunction (it may stop ringing, break connection, etc). After turning on the power, adjust the volume level as per Chapter VIII of this manual.

PLEASE NOTE! When setting up the unit-uniphone connection, unwanted acoustic 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.

VII. INSTALLATION AND CONNECTION OF UNIPHONES

Uniphones and video display units should be installed as per manufacturer's installation instructions. When making the connection, pay attention to the correct address setting in the uniphone or video display unit decoder, as the system cannot contain (uniphone/video display unit) receivers with the same addresses. Each uniphone and video display unit in the system must have its individual address set. The exceptions are the INS-UP720MR uniphones and INS-MPR video display units, which are designed to work with the same physical address.
For uniphones, it is necessary to make sure that connection (polarity) to the "LINE" terminals of the unit and uniphone is correct. Before connecting video display units make sure that all RJ connectors are properly clamped (in T568B standard), that no short circuits on wires are present and that wires conduct properly. If even one RJ connector is badly crimped or in case of a short circuit between wires, the video display unit, splitter, unit or combiner may be damaged.

VIII. VOLUME LEVEL ADJUSTMENT

The volume level of the unit is pre-set, but it can be changed to suit individual conditions and needs. The volume level settings can be accessed, when connected to the uniphone, as follows:
- adjust the sensitivity of the unit microphone using the "**MIC**" potentiometer
- adjust the unit speaker volume level using the "**SPK**" potentiometer
- adjust the unit volume level using the "**SOUNDS**" potentiometer As these 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.

IX. OPERATION OF MORE THAN ONE UNIT

The CDNP system supports a **single** Master unit with **multiple** Slave units connected to it, as shown in the diagram on the following pages. Units can be called master or slave depending on their location in the system. A unit installed (electrically connected) upstream the next unit is a master unit, while the last unit (to which the uniphone line is connected) is a slave unit. The Master unit is always the superior unit. User handling of a system with multiple units is similar to the way of handling individual units (the CDNP5 series units must have bit 2 in the P16 switched on in order to ensure proper operation of the system - to be used as a master unit in the system).
To make a call, select the apartment number on unit keypad and wait 3 seconds. When connection is established, door can be opened using the E-lock only on the unit from which the call is being made. During this time, the keypad of a slave unit, supporting the uniphone (or video display unit) being called will remain locked and its display will show "**Busy**" and the (optional) electronic resident list display (230E) will show **"Unit busy”**.
For video systems, the image displayed will come from the camera of the unit from which the call is being made.
When trying to call a uniphone (or a video display unit) and the unit briefly displays "**Busy**", this means that the line in the specific range is currently busy (by a call being attempted or active from another unit which supports this range). In this case, the range must be released first or another number, which is outside the range of the busy unit, needs to be called.
Establishing connection from a master unit, if slave units are currently in use, is only possible if the selected apartment number is outside the range of busy units (see P6 program description).

The slave unit support further door opening function. Upon opening the door is opened from the unit (during the conversation, using the access code or card/key fob), waiting for door opening will be automatically activated in other units, but only in those which support the uniphone from which the conversation was carried out or to which the access code or card is assigned. Waiting for the door to open is indicated by the displayed key symbol and the time until it disappears is counted down. The E-lock can be activated during this time by pressing the "key" button. Waiting is deactivated automatically after the time set in the slave unit. It can also be turned off at any time by pressing the "#" button. If the option is enabled by the installer, the E-lock may turn on automatically after the set time elapsed without pressing the key button.

In order to activate the further door opening function it is necessary to switch on bit 4 in P16 in master units - to activate sending the further door opening impulse to other units. Then waiting time in P6 and optionally bit1 (auto-opening) in P16 must be entered in the units which should be receiving the further door opening pulse and opening waiting time. Entering a suitably long time ensures trouble-free entry to the facility (bit 2 must be switched on in P16 in case of CDNP5 series to ensure correct operation of further door opening in master units).
In factory settings the further door opening function is disabled. A system in which multiple units are installed will operate correctly only if the number of uniphones (or video display units) in the system remains at 255 or below, and their physical addresses (not apartment addresses) are not repeated throughout the system.

Make sure to set the correct ranges of supported numbers the slave units. These ranges should contain only addresses of uniphones that the units supports! Incorrect setting can cause the entire system to malfunction!

In order to enable operation of units with the same number of connected apartments, it is necessary to define the method of selecting apartment numbers on the units. For example, with three staircases of 10 apartments each, the numbers assigned to apartments in staircase 1 can be 1-10, corresponding to the actual numbers of these apartments, numbers assigned to apartments on staircase 2 can be 101 - 110, on staircase 3 can be 201 - 210, etc. This numbering should be accurately described in the module with names. Addresses in decoders of the uniphones (or video display units) in apartments are then set according to this numbering, and the calling number is then offset in the slave units so that the ringing corresponds to apartment numbers (P16 bit6 and P9).
This can also be done using hotel numbering in the "Hotel" system - program P10.
Wiring of internal uniphones line has to be separated from the whole installation and as a separate line connected to the slave unit (diagram).

The rest of the installation requires no modifications (no additional cable to the master unit - two existing uniphone line wires are enough). It is very convenient when installing additional units, for example on building upper floor.

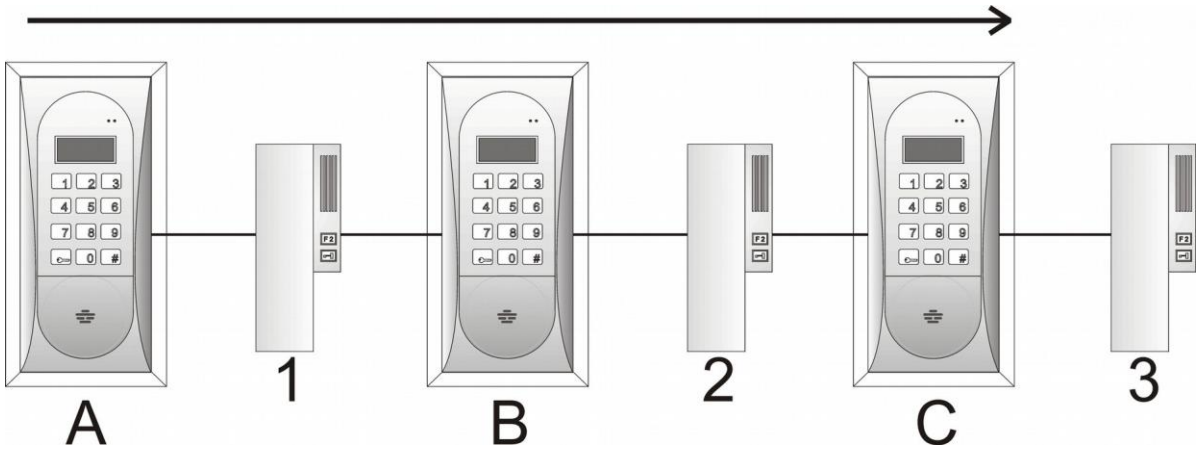
1.- SLAVE UNIT INSTALLATION

Separate line to which all uniphones (or video display units) to be supported by a slave unit will be connected. No other uniphones (or video display units) can be connected to this line.
Installation and connections are the same way as for the installation of the master unit. The only difference is the connection of uniphone main line.
The slave unit features an additional ML terminal (main line) to connect the plus of the line of the upstream unit, the minus of the main line is connected to the "LINE-" terminal. Refer to the wiring diagram on the next page.
Each panel must be powered from a separate transformer!

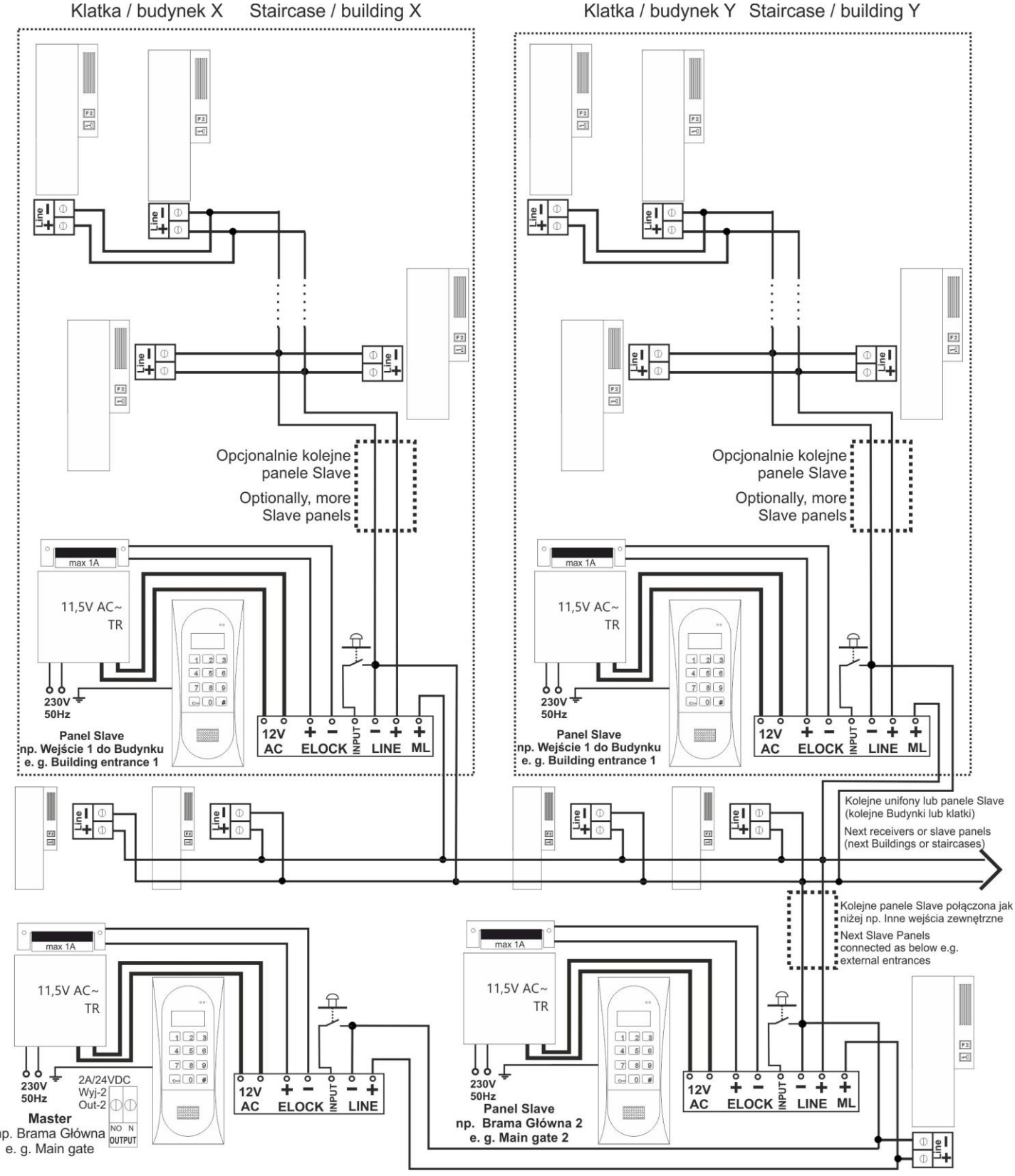
For video systems, a combiner (CDNVS) is used at the master unit and an indirect combiner (CDNVSp) or an indirect combiner without a camera (CDNVSpbk) at the slave units. The combiners are always connected to the EXMOD2 socket on the unit board.

Note! Only those uniphones (or video display units) that are physically connected "behind" (or downstream) the unit from which a call is to originate - can be called. No “reverse” call is possible - a call to uniphones (or video display units) connected “before" (or upstream) the unit from which the call is to originate.

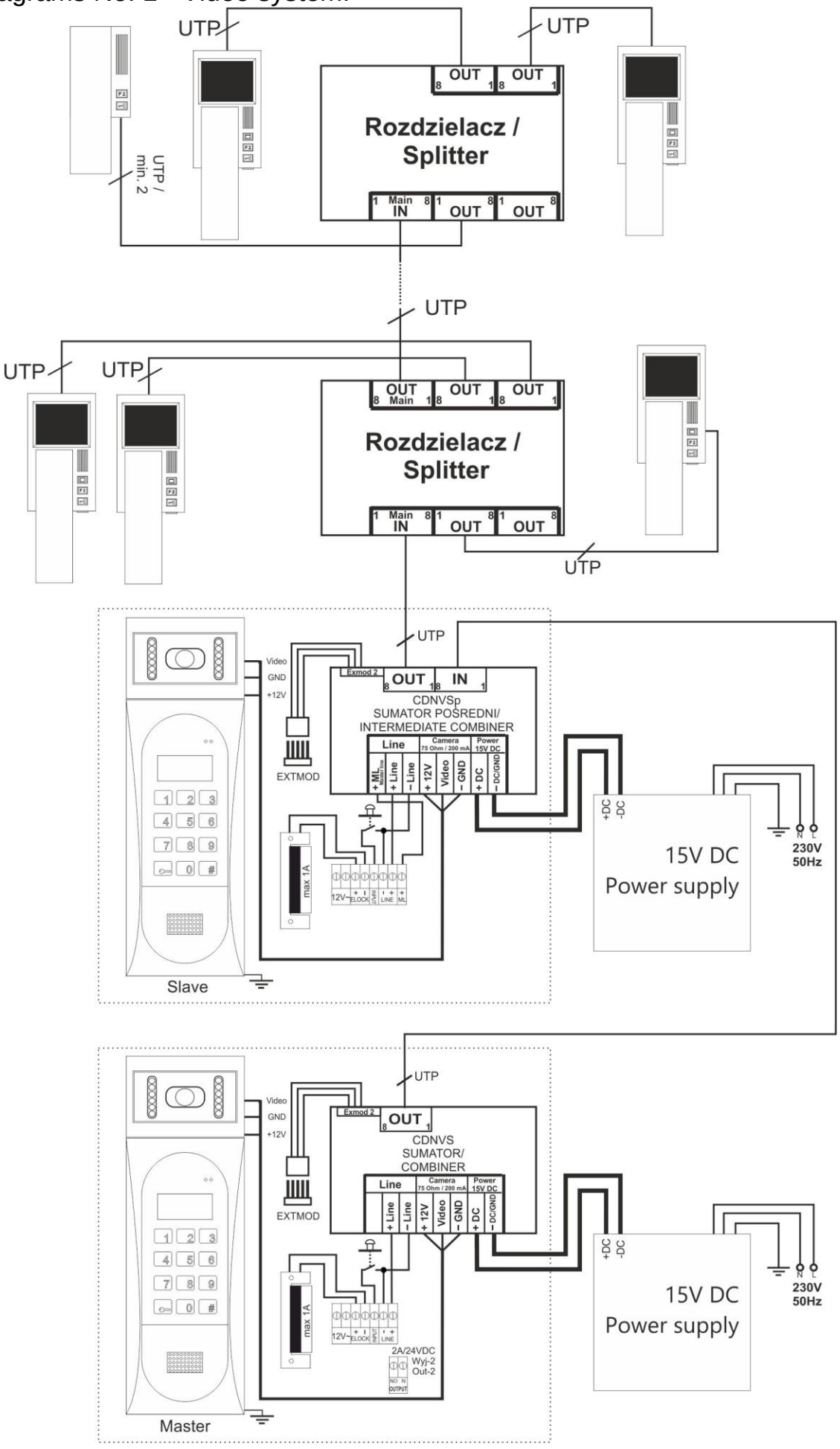
From unit A all uniphones (or video display units) can be called. From unit C only uniphones (or video display units) No. 3 can be called.



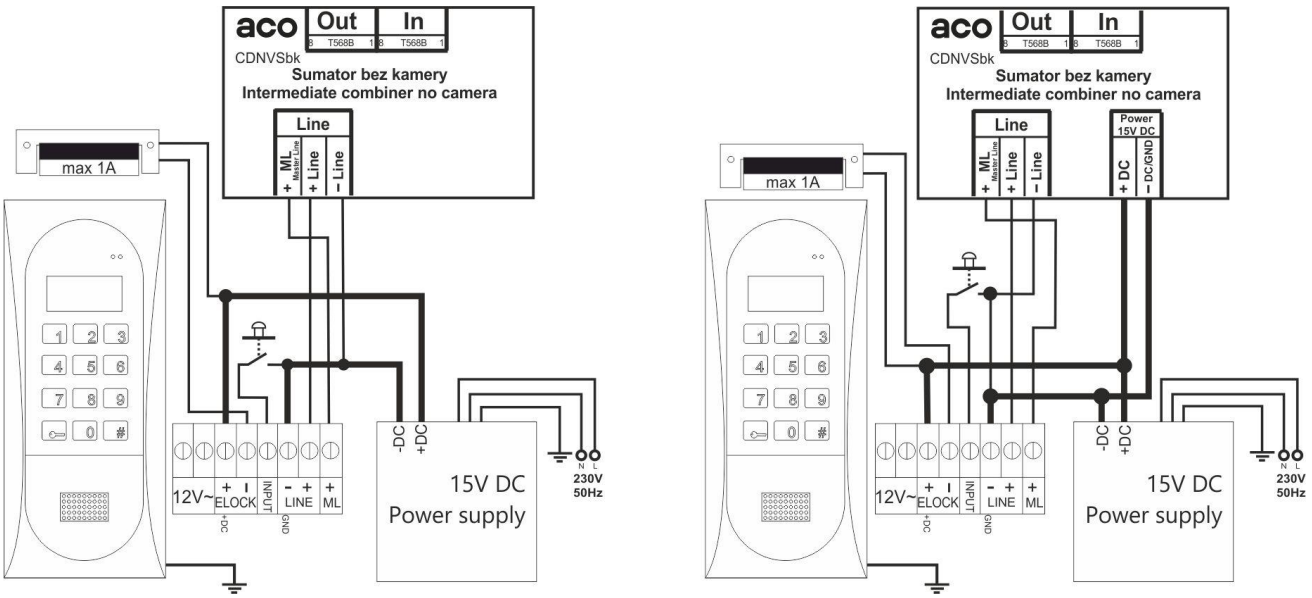
2.- WIRING DIAGRAMS FOR INSTALLATIONS WITH MULTIPLE UNITS



Diagrams No. 1 - Video system:



If a camera is not required for the slave unit, the "Intermediate combiner without camera" (CDNVSpbk) must be used



If a camera is not required on the Master unit, connect it as a classic Audio system. In this case use the combiner module (**not** the Intermediate combiner module) for the first Slave unit and connect the Master line to the ML terminals the conventional way. **PLEASE NOTE!** In newer versions of CDNVSbk, power must also be connected to the module.

3.- PROGRAMMING THE SLAVE UNIT

The slave unit features functions for changing its operating parameters, individual opening codes as well as installation and repair functions identical to the master unit.

The installer code as well as other settings may be individual in each unit, for instance:

- door opening time (depending on the location in relation to the unit),
- ringing tone (to identify the unit from which the call originated), etc.

At the same time, it is recommended to set the same code tables in all control units in order to facilitate use by the residents - then the door opening codes for relevant apartment will be the same.

For proper system operation, configuration in required:

- In slave units: the number and number ranges of apartments supported by these units (program P9) - only apartments in the configured range will be supported!
- For possible further door opening waiting time in slave units (program P6) and in master units bit 4 in program P16

- Only CDNP5: when operating more than one unit, bit2 must be enabled in P16 for master units.

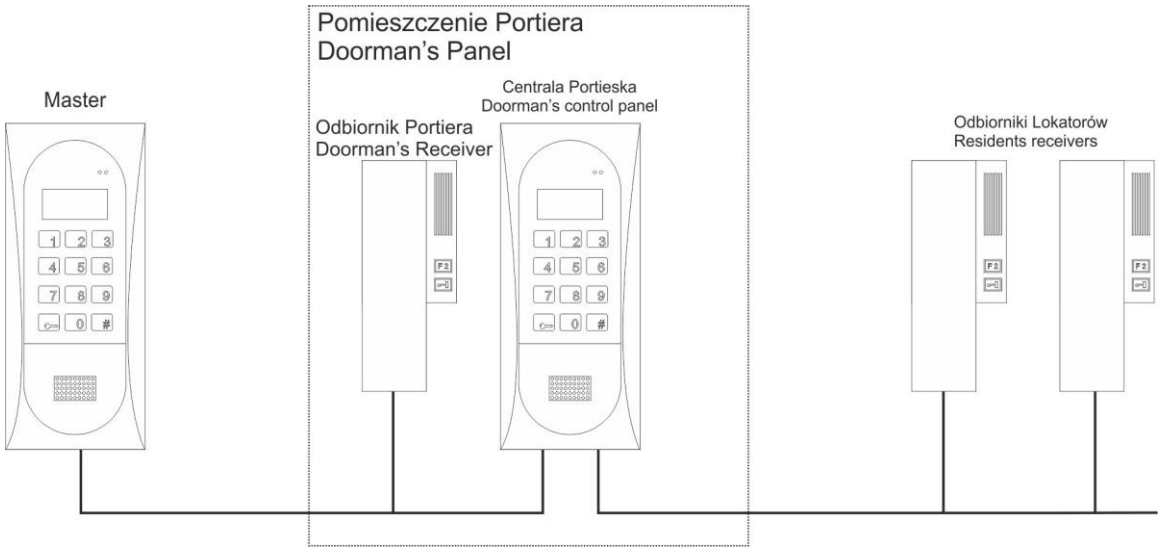
X. NUMBERING IN THE HOTEL SYSTEM

The function of dialling in a hotel system is activated in order to enable calling from one unit to multiple zones (staircases, buildings, etc.), in which the numbering repeats. This situation is common for instance for a master unit at the entrance to a housing estate with many buildings or staircases.
Then, when calling from a master unit, first a zone number is dialled (staircase, apartment building, etc.) and then the apartment number. The number of definable zones is limited to 10 (from 0 to 9, where 0 means zone 10).
The number of apartments in each zone must be 99 or less.
For example, to call apartment number 8 in zone 2 (a staircase), the dialling number is "28" or "208". The first digit "2" is recognised by the system as a zone number (staircase, apartment building, etc.), and all subsequent digits (1 to 99) as the number of apartments in this zone - in this example it is 8.
Since apartment numbers are repeated, **different** physical addresses of uniphones in each zone must be set, but the whole system will not support more than 255 uniphones.

For each zone the exact "**From**" and "**To**" range of supported apartments must be individually determined as well as the offset of the dialling number (between the number dialled on the keypad and the physical address set in the device). This is set in P10 program, which can be accessed when the hotel function is activated (bit 5 in P16).
Additionally, in all units where the hotel system is used, a positive offset must be set (enable bit 6 in P16). For proper operation of the unit in the hotel system it is necessary to activate at least one zone by entering a value different from zero as a "**From**" parameter. All units in the zone must be slave units.
Each slave unit located in the zone (such as by a staircase) must have a limited "from - to" range and the appropriate offset set so that the user standing next to it already selects a specific apartment number (these parameters are to be set in P9). For more details on the Hotel System refer to the P10 program description.
The standard hotel system can also be used in video door entry installations.

XI. DOORMAN FUNCTION

In doorman function (doorman's call) **upon closing contacts of the additional INPUT** in the Master unit, each call to any number will always be forwarded to doorman’s receiver. Doorman's uniphone address is set as the value of the additional INPUT (program P12). Auxiliary input contacts can activated by a clock etc. Doorman's uniphone address must be outside the range of uniphones (program P9) supported by the unit located in the gatehouse. The doorman's call forward function can be activated by setting **bit3** in P17.



When the doorman receives a call, they can call a specific apartment using doorman's unit. Upon answering the call, the doorman can press the "KEY" button and hang up the handset, thus forwarding the calls. Making this connection is possible only if **bit4** in P17 is enabled in doorman's panel.

Doorman functions can be used in residential estates with access control, etc.

XII. UNIT PROGRAMMING

It is possible to change multiple operating parameters of the unit (individual opening codes and programs to facilitate installation and repair of the system) using the software.
The parameters can be modified with the installation programs. Access to the programs is protected by installer's password. All settings of the unit are saved in permanent memory and are not lost when the power is turned off.
For systems with multiple units, modifications to the settings apply only to the unit in which they were made. To transfer settings to other units, use the CDNP computer program.

It is possible to read all settings of the unit, modify them and archive them using a PC (via the CDN-USB cable) and free CDNP software (www.aco.com.pl).

In order to enter the installation programs, press the "**key**" button and enter the eight-digit password (1507xxxx) - this operation is confirmed by a modulated "up" sound signal, the software version number appearing momentarily on the display, followed by the "**PROGR**" message. The first four digits of the password (1507) are a fixed digits and the following digits ("xxxx") are the four-digit installer's password. The time limit to enter the password is 5 seconds. "**Otwie**" [open] appears a moment later as a base program.

The installer’s password in units is set to "0000" and must be changed after installation! (program P7).

EXAMPLE:

To enter the unit programming function with 2222 installer’s code, press the "**key**" followed by 1507 (fixed digits) and 2222.

Upon entering the installer programming, the display will briefly show "**PROGR**" and the software version number, followed by the P0 program name "**oOpen**". Programs can be changed using button "2" - up and "8" - down. The displayed program is selected by pressing the "**Key**" button. Upon entering the desired program, the display will first show the value of the current setting, only then a new setting can be entered; the new setting must be confirmed with the "**Key**" button, or cancelled with the "#" button (if no new value is entered within a few seconds, unit will automatically exit the installer programming without changing any setting values).
Exit from the installer function is possible by pressing the "#" key, through the "0" function (with lock opening) or automatically after approx. 30s of inactivity. Confirmation of the exit is signalled by a modulated "down" sound signal, and the display shows the current temperature inside the unit (used to switch the display heating on).
The installer mode enables resetting (restarting) the unit by pressing buttons 7 and 9 simultaneously.
These programs support both uniphones and video display units.

The following programs are run on the unit:

P0 SERVICE ACTIVATION OF E-LOCK

Maintenance function - verification of E-lock operation and proper opening time. Selecting the P0 program - "**Open**" - by pressing the "key" button, activates the E-lock for the time set in P6 and exits the programming function. This program also disables (if enabled in P5) the function of service uniphone calling from apartment.

P1 MODIFICATION OF USER'S ACCESS CODE (RESIDENT'S OR ADMINISTRATOR'S CODE)

The code can be used to activate E-lock (for instance to open the front door) 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 CDN-I/O module (for instance to open gate 2) - P18 program.

1.- Modification of user's access code

Changing the code of apartment 9 to 4256:
Upon entering the program the text "**Nbr ?**" [number] is displayed, now enter 9 as the apartment number, confirm with the "**key**" button, the current code will be displayed for a brief moment (to exit the function without changing the code, press the "#" button now), and then the text "**Digit1**" will appear, now enter the first digit of the code - "4", ("**Digit2**") the second digit - "2", ("**Digit3**") the third digit - "5", ("**Digit4**"), and the last, fourth digit - "6". "**Done**" will be displayed and code 4256 for apartment 9 will be stored in unit's memory.
Now the value "**Nbr ?**" is the new call number, to be selected with the keypad, since the unit operates as per the settings in P9 (offset, range) and automatically calculates the uniphone physical address. Please note that the access codes in the **Code Table**, supplied with the unit as a standard, correspond to physical addresses set in the uniphone, which is important when offsets are pre-set.
After restoring the factory settings of the unit, also factory codes described in the table are restored.
Access codes may also be changed by residents - refer to description in the P16 program, bit7.
To lock the access codes completely, set the "9999" code table.

2.- Modification of administrator's access code

Enter the program, wait for "**Nbr ?**" to be displayed, then enter 0 as apartment number and confirm with the "**key**" button ("**KodAdm**" will be displayed briefly). When "**Digit1**" is displayed, enter the first digit of the code, with "**Digit2**" enter the second digit, and so on. Upon entering the last digit, the unit will display "**Redy**"; the code is now stored in unit's memory as administrator's code. The new code will erase the previous code value. The code is also erased when the unit is reset to factory default settings. Do not enter a code that starts with 1507, as these are the initial digits of the installer's password (the unit will display "**Error!**" and the unit will exit the programming mode).
The E-lock is activated by selecting the "**key**" button and entering the six digits (or the first four if bit2 in P17 is enabled) of the administrator's code. The administrator's code is not pre-set.

P2 SETTING SILENT OR LOUD RINGING

This program is used for changing the ringing volume (1 or 2) in selected apartment. Enter the program, wait for "**Nbr ?**" to be displayed, then enter the number of the apartment for which the ringing volume is to be changed (or enter "**0**" if the change is to apply to all apartment) and confirm with the "**key**" button. When changing the volume for selected apartment, the current setting will appear on the display, and "**All**" will appear if the setting is being done for all apartments. When the message "**???**" appears, enter the ringing volume level 1 or 2 ("1" for silent and "2" for loud). Then the unit will display "**Ready**" settings are now stored in unit's memory. Now the value "**Nbr ?**" is the new call number, to be selected with the keypad, since the unit operates as per the settings in P9 (offset, range) and automatically calculates the uniphone physical address.
When the unit is reset to factory settings, all apartments are set to volume level 2, which is the standard volume level. Level 1 is used in exceptional cases when the ringing is too loud, such as due to the panel working with different phones.

P3 SETTING THE NUMBER OF RINGTONES, PERMISSION TO CALL

This program is used to change the number of ringtones between 1 and 7 for the main ringing to apartments. Entering "0" will disconnect an apartment - it will not be possible to call it.
Enter the program, wait for "**Nbr?**" to be displayed, then enter the number of the apartment for which the number of ringtone is to be changed (or enter "**0**" if the change is to apply to all apartment) and confirm with the "**key**" button. When changing the number of ringtones for an apartment, the display will show the currently set number or "**Off**" if no ringing is allowed. To change the number of ringtones enter the number of ringtones (1-7) when the currently set number is displayed (pressing the "#" key will exit the function without saving the change). If setting for all apartment, enter "0" as "**Nbr ?**", "**All**" will appear and then "**???** " followed by the number of ringtones (1-7). Then the unit will display "**Ready**"; settings are now stored in unit's memory.
We can set up to 7 ringtones for the main ringing.
To deactivate ringtone for an apartment, enter "0" as the number of ringtones (the display will show "Wył"); to activate ringtones, select a number between "1" and "7". When calling an apartment for which the setting of ringtones is "0", the display will briefly show "**Off**".

In a multi-panel system, the ringtone disabling works only on the panel on which ringtones were set.
The receiver in a disconnected apartment will still emit the door opening signal when opening using the access code (use P4 menu to disable it).
Now the value “**Nbr ?**” is the new call number, to be selected with the keypad, since the unit operates as per the settings in P9 (offset, range) and automatically calculates the uniphone physical address.
NOTE! - When changing the number of ringtones simultaneously for all apartments, ringtones to the previously deactivated apartments will be reactivated.
When the unit is reset to factory settings, 2 ringtones are set for all apartments.

P4 TURNING THE DOOR OPENING SIGNAL ON - OFF IN THE APARTMENT

After opening the door with an individual access code (or with an RFID proximity card - CDN-ACC module) a short, triple beep is emitted in the apartment to which the code (card) is assigned. Program P4 can be used to disable or enable this signal. By default the signal is enabled.
Enter the program, wait for "**Nbr ?**” to be displayed, then enter the number of the apartment for which the door opening signal is to be turned on or off (or enter "**0**" if the change is to apply to all apartment) and confirm with the "**key**" button. When changing the settings for selected apartment, the current setting will appear briefly on the display - “**On**” if the signal is on or “**Off**” if the signal is off, and "**All**" will appear if the setting is being done for all apartments. While "**????** " is being displayed, enter "1" to enable the door opening signal - “**On**” will appear briefly on the display or enter “**0**” to disable the door opening signal - “**Off**” will appear briefly on the display (pressing the **"#"** key will exit the function without saving the change). Then the unit will display "**Ready**”; settings are now stored in unit’s memory.
Now the value “**Nbr ?**” is the new call number, to be selected with the keypad, since the unit operates as per the settings in P9 (offset, range) and automatically calculates the uniphone physical address.

P5 SERVICE UNIPHONE CALL FROM APARTMENT

5 SfCal

The option of service uniphone call from apartment is activated during the system installation. With this option the installer can self-check if the uniphone works OK (ringing, broadcast channel and opening) directly from the apartment.
The procedure is as follows: after pressing the uniphone opening button three times, with the handset lifted, the unit starts searching for the uniphone with lifted handset, selecting numbers in sequence (within the "**From**" - "**To**" range set in P9). When the uniphone is found, it will be confirmed by a triple beep heard in the handset, then the handset is to be hanged up and after a short moment the unit will automatically call this uniphone (its number will appear on the display). After answering the call the uniphone operation can be checked.
After entering the program "**Nbr ?**" will be displayed, after which the user enters a single uniphone number to be checked (the function is active for approx. 30 minutes), or enters "**0**" for automatic search of uniphone with lifted handset within the "**From**" - "**To**" range set in P9 (the function is active for approx. 4.5 hours). The " **key**" button will confirm the entered digit, the "#" button will exit the program. When this function is active, normal operation of the system and the unit is possible, and the display shows "_ _ _" in place of "Intro".
The function of calling the uniphone from apartment works only for the Master unit and can be deactivated at any time by running the P0 program - service activation of E-lock.
Now the value "**Nbr ?**" is the new call number, to be selected with the keypad, since the unit operates as per the settings in P9 (offset, range) and automatically calculates the uniphone physical address.

Function may not work properly with some uniphones of other manufacturers such as: 1131/520, 1132/520 MATIBUS Urmet etc

P6 SETTING THE E-LOCK TIME

6 LTime

This program can be used to set the E-lock time (lock opening time) from the range of 1s to 10s and E-lock delay time from the range of 0s to 250s.
Each time this program is accessed, the "**service E-lock activation function**" is enabled, which is useful for E-lock resetting or installation. The function of E-lock service activation is available after exiting the installer's programming and is signalled on the display with the "🔑" sign in place of "Intro".

Now, each time the "**key**" button is pressed, the E-lock is released for the pre-set time. Use the "#" button to turn the function off.

Upon entering the program, the current value of the E-lock set time and delay is displayed (default setting is "**04**" - 0s delay and 4s of E-lock time). While the current value is displayed, enter a new value and confirm with the "**key**" button or press the "#" button to exit the program without saving changes. Only three-digit number *XXY*, (such as 254) can be used in the program, where the first two digits (max 25) define the E-lock delay time multiplied by 10 *(XX* x 10s. = 250s) and the third digit defines the E-lock time in seconds (*Y* = 4s).

For example, to set the E-lock time to 6s, enter 6 and confirm with the **"key"** button (0 sets time to 10s)**.** By entering only one digit *(Y*) no delay is set.
Entering 125 will set the E-lock time to 5s and the delay time to 12x10s = 120s.
Entering 80 will set the E-lock time to 10s and the delay time to 8x10s = 80s.

The delay time can be used:

- in slave units as a delay time for the further door opening function.
  This is the time during which pressing the "key" button on the slave unit the E-lock released. This delay is activated when the E-lock is activated in the master unit (the master unit sends a "further door opening" pulse to a downstream unit).
  The delay time is indicated by the key symbol appearing on the display and the set delay time, counting down to zero. If the key button is pressed during this countdown, the E-lock is immediately engaged. Pressing the "#" button will end the countdown without releasing the E-lock.
  If no key is pressed, the unit will terminate the countdown after the pre-set delay time by returning to the stand-by mode or, with bit 1 enabled in P16, it will engage the E-lock.
  For correct operation of the further door opening function in the bit 4 in P16 must be enabled in the master unit.

- in master units, as the E-lock release delay after the terminals of the additional INPUT are closed. In order to automatically engage the E-lock after the end of the countdown, bit1 must be enabled in P16. If the delay is not set, the E-lock will be engaged immediately after the terminals of the additional INPUT are closed.

Delay of E-lock activation after closing the terminals of additional input is also available in slave units - program P12.

P7 CHANGING THE INSTALLER'S PASSWORD

This program is used to set a new 4-digit installer's password (installer programming access password). The default password is "0000". This is how to set a new installer's password to 5482.
Enter the program,, wait for "Digit1" to be displayed - then enter the first digit of the password: "5", then "Digit2" is displayed - enter the second digit:
"4", then "Digit3" is displayed - enter the third digit: "8" and the "Digit4" is displayed - enter the fourth digit: 2 "**Ready**" is displayed and the new password is stored in memory. Use the "#" button to exit the function without changing the password.

NOTE!
Installer's password cannot be restored!!! In order to set the password to 1507 0000, the unit settings must be erased, which means that all previously changed settings are lost.

P8 VERIFYING CARD ASSIGNMENT TO APARTMENTS

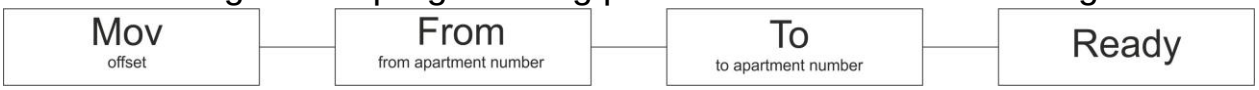
The program is used verify proximity cards and key fobs - to which apartments they are assigned and what their sequence numbers are.
After entering the program, the unit displays "====" and now when a card or key fob is brought closer to the CDN - ACC reader module, the unit will display the number of the apartment to which the card (key fob) is assigned and then the sequence number of the card (key fob) in this aparment. Use the "#" button to turn the function off.

P9 CALLING RANGE PARAMETERS

This program is used to set the parameters for dialling and range of call numbers. Three parameters can be set:
- "**Mov**" ringing number offset (by default "0") - the offset value determines the difference between the dialled number on the unit keypad and the physical address set in the uniphone.
- "**From**" first supported call number (by default "1"),

- “**To**” last supported call number (by default "255").

The block diagram for programming parameters is shown in the figure below:



After entering the program, the display shows "**Mov**" and the current value of the pre-set offset is displayed. At this point, a new offset value can be entered (0 to 998) or the "**key**" button pressed - to move to the next parameter without changing this value. By entering 0, the unit will operate without number offset. The next parameter is the "**From**" - the range from which the unit is to support uniphone numbers (numbers dialled from the keypad - taking into consideration the pre-set offset value). While the current value is displayed, a new parameter value can be entered (1 to 999) or the "**key**" button pressed - to move to the next parameter without changing this value. The last parameter is the "**To**" - the range to the unit is to support uniphone numbers (numbers dialled from the keypad - taking into consideration the pre-set offset value). While the current value is displayed, a new parameter value can be entered (1 to 998) or the "**key**" button pressed - to move to the next parameter without changing this value.
When the parameters have been saved correctly, "**Ready**" will appear on the display. Pressing the "#" key at any time exits the program without saving the changes. The unit indicates the values of the “**From**" - “**To**" calling range based on the pre-set offset.
Note: After entering any two-digit value (from 0 to 99) - press the "**key**" button to confirm it and thus move to the next parameter. After entering any 3-digit value (from 100 to 999) - the unit will save it automatically, without acknowledging by pressing the "**key**" button, and will proceed to programming the next parameter.

PARAMETER DESCRIPTION:

- **Call number offset** (“**Mov”):**

Call number offset is used for the unit to support apartment with numbers above 255 (up to 999 max). Set in P16 (bit6) whether the offset value is to be added or subtracted from the value selected on the keyboard. By default bit6 is disabled (unit is set to subtract mode) and the offset value is set to zero (no offset). When a call number is offset, the number of the first and last supported call number is automatically offset.

Example with subtracting *(difference between the number selected on keypad and the offset value).*

When the number of apartment 1 starts with 301, the physical address "1" is set in the receiver of that apartment, the physical address "2" is set in the receiver of apartment 302, and so on. Then the “300” call number offset is entered, by entering "*300*" in the "**Mov**" parameter. From now on the uniphone with the physical address set to "1" will ring after dialling 301 on the unit keypad, and so on. Numbers below 301, if dialled from the keypad, will be unavailable. The codes for individual apartments will be in accordance with the addresses set in uniphones (apartment 301 - code 1 from the code table), etc. The maximum number offset is 998.

When attempting to call an apartment with a number that is below the number of this offset, "**Błąd!**" will appear on the display.

Example with adding *(sum of the offset and the selected number)*

An example when the master unit works with two slave units mounted at two staircases, where the range of apartment numbers is the same - 1 to 20. Apartments 1-20 in staircase 1 will have their uniphones' physical set from 101 to 120, and in staircase 2 - from 201 to 220 respectively. When calling from the master unit, first the staircase number will be dialled and then the apartment number for instance when dialling 114 the apartment with the uniphone physical number set to 114 will be called, which is apartment 14 in staircase 1. Hence, when dialling 219, apartment 19 in staircase 2 will be called.

The offset in the first slave unit (program P9) needs to be set to 100, in the second slave unit to 200, and in **both units** the **adding function** needs to be set (bit 6 to "1" in P16).

With this configuration, when calling an apartment from the unit, only its number needs to be dialled. The unit will add the offset value (100 for staircase 1 and 200 for staircase 2) to the selected apartment number and will call the uniphone the physical number of which is the result of this sum. Hence, when dialling 12 in the slave panel in staircase 1, the unit will add 100 and call the uniphone set to 112, when dialling 20 in the slave unit in staircase 2, the unit will add 200 and call the uniphone set to 220.

First supported call number:

This parameter is used to enter the first number of apartment supported by the unit. If numbers of apartments connected to a unit start from 71, enter "71" as the number of the first supported apartment and confirm with the **"key"** button. Then apartments with number below this number cannot be opened with an access code and "**Error!**" will appear on the display.

Last supported call number:

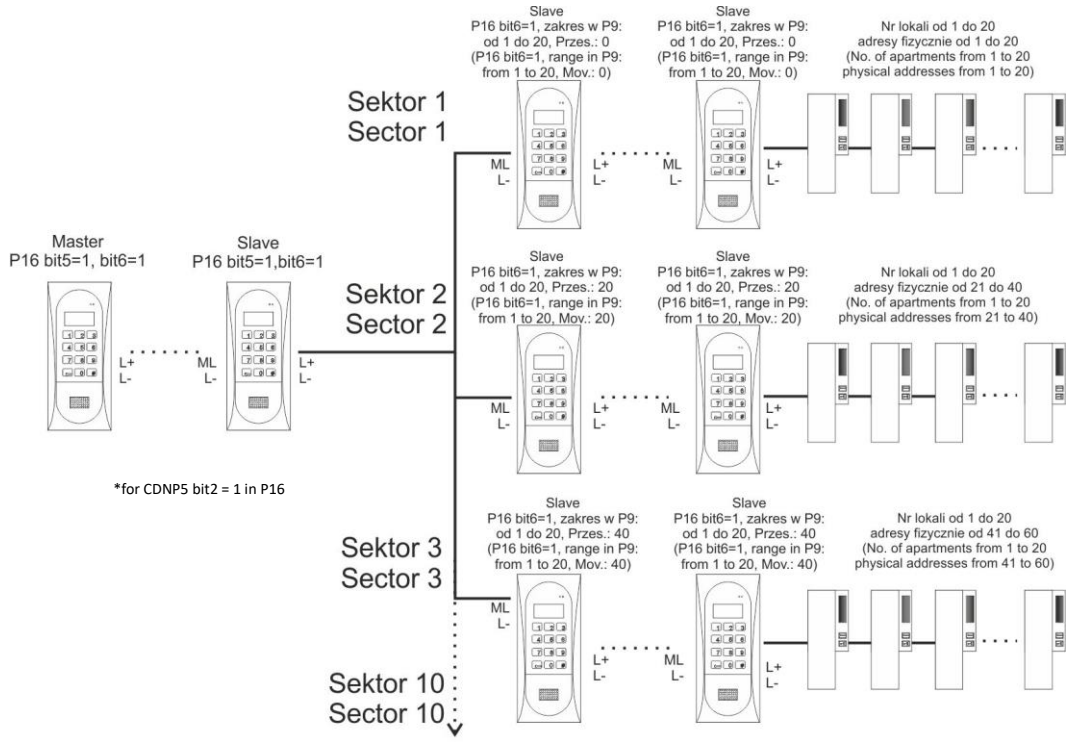
This parameter is used to enter the last number of apartment supported by the unit. If numbers of apartments connected to a unit end at 80, enter “80" as the number of the last supported apartment and confirm with the **"key"** button.

Then apartments with number above this number cannot be opened with an access code and "**Error!**" will appear on the display. When the call number offset is pre-set, the "**From"** and "**To**" parameters are entered as actual call numbers (dialled from keypad), rather than the number physically set on the uniphone board.

Setting these parameters is necessary for proper operation of the slave unit when working with the master unit.

P10 HOTEL SYSTEM DIALLING SETTINGS

P10 can be used to set all parameters for Hotel Mode, which is described in chapter X.
Hotel mode programming is usually performed in all units, which support main entrances to the facility (from which each apartment must be called).
When the unit is in the Hotel mode, it supports the so called "Zones". A zone can be, for example, a staircase, a building, a complex of buildings, etc. Each zone can be freely configured by setting its range of supported uniphones and offset. Hence the system can be configured in such a way that the subscriber numbers in the zones may be repeated - the ranges and offsets are set in the zones in such a way as not to exceed the maximum number of 255 uniphones, keeping the rule that each zone can have maximum 99 uniphones and the physical addresses of uniphones cannot be repeated throughout the system.
Any number of slave units can work in each zone in which the hotel system is no longer used; instead the range and offset are set in a conventional way in P9 (in this case also the positive offset is used - by setting bit6 in P16). The following figure provides a better understanding of how the hotel system works.



Any number of slave units working in the Hotel mode and in zones.

The number of zones in the system can be set from 1 to 10. Their settings can be programmed directly from the unit or using a PC.

Dialling method:

- Dialling the number requires entering the zone number (from 1 to 9, or 0 for zone 10) and then apartment number (1 - 99). Two or three digits must be entered, where the first digit always indicates the zone number.

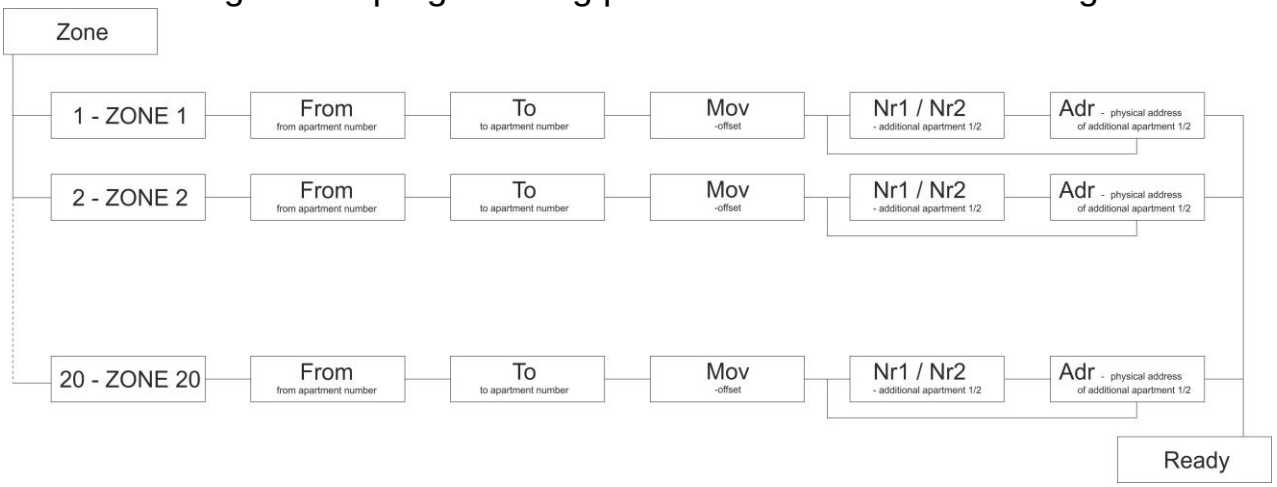
Programming the unit.

The programming of the hotel mode settings can only be entered when the unit is set to the Hotel mode - bit5 in P16 is enabled, and it is also necessary to enable the positive offset - bit6 in P16 is must be enables (when the unit is in the Hotel mode, settings in the P9 program cannot be changed and auxiliary numbers - P15 are not functional).

The parameters for selecting each zone are set separately in the program:
- „**From**": first supported call number from 1 to 99
- "**To**": the last supported call number from 1 to 99
- "**Mov**": ringing number offset - the value of the offset determines for us the difference between the dialled number in a zone (from the set range "**From**" „**To**") and the physical address set in the uniphone.
- "**Nr1**" or "**Nr2**": additional number - enter the number (from 1 to 99) to be dialled from keypad outside the range "**From**" - "**To**".

- “**Adr**”: physical address for additional numbers. Two additional call numbers can be entered for each for which physical addresses set in uniphones can be defined.

The block diagram for programming parameters is shown in the figure below:



Before each parameter is specified, its currently set value is displayed. Confirm this value with the "**key**" button to automatically proceed to programming the next parameter (without changing it). If a three-digit value is entered for "**Mov**" and "**Adr**" parameters, or a two-digit value for the remaining parameters, the unit will save it automatically, without confirmation, and move on to programming the next parameter. Pressing the "#" key at any time exits the program without saving the changes.

After entering the program, the display shows "**Zone?**" - enter the zone number for which settings are to be changed (from 1 to 9, or 0 for zone 10) and confirm with the "**key**" button. The “**From**” parameter will be displayed - enter the value of the first uniphone number in a zone from the range 1 to 99 and confirm it with the "**key**" button (entering value 0 disables the zone - factory setting). Then the “**To**" parameter will be displayed - enter the value of the last uniphone number in a zone from the range 1 to 99 and confirm with the "**key**" button. The next displayed parameter is "**Mov**" - enter the value of the offset between the set number in the “**From**" - “**To**" range and the physical address of the uniphone and confirm with the "**key**" button. When "**Nr1**" appears on the display, enter the number to be dialled in a zone outside the "**From**" and "**To**" ranges (entering 0 disables the additional number - factory setting) and press the "**key"** button to confirm. Then, when "**Adr**" appears, enter the physical address of the uniphone which the unit is to call an additional number is dialled. Program the "**Nr2"** and "**Adr**” settings of another additional the same way.

When the parameters have been saved correctly, "**Ready**" will appear on the display.

By default, all values are set to zero, meaning all zones and additional numbers are inactive.

P11 ENTERING NEW ACCESS CODE TABLE

This program is used to enter the four-digit number of the code table, used by the unit to generate 255 individual access codes for residents. In systems with multiple units (Master / Slave), by entering the same number of the code table in each unit, the same access codes for residents are set across the whole system.

After entering the program, the display shows the current code table number. Then the display backlight starts blinking and the new table number can be entered. Pressing the "#" key exits the program without saving the changes. When a new table number is entered, the procedure of generating new access codes will be initiated and codes will be stored in the memory. Then "**Gotowe**" will be displayed.
When this operation is completed, the access codes assigned to apartments will change to those in the new table. The installer password remains unchanged (change it in P7).
The code table for Master panels is a 4-digit number, which can be found on the back of the unit. The code table for Slave panels must be the same as the for Master panels. Order numbers in the code table (1 to 255) always correspond to the physical addresses in the uniphones (irrespective of shifts and other settings).

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

P12 SELECTING THE FUNCTION OF THE AUXILIARY INPUT

This program is used to set the parameters for the function of the auxiliary input.

The unit features an additional input, which by means of an optional button can be used for activating E-lock (also with a delay) or for direct calling to apartments. The INPUT terminals, located on the unit board, can be used to connect any "NO" contacts - for example, an external NO pushbutton ("bell" type). The input is protected against permanent closing.

After entering the program, the unit display shows " **Adr**" and the currently set value. Enter a value from the range 0 to 255 and confirm with the key button. Depending on the value entered, the panel will perform the appropriate function. Pressing the "#" key exits the program without saving the changes. Entering:

- "**0**" (factory setting) when the contacts are close will activate the E-lock (opening time set in P6). For Master units, if a delay is set in P6, the E-lock will be activated with a delay (bit1 in P16 must be enabled).
- **1** to **255** (uniphone physical address) after closing the contacts will activate the procedure of calling the uniphone programmed at this address. The set address may be outside the range set in the P9 program.

For CDNP6 series: if bits 1 and 2 of P16 are enables in **slave** units, the value of parameter "**Adr**" from **1** to **255** corresponds to the time (in seconds) of E-lock activation delay.

P13 SETTING ONE OF FOUR RINGTONES

This program is used to set one of four ringtones for each apartment individually or for all apartments at the same time. The ringtone is set separately for each unit, so different ringtones can be set in different units; this way the resident is able to identify the unit transmitting the call.

Enter the program, wait for "**Numer?**" to be displayed, then enter the number of the apartment for which the ringtone is to be changed (or enter "**0**" if the change is to apply to all apartment) and confirm with the "**key**" button. When changing the settings for an apartment, the display will show the currently set ringtone number, then another ringtone can be selected by entering a value from 1 to 4 - each time the value is entered, the signal of the selected ringtone will briefly sound. Confirm the selected tone with the "**key**" button - "**Ready**" will be displayed and the ringtone will be stored in the memory.

When changing ringtone for all apartments, "**All**" will be displayed briefly, followed by "**???**" and then, as above, enter the value from 1 to 4 and confirm it with the key button. Then the unit will display "**Ready**"; settings are now stored in unit's memory.

Pressing the "#" key at any time exits the program without saving the changes.

Now the value “**Nbr ?**” is the new call number, to be selected with the keypad, since the unit operates as per the settings in P9 (offset, range) and automatically calculates the uniphone physical address.
The default ringtone for all apartments is ringtone #3.

P14 SEARCHING MISPLACED OR DEFECTIVE UNIPHONES

This program is used for searching a misplaced or defective uniphone. The program helps detect which uniphone may be overloading the line (cause it’s damaged or its handset is not hung up), which may cause the whole system to malfunction (impaired address selection, calling two different uniphones, etc.). The function is disabled if P5 is active.

After entering the program t"**Nr.**" is displayed and the units starts automatic search of uniphones - the call number of the uniphone being verified will be displayed according to the parameters set in P9 (offset, range). When a misplaced or defective uniphone is found, the unit will signal by a sound signal, blinking of the display backlight and displaying its number. When the "**key**" button is pressed, the unit starts searching other uniphones. The search can be terminated at any time by pressing the "#" button.
When using non-ACO uniphones this function may not work properly. An additional test is the line test - the P25 program

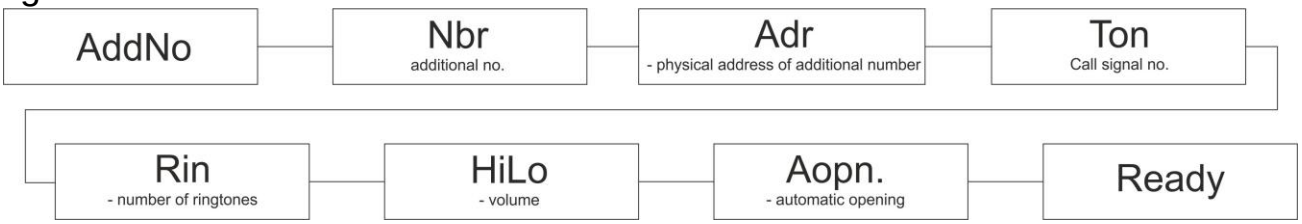
P15 ADDITIONALLY SUPPORTED NUMBERS

This program is used to set the parameters for two additional numbers. Additional numbers are used, for instance, to call one uniphone (one physical address) from two different numbers dialled on the unit, or to dial a number outside the range set in P9. Additional numbers can also be used when the door opening signal is emitted by a uniphone different than the uniphone being called (most often the uniphone with physical address "1" is the problem). In such case, program the unit so that after dialling "1" the unit calls the physical address, such as "100" (then the physical address "100" is set in the telephone in apartment "1").
Each additional number can be set in automatic opening.

If this function is activated and the handset is not hung up, the E-lock will be activated automatically after the first ringing signal. If the handset was hung up during the first ringing tone, the unit 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.
Additional numbers are also used when the unit is to only feature the option of calling a specific number - without the possibility of opening and talking (this function is activated by bit7 in P17). In this case, the unit turns off after ringing (after pre-programmed number of ringtones), or after picking up the handset. (The auto-open won't work either).

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.

Set the following parameters in the program:
- "**AddNo**" enter 1 or 2, depending on which additional number is to be programmed
- "**Nbr**" enter a number from the range 1 to 999 to be dialled from the keypad (when "0" is entered, the additional number is disabled)
- "**Adr**" enter the physical address of the uniphone from the range 1 to 255, which the unit is to call after dialling the additional number
- "**Ton**" enter the ringtone number from the range 1 to 4 for the additional number.
- "**Rin**" enter the number of ringtones from the range 1 to 7 for the additional number
- "**HiLo**" enter 1 or 2 to set the ringing volume for the additional number
- "**Aopn.**" enable auto-open function: enter "0" to disable, or "1" to enable the function. The block diagram for programming parameters is shown in the figure below:



Before each parameter is specified, its currently set value is displayed. Confirm this value with the "**key**" button to automatically proceed to programming the next parameter (without changing it).

If a three-digit value is entered for "**Num**" and "**Adr**" parameters, or a one-digit value for the remaining parameters, the unit will save it automatically, without confirmation, and move on to programming the next parameter. One and two-digit values for the "**Num**" and "**Adr**" parameter must be confirmed with the "**key**" button. Pressing the "**#**" key at any time exits the program without saving the changes.

After entering the program, "**AddNo**" will be displayed - the unit waits for dialling the sequence number (1 or 2) of additional number. When 1 (first additional number) or 2 (second additional number) is dialled, the display shows "**Num**" and the current number value. Then enter the new value of the additional number, from the range 1 to 999 (entering 0 - factory setting - disables the additional number). Then "**Adr**" is displayed, after which the physical address from the range 1 to 255 is entered of the uniphone to be called by the unit after dialling the additional number. The next programmable parameter is "**Ton**" - the ringtone, enter a value from the range 1-4 (ringtone number). The next parameters displayed are: "**Lid**" - number of ringtones (value 1-7), "**HiLo**" - volume level (value 1 or 2) and finally "**AOpn.**" - automatic opening (values "1" - on or "0" - off**.** When the parameters have been saved correctly, "**Ready**" will appear on the display.
Program the settings for the second additional number the same way.

By default additional numbers are disabled at the factory.

P16 BITY-1 UNIT PARAMETER SETTINGS

This program is used to set bit parameters for unit operation, which can be only switched on - value "1" or off - value "0".
After entering the program by pressing the "**key**" button the current settings of subsequent bits can be reviewed (without changes). To change the currently displayed setting, enter "1" to activate the function (bit) - the display will briefly show "**1**" and the unit will move to the next parameter, or enter "0" to deactivate the function (bit) - the display will show "**0**" and the unit will move to the next parameter.
After the new value is entered, its confirmation by pressing the " **key**" button is not necessary - the unit will save the change and automatically move to the next bit.
When the parameters have been saved correctly, "**Ready**" will appear on the display.

Description of individual parameters (square brackets show captions displayed on the unit display):

Bit1.- Enable further door opening after further door opening after time [1opn.]

When enabled, this bit causes automatic activation of the E-lock (auto-open) after the delay time pre-set in P6 when using further door opening or closing the INPUT on the master unit.

Bit2.- for CDNP5: Enable and disable operation as master unit [2Nad].

This bit is enabled only when operating as a master unit in systems with multiple units. Enable this bit to detect a busy or short circuited slave unit line.

Bit2.- for CDNP6: Input function in slave units [2FInp]

When enabled, this bit (bit1 must also be enabled) will cause the closing of the "INPUT" to open the E-lock with the delay entered as the P12 program value. When disabled, the bit will cause closing of the "INPUT" on the slave unit, with the value set in the P12 program, to trigger a call to selected apartment.

Bit3.- Operation with optional electronic add-on module [3Hot]

Activation of this bit is necessary for the unit to communicate with electronic add-on modules (or a computer via USB) connected to EXMOD sockets. By default this bit is enabled.

Bit4.- Activation of further door opening pulse [4Cor]

This bit activates a function that is intended, after the door opening procedure at the panel, to send a pulse that causes the further door opening function to be activated in downstream units; Waiting for door opening at downstream units is signalled by the "⊶" symbol, shown on the display and the time till the function is deactivated. When the "**key**" button is pressed now, it will cause immediate activation of the E-lock, while pressing the "#" button will cancel this option. If bit1 is enabled, the E-lock may turn on automatically after the set time has elapsed without pressing the button. The further door opening function activation time is programmed in each unit in the P6 program (must be different from zero) and is counted from the moment the opening procedure is finished in the upstream unit.

Bit5.- Dialling in hotel mode [5Hot]

When this bit is enabled, the unit is set to the Hotel system mode. Enabled bit allows “entry” to the P10 program, where parameters of this mode can be configured.

Bit6.- Changing the direction of the call number offset [6+-Mv]

This bit sets the direction of the call number offset:

- “**Subtracting**”**:** bit disabled - "0" (by default). In this setting, the unit subtracts the value of the offset set in P9 from the apartment number selected on the keypad and makes a call to the uniphone with physical address resulting from this difference.

Used to dial apartments with a number higher than 255.

- “**Adding**”**:** bit enabled - "1". In this setting, the unit adds the value of the offset set in P9 from the apartment number selected on the keypad and makes a call to the uniphone with physical address resulting from this sum. Adding is mostly used in slave units, working with a unit set to hotel mode.

Bit7.- Enabling access code change by the user [7Chng]

When this bit is enabled, users may change their unique access codes. Access code change procedure:

After calling the conventional opening procedure (selecting the apartment number, confirming with the "**key**" button and selecting the old access code), press the "**key**" button again during the first 2 seconds of the opening procedure **-** "**PIN**" and "**Digit1**" will appear. Now enter four digits of the new access code. When "**Again**" is displayed, enter the new access code again (to avoid errors). If both entries are the same, the unit will display "**Ready**"; the new code is now stored in unit’s memory. If entries are different, the unit will display **"Error!**" and will exit the function without changing the code. To exit new code programming (without changing the code) press the "#" button.

Bit8.- Disabling factory settings reset [8Rst]

This bit can be used to enable or disable factory settings restore of the unit (clearing the unit memory settings). When the bit is enabled ("1"), upon turning on the unit and when the countdown is completed (when the unit displays "**ACO**” briefly), pressing "2,5,8" at the same time will initiate the factory settings restore procedure. When the bit is disabled ("0") factory settings restore is not possible.By default, factory settings restore is enabled - "1".

PLEASE NOTE! If factory settings restore is disabled and the installer password is unknown, it is not possible to enter the installation procedures. Then only the manufacturer may restore the default installer’s password.

In the factory settings, all bits except bit3 and bit8 are disabled.

P17 BITY-2 UNIT PARAMETER SETTINGS

This program is used to set bit parameters for unit operation, which can be only switched on - value "1" or off - value "0".

After entering the program by pressing the "**key**" button the current settings of subsequent bits can be reviewed (without changes).

To change the currently displayed setting, enter "1" to activate the function (bit) - the display will briefly show "**1**" and the unit will move to the next parameter, or enter "0" to deactivate the function (bit) - the display will show "**0**" and the unit will move to the next parameter.
After the new value is entered, its confirmation by pressing the " **key**" button is not necessary - the unit will save the change and automatically move to the next bit.
When the parameters have been saved correctly, "**Gotowe**" will appear on the display.
Description of individual parameters (square brackets show captions displayed on the unit display):

Bit1.- Selecting the image preview camera in standby [1VidS]
The setting of this bit determines which camera is used for image preview in standby (when no call is in progress):
- master unit camera, if Bit1 = 0
- slave unit camera, if Bit1 = 1,

Set this bit only in one of the slave units.
During a call, the image is always transmitted from the camera of the unit from which the call originates.

Bit2.- Abbreviated (four-digit) administrator's access code [24Key]
When this bit is enabled, the six-digit administrator's access code (programmed in P1) is abbreviated to the first four digits.

Bit3.- Doorman's call [3RPor]
Enables doorman's call - refer to Chapter XI.

Bit4.- Doorman's call forward [4CPor]
Enables doorman's call forward in a slave unit - refer to Chapter XI.

Bit5.- Calling additional numbers only [5OnlR]
When this bit is enabled, it is not possible to call to or open the door using additional numbers; auto-opening is disabled.

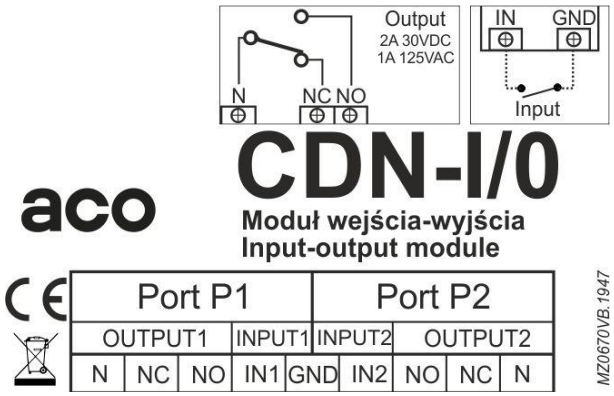
Bit6.- Disabling apartment number display in 230E module (from v4.1) [6NoNo]
When this bit is enabled apartment number will not be displayed in 230E module. Any number can then be entered next to the name.

Bit7.- CDNP6 only: Interface with reversible E-lock [7ReEl]
This bit enables unit interface with reversible E-lock.

Bit8.- Interface with Multimaster module (CDN-MM) [8 MM]
The bit enables unit interface with Multimaster module. The module is used to connect up to 5 master units (for instance on main entrances) in a single point (star connection) in order to shorten the installation length. Refer to at www.aco.com.pl. for detailed information.

By default, all bits are disabled.

InOut



This program is used to set the parameters for the CDN I/O module (module extending inputs and outputs of the unit).

The I/O module features two ports, P1 and P2. Each port has one input (shorted to ground for setup) and relay output (NO and NC contacts with maximum load 2A for 30VDC or 1A for 125VAC).

By default both ports are disabled.

This program is used to change the input and output settings of both ports independently. To configure each input it is necessary to provide one parameter (function number), and to configure each output it is necessary to provide two parameters (output switching time and function number).

General description of the function:
The inputs of both ports can be used independently:
- E-lock activation (calling the opening procedure)
- apartment calling

The outputs of both ports can be used independently:
- output activation for a pre-set time after setting the input of the same port
- output activation a pre-set time before each E-lock activation
- the output is activated for a pre-set time after the second F2 button is pressed on the uniphone during an active call (only the Inspiro and UP720M uniphones and all video display unit models), or when opening is called using additional code or card.
- output activation for a pre-set time when any keypad button or additional modules are pressed
- CDNP6 only: the output is activated for the pre-set time after the release button is pressed three times on the uniphone (only on Inspiro and UP720M uniphones), without making a call.
- CDNP6 only: E-lock activation (call opening procedure) after pressing the door opener button three times in the uniphone, without having to make a call and without having to connect the CDN I/O module.

Set the following parameters in the program:
- "**IN**": enter value 0 to 255 for input of the first or second port ("**IN1**" or "**IN2**")
- "**OU**": enter output activity time in seconds from 0 do 255 of the first or second port ("**OU1**" or "**OU2**"")
- "**Nrf**": enter function number 0 to 3 that is to be assigned to the first or second port ("**Nrf1**" or "**Nrf2**")

If the port output activity time is set to zero and "0" is set for this port, the entire port will be inactive (input and output) - default setting.
It is not possible to control output1 with input2 and vice versa.

Description of the input parameters:
If any function ("**Nrf**") other than zero (1 to 3) is set, shorting the input of this port to GND will cause the following action:
- for parameter "**IN**" = 0 - the E-lock is activated,
- for parameter "**IN**" = 1 to 255 - the uniphone with this physical address is called.

For proper operation of the inputs, the duration of the port output activity ("**OU**") is irrelevant.

CDNP6 only: It is possible to activate the E-lock without connecting to the uniphone (and without connecting an I/O module).
Then set the P1 port as follows:
- port output activity time to 0 - "**OU1**" = 0,
- port input activity time to 0 - "**IN1**" = 0,
- port function 3 - "**Nrf1**" = 3,

With this setting, the E-lock is activated after pressing the open button on the uniphone three times (with the handset lifted).

Description of the output parameters:
For each output ("**OU**" parameter) its activation (action) time in seconds within the range from 1 to 255 can be set. When the entered time is "0" the output is inactive - disabled. For each output ("**Nrf**" parameter) the number of the function from 0 to 3 that it is to perform can be set, as described below:

Function No. 0: The output will be activated for a pre-set time when each input of this port is shorted to ground. Such setting can be used for control of opening of an additional entrance gate (using the third wire from F2 button of the INS-UP720M uniphone), etc.

Function No. 1: The output will be activated for a pre-set time before each E-lock activation; it can be used, for example, to connect a reversible E-lock or to control the lights in a staircase.

For port P1, the function works only for opening with a card, code or from the apartment whose **number is in the From - TO range** (program P24). This function can be used for example: to open different doors (in the same staircase) depending on the selected apartment number. Connect output to the E-lock to the "N" terminal of the I/O module and the E-lock to the "NC" and "NO" outputs of the I/O module respectively.

Function No. 2: The output is activated for a pre-set time after pressing the second uniphone button (F2) during active call, or after calling additional opening with a code or a card.

Additional opening involves selecting the number of the apartment on the keypad, pressing the "**key**" button **twice** (the display will show "====") and selecting four-digit, correct access code for relevant apartment (the display will show "**Out-1**" or "**Out-2**" [exit], depending on whether port P1 or P2 is active). **The four-digit code is the same as the code that opens normal front door**. The additional opening is also available for administrator's code preceded by pressing the "**key**" button **twice** (the display will show "====").

Additional opening with a proximity card involves pressing the "**key**" button and then using the card on the ACC reader.

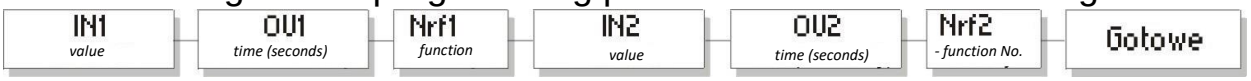
This function can be used to open the entrance gate (no additional wires are required for the installation and the installation works only with ACO uniphones).

Function No. 3: Activation of the output for a pre-set time after pressing any keypad button, additional module button or for CDNP6 (P1 port only) after pressing the uniphone opening button three times with the handset lifted. This function can be used, for example, to control the lights in front of an entrance or to open an additional gate without calling an apartment.

Sample module configuration table:

<table>
<tr><td></td><td></td><td>Function "0"</td><td>Function "1"</td><td>Function "2"</td><td colspan="2">Function "3"</td></tr>
<tr><td rowspan="2">INPUT setting</td><td>INPUT = 0</td><td rowspan="2">If OUTPUT = 0 Entire port is off.</td><td colspan="2">Short circuit of INPUT terminals activates the unit's E-lock. (See description)</td><td colspan="2">CDNP6: Press the open button three times. (Port P1)</td></tr>
<tr><td>INPUT = 7</td><td colspan="4">Closing the INPUT terminals activates ringing in apartment No. 7.</td></tr>
<tr><td>OUTPUT setting</td><td>OUTPUT = (5)s. (1-255) s.</td><td>Closing the INPUT during a call activates the output for (5)s.</td><td>Before each opening the E-lock the unit activates output for (5)s.</td><td>The second button or additional opening activates output for (5)s.</td><td>activated output for (5)s.</td><td>CDNP6: In P1, after pressing the open button three times
In P2 after pressing the</td></tr>
</table>

The block diagram for programming parameters is shown in the figure below:



Before each parameter is specified, its currently set value is displayed. Confirm this value with the "**key**" button to automatically proceed to programming the next parameter (without changing it). To change the value, enter the new value while it is flashing and confirm with the "**key**" button. If a three-digit value is entered for "**IN**" and "**OUT**" parameters, or a one-digit value for "**Nrf**", the unit will save it automatically, without confirmation, and move on to programming the next parameter. One and two digit values for "**IN**" and "**OU**" parameter must be confirmed with the "**key**". Pressing the "#" key at any time exits the program without saving the changes.

After entering the program, "**IN1**" will be displayed - the unit waits for the value to be entered from the range 0 to 255 associated with the function of the first port input. The next displayed parameter is "**OU1**" - a value from the range 0 to 255 expressed in seconds, defining the activity time of the first port's output. Then, when "**Nrf1**" is displayed, enter the function number from the range 0 to 3 to be performed by port 1. Then proceed to programming the same parameters, but for the second port ("**IN2**", "**OU2**", "**Nrf2**").
When the parameters have been saved correctly, "**Ready**" will appear on the display.
Detailed description of individual functions and example of CDN-I/O module application:

Description of	Application example	Settings	Remar
Activation of the OUTPUT for a pre-set time after closing the INPUT contacts	Gate control with third wire from the uniphone (only INS-720M, INS-720MR)	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 s) 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: uniphone 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	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
CDNP6 only: 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 once the "key" button without lifting the handset	IN=x (x: has no effect) OUT=0 NrF=3	Works only for P1 port, no need to connect the CDN-I/O module
CDNP6 only: 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	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 of the CDN-I/O module settings:

Example settings:	**Settings**		**Remar**
Opening the second gate using the code ("double key"), using the F2 button on the uniphone and (CDNP6 only) opening the gate without making a call (pick up the handset and press the "key" button three	Port P1: N=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 (CDNP6 only) activating the E-lock without making a call (pick up the handset and press the "key" button three	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")

M230E

This program is used to add and change the entries (names) of the CDN - 203E electronic module and also to set the Intro displayed when the module is in standby. (Note: for modules version 7.00 and above, programming is possible via a PC only).

After entering the program, "**Adres?**" will be displayed - the unit waits for the value to be entered from the range 1 to 255, which corresponds to the uniphone physical address to which the entry (name) displayed in the module is to be assigned. Entered 1-digit and 2-digit values must be confirmed by pressing the "**key**" button, while a 3-digit value is saved by the unit automatically without confirmation. Enter "**0**" to move on to editing the **INTRO**, which will be displayed in standby, for instance a welcome text, company data, address, phone numbers, or advertisement. With a PC software for operating the module ("230E"), names can be easily added and edited and a total of 4 different Intro screens can be entered that will be sequentially (with a pre-set interval from the range 1s - 15s) displayed on the screen. The CDN-230E module needs to be connected to a PC using special CDN-USB cable and the software can be downloaded free of charge from www.aco.com.pl.
When the "**Adres?**" value is entered, "**H-H**" will appear on the panel screen, and the data assigned to that address will appear on the module screen.

The cursor is positioned in the top line at the first position where a character must be entered - otherwise the **entire** entry **will be erased** from the module. The first line cannot be completely empty either (there must be some text) because the list is displayed alphabetically by position from the beginning of the top line. Only uppercase letters can be entered in the module. Text is entered into the module using the following digits the panel keyboard:

- The cursor position can be changed using:
  - key 4 - Moving the cursor to the left,
  - key 5 - Moving the cursor from the top row to the bottom row and vice versa,
  - key 6 - Moving the cursor to the right,
- Letters can be changed only at the position indicated by the cursor, using:
  - key 1 - Scrolling letters up (no Polish diacritics),
  - key 7 - Scrolling letters down (no Polish diacritics),
  - key 2 - Scrolling Polish diacritics up,
  - key 8 - Scrolling Polish diacritics down,
  - key 3 - Scrolling digits and additional characters up,
  - key 9 - Scrolling down through digits and additional characters,
  - key 0 - Deleting a character - typing a space (typing a space in the first position of the top line will disable showing all data of this address).

Approve the entered text with the "**key**" button. The changes are stored in memory. The module display shows “saving data, please wait”. Sorting by alphabet is only possible with a PC program. If alphabetical sorting is enabled, it is not possible to add or edit individual names on the unit. Pressing the "#" key at any time (except when saving the data) exits the program without saving the changes.
The CDN -230E module does not show the entry if ringing is called from other modules such as: I/O, 2NP, 6NP, 10NP or additional panel input. Refer to chapter XV for memory deletion.

P20 PROGRAMMING THE ACC OPENING MODULE

This program is used to add proximity cards and key fobs to ACC module. Supported cards and key fobs are in the Unique 125 kHz standard.

For each uniphone physical address (from 1 to 255) up to 6 cards or key fobs can be assigned (with sequence numbers from 1 to 6). It is possible to add 6 additional Admin cards that are not assigned to any uniphone physical address.
The card (key fobs), which has been added to the module memory, becomes active and when it is used, it starts the opening procedure in the unit (E-lock activation). If the door opening signal is enabled in P4, the confirmation of opening procedure will be heard in the uniphone for the address to which the card is assigned.

Adding and removing cards:

After entering the program, "**Adres?**" will be displayed - the unit waits for the value to be entered from the range 1 to 255, which corresponds to the uniphone physical address to which the card (cards) is to be assigned. Entered 1-digit and 2-digit values must be confirmed by pressing the "**key**" button, while a 3-digit value is saved by the unit automatically without confirmation.
Entering "**0**" will add an Admin card to the module.

Adding cards individually:
When the value "**Adres?**" is entered, the display will show "**Card**”. Then press the unit button 1 to 6 corresponding to the sequence number (position) for which the card is to be assigned, and then move the new card close to the module. If a card has already been recorded before or another card has already been recorded in that position, the display will show "**Error!**" and the unit will terminate the programming by exiting the program. When the card is added correctly, "**Ready**" will appear on the display.

Pressing the "#" key at any time exits the program without saving the changes.

Deleting (removing) cards:
When the value "**Adres?**" is entered, the display will show "**Card**". Then enter "0" - to set the unit in the card removal mode. The unit waits for the card sequence number to be erased (from 1 to 6). After this procedure, the card with that sequence number will be erased from the module memory. The control panel will confirm deletion of the card with a triple beep and then the message "**Ready**" will be displayed. The procedure can be aborted with the "#" button. If "0" is entered instead of the sequence number of the card to be erased (1-6), all cards assigned to this address will be erased.

It is possible to manage cards (adding, deleting, moving cards to other readers, making backup copies, etc.) using the "**ACC**" PC program for the CDN - ACC module. Connect the CDN - ACC module to a PC using the special CDN-USB cable and download the software free of charge from www.aco.com.pl.

Time of card entering is limited to about 10s.
It is possible to check the correctness of the card assignment to apartment in the P8 program.

P21 PROGRAMMING THE NAME MODULE USING 2,6,10NP BUTTONS

This program is used to set the physical address of the uniphone (1-255) to be called using the 2NP, 6NP or 10NP buttons of the module.

After selecting the P21 program, enter the physical address of the uniphone and confirm with the "**key**" button. "**P>> X** " will appear on the display screen. Now press the button of the module to which this address is to be assigned for approx. 10s. Each button is programmed individually. To disable the button (it will not dial any number), enter "0" as apartment number.
The numbers in the module memory can be set automatically (numbering from the lower buttons 1, 2, 3, etc.):

- Turn off module's power supply, press simultaneously buttons (counting from the bottom) 1, 3, 5 and turn on the power.

P22 PROGRAMMING THE INTRO TEXT ON THE DISPLAY

INTRO

This program is used to change the Intro text, which is displayed on the unit screen in standby. Bu default the text reads "**aco**".

After entering the program, the display shows the current Intro text. Text is entered using the following panel keypad digits:

- The cursor position can be changed using:
  - key 4 - Moving the cursor to the left,
  - key 6 - Moving the cursor to the right,
- Letters can be changed only at the position indicated by the cursor, using:
  - key 1 - Scrolling uppercase letters up (no Polish diacritics),
  - key 7 - Scrolling uppercase letters down (no Polish diacritics),
  - key 2 - Scrolling lowercase letters up (no Polish diacritics),
  - key 8 - Scrolling lowercase letters down (no Polish diacritics),
  - key 3 - Scrolling digits and additional characters up,
  - key 9 - Scrolling down through digits and additional characters,
  - key 0 - Character deleting - entering space.

Approve the entered text with the "**key**" button to store it in the memory. Pressing the "#" key exits the program without saving the changes.
The unit can store 6 different screens, 6 characters each, which will be displayed sequentially (with fixed intervals). On the unit level only 1 screen can be edited, the other 5 screens can be programmed only by with the "**CDNP”** PC software (free download from www.aco.com.pl).

P23 PROGRAMMING THE ACTIVATION OF THE “WEZWIJ SERWIS” [call service] MESSAGE DISPLAY

CServ

This program is used to set time (in months) after which the "Call service" message will appear on the unit display.

Upon entering this function the display will briefly show the number of months and days to the message or "**Wył**" if the function is disabled. Then, when "**??**" appears, enter the number of months from 1 to 49 (days are reset automatically) and confirm with the "**key**" button. The entered single-digit value must be confirmed by pressing the "**key**" button, while the two-digit value will be automatically saved by the unit without confirmation. The longest time that can entered is "49" months.

Any higher value will disable this function. "0" will cause immediate display of the message.
The time entered should be considered as a guide - after a year the difference may be even a few days. Any power failure periods are excluded from the time countdown. By default this function is disabled. After disable the factory settings restore of the unit (bit 8 in P16), the message can only be switched off using the installer's password.

P24 PROGRAMMING ADDITIONAL "OD-DO" [from-to] RANGE

This program is used to set the range of additional uniphone addresses, which is associated with the use of **function 1 of port 1** in the I/O module. This function can be used for opening one of two pairs of doors on the unit, depending on the selected apartment address (one of two E-locks is activated). This may occur when the estate features two gates and only one unit can be installed. This function is also effective when using card or code opening for an apartment.
If ringing or opening with card/code is done within the set "**From-TO**" range, the **port1** relay switches by applying voltage to one E-lock. If, on the other hand, ringing or opening with card/code is done outside the " **From-TO**" range, the **port1** relay does not switch, applying voltage to the other E-lock. In the settings of the I/O module (program P18), set the following for port 1: the corresponding trip time of this port in seconds (for instance OU1 **4**) and function No. 1 (Nrf1-1).
After entering the program "**From**" will be displayed - the unit waits for the value to be entered (1 - 255) which corresponds to the uniphone physical addresses. 1-digit and 2-digit values must be confirmed by pressing the "**key**" button, while a 3-digit value is saved by the unit automatically without confirmation. Then "**TO**" will be displayed - the unit waits for the value to be entered (1 - 255) which corresponds to the uniphone physical addresses.

Connection:
Connect the E-lock output from the unit (terminal "- ELOCK") to the "N" terminal of the I/O module, and the E-lock to the "NC" and "NO" outputs of the module, respectively. The "+ ELOCK" terminal is connected together to E-locks.

P25 LINE TEST - TESTING UNIPHONES IN THE INSTALLATION

This program is used to test whether or not the uniphones in the installation cause interference when dialling addresses. The program will find potential uniphones in the installation with faulty address switching or decoding system.

After entering the program, "**LTest**" will be displayed, all uniphones will be "reset" and a test signal will be generated in the installation. During this time, any faulty uniphone will beep (walk around the facility to try to hear the test tone in apartments). If the display also shows "**LineEr**" [short circuit], it indicates that one or more uniphones are actually faulty. Faulty uniphones must be disconnected from the system as they may cause the whole system to malfunction. If the installation works as intended, no faulty uniphone should be detected during the test, and the unit should display "**TestL**". Use the "#" button to turn the test off.
If the installation still malfunctions, run p14

XIII. CHANGING THE UNIT LANGUAGE

The language of CDNP messages can be changed. By default two languages are programmed: Polish (as the first language) and English (as the second language). On request it is possible to upload any first and/or second language (please contact ACO).

If it is possible to restore factory settings (bit8 in P16), setting an additional language is done by pressing "**456**" at the same time when switching on the unit after the countdown stops (while "**ACO**" is displayed briefly). Pressing the "**123**" buttons simultaneously will restore the first language.

XIV. INSTALLING THE BUTTON FOR ADDITIONAL INPUT

The unit features an additional input, which, depending on the P12 program settings, may be used for: additional E-lock activation (also with delay) or direct dialling.
Connect an NO monostable button to the terminals of that input - for instance a ringing button. When the button is short-circuited, the set function is called up. In case of a button failure and its permanent short-circuit, the unit will perform the active function only once. Only after removing the short circuit, the unit will again respond to the input status.

XV. ERASING MEMORY SETTINGS OF THE UNIT AND THE MODULE

1.- restoring factory settings of the unit

If it is necessary to erase memory settings of the unit, run the procedure of factory settings restore. To do so, switch off the unit power supply, wait approx. 10s and switch it on again. After the countdown, while the unit briefly displays "ACO", press 2,5,8 at the same time. If the factory settings restore is enabled (bit8=1 in P16) the unit will display "**Reset!**" and will generate an intermittent beep - factory settings will be restored.

If the factory settings restore is disabled (bit8=0 in P16) the unit will display "**Error!** The factory reset procedure will not modify the code table number (entered in the P11 program), and all access codes are restored according to this code table number. The reset procedure will not change the settings of additional modules, such as 230E, ACC or INTRO on the unit display.

2.- Clearing the INTRO settings on the panel display

Follow the procedure for factory settings restore of the unit, but use "2,5,8,0" button combination to be pressed at the same time.

3.- Deleting the memory settings of the 230E module

If it is necessary to delete all the entries (names) in the CDN-230E module (version 1.4 and higher), turn the power off, wait approx. 10s and then turn it on again by pressing the three module buttons at the same time. This operation deletes all data and enters the main screen (intro module) with manufacturer data. If it is necessary to sort the entries alphabetically, connect the module to a PC and use the "230E" software.

4.- Deleting cards in the ACC add-on module

Deleting all cards registered in the module at the same time is only possible using the ACC PC software. Individual card deletion is described in program P20.

5.- Deleting the module memory settings with the 6NP, 10NP buttons

The number settings in the button memory can be deleted and set automatically:

Numbers from the bottom button 1, 2, 3 etc.:

- Turn off module's power supply, press simultaneously buttons (counting from the bottom) 1, 3, 5 and turn on the power.

XVI. FACTORY SETTINGS

- Unit language - Polish, English
- Code table with the default number or last entered number,
- Installer’s password "1507 0000".
- No admin code.
- No call offset - offset = 0.
- Number of the first supported apartment "1".
- The maximum number of supported apartments - 255.
- All apartments call enabled.
- Call volume for all apartments - level 2,

- Ringtone for all apartments - No. 3,
- The number of ringing signals for all apartments - 2,
- E-lock release time - 4s,
- Reversible E-lock disabled,
- Further door opening function in slave units disabled,
- Additional input - value "0" (open).
- Hotel system parameters set to "0".
- Parameters of the additional I/O module set to "0",
- Bit parameters P16 and P17 set to "0" (except bits 3 and 8),
- Factory settings reset enabled,
- Support of additional electronic module enabled,
- Secondary range set to OD 1 DO 255,
- Factory settings reset does not delete the Intro text.
- Communication with external modules enabled
- Auxiliary I/O module parameters: Port 1 disabled, Port 2: Function No. 2 (control of built-in OUTPUT), output activation time: 1s

XVII. MAINTAINING CLEANLINESS

Clean the door entry unit with a damp or antistatic cloth. Do not use any solvents!

XVIII. SAFETY RULES FOR INSTALLATION AND USE

- Installation should be carried out by a qualified installer.
- Before opening the unit casing, turn off the power supply.
- Avoid unstable power sources and electrical surges as this may cause malfunction or damage to the unit.
- When using a metal frame**, it is mandatory** to ground the housing (using the marked terminal on the base) with a suitable protective installation (PE).
- When trained to operate the unit, 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 unit 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.

XIX. 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

XX. TROUBLESHOOTING

Display and keypad won't work	Check if 12V~ power supply is available. Disconnect the unit power supply for approx. 15s, if after reconnection it still does not work - notify the service.
After dialling the number, the unit 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.
The unit displays "**LineEr**"	Short-circuit on the uniphone line (LINE+) to ground (correct line voltage - approx. 9V) - remove the short circuit. If " **LineEr** " is still on upon disconnecting the unit from the uniphone line - notify the maintenance staff.
The unit displays " **LineEr** " and the backlighting of the display lights up brightly	Short-circuit of the uniphone line (LINE+) to more than 11V (correct line voltage - approx. 9V) - remove the short circuit. If " **LineEr** " is still on upon disconnecting the unit from the uniphone line - notify the maintenance staff.
The unit displays **"Block"**	Calling the selected apartment locked - program P3.
The unit displays **"Error!"**	The dialled number is outside the number of supported apartments - P9 program.
Distortion of during conversation or buzzing.	When connected, see whether or not the supply voltage is lower than 12VAC . Each unit in the system must feature a separate transformer.
Door opening signalled by the unit but E-lock won't work	Check E-lock or E-lock connection to the unit. Check whether or not the supply voltage during door opening drops below 12VAC.
Squeaking sound during connection with the receiver	Set the microphone and speaker volume and balance (see VIII).
After call and picking up the uniphone, the unit 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 60Ω.Otherwise, solder the connections, check, replace the wiring or align the uniphone line (increase the cable cross section).

XXI. List of changes in software versions for different units

CDNP6 only:

- **Version 6.10 K-00 to K-03**: Built-in second (relay) output for Master panel. Adding support for the Multimaster module (CDN-MM). Minor bug fixes.
- **Version 6.10 K-04 to K-06**: Minor bug fixes and adding the possibility of switching on the forced three-digit dialling in the hotel system. Bit 3 in P16 ("Operation with optional electronic add-on module") with modified functionality to enable three-digit dialling in the hotel mode. Permanent operation with the module.
  After enabling this function, when one or two digits are dialled in the hotel mode, the unit will display **"Error!**" - dialling, for instance 11, will be disabled (apartment 1 in zone 1); instead 101 needs to be dialled.

- **Version 6.10 K-07**: Minor bug fixes and modifications to the door opening signal. After switching off the door opening signal and entering the address with a code/card, no short ringing is heard in the handset.
- **Version 6.17 K-01**: Version on CDNP 7.0 board. The unit displays "Zwar.L" when LINE+ is shorted to DC+.
- **Version 6.17 K-02**: Improved EE memory write procedure - dynamic occupancy control during page write.
- **Version 6.17 K-03**: Adding LCD control procedure and resetting LCD in case of communication error, limiting the frequency of LCD content refresh. The unit may operate with a faulty / blank display. Removed intro delete procedure with keys 2580. Added a limiter for the number of beeps called from ACC.
- **Version 6.17 K-04**: Reduced delay in LCD control procedure - slave does not lose the further door opening pulse.

CDNP5 only:

- **Version 5.50 K-00 to K-02**: Adding support for the Multimaster module (CDN- MM). Minor bug fixes.
- **Version 5.50 K-02 to K-07**: Minor bug fixes.
- **Version 5.50 K-08**: Minor bug fixes and modifications to the door opening signal. After switching off the door opening signal and entering the address with a code/card, no short ringing is heard in the handset.
- **Version 5.57 K-01**: Version on CDNP 7.0 board. The unit displays "Zwar.L" when LINE+ is shorted to DC+.
- **Version 5.57 K-02**: Improved EE memory write procedure - dynamic occupancy control during page write.
- **Version 5.57 K-03**: Adding LCD control procedure and resetting LCD in case of communication error, limiting the frequency of LCD content refresh. The unit may operate with a faulty / blank display. Removed intro delete procedure with keys 2580. Added a limiter for the number of beeps called from ACC.
- **Version 5.57 K-04**: Reduced delay in LCD control procedure - slave does not lose the further door opening pulse.

Notes

IU0401envJ.2247

62-002 Suchy Las, ul. Diamentowa 7, tel./fax 61 843 93 72
www.aco.com.pl