COLOR MONITOR

MVC-8151

for Laskomex digital video door entry systems

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1. Terms of use and operation

- Monitor connection should be made by a specially trained installer.
- Monitor should be connected to the system with power supply cut off. Power supply should be switched on after making sure that other connections are correct.
- Monitor should be installed in an easily accessible place in such a way that it does not pose a threat to users.
- It is forbidden to connect the monitor to the systems other than door entry systems made according to the requirements and recommendations of the producer.
- The location of connection receptacles and control elements is shown on a sticker placed on the monitor rear cover.
- Monitor should not be exposed to high temperature or moisture; it should be protected against flooding with any liquids.
- Openings in monitor casing should not be covered because this can result in its improper operation.
- Do not insert any metal objects into the openings in monitor casing because this can cause the equipment damage.
- Connection to the monitor terminals electrical supply from sources other than the recommended power supply is forbidden because this can cause monitor damage or fire.
- It is recommended to use KSAS0181500120 or SAPC15018EU power supplies.
- Self-repair of devices included in the door entry system is forbidden because this results in loss of warranty.
- Nie należy przykładać ucha do otworów głośnika w monitorze, ponieważ w przypadku pojawienia się głośnej sygnalizacji akustycznej może nastąpić uszkodzenie słuchu. Do not put your ear to the speaker's openings in the monitor, as you may hear damage in case of loud sound signaling.
- Do not remove the cover on the programming connector. Removal of the cover will void the warranty and may lead to permanent damage to the monitor (Figure 6).

2. Purpose and functions of the monitor

MVC-8151 is a color monitor dedicated to Laskomex digital video door entry systems. The monitor is a hands-free device that allows you to talk and watch the caller on the screen. The monitor is equipped with illuminated fields that act as buttons. Touching any of the fields disables the highlighting of the others. The monitor has elements that allow you to adjust the volume of the call and the brightness and color of the image. The monitor is equipped with a gong module – after connecting the bell button it can act as a standard doorbell. The monitor can be connected with a floor panel working in the Commax system or any external camera, for example a dome camera placed in front of the entrance to the flat.

- Preview – switching on and off the preview from the camera, ending the connection, extending the connection time, extending the preview time.
- Control – control of the gate drive, lighting, etc.
- Lock – control of the electric strike, step adjustment of the call volume.
- Conversation – receiving and making calls, switching on the monitor-panel audio path.
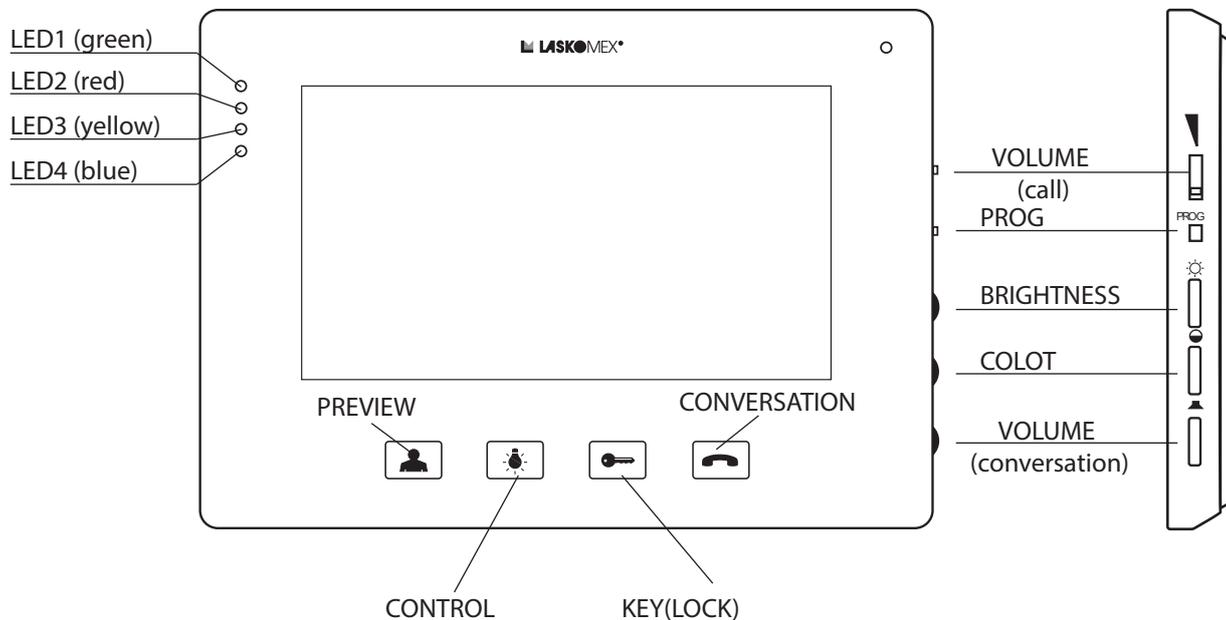
Figure 1. Monitor MVC-8151

3. Using the monitor

Conversation
An attempt to establish a connection with the monitor is signaled by the bell, at the same time the caller's image will appear on the screen.
To make a call, press the CONVERSATION button during the call or within 30 seconds after the call.
The talk time is limited and is 120 seconds by default. 10 seconds before the end of this time, short beeps will appear in the loudspeaker indicating that the end of the call is approaching. The conversation can be ended at any time by long pressing the PREVIEW button.

Switching to simplex mode
If there is a lot of noise in the place where the panel is installed, it may be difficult to conduct a conversation. Then you can use the simplex mode. To do this, use the CONVERSATION button. As long as the button is pressed, the sound is transmitted in only one direction – from the monitor user to the person at the external panel.

Control of the electric strike and drive of the entrance gate

The LOCK and CONTROL buttons are active only during the call (conversation).

Pressing the LOCK button will release the entrance lock (electric strike or electromagnetic lock), which is indicated by the LED2 blinking.

Long press the CONTROL button will activate the additional device, for example the drive of the entrance gate. Switching on the additional device is signaled by the LED4 which will turn on for approx. 1 second.

Connection to porter

To send a notification to the porter module, long press the CONVERSATION button.

Receiving the notification is signaled by a long blink of LED1 and LED2. If the notification is not received, LED1 and LED2 will briefly flash several times. The porter can pick up the call immediately or call later.

Adjusting the call volume

The call volume can be adjusted in two ways:

- using the User menu (adjustment in the door entry system – Figure 3).

- using the KEY button in the monitor. In this case, the selected volume is signaled by LED1 and LED2 (LED1 – loud, LED2 – quiet, LED2 flashing – call disabled).

Fast flashing LED1 or LED2 means that the line is busy.

Adjusting the conversation volume, brightness and color saturation

To change the conversation volume, image brightness or color saturation, use the VOLU-ME, BRIGHTNESS and COLOR potentiometers on the right side of the monitor (Figure 1).

Image preview from cameras

This function can only be used if the line is not busy. After pressing the PREVIEW button, the camera image will appear in the door entry panel. In multi-entrances system, images from several cameras may appear sequentially on the screen. Repeated pressing of the PRE-VIEW button will turn on the image from the additional camera (if connected).

The preview time is limited to approx. 2 minutes, the approaching moment of turning off is indicated by the LED1 blinking. Press the PREVIEW button to extend the preview for another minute. The installer can block the possibility of preview from cameras.

Note!

The blink of the image that may appear when the preview function is activated is not a symptom of incorrect operation of the device.

4. Using the door phone

Using the code lock function
- Enter the apartment number and confirm with the KEY button.
- When at the display the ---- message appears, enter the four-digit lock code.
- If the entered code is correct, the entry lock will be released.
- If the entered code is incorrect, Err message will be displayed.
- The use of a code at the subordinate entrance is signaled in the receiver. Providing correct code signals three short beeps, an incorrect – two long ones.
- The code lock function can be blocked by the installer. At the main entrance we use the same code as at the subordinate entry.

Using the lock function in the mode with building numbering
- Enter the building number from the keyboard at the main entrance.
- Wait until L--- message appears in the display.
- Enter the apartment number and confirm with the KEY button.
- When the ---- message appears, enter the four-digit code.

Using electronic keys
To use electronic keys, they must be registered in the door phone memory in advance.
The keys are registered by the installer or user. The door phone user can register the key using the User menu function.
Using the reader can be blocked by the installer.
After applying the registered key to the reader, the entry will be unlocked and the display will show the digit for a moment. This is the key position in the door phone memory. This number is worth remembering, because it can be useful if you need to delete the key.
The use of the key can be signaled by three short beeps in the receiver. If an unregistered key is applied to the reader, the dot visible on the display will flash briefly.

Using the proximity electronic keys (RFID)
- Take the key close to the door phone keypad, which act as a reader.
- Keep the key in such a way that it will be turned to the keyboard with largest possible surface. This position ensures reading from a greater distance.

Using the touch electronic keys (iButton)
- Apply the key to the TM reader.
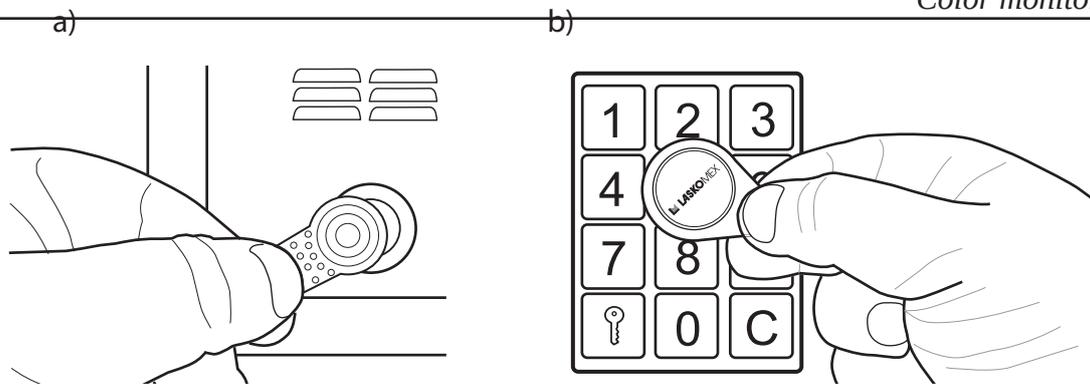- Lightly press the key to the lateral edge of the reader.

Figure 2. Using electronic keys: a) iButton touch keys, b) RFID proximity keys

The „quick entry" function

The function is available in the door entry system with the main entrance and the subordinate entrance (entrances).

The visitor must first call the chosen apartment by selecting its number in the panel at the main entrance, then he must repeat this operation at the entrance to the staircase. If the „quick entry" function was activated after the first connection, then when you try to connect from the door phone at the entrance to the staircase, the door locking electric strike will be automatically released.

The function remains active for approx. 10 minutes from the time of activation.

Activation of the „quick entry" function:

• Answer the call.
• Unlock the entrance by pressing the LOCK button.
• Press the CONVERSATION button – in the loudspeaker will be heard short sounds with increasing altitude signaling the activation of the function.
• End the conversation by pressing the PREVIEW button.
• Again pressing the CONVERSATION button before the call ends will disable the „quick entry" function.

User menu (for CD-2502 and CD-3100 digital door phones)

The User menu is a mechanism that allows users of digital door phones to change some parameters of the door phone work. The changes concern the selected apartment number (the premises where the menu was activated). The introduced changes are then permanently stored in the door phone's memory.

Thanks to this, each user can adjust the work of the door phone to his expectations.
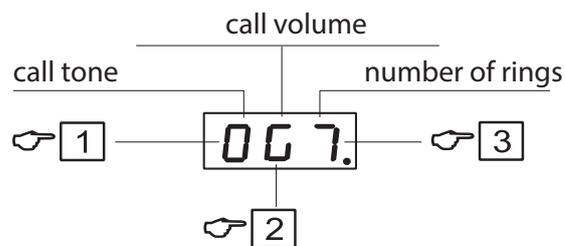
Figure 3. User menu

User menu allows to:
- change the call tone,
- change the call volume,
- set the number of rings,
- change the code of the code lock.
- register electronic keys.

To make changes a tenant must activate User menu. The help of the person in the apartment is needed for this. To activate the User menu, perform the following steps:
- Establish a connection with the apartment (only from the subordinate entry panel).
- Press the button KEY in the panel and still pressing it ask the person in the apartment to press the LOCK button in the monitor five times.
- Activation of the function is signaled by short beep in the monitor's and the external panel's loudspeaker as well as by message [OPC] displayed temporarily on the external panel`s display.
- Finish the conversation.
- Enter the apartment number, then press the KEY button and enter the code of the code lock. The display will show the symbols defining the current status of individual settings.
In Figure 3 is shown the view of the display after switching on the User menu (view for the default parameter values).

Change of tone, call volume and number of rings
- [1] The first sign on the display defines the call tone (0 ... 7). The call signal can be changed by pressing the button marked with number [1].
- [2] The second sign on the display defines volume of call signal (G – loud, N – increasing, C – quiet, U – moderate). The selection of an increasing signal is sensible when the number of call signals is higher than 1. The volume is controlled with button [2].
- [3] The third sign on the display defines the number of rings (1-8) – decides how long the door entry handset rings. Number of signals is controlled with button [3].

Code change of the code lock

This option can be blocked by installer.

- Activate User menu.
- Select [0] button. There will appear four horizontal lines.
- Enter the current installer code. This step can be omitted if the installer decides so.
- For a moment [NEU] and [CODE] messages and then four horizontal lines will appear.
- Enter the new code.
- Enter the new code again.

Registering a new electronic key

This option can be blocked by installer.

- Activate User menu.
- Select [8] button. The message [ADD] will appear on the display.
- Apply the electronic key to the reader.
- Message [NEU] means that the key has been stored in the memory with the assignment to the apartment. If a previously registered key has been applied to the reader, the message [OLD] will appear on the display.

Exit from User menu

To exit from edition of User menu (not to exit from the whole procedure) in order to check the operation of settings and make later possible changes, press the LOCK button. Then there is a possibility to make a call.

To definitively exit the whole procedure press the [C] button. In this case re-entering the menu requires repeating the entire procedure from the beginning.

After 4 minutes of inactivity, access to the User menu will be turned off automatically.

5. Installation and activation of the monitor

Execution of electrical installation

Detailed recommendations regarding the electrical installation of the video door entry system can be found in the operating instructions of the CD-2502 or CD-3100 digital door phones.

The installation should be done using video splitters. You need one splitter for four monitors. The splitter can act as a central power supply, provided that it is powered from the 15VDC/4A power supply. With this connection the distance between the splitter and the monitor should not exceed 30m, according to the table in Figure 4. The monitor can also be powered from a local power supply 13,5V/1,2A. This is recommended if the distance between the external panel and the monitor exceeds 30m. The video signal should still be fed from the CVR-2 splitter. For video installations it is recommended to use UTP cat.5.5.

Monitor installation

Monitor should be mounted inside the building in a place easily accessible to the residents, at a height of at least 1,5 m in such a way that it does not pose a threat to them and is not exposed to accidental hit.

Do not install the monitor in front of a window or strong light source as this may make it difficult to observe the image on the monitor screen. It is not recommended to install monitors in narrow corridors or passageways, as this may cause sound distortion.

The monitor should be mounted at least 1,5 m from sources of strong electromagnetic interference – transformer power supplies, magnets, metal sewer and gas pipes, as this may cause image distortion. It is recommended to place a flush-mounted electrical box with a fixing socket or an electric switch in the place provided for the monitor installation. Connect the monitor connection cables in a box. Attach the monitor mounting bracket to the box so that the holders with the holes will be directed up. Attach the mounting plugs to the cables (Figure 5 and 6). Insert the plugs into the appropriate sockets, remember to put the power plug at the end.

Program the monitor number (see section 6 „Programming the number").

Finally attach the monitor to the mounting bracket and lightly pull it down, overcoming a slight resistance.

Terminals	Distance	
	<15m	<30m
L+,L-,CAM1+,CAM1-	0,5mm	
+VS,GS	0,5mm	2x0,5mm

Figure 4. Permissible monitor-distributor distances and required cable diameters

Connecting an additional camera or COMMAX panel

To the monitor can be connected an additional camera or COMMAX video door entry panel. The CN CAM2 connector is used for this purpose.

In the case of an external panel, connect the wires in accordance with the description of the plug.

The panel allows you to call the monitor, conduct a conversation, pressing the electric strike's button in the monitor will activate the relay in the panel, which can control the electric strike. As an additional camera a standard camera with a COMPOSITE VIDEO output can be used. It can be a disc camera, a dome camera, a camera in the form of a viewfinder etc. An additional camera can be directly connected to the CN_CAM2 plug for VC(+12V), GND (ground) and C2 (video) terminals.

Some floor panels require 5V in rest condition for proper operation.

The JP2 jumper allows you to set a resting voltage of 1,5V or 5V on the monitor's power line.

Connecting the doorbell

The monitor can replace the standard door bell (DING-DONG gong signal). For this purpose, a standard bell switch (NO) should be connected to the terminals of the CN_BELL plug. It should be noted that the switch terminals were not connected to elements of any other installation, in particular to 230V mains.

Connecting an additional device

A long press of the CONTROL button activate for approx. 1 second the internal relay, which shorts the NO terminals in the CN_BP plug. These contacts can be used, for example, to control the drive of the entrance gate or automatic barrier (Figure

6. Programming the number and activating the monitor

By default test number 63 is programmed in each monitor. In each monitor must be programmed target number (including 63).

In the monitor you can set numbers in the range 1...254. It is not possible to program other numbers. To program the number the LOCK and CONVERSATION buttons are used, as well as the PROG button located on the side of the monitor. The number of hundreds, tens and units of the programmed number are programmed sequentially.

Description of buttons:

PROG – entering the programming mode (Figure1).

CONVERSATION – entering the programmed value.

LOCK – confirmation of the value, transition to the next programming stage.

Setting the monitor number

To program a number you should do in order the following operations:

- Press the PROG button three times. The monitor goes into programming mode, which is signaled by a short simultaneous flashing of LED1 and LED2 signaling diodes.
- Setting the number of hundreds. Press the CONVERSATION button as many times as hundreds has the programmed number (0, 1 or 2). Each press is signaled by blinking LED2. End the operation with the LOCK button, which will be confirmed by a long flash of the diode. If the number of hundreds is 0 (programmed number less than 100), immediately press the LOCK button.
- Setting the number of tens. Press the CONVERSATION button as many times as tens has the programmed number. Each press is signaled by blinking LED2. End the operation with the LOCK button, which will be confirmed by a long flash of the diode. If the number of tens is 0, immediately press the LOCK button.
- Setting the number of units. Press the CONVERSATION button as many times as the unity has the programmed number. Each press is signaled by blinking LED2. End the operation with the LOCK button, which will be confirmed by a long flash of the diode. If the number of units is 0, press the LOCK button. The monitor number has been programmed.
- Restore the programmed number. The LED2 starts blinking as many times as next digits of the programmed number (number of hundreds, tens and units).

A longer pause means moving to the next digit in the programmed number, and a longer flashing of the LED1 indicates the zero value of the given digit. Then the diodes will signal the current state of the device.

If the programming procedure is not completed and the idle time exceeds 30 seconds, the procedure will automatically exit and the monitor number will not be changed.

Checking the monitor number

To check the programmed number of the monitor press the PROG button in standby mode. The LED1 and LED2 will light for a moment. The LED2 starts blinking as many times as next digits of the programmed number (number of hundreds, tens and units). A longer pause means moving to the next digit in the programmed number, and a longer flashing of the LED1 indicates the zero value of the given digit. After finishing the demonstrate of the programmed number, the LEDs indicating the current status of the monitor will light up.

Video line configuration

Depending on the topology of the video transmission system, three settings are available to configure the video line. These settings are made using appropriate jumpers located on the back of the monitor (Figure 6 or a sticker on the back of the monitor).

- BNC – set the jumper in this position if the video signal is sent via coaxial cable. The line can be loaded with a terminator (JP3 jumper).
- UTP – set the jumper in this position if the video signal is sent symmetrically twisted pair.
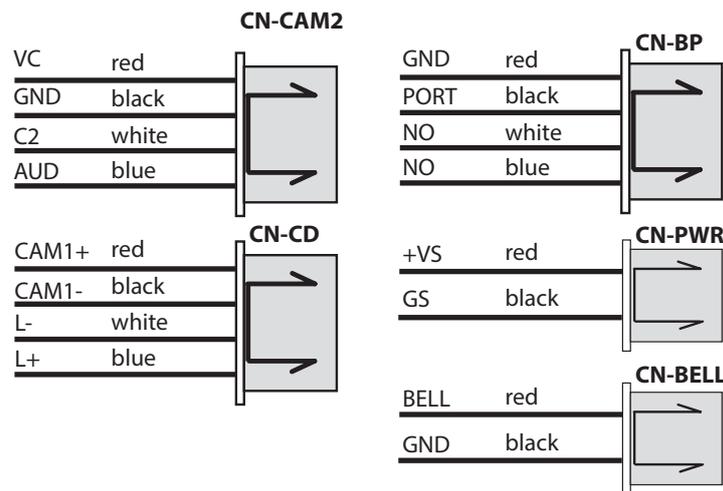
CN-CAM2

VC	red
GND	black
C2	white
AUD	blue

CN-BP

GND	red
PORT	black
NO	white
NO	blue

CN-CD

CAM1+	red
CAM1-	black
L-	white
L+	blue

CN-PWR

+VS	red
GS	black

CN-BELL

BELL	red
GND	black

Figure 5. Description of the monitor connection plugs

CN_PWR

PROG connector*

CN_BELL
CN_BP
CN_CAM2
CN_CD
JP2

P1 (MIC1)
P2 (BAL1)
P4 (BAL2)
P3 (MIC2)

JP1   JP3

JP1 – C+, C- line configuration (CAM1+, CAM1-)

- BNC – coaxial cable
- UTP – UTP twisted pair
- UTP+TERM – UTP twisted pair with 100R terminator

JP2 – VC line configuration of connector CN_CAM

- 1,5V in standby mode
- 5V in standby mode

JP3 – C1 and C2 line configuration for coaxial cable

- TERM OFF
- C2 TERM 75R
- C1 TERM 75R
- C1 TERM 75R, C2 TERM 75R

CN_PWR

1 - +VS - monitor power supply
2 - GS - monitor power supply (ground)
1 2

CN_BELL

1 - BELL - doorbell
2 - GND - doorbell (ground)
1 2

* The programming connector is used in the production process and for service purposes

NOTE!
Removing the plastic cover from the programming connector will void the manufacturer's warranty!

CN_BP

1 – GND – ground
2 – PORT – porter line
3 – NO – gate drive control
4 – NO – gate drive control
1   4

CN_CAM

1 – VC – power supply for additional camera / floor panel
2 – GND – ground
3 – C2 – video signal from the additional camera
4 – AUD – audio line of the floor panel
1   4

CN_CD

1- CAM1+ video signal from the door entry system
2 – CAM1- video signal from the door entry system
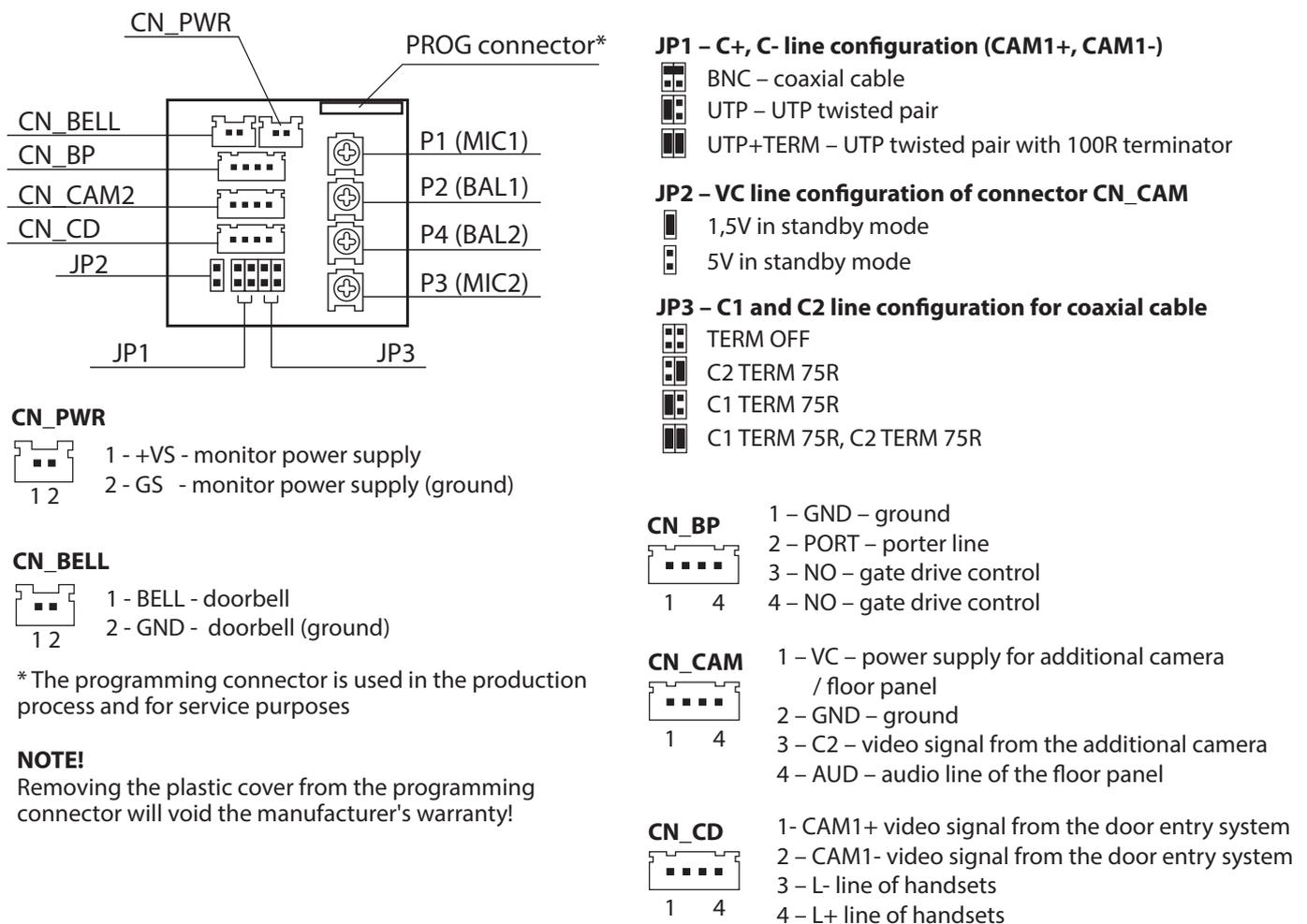3 – L- line of handsets
4 – L+ line of handsets
1   4

Figure 6. Description of the monitor connection sockets. Control elements and configuration jumpers

- UTP+TERMINATOR – set the jumper in this position if the video signal is sent symmetrically with the UTP cable and the monitor is located at the end of the video bus or is the only line load. In this position the line is loaded with a 100R resistor.

Adjusting the monitor

The regulations available to the user are described in point 3 of this instruction.

In special cases you can adjust the audio signal using the following potentiometers available on the back of the monitor:

- BAL1 – correction of the level (volume) of the signal coming from the external panel
- MIC1 – correction of the level (volume) of the signal coming out to the external panel
- BAL2 – correction of the level (volume) of the signal coming from the floor panel
- MIC2 – correction of the level (volume) of the signal coming out to the floor panel

7. Operation of the „installation procedure" (requires activation in the CD-2502/3100 system)

The procedure makes it easier to activate the door entry system. After starting the installation procedure you can set in the monitor the number of rings and the tone and volume of the call (these are individual settings for each apartment number). Then the electronic module automatically establishes connection with the handset or monitor in which the procedure was activated, giving the installer the ability to check the device.

Turn on the preview from the CD door phone camera (one touch of the PREVIEW key) and press the CONVERSATION button four times. The LED1 and LED2 light up at the same time.

- Press the LOCK button once. The electronic module will start looking for the monitor number in which the installation procedure was activated.
- After finding the monitor the monitor number will be demonstrate using the acoustic signals (three digits corresponding to the number of hundreds, tens and units, similar to point 6). A longer break means moving to the next number, a longer sound means that the number is zero.
- Select the call tone by pressing the LOCK button sequentially.
- Set the call volume in the door entry system using the CONVERSATION button (do not confuse with the volume setting directly in the monitor, see point 3). There are three volume levels (loud, moderate, quiet) and a increasing signal (three short beeps).
- The selected settings must be confirmed by long-pressing the CONVERSATION button.
- After a moment the electronic module will call the monitor in which the installation procedure was activated. Press the CONVERSATION button to get a connection. The instal-

ler can check the operation of the video, sound and electric strike.
• End the conversation.

8. Doorbell function

In the monitor there is a generator which can function as a door bell.
The generator is activated with a bell button connected to appropriate terminals in the monitor. Pressing the bell button causes generating gong sound. If bell button is pressed during monitor calling then call signal will be replaced for a moment by gong sound, and then switched on again.
All signals are automatically turned down during the conversation.

Note!
Bell terminals (BELL, GND) should not be connected to any other electrical systems, especially 230V mains.

9. Maintenance

In the case of contamination, monitor should be cleaned with soft, damp cloth.
Monitor inside should not be flooded with water or other liquid because this can cause the equipment damage.
Do not use abrasive materials that can scratch the surface of the casing.
Do not use gasoline and any solvents or strong detergents for cleaning, as they may damage or discolor the surface.

10. Technical data and wiring diagram

Power:	15V DC/1A
Recommended power supply:	KSAS0181500120, SAPC15018EU
Screen diagonal:	7"
Protection degree:	IP30
Operating temperature:	(5 – 40) °C
Dimensions:	213x152x21 mm

CN-PWR   CN_BELL   CN_BP   CN_CAM2   CN_CD   MVC-8151

+VS | GS   BELL | GND   GND | PORT | NO | NO   VC | GND | C2 | AUD   CAM1+ | CAM1- | L- | L+

controller*

+12V | ground | video | audio

porter switchboard

door entry panel
COMMAX**
*

button

+ | -

+15V | GND   C+ | C- | L- | L+   +15V | GND | C+ | C- | L- | L+   splitter

CVR-2

MON1...MON4

to EC-2502
or EC-3100

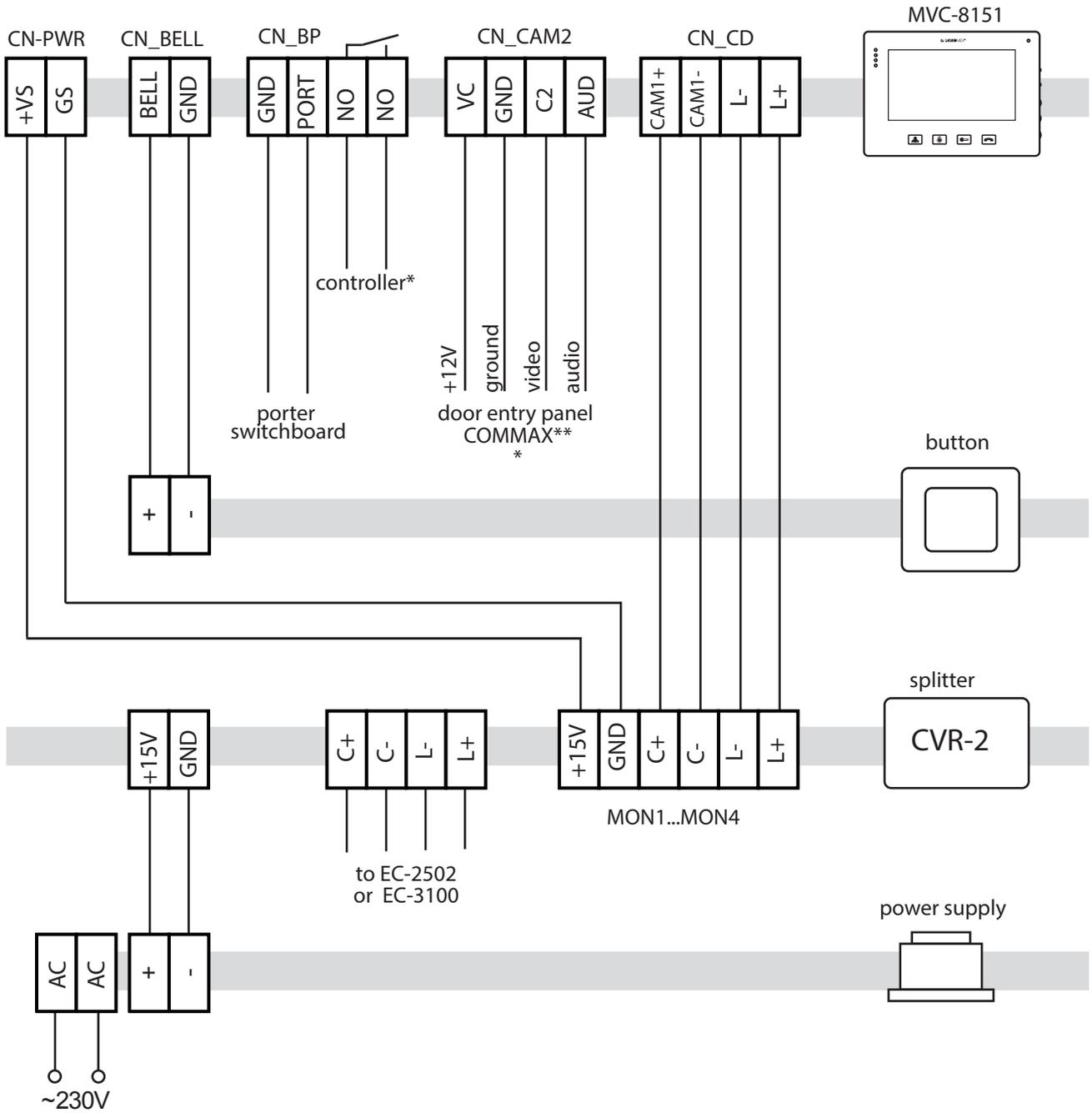power supply

AC | AC   + | -

~230V

Figure 7. Monitor wiring diagram

INSTRUCTION ON ENVIRONMENT PROTECTION

This product was marked with a symbol of crossed dustbin according to European Directive 2002/96/WE on used electric and electronic equipment. Used equipment cannot be placed with other wastes from households. Product user is obliged to give it to the firm which collects used electronic or electric equipment such as local collection points, shops, places appointed by the manufacturer or commune waste collection units.
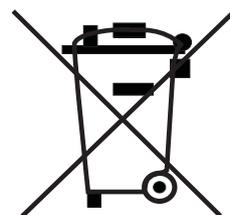
List of collecting units of used Laskomex equipment is available on www.laskomex.com.pl or tel. 42 671 88 68.

Product packing should be removed according to environment protection regulations.

Remember!
Selective collection and recycling of used electronic and electric equipment considerably contributes to the protection of human health and life as well as protection of natural environment. Return of packaging materials for the material recycling saves raw materials and reduces generating of wastes.

LASKOMEX®

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