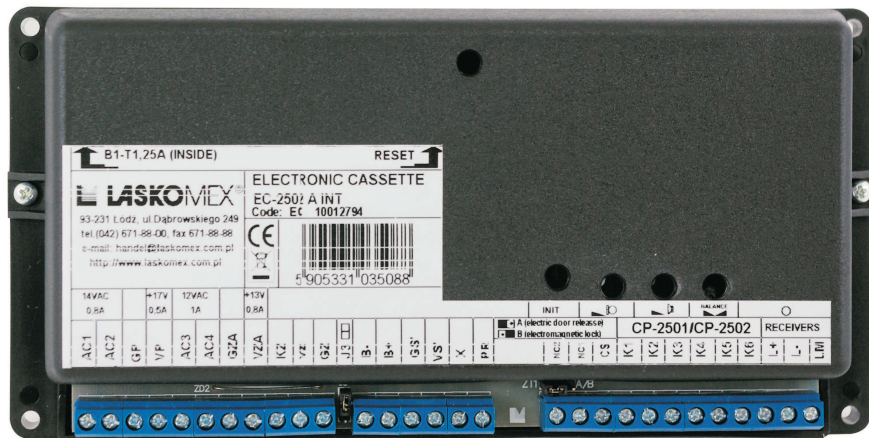# LASKOMEX®

INSTALLATION, SERVICE AND PROGRAMMING MANUAL OF ELECTRONIC CASSETTE

EC-2502

LASKOMEX®
CD-2502
microprocessor control

DIGITAL ENTRY PHONE SYSTEM

CONTENTS

Changes in software (electronic cassette):

Software version	Version release date	Changes
v6_8	11-2010	- Added function that turns off the camera in an external panel during the call - an additional option "b" in the calling options in individual settings. - Changed name of parameter EUC on CAon - Added parameter CAin that determines the supported video inputs of CVP-x switch - Added parameter CAtP that determines time interval of switching picture - Added the ability to cooperate with the CVP-2 switch - Removed P-7 procedure (electro-catch test) - Moved MLX support to P-7 - exchange of data requires an administrator password - Added function of testing the electro-catch control frequency after changing the Fry parameter - Increased entrance preview time after the entry of coded lock code
v6_7	06-2010	- Added keypad blocking function during RFID reading - New parameters LdP and NbP in H version of electronic cassette in procedure P-1 - New parameter APo in procedure P-2 - Removed parameters t1t, F1 and F2 from procedure P-1 - Additional numbers are priority numbers - If local number is in the range of serviced numbers and is turn off, than is automatically treated as unserviced number - important for LdP - Added function that turns off confirmation the use of coded lock and electronic keys for individual occupant - additional option "P" in Calling option (parameter No. 4 in procedure P-5) - Added parameter CHA in procedure P-2. - Changed name of parameter Ldn on Un in procedure P-1. - Changed names of parameters ibE and ibA on idE and idA in procedure P-2. - Increased speed of searching electronic keys
v6_6	01-2010	- Added 10 additional numbers out of serviced range - Added DJ function - Improve P-4-0 function in H version of electronic cassette - Added automatic door open function - additional option "d" in Entrance service (parameter No. 5 in procedure P-5)

1. SAFETY AND USAGE CONDITIONS

☞ Prior to the installation please read the following instruction.

☞ Electric installation should be done in accordance with PN-IEC-60364-1 norm by the authorized person. Installation should not be directly exposed to atmospheric electrostatic discharge.

☞ It is forbidden to connect the panel to other installations, with exception of the application recommended by the producer.

☞ Electronic cassette should not be exposed to high temperature or humidity.

☞ Self maintenance is only permitted for qualified persons. Device maintenance by unauthorized persons may result in the lost of warranty.

☞ It is forbidden to connect power supply from sources with different parameters than recommended by the producer to panel clamps. The producer is not responsible for any lost occurred due the usage of improper power supplies.

☞ Signals from the digital entry phone system should not be directly connected to RTV sets, because of risk of devices and system damages.

☞ Do not clean the electronic cassette with gasoline, solvents or strong detergents as it may cause damage of the device surface.

2. INSTALLATION OF ELECTRONIC CASSETTE AND POWER SUPPLY ADAPTOR

Electronic cassette and power supply adaptor should be mounted inside the building, most preferably in a place which is not accessible for unauthorized persons. It is recommended to place both devices in an installation box. The cassette is mounted by means of 4 screws. To the place where the power supply adapter is mounted supply from power network should be routed.
Electronic cassette casing is fixed to the base by means of two screws.
Wire ends from feeding transformer should be wound on the smaller ferrite core included in the set. Each wire should be wound 2.5 coils as shown on figure 1. Wire connecting the talking cassette with electronic cassette should be wound similarly - at the side of electronic cassette the wire end should be wound on the bigger core. If this is impossible due to the thickness of wire, insulation should be removed and only those wires which are used for connection should be wound on the core. Connect the wires according to connection diagram.
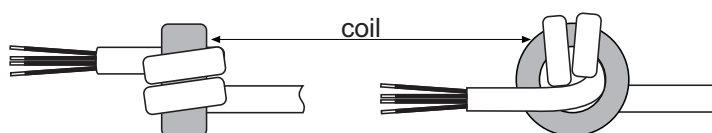

coil

Figure 1: Assembly of ferrite core on wires

3. CONFIGURATION

NOTE!
In the description abbreviations are used - exchange configured for the service of the main entrance is designated EC-2502/H and exchange for the service of subordinate entrance EC-2502/U.
In entry phone CD-2502 one type of electronic cassette is used - EC-2502. Cassettes are default configured as EC-2502/U. The use of the device (main or subordinate entrance) is defined by program.
Support for the main entrance (work in H mode) requires change in cassette configuration parameter [EtYP] (see programming, page 5). Next pushbutton INIT should be pressed and while still holding it, pushbutton RESET should be pressed for a while and released. After approx. 2 seconds pushbutton INIT can be released. Before initialization serial number will be displayed and after that parameters initialization process will begin - at that time on the display of the external panel quickly changing digits will appear. When the countdown visible on the display stops, all default settings will be restored in the cassette and operation mode will be changed.

Electronic cassette EC-2502 can control electro-catch (by default setting). It is also a possibility to control electromagnetic lock (or reverse
electro-catch). The selection of control method enables jumper ZT1.If electromagnetic lock is used jumper should be put on joint J3 and operation frequency (parameter FrY) should be set on 0! (see figure 2).In case electro-catch is used jumper should be removed from joint J3.
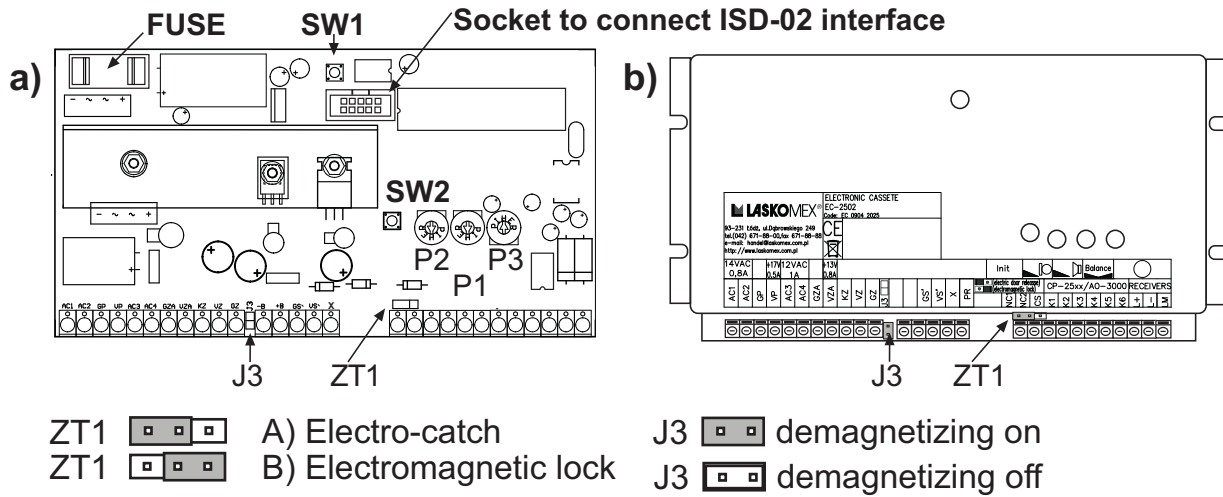

Figure 2: Selection of electro-catch or electromagnetic lock.

4. ADJUSTMENT

Elements of entry phone system are preliminarily adjusted and position of internal potentiometers should not be changed without necessity.

Electronic cassette EC-2502 has the following adjustment elements (see dwg. 3):

☞ P1 - volume control in external panel loudspeaker
☞ P2 - volume control in uniphone loudspeaker (amplification of panel microphone)
☞ P3 - line balance responsible for the lack of acoustic interference
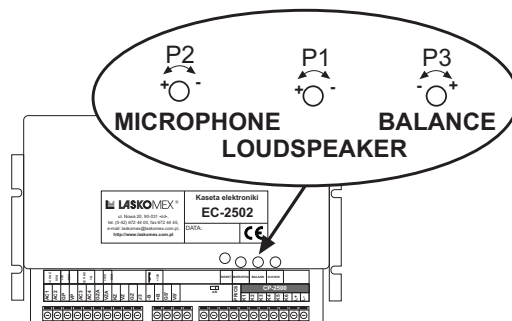
Figure 3: Control elements in electronic cassette

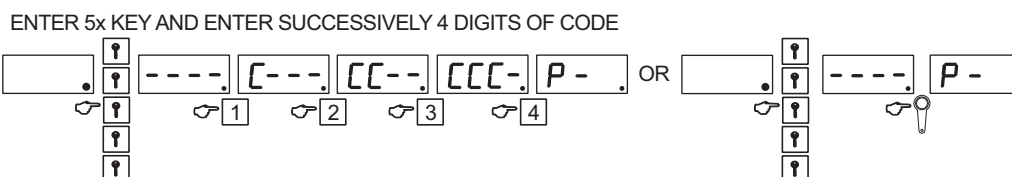Additional there are potentiometers for control acoustic track:

☞ P4 - amplification of microphone track in external panel (potentiometer in external panel)
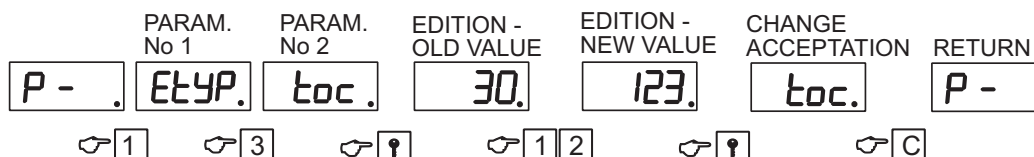☞ P1 - amplification of microphone track in uniphone (potentiometer is in uniphone)

A detailed description of the regulation of electronic cassette EC-2502 is in the installation, service and programming instruction of digital entry phone system CD-2502.

5. PROGRAMMING OF ENTRY PHONE

Entering programming mode

ENTER 5x KEY AND ENTER SUCCESSIVELY 4 DIGITS OF CODE

| . | ---- | C---. | CC--. | CCC-. | P - . | OR | . | ---- | P - . |

P-1 Operation parameters of entry phone

PARAM. No 1	PARAM. No 2	EDITION - OLD VALUE	EDITION - NEW VALUE	CHANGE ACCEPTATION	RETURN
P - .	EtYP.	toc .	30.	123.	toc .	P - .

EtyP	(0,1)	0	U,H	Operation mode of el. cassette; 0 - subordinate (U), 1 - main(H)
tOc	10...255	30	U,H	Waiting time for picking up the receiver in seconds
tro	10...255	120	U,H	Time of conversation
t1d	10...255	100	U,H	Time of signal generation
tPA	20...255	150	U,H	Pause time
trY	1...31	5	U,H	Time of electro-catch operation in seconds
FrY	0...200	50	U,H	Frequency of electro-catch supply voltage in Hz
CAin	0...1234	0	U	Video inputs of CVP-x switch serviced by the CD system
CAtP	1...10	3	U	Time interval of switching video signal in seconds
nbL	0...9998	0	U	Block number
Pnu	0...9998	0	U	Range shift
LPi	0...100	0	U	Amount of rooms on the floor
LLo	1...240	1	U	Range of serviced numbers - low value
LHi	1...240	240	U	Range of serviced numbers - high value
LdP	0...9998	0	U,H	Redirecting of not serviced numbers
NbP	0...9998	0	H	Block number for redirecting of not serviced numbers
Un	0...9998	0	U	Additional number not included in the serviced range

P-2 Functions realized by entry phone   0 - off; 1 - on

EAu	1	U,H	Sound signal of sign selected from the keyboard
ton	1	U,H	Multitone signaling of sign selected from the keyboard
dJ	0	U,H	Duration of acoustic signal of sign selected from the keyboard is as long as time of keystroke but no longer then 1 second
APo	0	U,H	Acoustic confirming opening the electro-catch
CEn	1	U,H	Service of coded lock
CEd	1	U	Permission to edition of coded lock codes by occupants
CPo	1	U	Permission to confirm the use of coded lock
CEr	0	U	Permission to confirm the use of a wrong coded lock
CHA	0	U	Request to enter coded lock code during entering user`s menu
idE	1	U,H	Service of electronic keys
idA	1	U,H	Permission to registration of electronic keys by occupants
CAon	0	U,H	Continuously supply of camera and illumination
3C	0	U,H	Service of three-position display
Ent	1	U	Fast entrance
NbL	1	H	Mode with building numbering

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P-3 Installation procedure

SWITCH ON THE INSTALLATION PROCEDURE

P - .	P-3.	On .	60.	On .	P-3.	P - .	U .

☞3 ☞0   ☞12 ☞🔑 ☞🔑 ☞C

P-3-0 **ON/OFF** Switching on/off of installation procedure
P-3-1 **FLO** Low range of searched numbers
P-3-2 **FHi** High range of searched numbers
P-3-3 Searching for the picked up (incorrectly placed) receiver
P-3-4 **LOC/OFF** Blocking the possibility of using an entry phone
P-3-5 **L-F** Calculator converting uniphone logical number to its physical
P-3-6 **F-L** Calculator converting the physical number to logical
P-3-7 **SYS** Restoring the default parameters of the central unit operation (defined by procedures P-1 and P-2).
P-3-8 **CoL** Restoring the default values of the coded lock
P-3-9 **OPL** Restoring the default values of individual settings

P-4 Electronic keys

P-4-0 **C0** U,H Erasing electronic keys memory
P-4-1 **Add** U,H Addition of key without assigned to the apartment
P-4-2 **AdL** U Addition of key with assigned to the apartment
P-4-3 **AdP** U,H Addition of key on the selected item in memory
P-4-4 **deL** U,H Deleting the key
P-4-5 **Ldel** U Deleting the key assigned to the apartment
P-4-6 **Pdel** U,H Deleting the key recorded in the defined item
P-4-7 **Id** U,H Identification of key
P-4-9 **SEr** U,H Addition of service key (administrator)

P-5 Individual setting

Parameter No. 1 --- Calling tone, key [1]
Parameter No. 2 --- Calling volume, key [2]
Parameter No. 3 --- Number of bells, key [3]
Parameter No. 4 --- Calling options, key [4]
Parameter No. 5 --- Entrance service, key [5]
Parameter No. 6 --- Options of coded lock, key [6]

P-6 Change of fitter coded lock

P-7 MLX module support - backup/upload of EC parameters

P-8 Release of electro-catch in service mode

P-9 Change of coded lock code

6. RESTORE THE INITIAL SETTINGS

NOTE!
Restoring the default settings results in the loss of information stored in EEPROM memory of electronic cassette (changed codes of coded lock, numbers of electronic keys, individual settings etc.). Prior to this operation one should get acquainted with the content of this chapter.
Restoring the default operation parameters for electronic cassette can be done in two ways: globally (refers to parameters set by procedures P-1, P-2, P-5, P-6 and P-10) or selectively (default values defined by individual procedures are restored).

Global restoration of default parameters. Reset of electronic cassette.
In order to restore default parameters of electronic cassette operation pushbutton INIT (SW2) should be pressed and while still pressing it pushbutton RESET (SW1, see dwg. 2) should be pressed for a while and released. After approx. 2 seconds pushbutton INIT (SW2) can be released, at that time on the display of the external panel quickly changing digits will appear.
When the countdown visible on the display stops, all default settings will be restored in the cassette: default codes of coded locks, code of installing specialist, main unit operation parameters defined in procedures P-1, P-2, P-3 and P-5.
NOTE!
It pushbutton INIT after having initiated remains pushed in for longer than 10 s, electronic cassette will start resetting all recorded iButton and/or RFID keys.

Operation mode of electronic cassette will not be changed i.e. if before restoring default settings the cassette was configured as EC-2502/H, after finishing of this operation the cassette will still operate in this mode.
Pushbutton RESET is used for momentary stopping the operation of a processor. Its pressing makes that the processor stops working, while the release causes the operation resumption; the processor starts the operation from the program beginning.
The pushbutton is used in the case of main unit hang-up (it does not react to key selection and random signs appear on the display) and restoring default settings.
Pressing pushbutton INIT is information for the processor that the default settings should be restored - main unit checks if this pushbutton was pressed just after switching on the supply or pressing and releasing of RESET pushbutton. That is why the sequence of operations is important during restoring the default values.
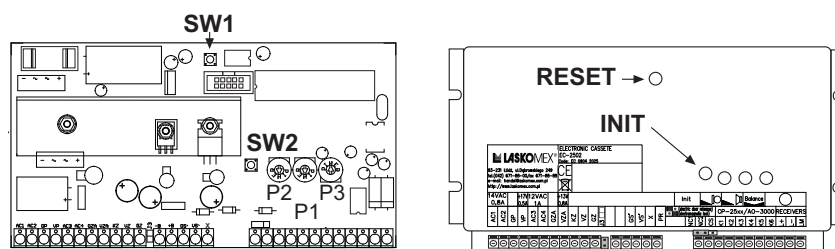

Figure 4: Position of pushbuttons INIT and RESET

Selective restoring of default settings of the entry phone system.
Enables restoring the default values of the selected parameters without change of other parameters. This function is available for the installing specialist after entering the cassette programming mode and does not require the direct access to entry phone electronic cassette.

☞ P-3-7 - Restoration of operation parameters and configuration of electronic cassette. Restores default values of parameters in procedures P-1 and P-2.
☞ P-3-8 - Restores default values of coded lock codes and preset code the installing specialist. If the code of the installing specialist was changed earlier it should be remembered to change it again because quitting the programming mode will require entering the previous code. If the installing specialist has forgotten the previous code he can read it from a label on the cassette processor.
☞ P-3-9 - Restoring the default values of individual settings for apartments.

7. CONFORMITY WITH PREVIOUS VERSIONS

Electronic cassette

Electronic cassettes EC-2502 can be used as replacements of electronic cassettes EC-2200, EC-2200/U, EC-2200H, EC-2500/S, EC-2500/U, EC-2500/H, EC-2501/U and EC-2501H. Electronic cassettes will co-operate with all previous versions of external panels for the mentioned systems. If a three position display is installed in a panel, in electronic cassette settings an operation of three position display should be activated (procedure P2, parameter 3C).

Other entry phone systems

System CD-2502 can cooperate with system CD-3100. This refers to situation when a few buildings should be enclosed with a fence in which there will be more than one entrance. In such case at the main entrance an entry phone CD-3100 should be installed (set consisted of EC-3100, CP-3100 and supplier). Subordinate entrances should be connected in such a way as if entry phone CD-2502 (line L+, L-) was installed at the main entrance.
If CD-3100 is connected with CD-2501 mode with building numbering will not operate.

8. FAULTS MESSAGES

CD-2502 entry phone can signal the following faults:

☞ **EC**: Means that two or more infrared beams in keyboard are damaged or covered. Clean the surface and sides of keyboard out of eventually dirt.
☞ **E2**: Means short-circuit of uniphone line. Installation should be checked, short-circuit should be eliminated or damaged uniphones should be replaced. By measuring current input on uniphone line, the nature of fault can be determined.
☞ **E0**: This message means that system EEPROM memory is damaged in the electronic cassette. For repairs contact the service.
☞ **EEr**: Means an error in recording or in reading memory with system settings or codes of coded lock. For repairs contact the service.

9. TECHNICAL DATA

Power supply of EC-2502 electronic cassette:

Only from recommended power supply feeder ZS-K-25/01 or TSZZM 25/021M:

☞ 14,5V/0,8A (terminals AC1 and AC2)
☞ 12V/1A (terminals AC3 and AC4)

ZS-K-25/01 or TSZZM 25/021M power supply feeder of el. cassette - description of wires

$U_{PRI} = \sim 230V$
$U_{SEC1} = 12{,}5V / 0{,}8A$
$U_{SEC1} + U_{SEC2} = 14{,}5V / 0{,}8A$
$U_{SEC3} = 12V / 1A$
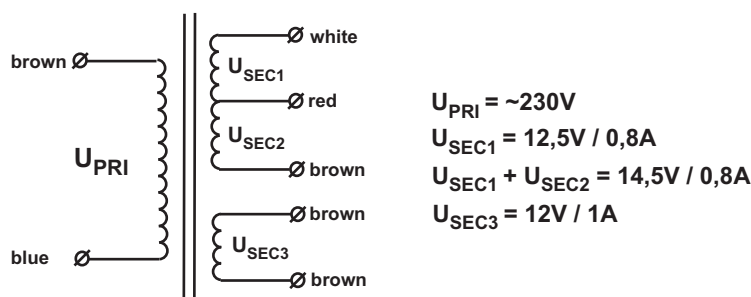
Protection degree:　　　　　IP20

Ambient temperature:　　　$(+5 \div +40)^{o}C$

10. DESCRIPTION OF TERMINALS

AC1	el. cassette supply 14,5V AC
AC2	el. cassette supply 14,5V AC
AC3	electro-catch supply 12V AC
AC4	electro-catch supply 12V AC
GP	mass of non-stabilized voltage
VP	non-stabilized voltage output
GZA	mass of electro-catch supply
VZA	electro-catch supply
KZ	output of key switching on el.-catch
VZ	electro-catch supply
GZ	mass of key switching on el.-catch
GS'	mass of stabilized voltage
VS'	stabilized voltage +12V
PR	door opening pushbutton
CS	selection of video signal source

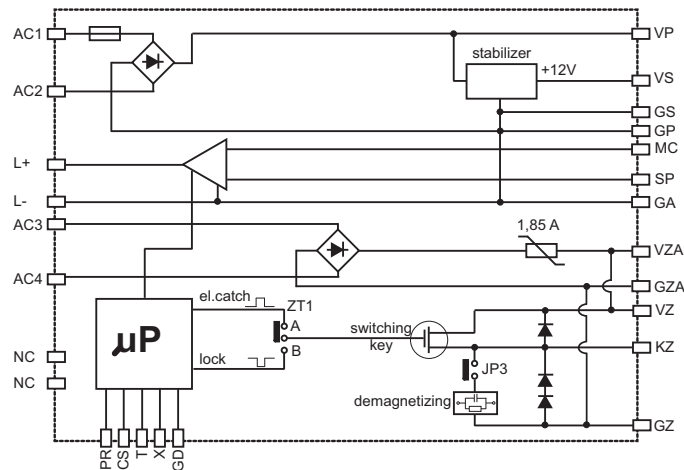|		
K1	**(VS)***	ext. panel supply (stabilized voltage +12V)
K2	**(T)***	digital data from/to ext. panel
K3	**(GS)***	digital mass
K4	**(SP)***	loudspeaker
K5	**(GA)***	analogue mass
K6	**(MC)***	microphone
L+		uniphone line + (if works as EC-2502U) communication line between cassette H and U (if works as EC-2502H)
L-		uniphone line - (if works as EC-2502U)
LM		master line (to connect main electronic cassette)
NC		free terminals (e.g. to connect segments of wire)
X		input of electronic key reader
B+		connection of accumulator (+)
B-		connection of accumulator (-)

(XX)* description on PCB

Figure 5: Electronic cassette block diagram
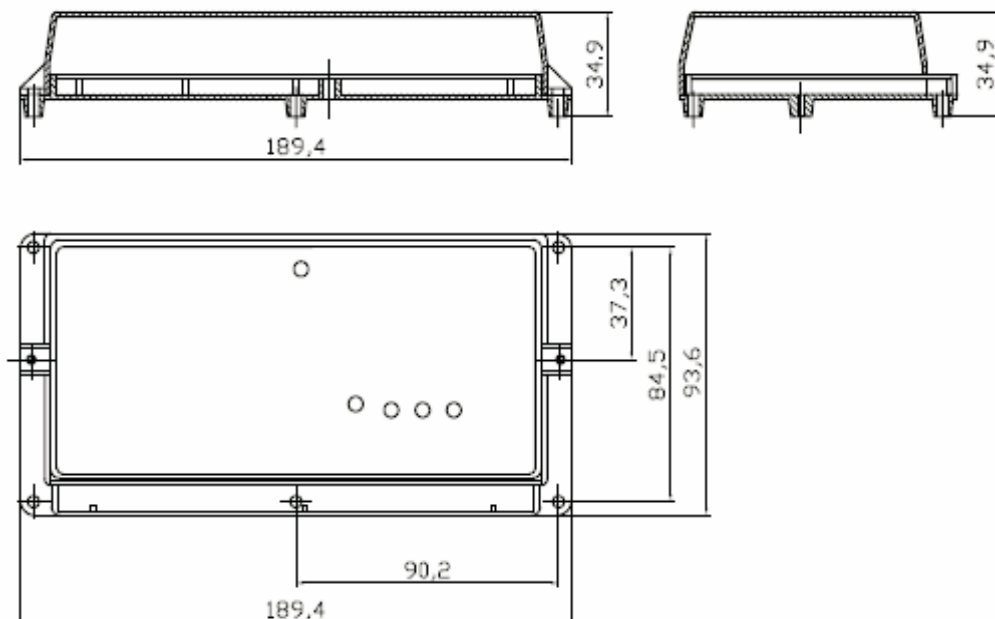
11. DIMENSIONS OF ELEMENTS

Figure 6: Dimensions of electronic cassette EC-2502
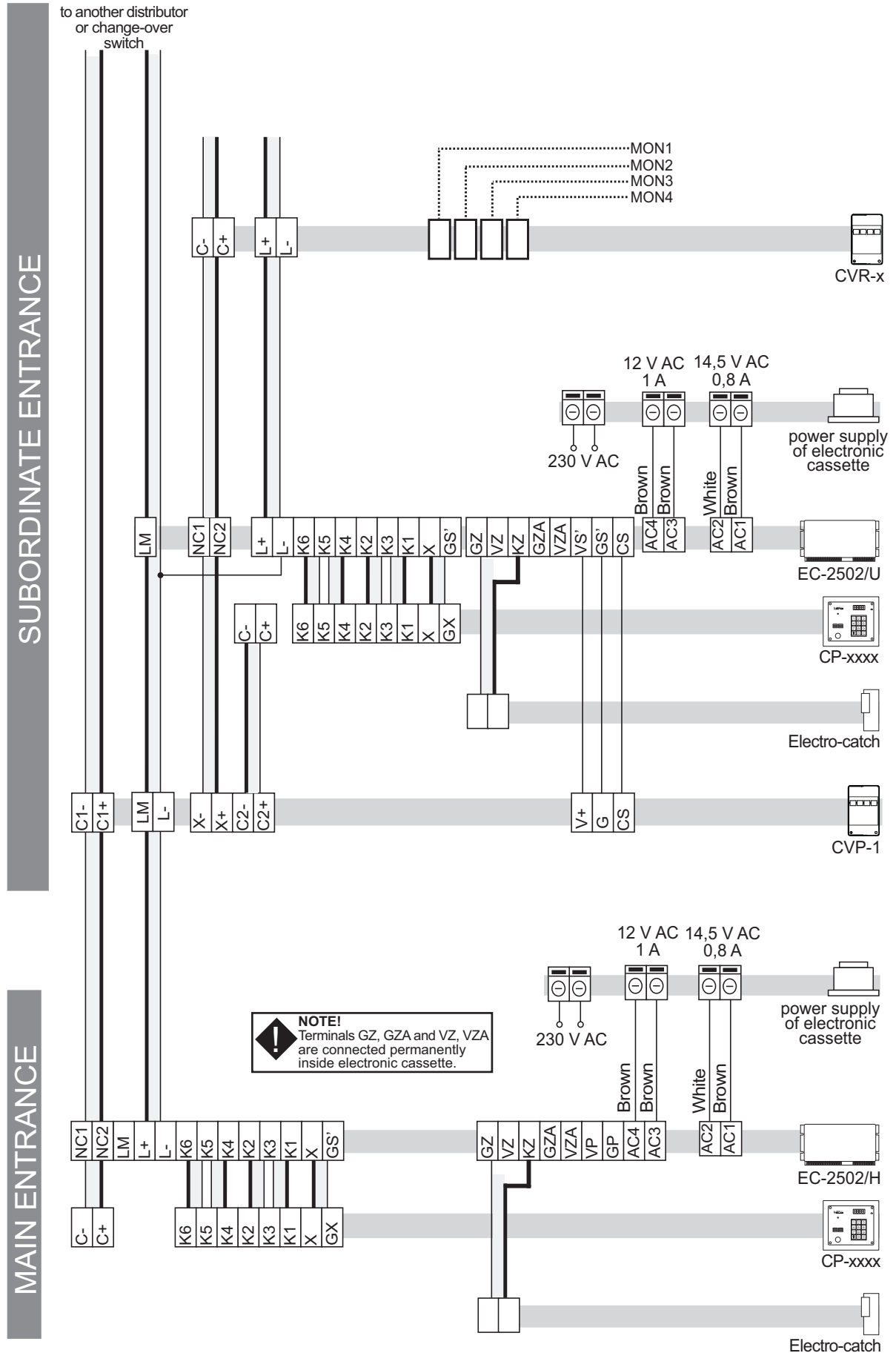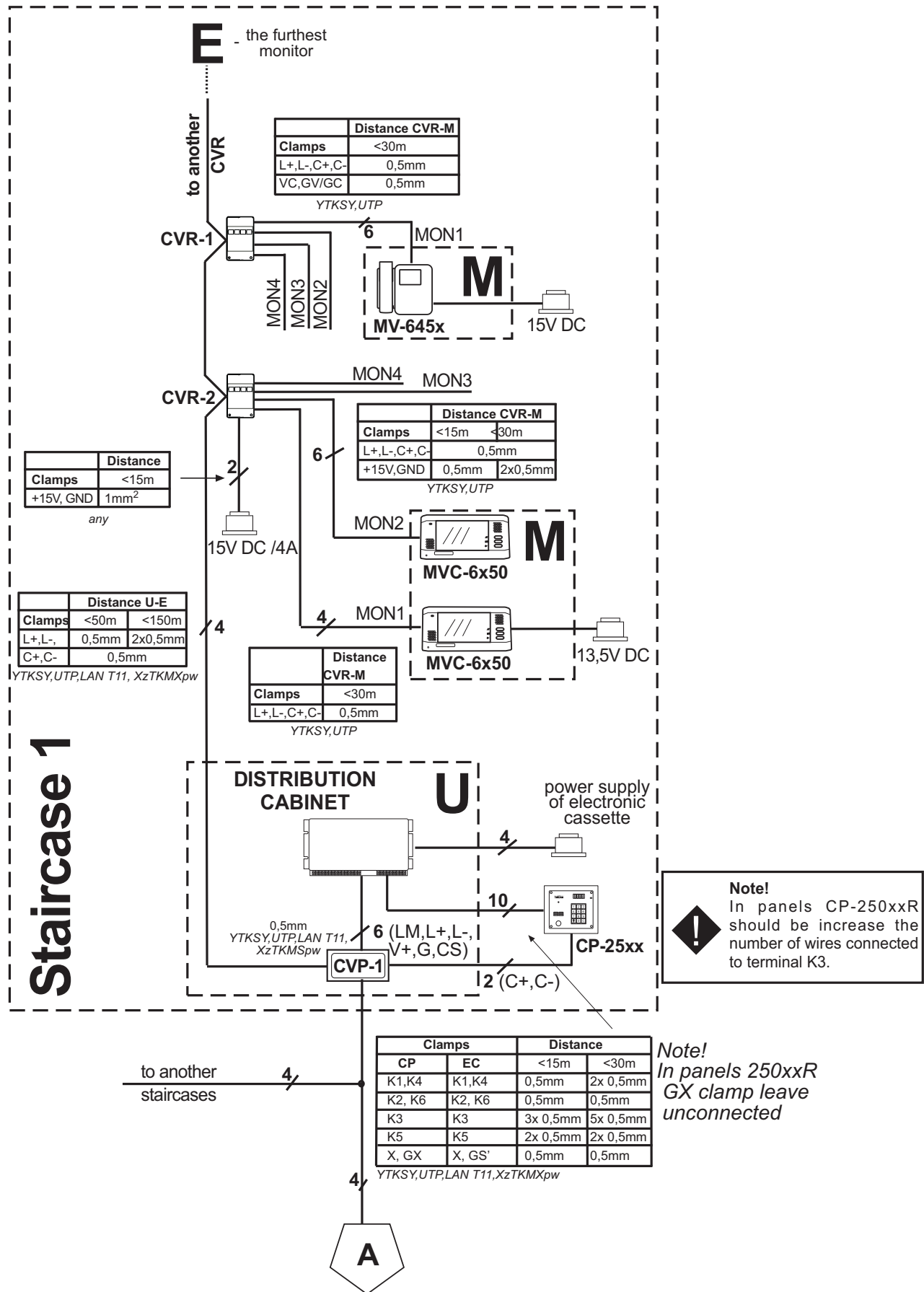
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12. SELECTION OF WIRES AND CONNECTION DIAGRAMS

Figure 7: Entry phone CD-2502 video - multi entrance system

E - the furthest monitor

to another CVR

	Distance CVR-M
Clamps	<30m
L+,L-,C+,C-	0,5mm
VC,GV/GC	0,5mm

YTKSY,UTP

CVR-1

6   MON1

M

MON4 MON3 MON2

MV-645x   15V DC

CVR-2   MON4   MON3

	Distance CVR-M	
Clamps	<15m	<30m
L+,L-,C+,C-	0,5mm	
+15V,GND	0,5mm	2x0,5mm

YTKSY,UTP

	Distance
Clamps	<15m
+15V, GND	1mm²

any

2

6

MON2

M

MVC-6x50

15V DC /4A

	Distance U-E	
Clamps	<50m	<150m
L+,L-,	0,5mm	2x0,5mm
C+,C-	0,5mm	

YTKSY,UTP,LAN T11, XzTKMXpw

4

4   MON1

MVC-6x50   13,5V DC

	Distance CVR-M
Clamps	<30m
L+,L-,C+,C-	0,5mm

YTKSY,UTP

Staircase 1

DISTRIBUTION CABINET   **U**

power supply of electronic cassette

4

0,5mm
YTKSY,UTP,LAN T11, XzTKMSpw

6 (LM,L+,L-, V+,G,CS)

CVP-1

10

CP-25xx

2 (C+,C-)

Note!
In panels CP-250xxR should be increase the number of wires connected to terminal K3.

to another staircases   4

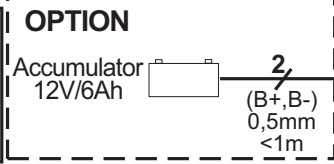| Clamps		Distance	
CP	**EC**	<15m	<30m
K1,K4	K1,K4	0,5mm	2x 0,5mm
K2, K6	K2, K6	0,5mm	0,5mm
K3	K3	3x 0,5mm	5x 0,5mm
K5	K5	2x 0,5mm	2x 0,5mm
X, GX	X, GS'	0,5mm	0,5mm

YTKSY,UTP,LAN T11,XzTKMXpw

Note!
In panels 250xxR GX clamp leave unconnected

4

A

Figure 8: Selection of wires for entry phone CD-2502 in video version - part 1

Full installation, usage and programming manual is available on www.laskomex.com.pl

A

Note!
In panels CP-250xxR should be increase the number of wires connected to terminal K3.

Note!
In panels 250xxR GX clamp leave unconnected

OPTION
Accumulator 12V/6Ah

2
(B+,B-)
0,5mm
<1m

H

Clamps		Distance H-U		
		<50m	<150m	<250m
EC/H	CVP-1			
L+,L-	LM,L-	0,5mm	2x0,5mm	3x0,5mm
NC1,NC2	C+,C-	0,5mm		

YTKSY,UTP,LAN T11, XzTKMXpw

4

power supply of electronic cassette

Clamps	Distance
	<15m
AC1,AC2, AC3,AC4	1mm²

any

Clamps	Distance	
CP	EC	<15m	<30m
K1,K4	K1,K4	0,5mm	2x 0,5mm
K2, K6	K2, K6	0,5mm	0,5mm
K3	K3	3x 0,5mm	5x 0,5mm
K5	K5	2x 0,5mm	2x 0,5mm
X, GX	X,GS'	0,5mm	0,5mm
C+, C-	NC1, NC2	0,5mm	0,5mm

YTKSY,UTP,LAN T11, XzTKMXpw

12

2

Clamps	Distance
	<15m
GZ,KZ	1mm²

any

2(K1,K3)

List of occupants

CP-25xx

2

Clamps	Distance
	<15m
GS,PR	0,5mm

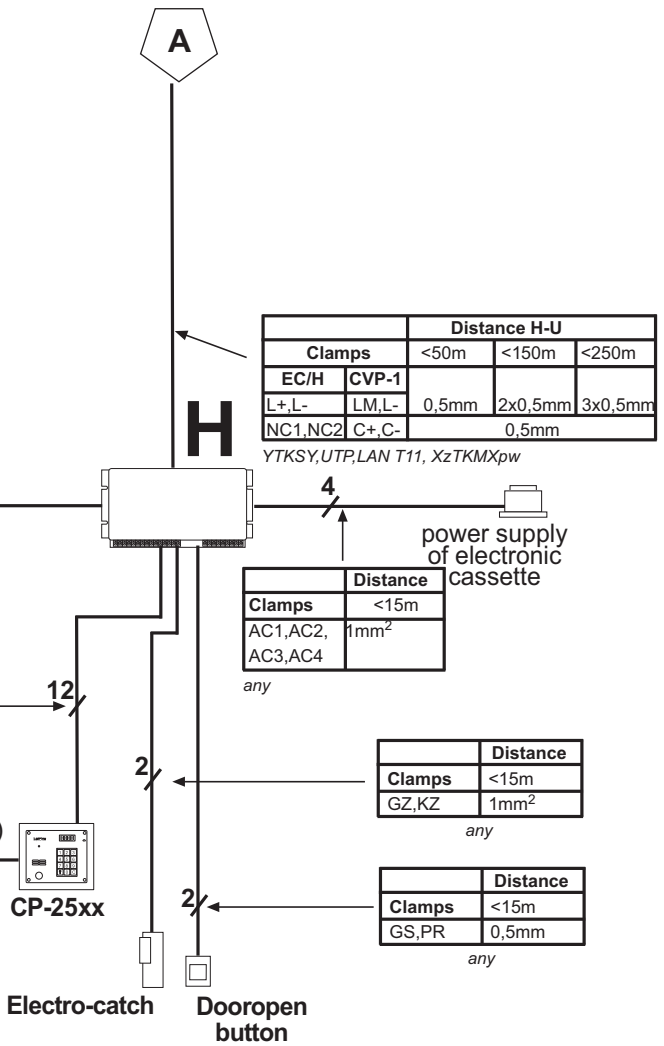*any*

Electro-catch

Dooropen button

Figure 9: Selection of wires for entry phone CD-2502 in video version - part 2

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 producer or commune waste collection units.

List of collecting units of used Laskomex equipment is available on **www.laskomex.com.pl** website or telephone No. **+48 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.