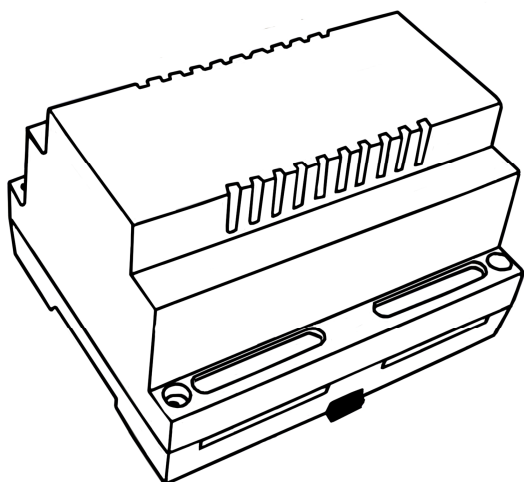


**DIGITAL
CALL SYSTEM
MATIBUS_{SE}**

**DIGITALIZER
REF. 1052/7R**

DIGITIZER REF. 1052/7R

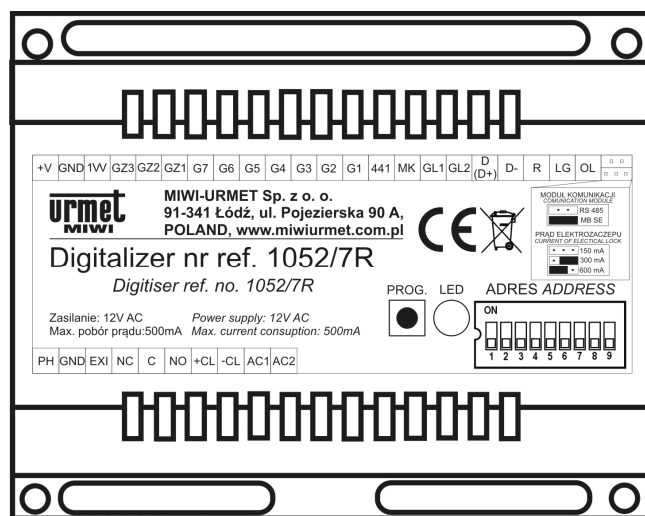


BASIC FEATURES

Thanks to digitizer **ref. 1052/7R** there is a possibility to connect analog "4+n", push-buttons panels like **MIWUS 525** to system MATIBUS_{SE}.

To each digitizer up to 21 buttons can be connected. In system can work up to 31 groups (up to 4 digitizer in each group).

CONSTRUCTION



DESCRIPTION OF TERMINALS BOARDS

+V	Power + 15...+20 V DC.
GND	Power supply ground.
1W	DALLAS reader connection.
GZ3	3 buttons riser.
GZ2	2 buttons riser.
GZ1	1 buttons riser.
G7	7 level of buttons.
G6	6 level of buttons.
G5	5 level of buttons.
G4	4 level of buttons.
G3	3 level of buttons.
G2	2 level of buttons.
G1	1 level of buttons.
441	Microphone.
MK	Microphone GND.
GL2	Speaker.
GL1	Speaker.

D(D+)	Data line. (D for MATIBUS _{SE} or D+ for MATIBUS _{SE} with RS485 communication protocol).
D-	Data line. D- for RS485 communication protocol.
R	Control terminal for video version.
LG	Voice line.
OL	GND for data line and voice.
PH	Electrical door lock release.
GND	GND.
EXI	Contact input - door sensor input.
NC	Relay normally closed contact.
C	Relay common contact.
NO	Relay normally open contact.
+CL	Electric lock output (+).
-CL	Electric lock output (-).
AC1	Output voltage 12 V AC.
AC2	Output voltage 12 V AC.

TECHNICAL SPECIFICATION

Voltage:	~12 V AC or +20 V DC
Operating temperature:	-5 °C ÷ +45 °C
Driving of electrical lock:	-With build three state regulation of current. -NO-C-NC 1A/24V DC
Max. number of managed buttons:	21
OL – LG line voltage:	+ 7,5...12,5 V DC
Dimension:	106 x 90 x 66 mm (6 DIN)
Weight:	170 g

NOTE !!

After digitizer configuration is finished (settings, buttons association) go to step "AUDIO VIDEO SETTINGS".

PROGRAMMING

AUDIO VIDEO SETTINGS

Audio Video settings should be done after digitizer is programmed and it should be performed in normal work mode (without pressing confirmation button or entering into programming menu).

After choosing one of these two modes it is required to remain dip-switches positions for all work time of the device. Changing dip-switches position may change work Audio Video mode of digitizer.

After setting Audio Video mode with dip-switches, confirmation is not required. Change of dip-switches position will change digitizer work mode immediately.

Digitizer can work in 1 of 2 available modes:

- Audio-Video mode (when digitizer work in video system).
- Audio mode (when digitalizer work with only audio panel eg. MIWUS 525).

After all programming is finished depending on digitizer work mode (audio only or audio video) it is required to:

1. Audio only – dip-switches 1-9 set to OFF position,
2. Audio-video – dip-switch number 1 set to ON, dip-switches 2-9 set to OFF.

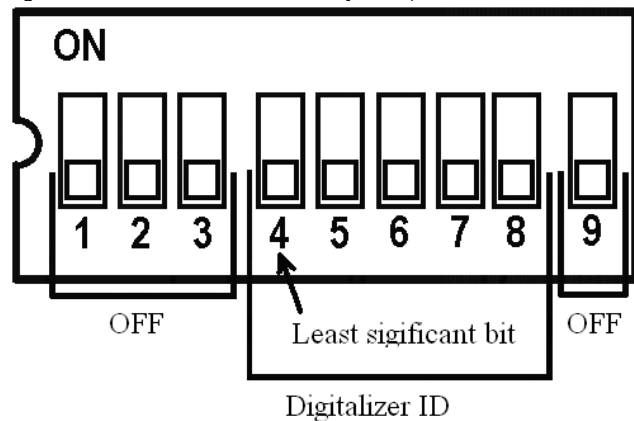
NOTE:

After audio-video settings, should you leave the dipswitch settings (any changes in the dipswitch settings at normal work will change audio-video settings). By normal work of digitalizer, do not change dip-switches position.

ID SETTING

ID is important only for multi-entry systems and for a group of digitizers. In normal installation (with one entrance panel) this step should be skipped.

Digitizer has a pre-assigned ID of 8 - 248, except that it is a value divisible by 8. ID must be unique for each call module (other digitalizers and call modules with keyboard).



To change ID follow the steps below:

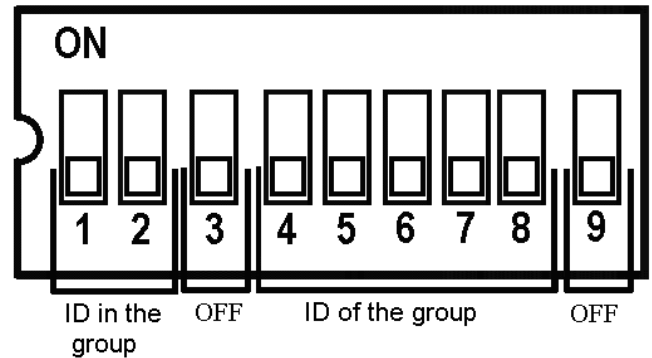
- Use (ADRES) dip-switches 4 to 8 to set binary number of ID from a range between 8-248 (must be divisible by 8). Remember that dip-switch number 4 is the least valuable bit and mean 8 (in decimal) and dip-switch number 8 is the most valuable bit and mean 128 (in decimal). Rest of dip-switches should be in OFF position. ADDRESS dip-switch in ON position mean 1, but in OFF position mean 0.
- Press and hold for 4-5 seconds button PROG, until come on red LED.
- If ID number is correct, call module generates confirmation signal, red LED will be turned off. If ID will be not approved (for example because of two the same ID number) call module will generate warning signal, LED will start blinking for 3 seconds.

SETTINGS GROUP OF DIGITIZERS

Single digitizer can be programmed with 21 buttons. If panel has more than 21 buttons, a group of digitizers have to be created. Single group (up to four digitizers) can handle up to 84 (4 * 21) buttons. A single power supply can fully support a single group (84 entries). In a single group voice, electronic lock or key reader are supported by a main digitizer (one with ID divisible by 8). Group ID can be set using ADRES dip-switches from 4 to 8 and an address of a digitizers inside group by dip-switches 1 and 2 where 1 is least significant bit and 2 is most significant bit (see appendix).

Within that group are the main digitizer, first, second and third. In the group may also be less than four devices.

When a group is created it should be noted that the ID of another device (or other digitizer panel) is not covered with the ID of the group.



To program a group of digitizers follow the steps below:

- To set an ID for the main digitizer use ADDRESS dip-switches 4-8 to set binary number of ID. Remember that dip-switch number 4 is the least valuable bit and mean 8 (in decimal) and dip-switch number 8 is the most valuable bit and mean 128 (in decimal). Other dip-switches (1,2,3 and 9) must be set in OFF position.
- Press and hold for 3 seconds button PROG, until come on red LED.
- If ID number is correct, call module generates confirmation signal, red LED will be turned off. If ID will be not approved (for example because of two the same ID number) call module will generate warning signal, LED will start blinking for 3 seconds.
- To set an ID of the first, second and third digitizer in the group set switches from 4 to 8 exactly like in the main digitizer. Then set switches 1 and 2 respectively to the digitizer number in the group. e.g. first digitizer (1-On, 2- Off), second digitizer (1-Off, 2-On), third digitizer (1-On, 2-On)

Example

We want to establish a group of 3 digitizers.

1. We set the ID of the main digitizer. ID to select from a pool of 8 to 248, e.g. 16 (must be divisible by 8).
2. On Address dip-switches set binary 16 (dip-switches no. 1 to 4 in the OFF position, dip-switch No. 5 in the ON position, dip-switches 6 to 9 in the OFF position).
3. Press the PROG button and keep it pressed until the LED glow (about 4 - 5 seconds).
4. Release the PROG button.
5. We come to the next digitizer and set the ID - this will be the first digitizer. Dip-switch no. 1 set to ON, dip-switches 2 to 4 to OFF, dip-switch no. 5 to ON, dip-switches 6 to 9 to OFF.
6. Press the PROG button and keep it pressed until the LED glow (about 4 - 5 seconds). When properly programmed, the panel is connected to the main digitizer generates a beep.
7. Release the PROG button.
8. We come to the next device and set the ID - this will be the second digitizer. Dip-switch no. 1 set to OFF, dip-switch 2 to ON, dip-switch 4 is OFF, dip-switch no. 5 to ON, dip-switches 6 to 9 to OFF.

PROGRAMMING

9. Press the preset button (PROG) and keep it pressed until the LED glow (about 4 -5 seconds). When properly programmed, the panel is connected to the main digitizer generates a beep.
10. Release the PROG button.
11. End

The table below shows examples

Settings of a dip-switch	Group ID	Binary representation *	Description
	2	16	Main digitizer in group 2
	2	17	First digitizer in group 2
	2	18	Second digitizer in group 2
	2	19	Third digitizer in group 2
	10	145	First digitizer in group 10
	10	146	Second digitizer in group 2

* Dip-switch no. 1 for the ADDRESS dip-switch is the least significant bit and dip-switch no. 8 is the most significant bit. Dip-switch no. 9 is in this case not used.

As a MAIN digitizer a digital control panel with keypad can be used. This allow as to mount control panel with keypad and analog push-button panel side by side. In that case voice and electrical lock will be controlled by a digital panel. In MENU of a digital panel appropriate ID address have to be set.

To set ID of a digital panel follow the steps below :

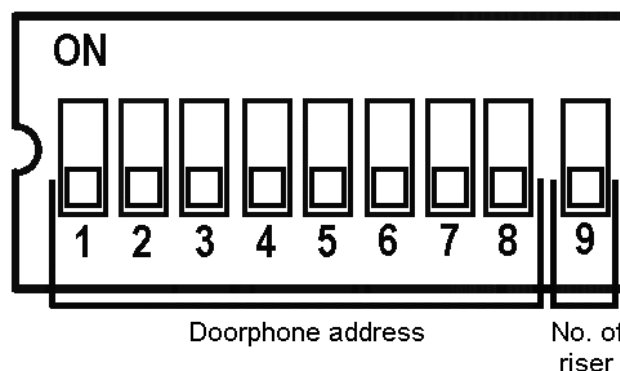
- Enter to the MENU of a control panel and change value of an ID -step 1.02. ID of control panel have to be in range from 8 to 248 (value must be divisible by 8). This value will be an ID of this group of digitizers and have to be the same in every digitizer in a group.(dip-switches from 4 to 8).
- Use ADRES dip-switches 4-8 to set binary number of ID which was set in MENU of a digital panel and appropriate value of a dip-switches (dip-switch nr 1-2) for first, second or third digitalize in a group.
- Press and hold for 4-5 seconds button PROG, until come on red LED.
- If ID number is correct, call module generates confirmation signal, red LED will be turned off. If ID will be not approved (for example because of two the same ID number) call module will generate warning signal, LED will start blinking for 3 seconds.
- Procedure have to be repeated for every digitizer in a group.

Table with all settings options was shown at the of this document.

BUTTONS PROGRAMMING

To allocate a button in call module to doorphone:

- Set doorphone's power supply ID with ADDRESS dip-switch (only when digitalizer is attached to main channel). If digitalizer is attached to an additional channel skip this step – set any ID. Dip-switch 1 is the least significant and 8 is the most significant part of address.
- Press shortly PROG button. Call module attached to this digitalizer will generate confirmation sound and LED on digitalizer will turn on as well.
- Set physical address of given doorphone with dip-switches (ADDRESS dip-switch). Dip-switch 1 is the least significant and 8 is the most significant part of address. Dip-switch 9 specify riser number (ON – riser 2, OFF – riser 1). During setting the LED should be turned on.



- Press shortly PROG button. LED should start to blink.
- Press selected button in call module to program it. After successful programming double beep will be generated and LED will stop blinking. After failure (no address or address is NULL) error signal will be generated and LED will blink three times and turn off. In case of failure it is required to re-establish doorphone's address and start programming from this step.
- In order to program another button (doorphone is connected to the same power supply) set address of this doorphone (with dip-switches) and repeat the rest of the programming procedure. In order to program doorphone attached to another power supply it is required to exit programming mode and enter it again with setting another power supply ID number.
- Press and hold for about 4 seconds PROG button to exit programming mode.

When call module buttons number exceed 21 (group of digitalizers) then programming of the buttons should be performer in digitalizer which given button is attached to.

Dip-switch setting	Description
	Doorphone with physical address 6, riser 2
	Doorphone with physical address 6, riser 1

Example

We would like to program button for doorphone 2 in riser 1. Digitalizer is connected to main channel of power supply. Power supply ID number is set to 5.

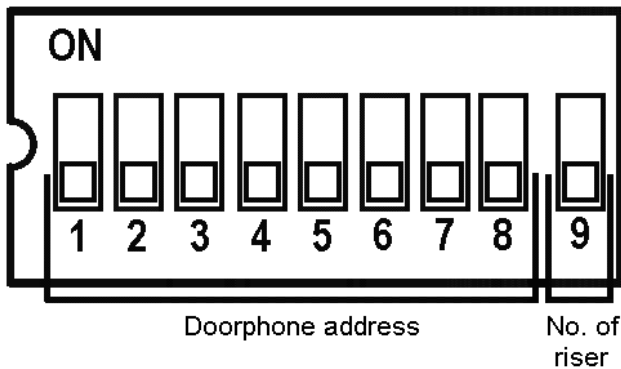
1. Set power supply ID with dip-switches. In this case it will be 5 (dip-switch 1 is ON, dip-switch 2 is OFF, dip-switch 3 is ON, dip-switches 4-9 are OFF). If digitalizer would be attached to the additional channel this step should be skipped. If we don't know the power supply ID number then we can check it in its programming menu.
2. Press shortly PROG button. Call module attached to this digitalizer will generate confirmation sound and LED on digitalizer will turn on as well.
3. Set physical address of given doorphone with dip-switches (ADDRESS dip-switch). In this case it will be 2 - dip-switch 1 is OFF, dip-switch 2 is ON, dip-switches 3-9 are OFF (dip-switch 9 is OFF because riser number is 1).
4. Press shortly PROG button. LED should start to blink.
5. Press selected button in call module to program it. After successful programming double beep will be generated and LED will stop blinking. After failure error signal will be generated, LED will blink three times and turn off. In case of failure it is required to re-establish doorphone's address and start programming from this step.
6. In order to program another button (doorphone is connected to the same power supply) set address of this doorphone (with dip-switches) and repeat the rest of the programming procedure (from step 4).
7. Press and hold for about 4 seconds PROG button to exit programming mode.

PROGRAMMING

DALLAS KEY PROGRAMMING

To program the Dallas key:

- Set doorphone's power supply ID with ADDRESS dip-switch (only when digitalizer is attached to main channel). If digitalizer is attached to an additional channel skip this step – set any ID. Dip-switch 1 is the least significant and 8 is the most significant part of address.
- Press shortly PROG button. Call module attached to this digitalizer will generate confirmation sound and LED on digitalizer will turn on as well.
- Set physical address of given doorphone with dip-switches (ADDRESS dip-switch). Dip-switch 1 is the least significant and 8 is the most significant part of address. Dip-switch 9 specify riser number (ON – riser 2, OFF – riser 1). During setting the LED should be turned on.

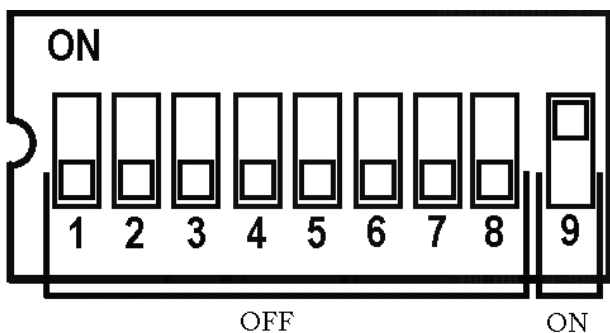


- Press shortly PROG button. LED should start to blink.
- Close the Dallas key to the reader. After successful programming double beep will be generated and LED will stop blinking. After failure (Dallas key is already assigned) error signal will be generated and LED will blink three times and turn off.
- In order to program another Dallas key (doorphone is connected to the same power supply) set address of next doorphone (with dip-switches) and repeat the rest of the programming procedure.
- Press and hold for about 4 seconds PROG button to exit programming mode.

PROGRAMMING OF CALL BUTTON IN SWITCHBOARD STATION

To program a call button in switchboard station:

- If digitalizer is attached to the main channel, set address (with dip-switches) of MASTER power supply. If digitalizer is attached to an additional channel skip this step – set any address. Dip-switch 1 is the least significant and 8 is the most significant part of address.
- Press shortly PROG button. Call module attached to this digitalizer will generate confirmation sound and LED on digitalizer will turn on as well.
- Set 1 -8 dip-switches to OFF and dip-switch 9 to ON. During setting the LED should be turned on.



- Press shortly PROG button. LED in digitalizer should start to blink.
- Press selected button in call module to program it. After successful programming double beep will be generated and LED will stop blinking. After failure single beep will be generated and LED will still be blinking.
- Press and hold for about 4 seconds PROG button to exit programming mode.

USER MANUAL

CALLING TO DOORPHONES

To call doorphone press (without holding) selected button. To disconnect press again the button.

DOOR OPENING WITH DALLAS KEY

If call module is equipped with Dallas key reader, it is possible to open the door with Dallas key. To do it, close the Dallas key to the reader. If system recognize the key, call module will generate confirmation signal, electric lock will be released and doorphone assigned to this key will generate beep as well.

USE OF R OUTPUT

Digitalizer is equipped with **R** button (**OC** open collector output). Output is active (connected with GND) from call time to the end of conversation time of any user. This output is dedicated to video systems.








USE OF EXI OUTPUT

Digitalizer is equipped with controlled **EXI** terminal. By default **EXI** terminal is connected with **GND**. If we replace jumper with any sensor (eg: contactor), call module will respond to any interruption of the circuit between **EXI** and **GND** terminals. It will result with connecting relevant **EO** output to +20V output in power supply. This function can be used for example to unclosed door signalization.

USE OF PH INPUT

Digitalizer is equipped with **PH** terminal, which can be used as a local opening door button. Shorting **PH** and **GND** terminals will result in electric lock releasing for programmed time. In another words, to realize opening door function just press the button which will short **PH** and **GND** terminals.

CONFIGURATION AND ADJUSTMENT

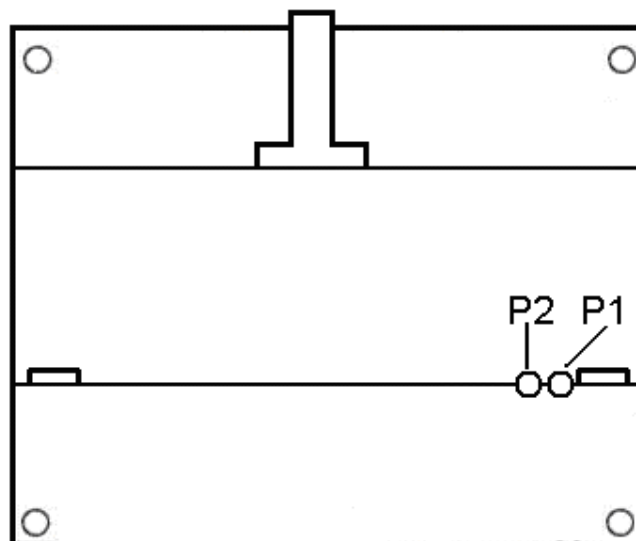
Jumper	Description	Dip-switch (jumper) position	Function
ADDRESS	Address setting		Dip-switch settings table
COMMUNICATION MODULE	Communication module selection.		MATIBUS _{SE} communication module
COMMUNICATION MODULE	Communication module selection.		RS485 communication module
ELECTRIC LOCK CURRENT	Setting current of electric.		150 mA (reversed electric lock)
ELECTRIC LOCK CURRENT	Setting current of electric.		300 mA
ELECTRIC LOCK CURRENT	Setting current of electric.		600 mA
PROG	Save		Programming button

Standard communication module is used in systems based on power supplies **ref. 1052/33** and **ref. 1052/31A**. RS485 communication module is used in systems based on power supplies **ref. 1052/33R** and **ref. 1052/31R**.

If a change (eg: electric lock time release) in digitalizer is needed it is required to use call module **ref. 1052/100..100D**.

By default this device is pre-adjusted during production. Do not change potentiometer settings until it is necessary.

Mark	Description
P1	Call module microphone gain adjustment
P2	Call module speaker gain adjustment



INSTALLATION

This device is designed for inside use. Digitalizer can be mounted on DIN rail or fastened to the surface with two screws or bolts with minimum dimensions of $\phi 4/50\text{mm}$. Mounting of digitalizer is shown on figures 1- 3. To mount digitalizer on a DIN rail it is required to pull blocking cotter (use flat screwdriver), insert digitalizer on DIN rail, and push the cotter.

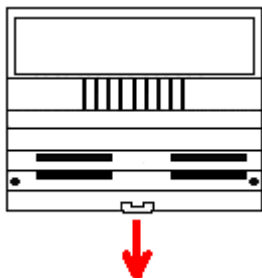


Fig.. 1 Blocking cotter relasing.

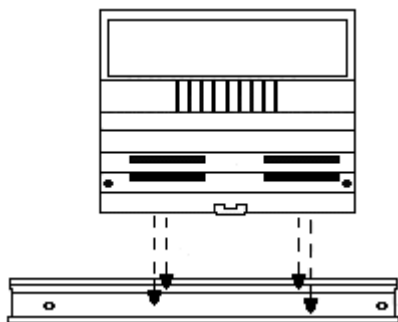


Fig. 2 Mounting of digitalizer on DIN rail.

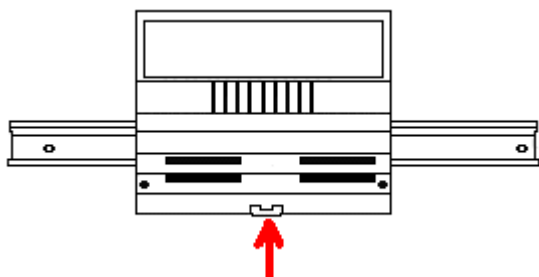


Fig. 3 Pushing the cotter.

DEVICES LOCATION

All devices should be installed in dry and airy places. It is recommended to install these devices in special boxes designed for this purpose. Equipment should be separated from near electric, phone, antenna lines, etc

WIRES

To the single connector can be attached a wire with a maximum diameter of $1,5 \text{ mm}^2$. For connections, use cables with sufficient cross section given in the tables below. Do not twist the wires in order to increase their cross-section.

Using a link cable, please note that the unisolated end of the wire is properly twisted and will not cause short circuits between adjacent terminals.

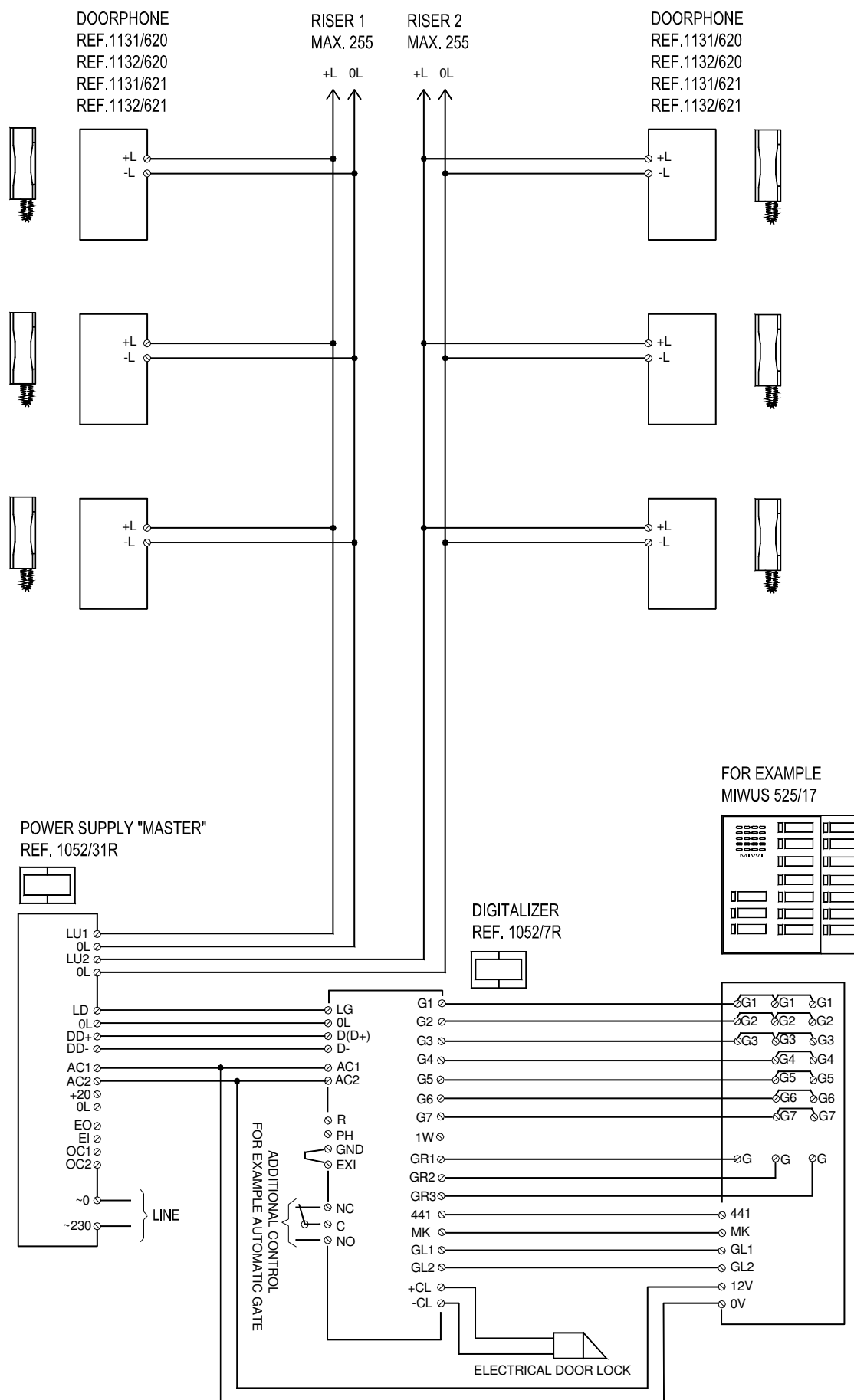
If stiff cables are used please note that device is mounted properly that wires will not cause the detachment of device or damage of terminals.

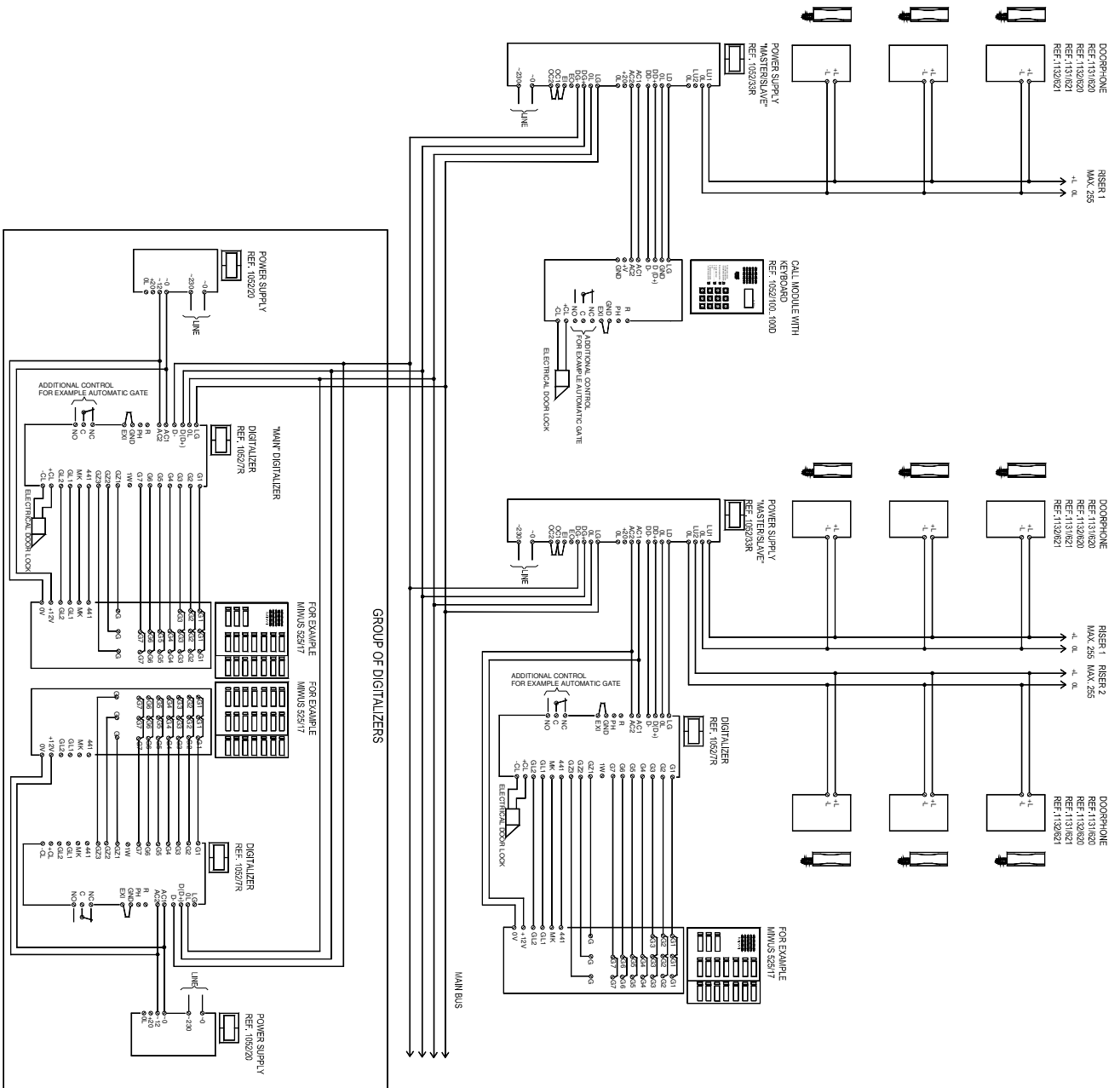
All cables should be tied together and properly labeled

ELECTRICAL CONNECTIONS

All the electrical connections must be made by the man with basic knowledge of electrical engineering.

All connections must be made in accordance to attached schemes **and with disconnected power supply.**





VIDEO DOORPHONE SYSTEM WITH 1 CALL MODULE

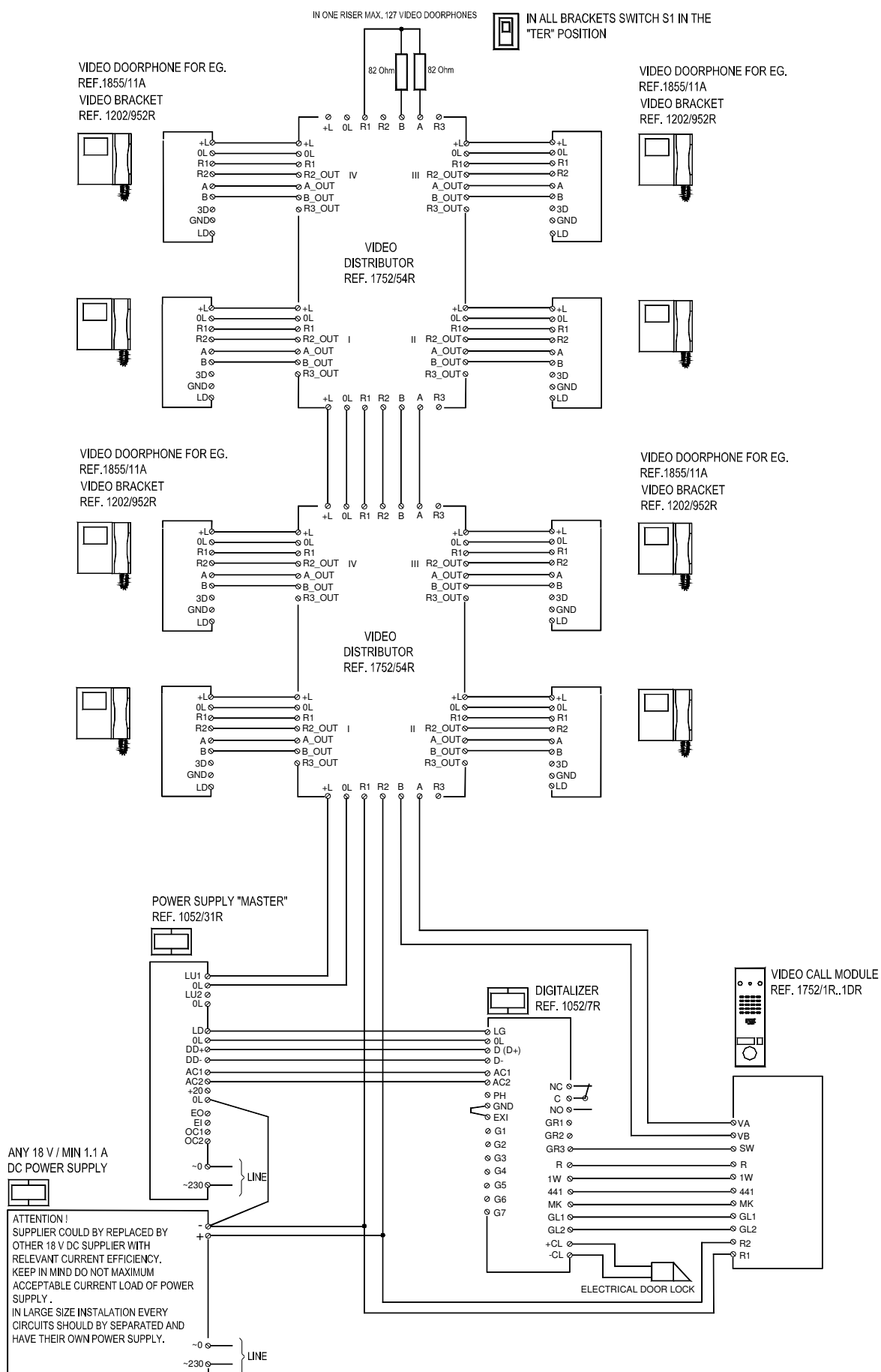








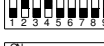
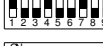
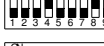
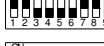
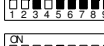
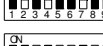
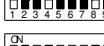
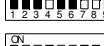
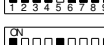
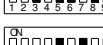
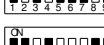
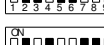




















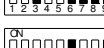
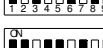
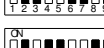
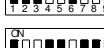




















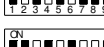
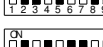
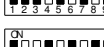
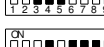


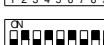
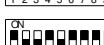












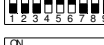
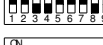
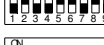

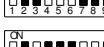

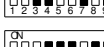





























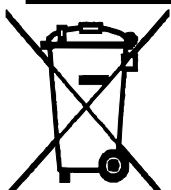


TABLE OF SWITCH SETTINGS TO ESTABLISH GROUPS AND ID DIGITALIZERS

Switch settings	No of group	No in the group	Switch settings	No of group	No in the group	Switch settings	No of group	No in the group	Switch settings	No of group	No in the group
	1	MAI N		8	3		16	2		24	1
	1	1		9	MAI N		16	3		24	2
	1	2		9	1		17	MAI N		24	3
	1	3		9	2		17	1		25	MAI N
	2	MAI N		9	3		17	2		25	1
	2	1		10	MAI N		17	3		25	2
	2	2		10	1		18	MAI N		25	3
	2	3		10	2		18	1		26	MAI N
	3	MAI N		10	3		18	2		26	1
	3	1		11	MAI N		18	3		26	2
	3	2		11	1		19	MAI N		26	3
	3	3		11	2		19	1		27	MAI N
	4	MAI N		11	3		19	2		27	1
	4	1		12	MAI N		19	3		27	2
	4	2		12	1		20	MAI N		27	3
	4	3		12	2		20	1		28	MAI N
	5	MAI N		12	3		20	2		28	1
	5	1		13	MAI N		20	3		28	2
	5	2		13	1		21	MAI N		28	3
	5	3		13	2		21	1		29	MAI N
	6	MAI N		13	3		21	2		29	1
	6	1		14	MAI N		21	3		29	2
	6	2		14	1		22	MAI N		29	3
	6	3		14	2		22	1		30	MAI N
	7	MAI N		14	3		22	2		30	1
	7	1		15	MAI N		22	3		30	2
	7	2		15	1		23	MAI N		30	3
	7	3		15	2		23	1		31	MAI N
	8	MAI N		15	3		23	2		31	1
	8	1		16	MAI N		23	3		31	2
	8	2		16	1		24	MAI N		31	3

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The symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste.
Please check local regulations for disposal of electronic products.
