

MP 110

MP 110TG

MP 110 M

MP 110 M TG

Remote Controllable Control unit

DS80MP1A-005B

LBT80426

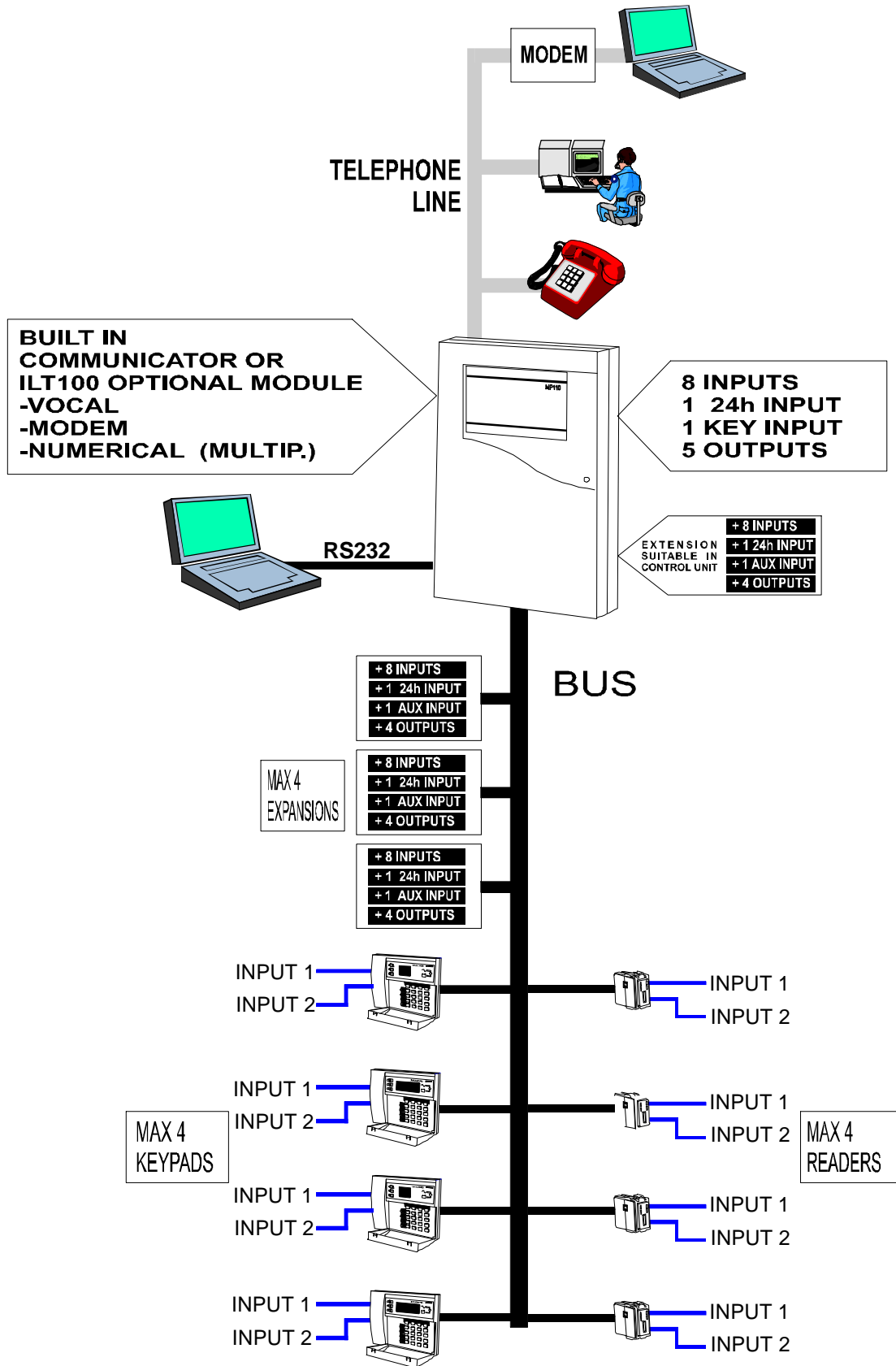
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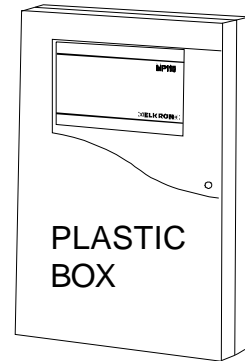
1. SYSTEM COMPOSITION



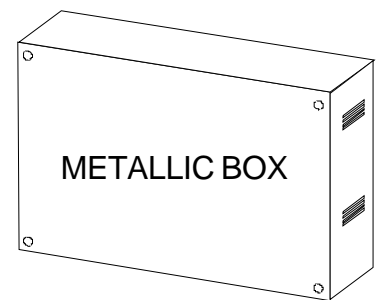
MAX 56 INPUTS - 21 OUTPUTS

1.1 MP110 Control unit

- Wire control unit for small and medium size plants equipped with **8 zones** max + 1 tamper input + 1 mechanical key input. Expandable up to 56 zones + 5 zones 24H + 4 AUX
- 5 programmable alarm outputs: 4 open collector electric outputs and 1 relay output with free exchange.
- Inputs can be partialized into 3 sectors
- Possibility of controlling up to **4 readers, 4 keyboards** and **4 expansions** for inputs/outputs via dedicated serial line (4 conductors)
- 8 supplementary alarm zones + 1 tamper input + 1 auxiliary input in every input expansion which may be of parallel type (EP100) or serial type (ES100). Every expansion is also equipped with 4 open collector electric outputs.
- **2 additional alarm zones** in every **reader** and in every **remote keyboard**
- Programmable zones such as THEFT (instant, delayed, last output, GONG), Technologic, Fire, Silent panic, panic with sirens.
- Activation and deactivation via LCD display remote keyboard (with clear message visualization), led remote keyboard, integrated electronic key, mechanical key.
- Signalling of :general alarm, failure, mains presence, low battery, plant status, tamper alarm, inputs open, inputs cut off. Signalling is provided by means of leds and/or display.
- 8 user access codes are available: MASTER code, installer code, remote surveillance code, user code 2, 5, 6, 7 and 8.
- Max 64 events can be memorized
- Alarm transmission integrated in the control unit (MP110TG version) with 6 23-digit telephone numbers communicator Multiprotocol digital transmission on 8 programmable channels. Optional voice transmission (with SV108+KV100 module) with 9 messages (1 base message + 8 alarm messages)
- Programmable with KP100 led keyboard and KP100D keyboard.
- Programmable through local/remote PC and Fast Link software.
- Programmable commutating lock functions with open zones and zone self-bypassing.



MP110 / MP110TG



MP110M / MP110M TG

AVAILABLE VERSIONS

MP110

1.5 A supply, 12V-6Ah allocable battery, fixed terminals, designed for telephone interface.

MP110TG

1.5 A supply, 12V-6Ah allocable battery, fixed terminals, INTEGRATED telephone interface.

MP110M

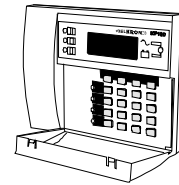
2.8 A supply, 12V-5Ah allocable battery, extractable terminals, designed for telephone interface.

MP110MTG

2,8A supply, 12V-15Ah allocable battery, fixed terminals, INTEGRATED telephone interface.

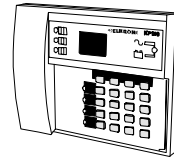
1.2 KP100D Remote keyboard

- Remote keyboard connected on dedicated serial line, equipped with 16-character display with clear message signalling and signalling leds. 2 on-board NC alarm zones. Max 4 keyboard installable (in total between the two KP100 and KP100D models).



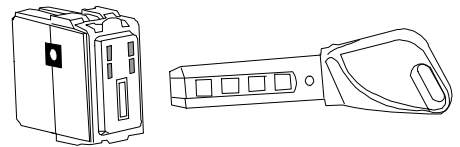
1.3 KP100 Remote keyboard

- Remote keyboard connected on dedicated serial line, equipped with 2 led digits and signalling leds. 2 on-board additional alarm zones. Max 4 keyboard installable (in total between the two KP100 and KP100D models).



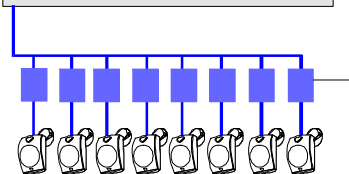
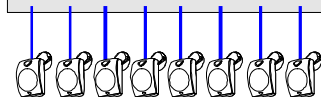
1.4 DK2000M Reader

- Reader connectable on dedicated serial line
- Programmable key on which a code randomly generated by the control unit is transferred (over 4 billions of possible combinations). The number of programmable keys with the same code is therefore unlimited.
- Total or partial activation is possible through DK20 key.
- DK2000M readers equipped with 2 additional alarm zones.



1.5 Input/Output Expansions

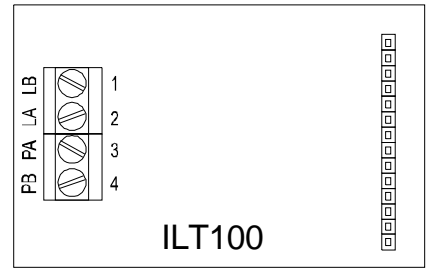
- **EP100**: expansion from 8 alarm zones, Allows traditional detector connection (parallel). Inputs of parallel expansions are programmable as NC, single balancing, double balancing.
- **ES100**: expansion from 8 alarm zones, Takes a BUS on output for connecting the interface modules which can be placed inside the detectors (UR1Z) and capable of taking back to the control unit the alarm and tamper information for every detector.
- In every expansion a 24h balanced input, an auxiliary input , a self-protecting tamper and 4 freely programmable electric outputs are also available.
- Expansions are connectable on the control unit serial line (max 4).
- For further characteristics please refer to the dedicated technical manual.



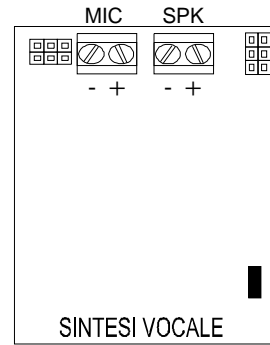
UR1Z module

1.6 Accessories

- **ILT100:** interface module for connecting the communicator (for MP110 control unit only) to the telephone line

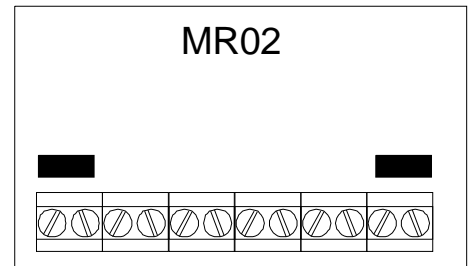


- **SV108:**voice synthesis module

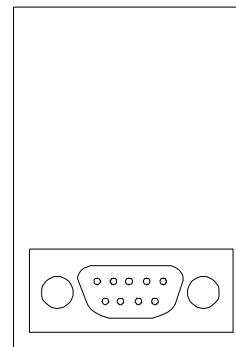


- **KV100:** voice synthesis kit consisting of microphone and speaker

- **MR02:** 2 relais module for TTL o OPEN COLLECTOR NH/ NL electrical outputs



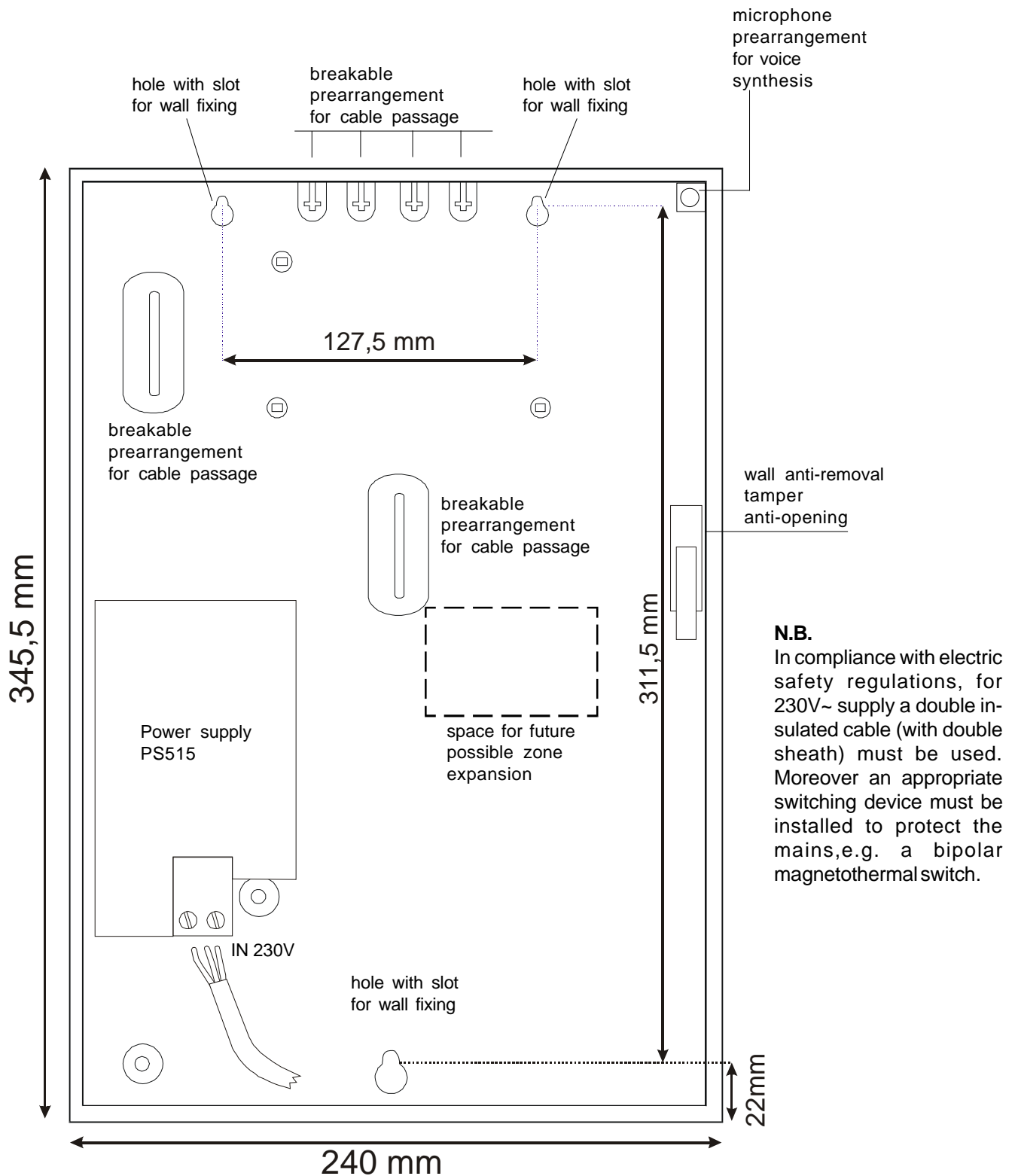
- **TTL RS232:** interface for connection CONTROL UNITS / PC



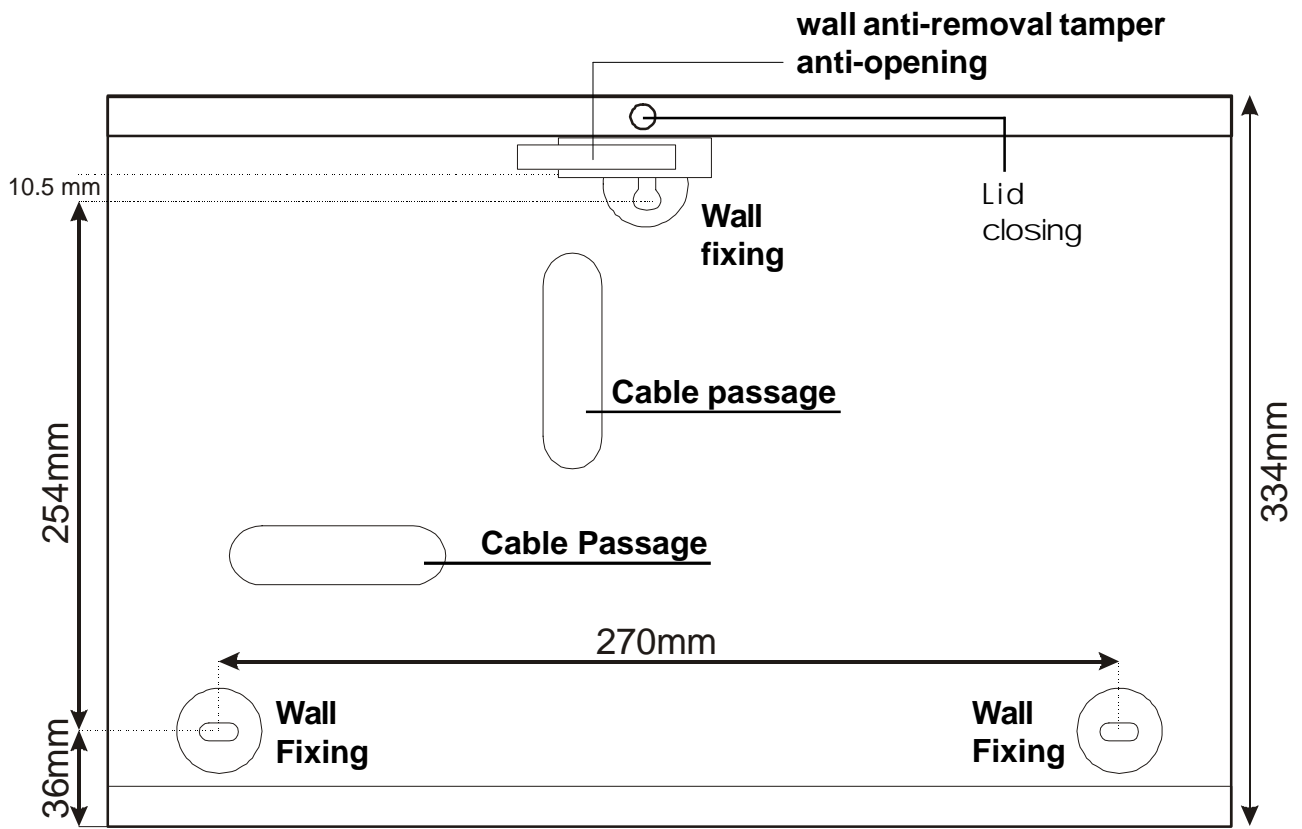
ATTENTION
Accessories must be connected/disconnected with the unit completely unpowered.

2.0 INSTALLATION/CONNECTIONS

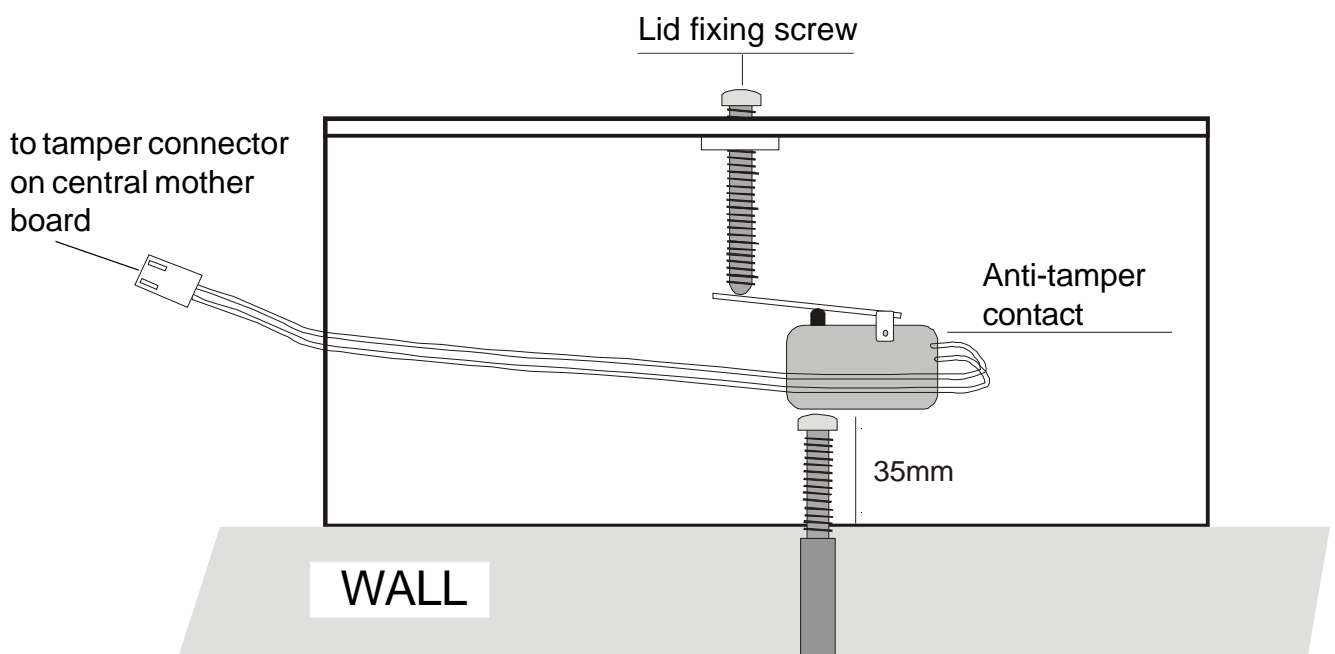
2.1 MP110 : Wall Installation of Thermoplastic container



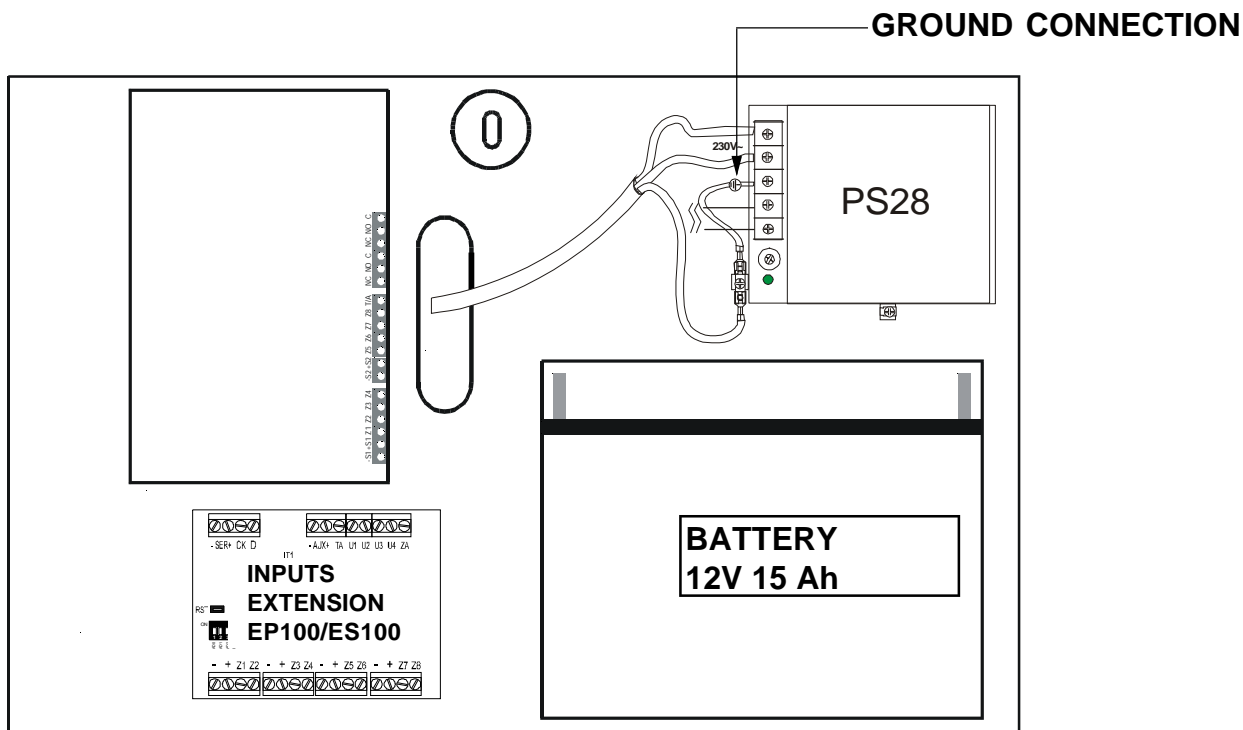
2.2 MP110M : Wall Installation of Metallic container



ANTI-OPENING/ANTI-REMOVAL MICROSWITCH



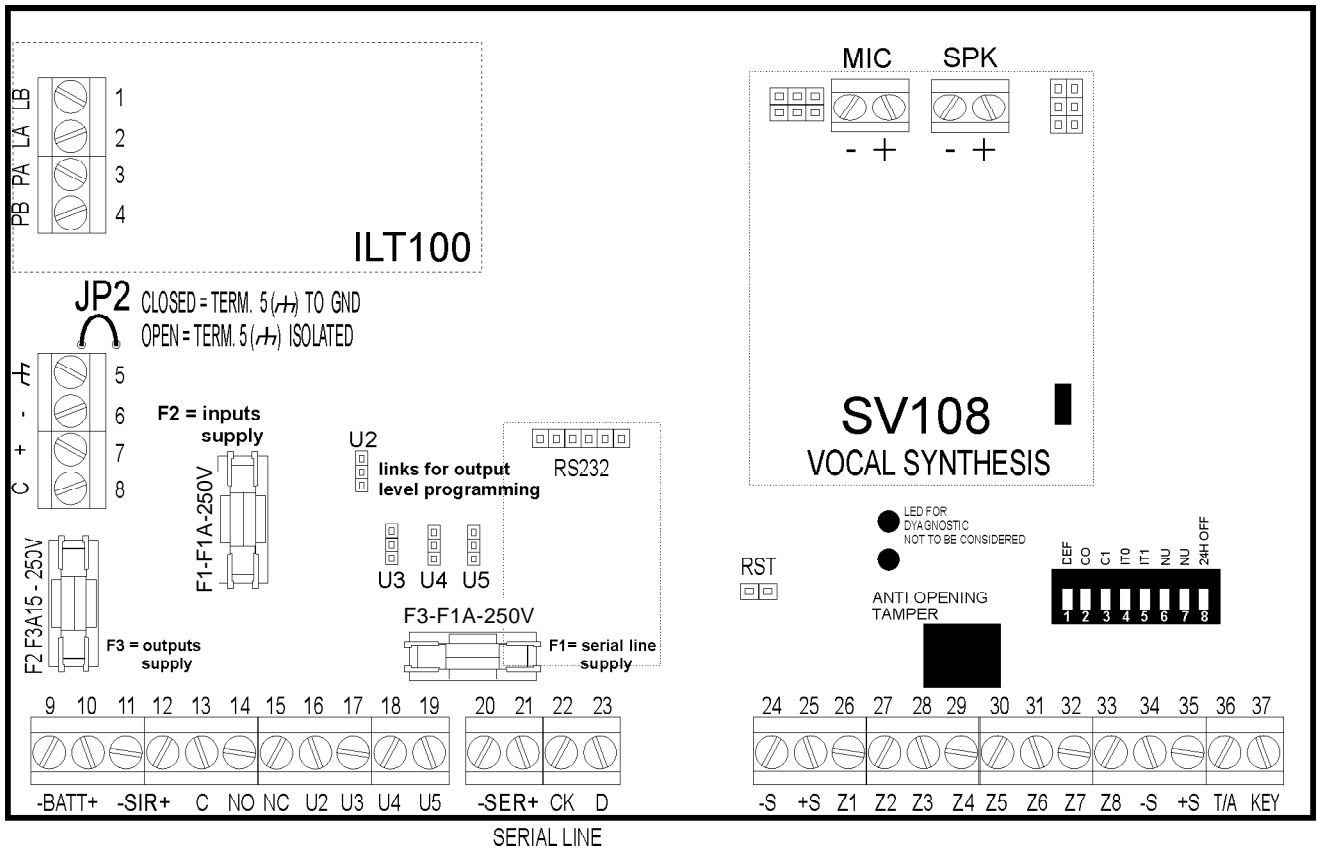
Component fixing on container bottom - wire connection



N.B.

In compliance with electric safety regulations, for 230V~ supply a double insulated cable (with double sheath) must be used. Moreover an appropriate switching device must be installed to protect the mains, e.g. a bipolar magnetothermal switch.

2.3 Terminal Board Description



1/2	LALB	Telephone line input	31	Z6	Zone 6: programmable input
3/4	PA/PB	Telephone line output	32	Z7	Zone 7: programmable input
5		Earth terminal for the connection of the screen	33	Z8	Zone 8: programmable input
6	-	Negative of supply	34	-S	Negative of detector supply
7	+	Positive of supply	35	+S	Positive of detector supply
8	C	Battery test (Only PS515)	36	TA	24h Input
9	-BAT	Battery negative	37	KEY	Mechanical key input
10	+BAT	Battery positive			
11	-SIR	Negative of siren supply			
12	+SIR	Positive of siren supply			
13	C	Relay output 1, max capacity 1 A 24Vdc			
14	NO				
15	NC				
16	U2	Open Collector electric output 2 (I max 10mA)			
17	U3	Open Collector electric output 3 (I max 10mA)			
18	U4	Open Collector electric output 4 (I max 10mA)			
19	U5	Open Collector electric output 5 (I max 10mA)			
20	-SER	Devices supply on serial line			
21	+SER	Devices supply on serial line			
22	CK	Serial line (synchronism)			
23	D	Serial line (data)			
24	-S	Negative of detector supply			
25	+S	Positive of detector supply			
26	Z1	Zone 1: programmable input			
27	Z2	Zone 2: programmable input			
28	Z3	Zone 3: programmable input			
29	Z4	Zone 4: programmable input			
30	Z5	Zone 5: programmable input			

OUTPUT LEVEL PROGRAMMING

The type (NPN/PNP) of electrical outputs U2,U3,U4,U5 can be programmed through links.

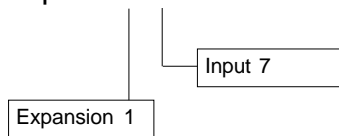
Leaving the links as they are from the factory (see figure above) electric output is normally high (+12V) at rest (PNP) and is lost in case of alarm. The opposite setting makes output become NPN,i.e. normally low (0V) at rest, which is lost in case of alarm.

2.4 Inputs

Input Coding Table

The number of every input consists of 2 digits. The left side digit identifies the group, the right side digit identifies the group input number

Example: 1 7



00	-	Station opening tamper	
01	-	Station input 1 or input tamper (for double balancing)	
02	-	Station input 2 or input tamper (for double balancing)	
03	-	Station input 3 or input tamper (for double balancing)	
04	-	Station input 4 or input tamper (for double balancing)	
05	-	Station input 5 or input tamper (for double balancing)	
06	-	Station input 6 or input tamper (for double balancing)	
07	-	Station input 7 or input tamper (for double balancing)	
08	-	Station input 8 or input tamper (for double balancing)	
09	-	Station 24 h input or input tamper (for double balancing)	
10	-	Tamper expansion 1	
11	-	Input 1 expansion 1 or input tamper (for double balancing)	
12	-	Input 2 expansion 1 or input tamper (for double balancing)	
13	-	Input 3 expansion 1 or input tamper (for double balancing)	
14	-	Input 4 expansion 1 or input tamper (for double balancing)	
15	-	Input 5 expansion 1 or input tamper (for double balancing)	
16	-	Input 6 expansion 1 or input tamper (for double balancing)	
17	-	Input 7 expansion 1 or input tamper (for double balancing)	
18	-	Input 8 expansion 1 or input tamper (for double balancing)	
19	-	Input 24h expansion 1	
1A	-	Auxiliary input expansion 1	
20	-	Tamper expansion 2	
21	-	Input 1 expansion 2 or input tamper (for double balancing)	
22	-	Input 2 expansion 2 or input tamper (for double balancing)	
23	-	Input 3 expansion 2 or input tamper (for double balancing)	
24	-	Input 4 expansion 2 or input tamper (for double balancing)	
25	-	Input 5 expansion 2 or input tamper (for double balancing)	
26	-	Input 6 expansion 2 or input tamper (for double balancing)	
27	-	Input 7 expansion 2 or input tamper (for double balancing)	
28	-	Input 8 expansion 2 or input tamper (for double balancing)	
29	-	Input 24h expansion 2	
2A	-	Auxiliary input expansion 2	
30	-	Tamper expansion 3	
31	-	Input 1 expansion 3 or input tamper (for double balancing)	
32	-	Input 2 expansion 3 or input tamper (for double balancing)	
33	-	Input 3 expansion 3 or input tamper (for double balancing)	
34	-	Input 4 expansion 3 or input tamper (for double balancing)	
35	-	Input 5 expansion 3 or input tamper (for double balancing)	
36	-	Input 6 expansion 3 or input tamper (for double balancing)	
37	-	Input 7 expansion 3 or input tamper (for double balancing)	
38	-	Input 8 expansion 3 or input tamper (for double balancing)	
39	-	Input 24h expansion 3	
3A	-	Auxiliary input expansion 3	
40	-	Tamper expansion 4	
41	-	Input 1 expansion 4 or input tamper (for double balancing)	
42	-	Input 2 expansion 4 or input tamper (for double balancing)	
43	-	Input 3 expansion 4 or input tamper (for double balancing)	
44	-	Input 4 expansion 4 or input tamper (for double balancing)	
45	-	Input 5 expansion 4 or input tamper (for double balancing)	
46	-	Input 6 expansion 4 or input tamper (for double balancing)	
47	-	Input 7 expansion 4 or input tamper (for double balancing)	
48	-	Input 8 expansion 4 or input tamper (for double balancing)	
49	-	Input 24h expansion 4	
4A	-	Auxiliary input expansion 4	
A1	-	Input 1 READER 1	
A2	-	Input 2 READER 1	
A3	-	Input 1 READER 2	
A4	-	Input 2 READER 2	
A5	-	Input 1 READER 3	
A6	-	Input 2 READER 3	
A7	-	Input 1 READER 4	
A8	-	Input 2 READER 4	
B1	-	Input 1 keyboard 1	BA - tamper keyboard 1
B2	-	Input 2 keyboard 1	BB - tamper keyboard 2
B3	-	Input 1 keyboard 2	BC - tamper keyboard 3
B4	-	Input 2 keyboard 2	BD - tamper keyboard 4
B5	-	Input 1 keyboard 3	
B6	-	Input 2 keyboard 3	
B7	-	Input 1 keyboard 4	
B8	-	Input 2 keyboard 4	

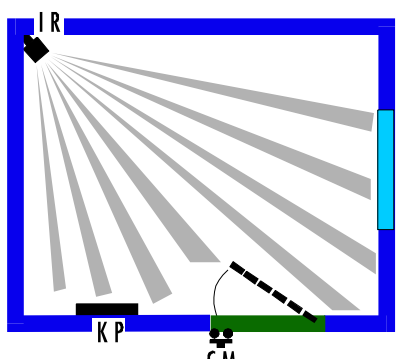
2.4.1 Input programming table

PROGRAMMABILITY	CONTROL UNIT	EXPANSIONS	READERS	KEYBOARD
PHYSICAL CONNECTION MODE				
NORMALLY CLOSED	YES	YES	YES	YES
SINGLE BALANCING	YES	YES	NO	NO
DOUBLE BALANCING	YES	YES	NO	NO
INPUTS ACTIVE 24H				
PANIC WITH SIREN	YES	YES	YES	
SILENT PANIC	YES	YES	YES	YES
FIRE	YES	YES	YES	YES
TECHNOLOGICAL	YES	YES	YES	YES
BURGLARY INPUT ASSIGN.				
INSTANT	YES	YES	YES	YES
DELAYED	YES	YES	YES	YES
LAST OUTPUT	YES	YES	YES	YES
CHIME GONG	YES	YES	YES	YES

2.4.2 Burglary inputs programming

- **INSTANT inputs (NC to positive or Balanced. to positive)**
If open, they generate immediate alarm if the relevant sector is activated.
- **DELAYED inputs (NC to positive or Balanced to positive)**
If they are opened **during** the output delay they generate no alarm. If they stay open or are opened **after** the output delay, the input time will be activated, after which if the system is not placed in OFF, alarm will be generated.
- **LAST OUTPUT Inputs**
The opening and the subsequent closing of one LAST OUTPUT input during the output delay puts this time at about 5s.

EXAMPLE OF USE OF LAST OUTPUT INPUTS WITH DELAYED PATH



CM = microcontact (last output input)
IR = infrared (delayed input)
KP = remote keyboard

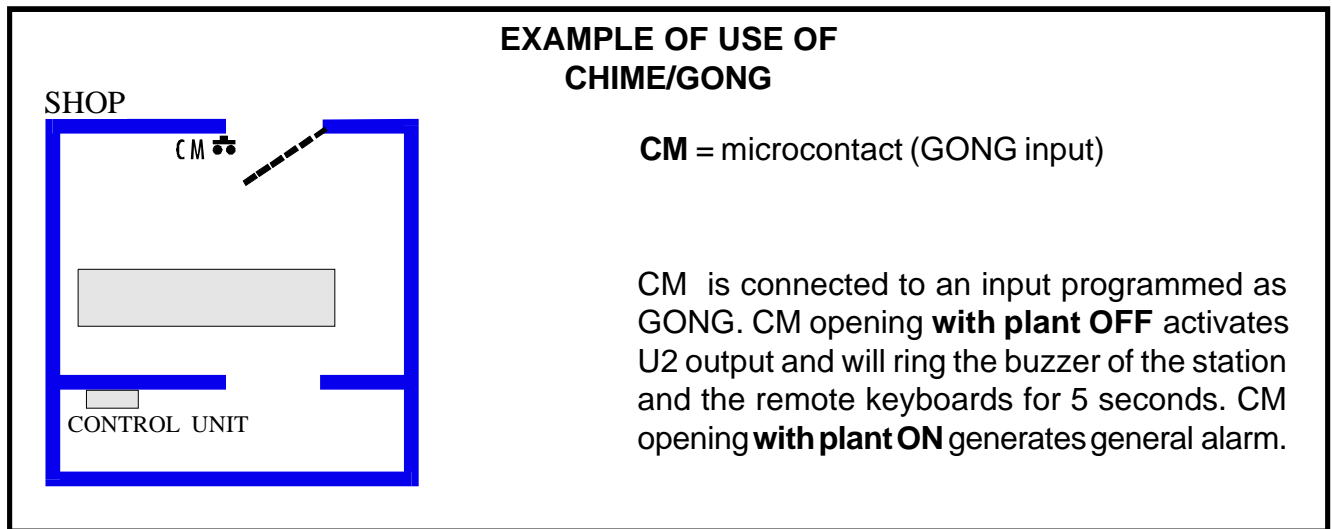
IIR is connected to a delayed input, CM to a programmed LAST OUTPUT input. By activating the station from KP IR measure is not considered, the following CM opening and re-closing takes output delay to 5 seconds. If an intruder gets in from a window there will be an immediate alarm (even if IR is delayed). If he gets in from the door protected by CM the entrance delay will be enabled.

CAUTION:

An input can be programmed as LAST OUTPUT only if programmed as delayed. By modifying the programming of an input from DELAYED to INSTANT, the LAST OUTPUT is automatically lost if programmed.

- **CHIME/GONG inputs**

A burglary input programmed as CHIME/GONG will activate the output corresponding to this signalling if the belonging sector is OFF. On the contrary it will activate the alarm if the belonging sector is ON



2.4.3 Programming 24h active inputs

- **TECHNOLOGICAL Inputs**

The opening of one of these inputs will activate the output programmed as technological alarm for 1 minute and the corresponding telephone alarm will be sent.

- **FIRE input**

The opening of one of these inputs will activate the output programmed as Fire for 1 minute and the relay (if enabled for this alarm) and the corresponding telephone alarm will be sent.

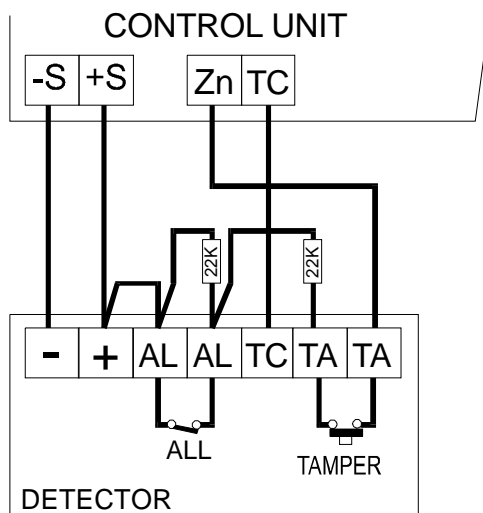
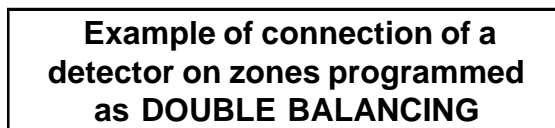
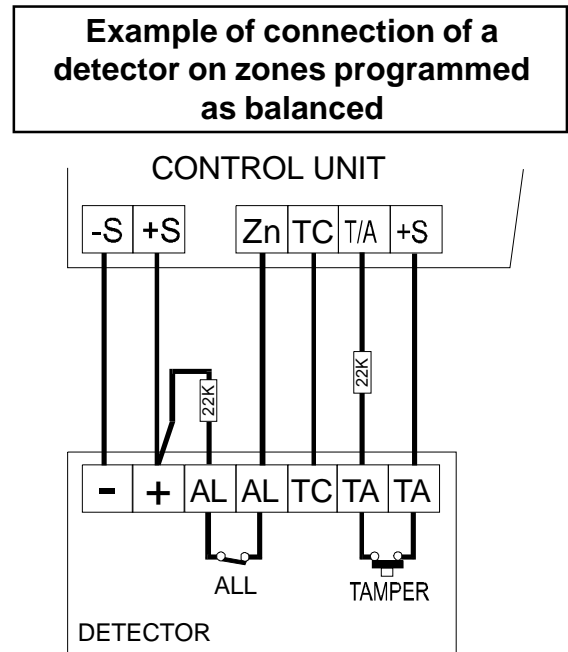
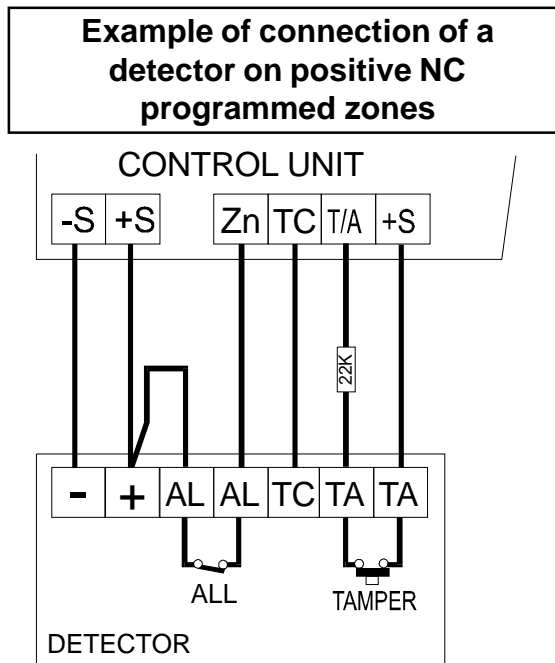
- **PANIC input**

An programmed SILENT PANIC input (antirobbery) will activate the corresponding electric panic output for 1 minute. A programmed PANIC WITH SIRENS input (antiaggression) will activate the electric panic output and the alarm relay for 1 minute and the corresponding telephone alarm will be sent.

2.4.4 Physical connection of zones

With the exception of the reader and keypad zones, the alarm zones all refer to the positive and may be programmed as single or dual balancing NC. Dual balancing makes it possible to connect and distinguish on the same zone the alarm and tamper contacts of the sensor connected to that zone. Single balancing, dual balancing or NC selection may be programmed on each single board (mother board and expansion boards) by dip-switches.

When a NC type configuration is selected for these zones, we recommend that they be closed with positive through the supplied resistance in order to prevent excessive current consumption while the zone is at rest. An average consumption of 21 mA (for 8 zones) is obtained by closing the zone directly as positive, whereas consumption is reduced to about 3.5 mA when the zone is closed with resistor.



CAUTION

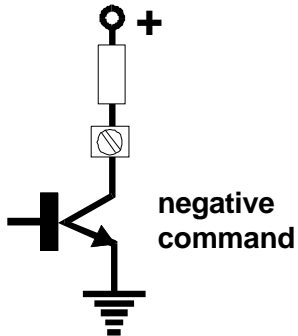
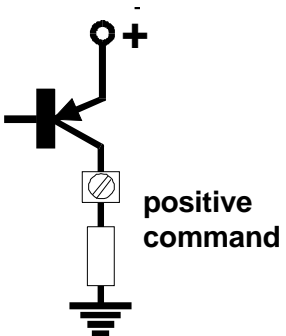
T/A inputs (control unit and expansions) must be always balanced regardless of the type of connection selected for burglary inputs.

The programming of double balancing inputs allows to discriminate the 2 events of "zone alarm" and "zone tamper" with the same return wire on the station input.

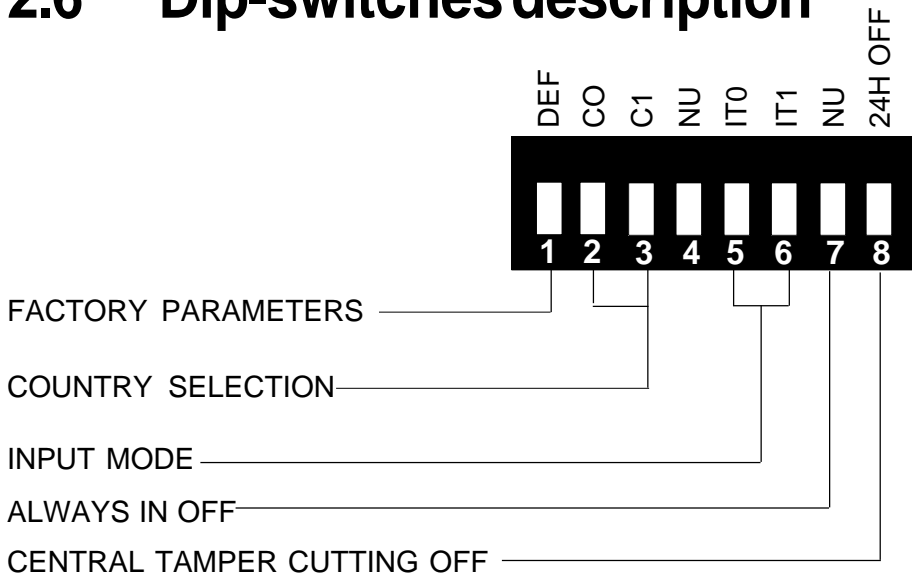
2.5 Outputs

2.5.1 Output programming table

	U1 - CONTROL UNIT	U2, U3, U4, U5 CONTROL UNIT	U2, U3, U4, U5 ESP.
BURGLARY	YES	YES	YES
TAMPER	YES	YES	YES
PANIC	NO	YES	YES
TECHNOLOGICAL	NO	YES	YES
FIRE	YES	YES	YES
CHIME/GONG	NO	YES	YES
FAILURE	NO	YES	YES
LPA	NO	YES	YES
TC1	NO	YES	YES
TC2	NO	YES	YES
TC3	NO	YES	YES
OR TC	NO	YES	YES
AND TC	NO	YES	YES
RESET FIRE DET.	NO	YES	YES
BUZZER	NO	YES	NO
SYSTEM STATUS	NO	YES	NO
NH/NL	YES	YES	YES
NPN/PNP	NO	YES	NO

TC1, TC2, TC3 OR	TC1, TC2, TC3 AND	NPN OUTPUT	PNP OUTPUT
Voltage at the output is +12V if atleast one of the TC's is present (+12V)	Voltage at the output is +12V only if all TC's are present (+12V)	 <p>negative command</p>	 <p>positive command</p>

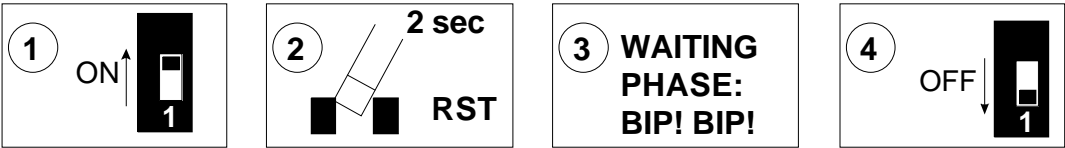
2.6 Dip-switches description



IMPORTANT

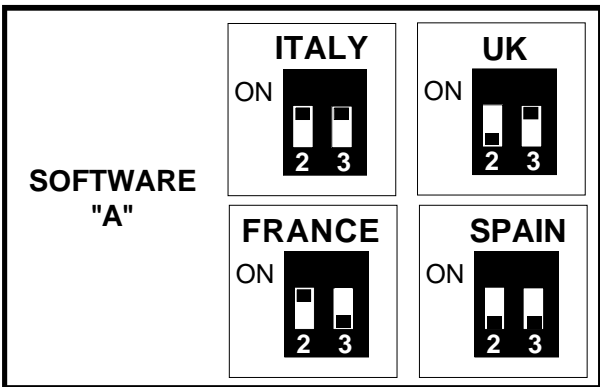
Once accomplished the reset to factory parameters, the station automatically sets in ON (Total activation). To deactivate it is sufficient to enter a valid code. User factory code: 1-1111

DIP 1 FACTORY PARAMETERS

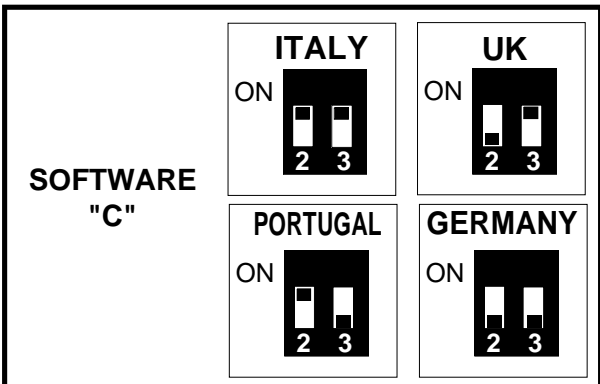


With station OFF shortcircuit PIN RST for a moment

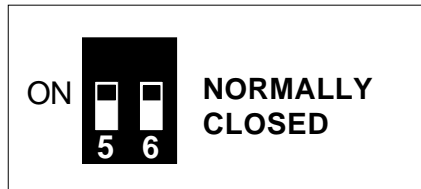
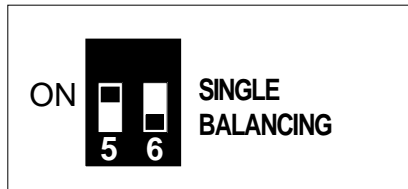
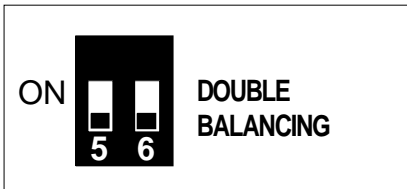
DIP 2/3 COUNTRY SELECTION



The product software version is indicated on the control unit Eprom



DIP 5/6 INPUTS MODE



DIP 8 TAMPER EXCLUSION

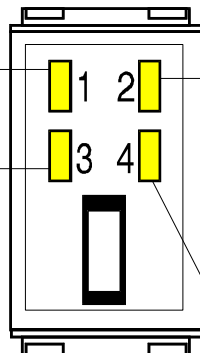


2.7 Devices Description

2.7.1 READER DK2000M

ON = ZONE 1 ARMED
OFF = ZONE 1 DISARMED

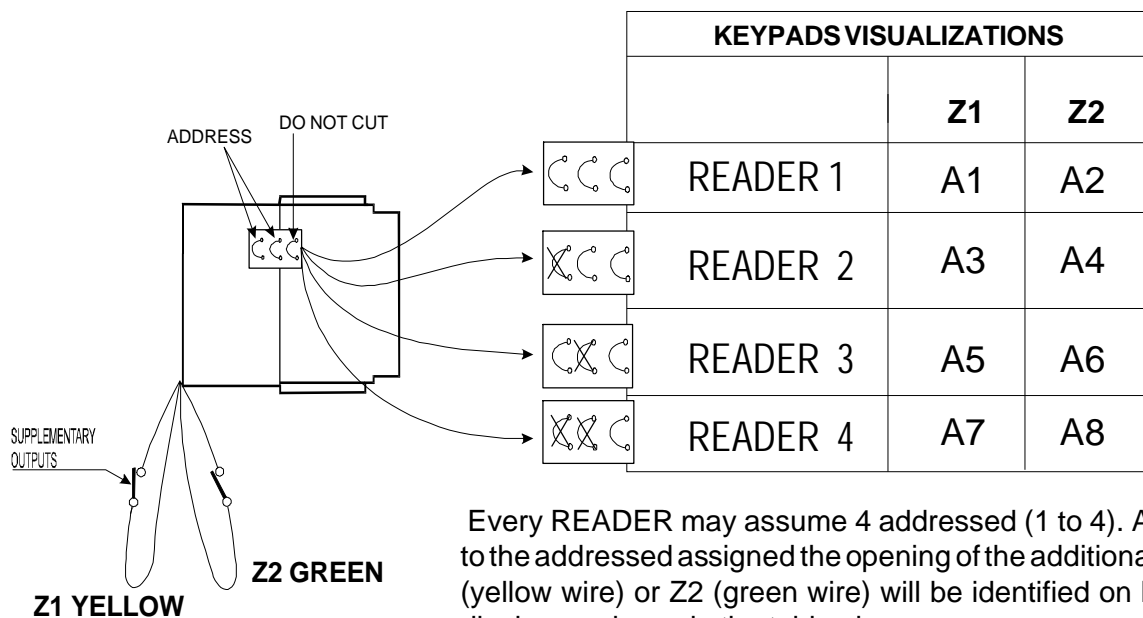
ON = ZONE 2 ARMED
OFF = ZONE 2 DISARMED



ON = alarms stored, low battery, absence of mains, system failures, tampering

SLOW FLASHING = during key programming and to signal open inputs. In case of concomitance of stored alarms, failure, etc. with open inputs, the led flashing will be fast.

ON = ZONE 3 ARMED
OFF = ZONE 3 DISARMED

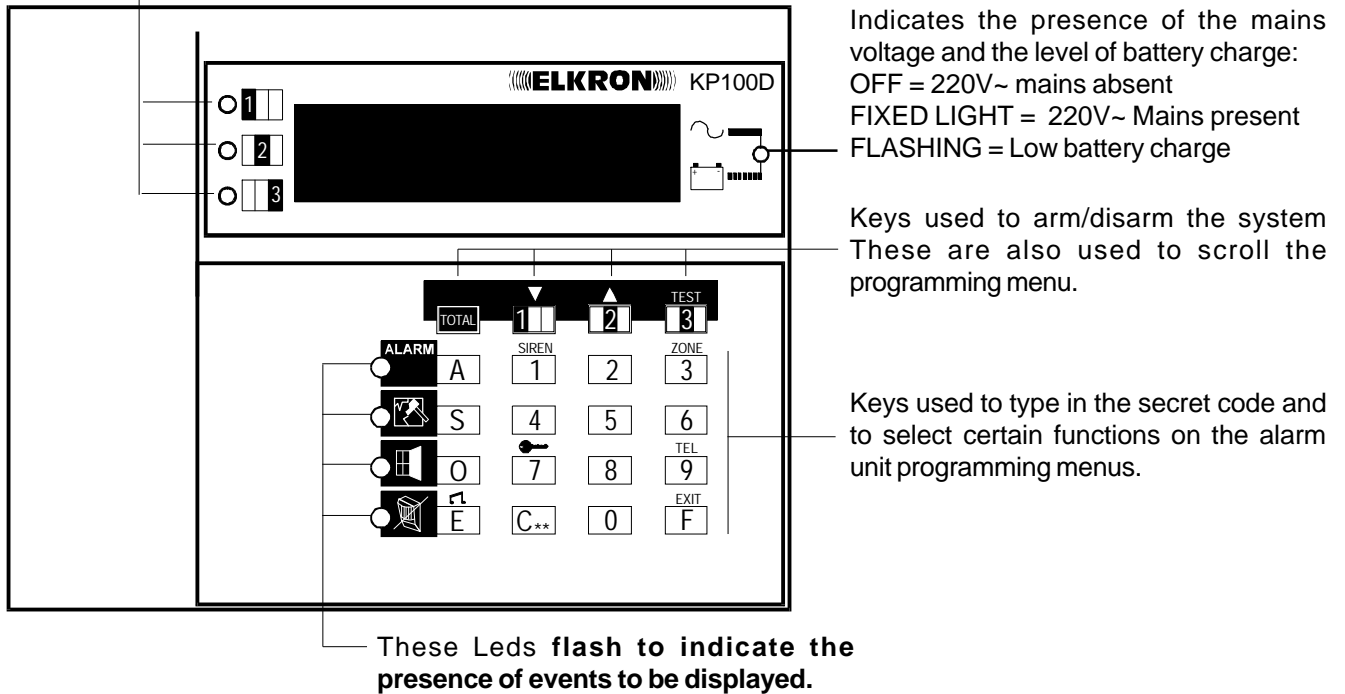






2.7.2 LCD display keypad description

These display the status of the three areas into which the alarm system is divided:

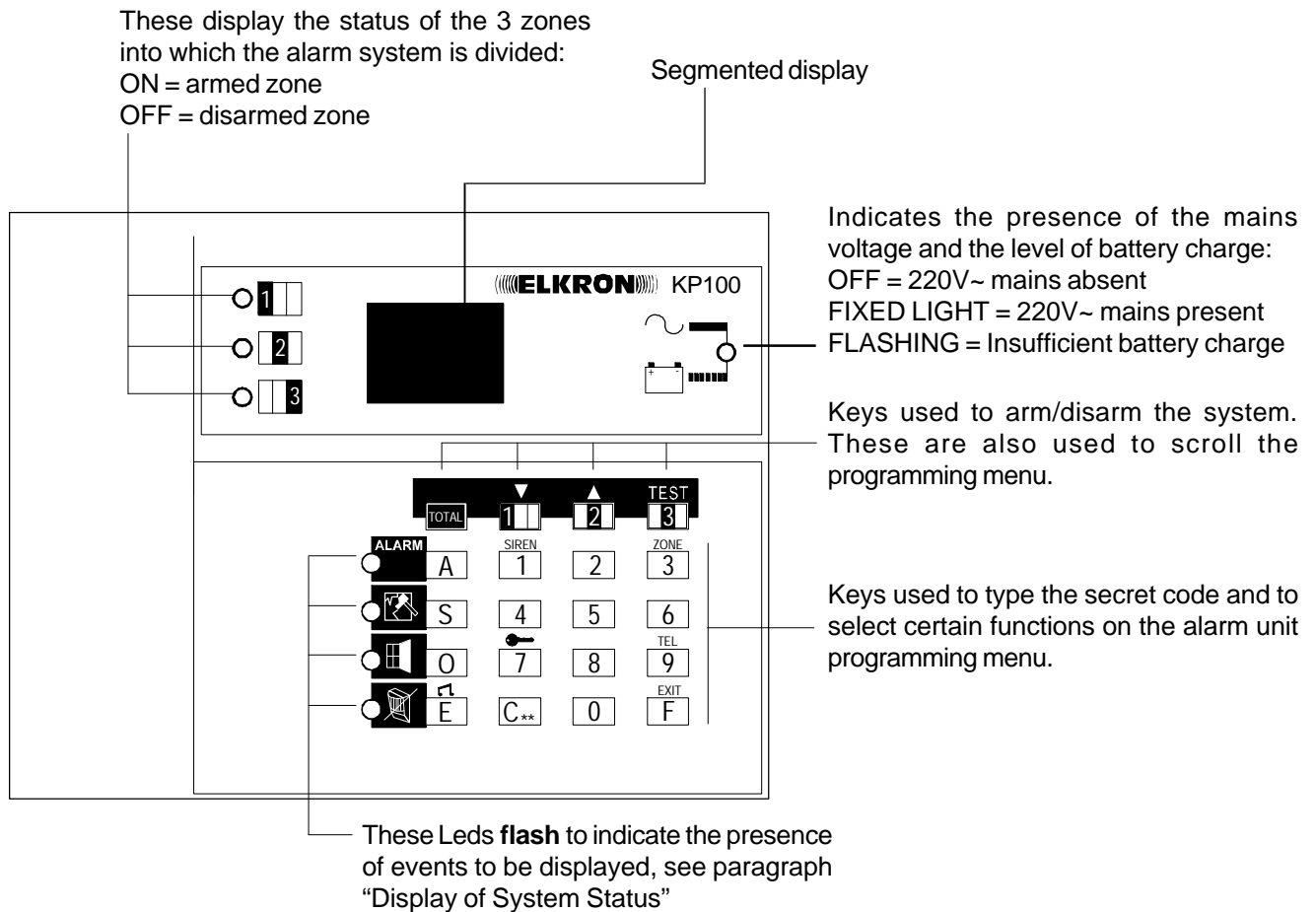
ON = armed zone





OFF = disarmed zone



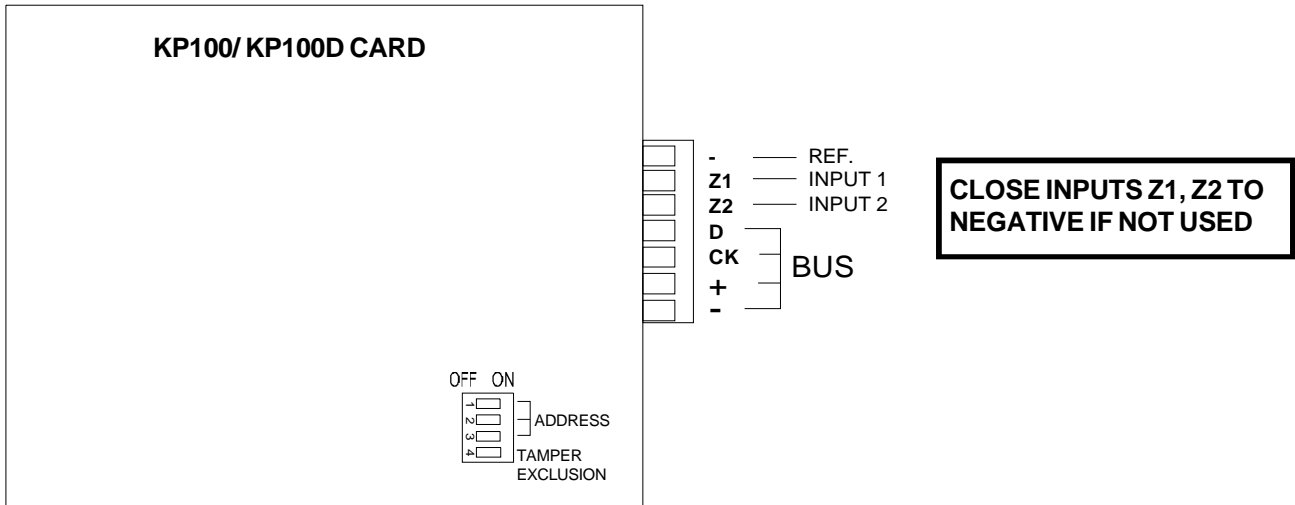
-  *A flashing light indicates that alarms have occurred*
-  *A flashing light indicates that burglaries have occurred on one or more parts of the system.*
-  *A flashing light indicates that there are protected zones (doors or windows protected by contacts) that are still open.*
-  *A flashing light indicates that some sensors/contacts are disabled.*





















2.7.3 Segmented display keypad description



-  *A flashing light indicates that alarms have occurred.*
-  *A flashing light indicates that burglaries have occurred on one or more parts of the system.*
-  *A flashing light indicates that there are some protected zones (doors or windows protected by contacts) that are still open.*
-  *A flashing light indicates that some sensors/contacts are disabled.*

2.7.4 KP100 / KP100D keyboard



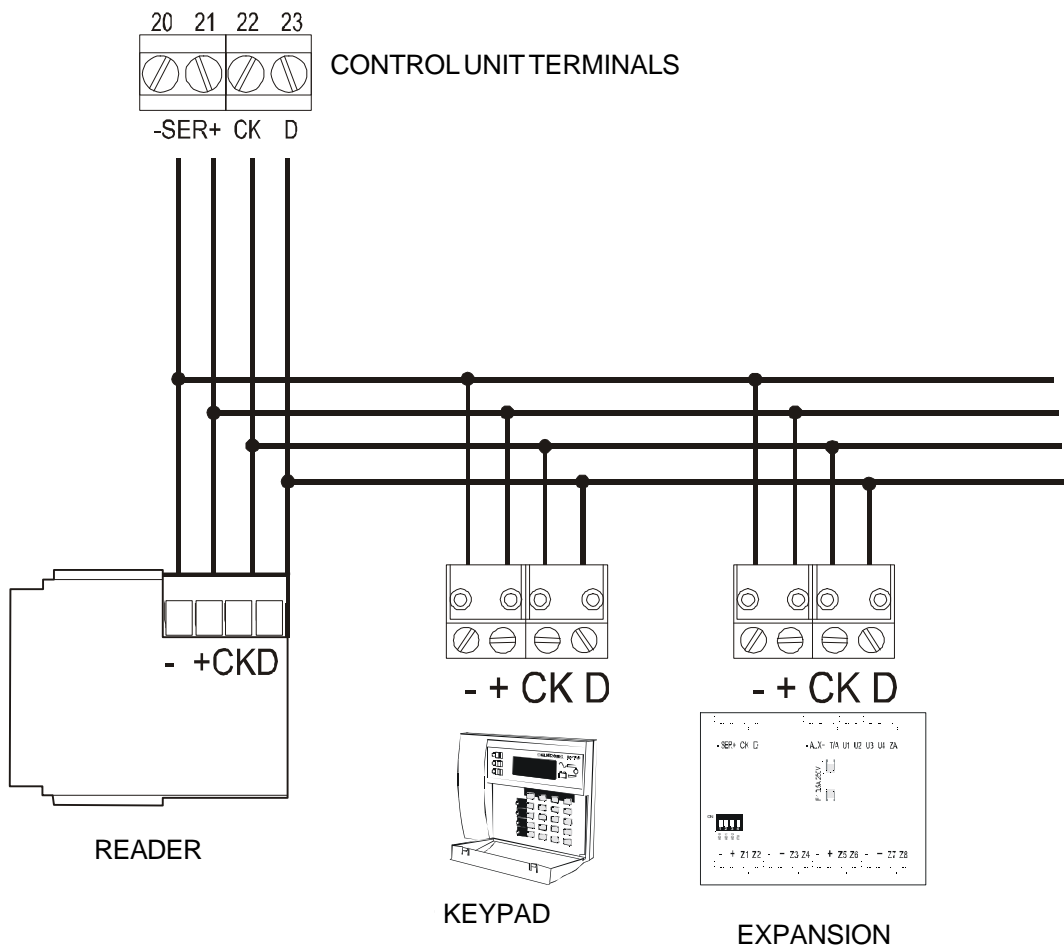
ADDRESSES	DISPLAY VISUALISATION			KEYBOARD TAMPER CUTTING OFF
	Z1	Z2	TAMPER	
KEYBOARD 1 OFF ON    	B1	B2	BA	    TAMPER DISABLED TAMPER ENABLED
KEYBOARD 2 OFF ON    	B3	B4	BB	
KEYBOARD 3 OFF ON    	B5	B6	BC	
KEYBOARD 4 OFF ON    	B7	B8	BD	

CAUTION
DIP SWITCH N.3
MUST BE ALWAYS
IN ON

2.7.5 Devices Connection

Adding/Eliminating series-connected devices

- If connection with a series-connected device is lost (expansion, connector, keypad), the unit generates a tamper alarm that will be signaled at each total or partial arming of the system (a tamper alarm will occur at each arming).
- To eliminate a device from the serial line, it is necessary to disconnect the series of the device to be eliminated and reset the unit. To add a new series-connected device, the user must connect the series of the device to be added and reset the system.
- The unit must be reset by short-circuiting the reset (RST) pin-strip with dip-switch 1 OFF. (ATTENTION: With dip-switch 1 ON, the unit is reset to factory parameters and loses all its programmings).

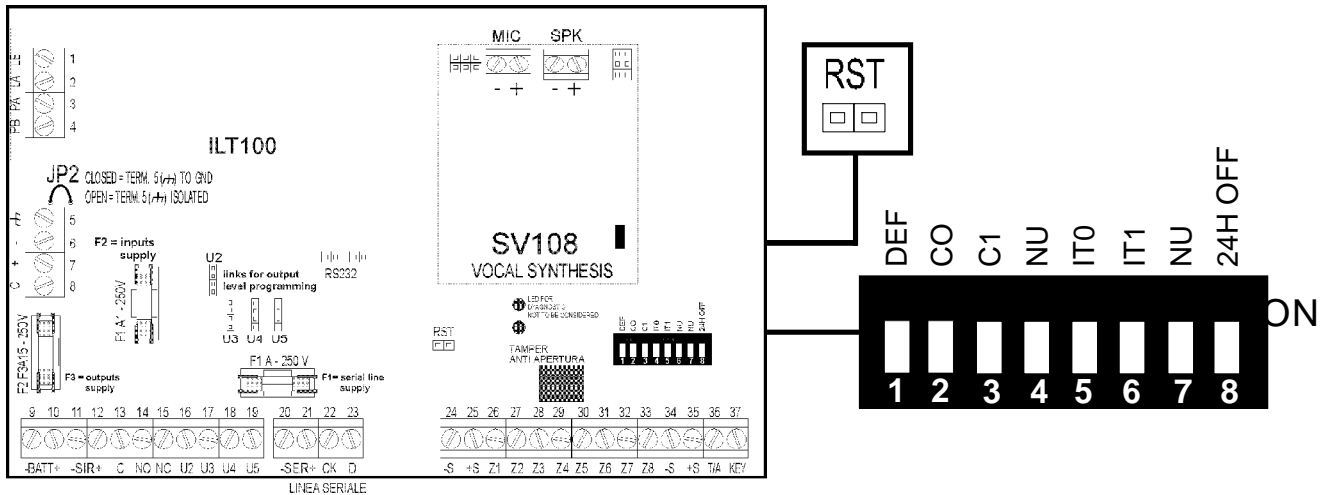


3.0 SYSTEM RUNNING

3.1 Factory parameters

To take the CONTROL UNIT back to factory parameters the following procedure must be carried out:

1. Deactivate CONTROL UNIT (OFF)
2. Position in ON dip switch n.1 (DEF)
3. Shortcircuit for a moment PIN-STRIP RST contacts and wait for a double confirmation BIP from buzzer.
4. Take back to OFF dip switch n.1



WARNING !

1. The following programmings are not lost when the unit is restored to factory parameters:
 - programming of telephone numbers and their type (voice, numerical and remote-control management)
 - association of event to telephone number the key code and its association
 - the key code and its association
 - date/hour
2. Once the factory parameters have been rest, the CONTROL UNIT automatically goes to ON (Total activation). To deactivate it is sufficient to enter a valid code . User factory code: 1-11111

3.1.1 Factory parameters: access codes

N°	name	Code	Associated sectors	Enabling
1	MASTER code	111111	1-2-3	YES
2	USER 2	222222	1-2-3	NO
3	INSTALLER	333333	1-2-3	YES
4	SURVEILLANCE	444444	-	NO
5	USER 5	555555	-	NO
6	USER 6	666666	-	NO
7	USER 7	777777	-	NO
8	USER 8	888888	-	NO

3.1.2 Factory parameters: control unit inputs

INPUTSFUNCTIONS	Z01	Z02	Z03	Z04	Z05	Z06	Z07	Z08
Instant Burglary	○	●	●	●	●	●	●	●
Delayed Burglary	●	○	○	○	○	○	○	○
Chime Burglary	○	○	○	○	○	○	○	○
Final Exit Burglary	○	○	○	○	○	○	○	○
Silent Panic	○	○	○	○	○	○	○	○
Panic with sirens	○	○	○	○	○	○	○	○
Technological	○	○	○	○	○	○	○	○
Fire	○	○	○	○	○	○	○	○
Associated to sector 1	●	●	○	○	○	○	●	●
Associated to sector 2	○	○	●	●	○	○	●	●
Associated to sector 3	○	○	○	○	●	●	●	●

HOW TO READ TABLE

The symbol ● indicates the zone as programmed in factory.

The symbol ○ indicates that the zone may be programmed.

The white space indicates that the zone may not be programmed.

3.1.3 Factory parameters: 1/4 expansion input

INPUTSFUNCTIONS	Zx1	Zx2	Zx3	Zx4	Zx5	Zx6	Zx7	Zx8	ZXA
Instant Burglary	○	●	●	●	●	●	●	●	
Delayed Burglary	●	○	○	○	○	○	○	○	
Chime Burglary	○	○	○	○	○	○	○	○	
Final Exit Burglary	○	○	○	○	○	○	○	○	
Silent Panic	○	○	○	○	○	○	○	○	
Panic with sirens	○	○	○	○	○	○	○	○	
Technological	○	○	○	○	○	○	○	○	
Fire	○	○	○	○	○	○	○	○	
Associated to sector 1	●	●	●	●	●	●	●	●	
Associated to sector 2	●	●	●	●	●	●	●	●	
Associated to sector 3	●	●	●	●	●	●	●	●	
Failure input									●
Line control									○

HOW TO READ TABLE

The symbol ● indicates the zone as programmed in factory.

The symbol ○ indicates that the zone may be programmed.

The white space indicates that the zone may not be programmed.

3.1.4 Factory parameters: reader inputs

INPUTS/FUNCTIONS	ZA1	ZA2	ZA3	ZA4	ZA5	ZA6	ZA7	ZA8
Instant Burglary	○	●	●	●	●	●	●	●
Delayed Burglary	●	○	○	○	○	○	○	○
Chime Burglary	○	○	○	○	○	○	○	○
Final Exit Burglary	○	○	○	○	○	○	○	○
Silent Panic	○	○	○	○	○	○	○	○
Panic with sirens	○	○	○	○	○	○	○	○
Technological	○	○	○	○	○	○	○	○
Fire	○	○	○	○	○	○	○	○
Associated to sector 1	●	●	○	○	○	○	●	●
Associated to sector 2	○	○	●	●	○	○	●	●
Associated to sector 3	○	○	○	○	●	●	●	●

HOW TO READ TABLE

The symbol ● indicates the zone as programmed in factory.

The symbol ○ indicates that the zone may be programmed.

The white space indicates that the zone may not be programmed.

3.1.5 Factory parameters: 1/4 keyboards inputs

KEYBOARD INPUTS	ZB1	ZB2	ZB3	ZB4	ZB5	ZB6	ZB7	ZB8
Instant Burglary	○	●	●	●	●	●	●	●
Delayed Burglary	●	○	○	○	○	○	○	○
Chime Burglary	○	○	○	○	○	○	○	○
Final Exit Burglary	○	○	○	○	○	○	○	○
Silent Panic	○	○	○	○	○	○	○	○
Panic with sirens	○	○	○	○	○	○	○	○
Technological	○	○	○	○	○	○	○	○
Fire	○	○	○	○	○	○	○	○
Associated to sector 1	●	●	○	○	○	○	●	●
Associated to sector 2	○	○	●	●	○	○	●	●
Associated to sector 3	○	○	○	○	●	●	●	●

HOW TO READ TABLE

The symbol ● indicates the zone as programmed in factory.

The symbol ○ indicates that the zone may be programmed.

The white space indicates that the zone may not be programmed.

3.1.6 Communicator factory parameters

	FACTORY	PROGRAMMABILITY
Transponder	Disabled	3 to 15 rings
Telephone selection	DTMF	DTMF/Impulsive
Tone control	Disabled	Disabled/enabled
Answer control	Disabled	Disabled/enabled
Routing	Disabled	Disabled/enabled
Protocol	IDP	IDP/ADF/S1400/C200b/141910/141820/231820/231840/SIA/DGF
Answering system skip	Enabled	Enabled/disabled
Communicator enabling	OR sectors	AND/OR sectors

3.1.7 Factory parameters: miscellaneous parameters

	FACTORY	PROGRAMMABILITY
Input time	0 sec.	0 to 90 sec.
Output time	Input time + 10 sec.	Non programmable
Alarm time	1 minute	30 sec to 9 min.
Alarm count	0 (bypassed)	0 to 9
Prealarm	Armed	Armed/disarmed
Masking	Disarmed	Armed/disarmed
Mechanical key	Impulsive	Level or impulsive
Cyclic key	Disabled	Disabled/ at intervals from 1 hour to 7 days

3.1.8 Factory parameters: outputs

OUTPUT CONFIGUR	CONTROL UNIT OUTPUTS					EXPANSIONS OUTPUTS			
	U01	U02	U03	U04	U05	Ux1	Ux2	Ux3	Ux4
Burglary alarm	●	○	○	○	○	○	○	○	○
Tamper alarm	○	○	○	○	○	○	○	○	○
Panic alarm	○	○	○	○	○	○	○	○	○
Technological alarm	○	○	○	○	○	○	○	○	○
Fire alarm		○	○	○	○	○	○	○	○
CHIME signalling		○	○	○	○	○	○	○	○
Fault output		○	○	○	○	○	○	○	○
LPA output		○	○	○	○	●	○	○	○
TC1 status		○	●	○	○	○	●	○	○
TC2 status		○	○	●	○	○	○	●	○
TC3 status		○	○	○	●	○	○	○	●
OR of TC1, TC2, TC3		●	○	○	○	○	○	○	○
AND of TC1, TC2, TC3		○	○	○	○	○	○	○	○
Reset output		○	○	○	○	○	○	○	○
Buzzer piloting		○	○	○	○	○	○	○	○
System status		○	○	○	○				
Open inputs		○	○	○	○	○	○	○	○
Telephone line status		○	○	○	○	○	○	○	○
NH/NL level	○	○	○	○	○	○	○	○	○
NPN/PNP type		○	○	○	○				

HOW TO READ TABLE

The symbol ● indicates the zone as programmed in factory.

The symbol ○ indicates that the zone may be programmed.

The white space indicates that the zone may not be programmed.

3.1.9 Factory parameters: LPA output

LPA OUTPUT	
Burglary alarm	●
Tamper alarm	●
Panic alarm	○
Fire alarm	○
Technological alarm	○
CHIME Signalling	○
Failure alarm	●

HOW TO READ TABLE
The symbol ● indicates the zone as programmed in factory.
The symbol ○ indicates that the zone may be programmed.
The white space indicates that the zone may not be programmed.

3.2 Access codes

- Consisting of 6 digits: the first digit (fixed) identifies the operator, the other 5 represent the real code which can be modified by the operator.

	FACTORY CODE	PROGRAMMABILITY
CODE 1 (MASTER)	1 11111	1 nnnnn (n=0/9)
CODE 2 (USER 2)	2 22222	2 nnnnn (n=0/9)
CODE 3 (INSTALLAT.)	3 33333	3 nnnnn (n=0/9)
CODE 4 (REMOTE CONT.)	4 44444	4 nnnnn (n=0/9)
CODE 5 (USER 5)	5 55555	5 nnnnn (n=0/9)
CODE 6 (USER 6)	6 66666	6 nnnnn (n=0/9)
CODE 7 (USER 7)	7 77777	7 nnnnn (n=0/9)
CODE 8 (USER 8)	8 88888	8 nnnnn (n=0/9)

- If a correct and enabled code is entered, the buzzer beeps twice otherwise a long error beep is generated. The master user code is always enabled; it is necessary to enable the other codes (see para 4.2).
- Codes 1,2,3 are associated to the 3 sectors and the association cannot be modified. Codes 5,6,7,8 in default are associated to no sector and are therefore disabled.
- In default the engineer's code is enabled and remains enabled until the first arming (from keypad with any user code or from electronic key).
- Every visualization/bypassing/reentering procedure, once enabled, **starts a 1 minute timeout** (which is set to zero every time the button is pressed). If the timeout ends, the procedure is automatically terminated without saving the modifications carried out.
- In almost all procedures the button sequence is identical for the two models of keypad (LED and Display). Obviously the mode of the display warnings will change.

KP100 KEYBOARD digit visualization
During the code entry, KP100 keyboard (led display) shows a sequence of the segments in order to visualize the entries as these are carried out

KP100D KEYBOARD digit visualization
During the code entry KP100 keyboard (display display) whenever a key is pressed an asterisk is visualized

3.2.1 Access codes levels

- The following table contains a list of the operations which may be performed by each user. Users are identified by numbers 1 through 8.

1 MASTER
 2 USER 2
 3 INSTALLAT.
 4 REMOTE CONTROLLER
 5 USER 5
 6 USER 6
 7 USER 7
 8 USER 8

X = code enabled to the operation


1	2	3	4	5	6	7	8	<-Usernumber	
x	x	x	x	x	x	x	x	Display memorised alarms	These operations do not require the entry of any code
x	x	x	x	x	x	x	x	Display memorised tamper alarms	
x	x	x	x	x	x	x	x	Display open inputs	
x	x	x	x	x	x	x	x	Display clock	
x	x	x	x	x	x	x	x	Change access code	These operations require the entry of specific codes
x	x	x		x	x	x	x	Enabling/disabling	
x	x	x		x	x	x	x	Quick activation (codice ridotto)	
x	x	x		x	x	x	x	Antirobbery alarms	
x		x						Inhibit 24h in off (apertura central) Zone inclusion/exclusion	
x		x						Walk test	These operations require the entry of specific codes followed by pressing of the F key
x		x						Clock modify	
x		x						Keys programming	
x								Access code enabling	
x		x						Modify system parameters	These operations require the entry of specific codes followed by pressing of the F key twice
		x						Inputs programming	
		x						Inputs/sectors association	
		x						Readers/sectors association	
		x						LPA parameters programming	
		x						Ouput programming	
		x						Enter delay	
		x						Alarm time	
		x						Masking on/off	
		x						Alarm count	
		x						Hictorical file reading	
		x						Delete historical file	
		x						Prealarm on/off	
		x						Mechanical key mode	
x		x	x					Modify communicator parameters	These operations require the entry of specific codes followed by pressing of the F key twice.
x		x						Remote control code programming	
x		x						Remote assistance code programming	
x		x						Prog. telephone numbers	
x		x						Test call	
x		x						Display calls	
x		x						Listening the messages	
		x						Record messages	
		x						Association event /channel	
		x						Association event/number	
		x						Prog.telephone line options	
		x						Numeric protocols	
		x						Prog.timeout cyclic call	
		x						Prog.delay of telephone alarm	
		x						Prog. events	
		x						Calls/answers ring number progr.	
		x						Event code programming	

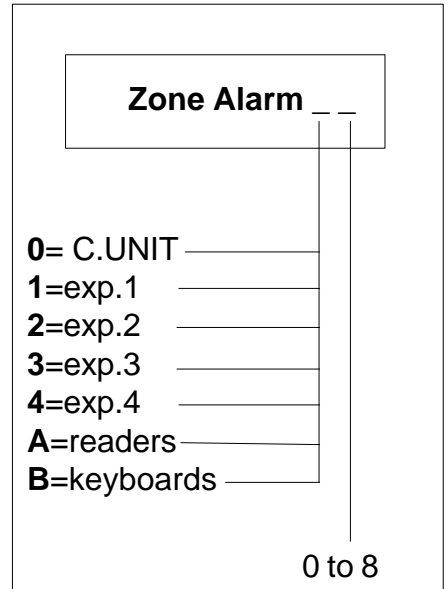
3.3 Visualization input status

PROCEDURES ACCESSIBLE TO ALL USERS WITHOUT CODE

3.3.1 Memorized alarm visualization

LCD Keyboard: KP100D

- One or more memorized alarms are signalled by led flashing . By pressing key **A** you access the visualization of memorized alarms
- The message “**ALARM ZONE nn**” is displayed (where nn is the number of sensor, see table at side)
- To visualize in rotation the other inputs press key consecutively **1**. By pressing key **TOTAL** during visualization the first input of the list is shown . At the end of the list the display shows -END OF DATA-
- By pressing key **A** with no memorized alarms, the display shows "NO DATA" message




Segments Keyboard: KP100

By pressing key A with no visualized alarms the display shows " _ _ "

3.3.2 Memorized tamper visualization

LCD Keyboard - KP100D

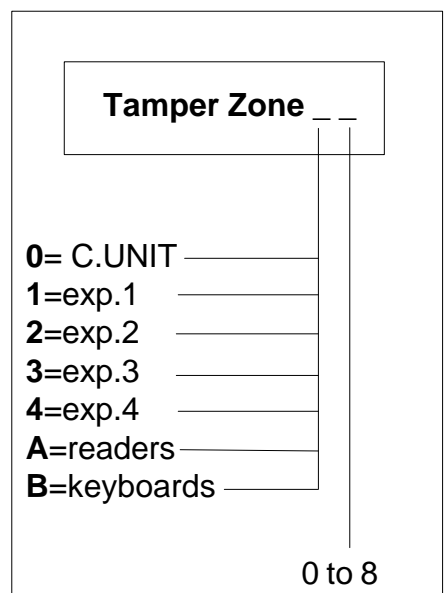
- One or more memorized tampers are signalled by led flashing . To access visualization, press key **S**.
- The message “**TAMPER ZONE nn**” is displayed (where nn is the number of the sensor, see table at side of page)
- The “TEL LINE TAMPER” indication is displayed if there is tampering with the telephone line .
- The “PERIPHERAL LINE TAMPER” indication is displayed if there is tampering with the BUS line.

Segments Keyboard: KP100

If one or more tamperings have been stored, these are indicated by the


flashing of the  led. Press the **S** key to display them.

The following will be displayed: (see next page)




00	CONTROL UNIT OPENING TAMPER	39	WIRE INPUT t/A EXP.3
FC	FALSE CODE	49	WIRE INPUT t/A EXP.4
09	T/A CONTROL UNIT INPUT	10	EXP.1 OPENING TAMPER
19	WIRE INPUT t/A EXP.1	20	EXP.2 OPENING TAMPER
29	WIRE INPUT t/A EXP.2	30	EXP.3 OPENING TAMPER
FE	FALSE KEY	40	EXP.4 OPENING TAMPER
SF	BUS TAMPER	EL	TELEPHONE LINE TAMPER

3.3.3 Open input visualization

One or more open inputs are signalled by led flashing . To access visualization, press key . Visualization mode is the same as the memorized alarms.

3.3.4 Excluded input visualization

One or more excluded inputs are signalled by led flashing . To access visualization, see : VISUALIZE/EXCLUDE/INCLUDE inputs procedure

3.3.5 Software release visualisation

This procedure can be actuated through KP100D - LCD only

- Press key followed by key . The display shows the control unit model as well as the relevant software version:
MP110 A Vx.xx (A= italian or UK or France or Spain version)
- Pressing key you visualize the software release of all the equipments connected to the system:
Read. Vxx (key reader)
Keypad Vxx (keypads)
Exp. Vxx (expansions)
- To exit press .

3.3.6 Choice of base message on display







This procedure can be carried out with KP100D - LCD keypad only

- ELKRON logo: press key followed by key
- Date/time: press key followed by key

3.4 Visualization input status

PROCEDURES ACCESSIBLE TO MASTER CODE AND INSTALLER CODE










3.4.1 Active input Exclusion

1. Enter MASTER or INSTALLER code. Press .
2. The first input available for exclusion is proposed with message "INSULATION Z. nn" for LCD display (nn=zone number to be excluded). LED keyboard shows only the input number in a fixed way.
3. By key  the desired input is selected forward
By key  the desired input is selected backward
By key  you go back to the list beginning
4. Press  to exclude the zone under consideration.
The message "ZONE nn INSULAT" is displayed on the LCD keypad.
The number of the zone flashes on the LED keypad display. If all zones are EXCLUDED, the message "ALL Z INSULATED" appears on the LCD display.
The LED display will indicate " _ "
5. Press  to exit the programming function.

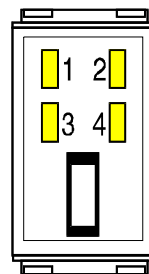
NOTE:

In order to keep inputs under observance without generating any alarm, after completing the installation, it is possible to exclude all inputs from alarms. TO BE NOTED that an excluded input is active on all foreseen functions (Open Input, Memorizations, Alarm Count, Prealarm, etc.) except for the activation of the alarm output to serve the alarm and to send the event to the communicator.

3.4.2 Excluded input inclusion

1. Enter MASTER or INSTALLER code. Press  .
2. Re-entry of the first EXCLUDED zone is indicated with the message "SETTING ZONE nn" on the LCD display (nn=zone number). The LED keypad display indicates only the zone number with a fixed light.
3. Use the  key to select the other EXCLUDED zones by scrolling the list forward. Press the  key to select zones by scrolling the list backward. Press the  key to return to top of list.
4. To include the input under reference, press  .
5. LCD keyboard shows the message "ZONE nn SETTED" LED keyboard shows the zone number in a flashing way. To select the following input, press key  or 
If there is no excluded input:
LCD display shows message "ALL ZONES SETTED"
LED display shows the message: " _ "

3.5 Electronic key Programming



This procedure allows to carry out the following programmings:

■ **STORAGE OF A NEW KEY**

For storing a key code in a new system or changing the code of all keys in case one key is lost

■ **ADDING A KEY**

For adding one or more keys to an existing system

■ **KEY CODE DUPLICATION**

For storing a key code in a second system by copying it from a previously programmed key. With this function it is possible to check one or more systems with a single key. For example, the home system and the office system will both recognize the same key (without needing to use 2 different keys).

■ **CHECK OF STORED KEYS**

For checking previously programmed keys, by verifying correctness of code, the key number and the zones controlled.

To access procedure enter **MASTER** or **INSTALLER** code followed by keys **F** + **7**

By key **1** select one of the following options:

OPTION	LCD DISPLAY:	LED DISPLAY:
A) Integral programming	“PROGRAMMINGKEYS”	“-” flashing
B) Adding a key	“ADDING KEYS “	a flashing
C) Reading a code from a key	“KEY CODE READ”	L flashing
D) Controlling programmed keys	“CHECKING KEY”	C flashing

- **After selecting the desired option, confirm selection by pressing key **7**.** From now on, 1 minute time out is activated waiting for the introduction of a key. This timeout is set to zero whenever a key is inserted. The procedure beginning is shown by the led flashing (LCD or LED keyboard)

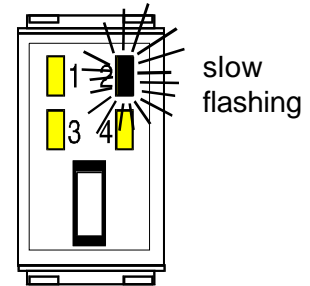
3.5.1 Storage of a New Key

1. Enter the MASTER USER code on the keypad and press keys **F** + **7** in sequence.

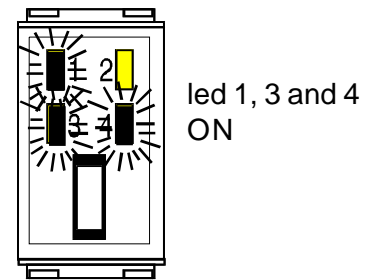
2. Press the **1** key several times until the following message appears on the display:

- keypad with alphanumeric display: "KEY PROGRAM"
- keypad with segmented display: "-" (one flashing hyphen)

3. Press the **7** key. Commutator led 2 flashes slowly to indicate system standby for entry of the first key.



4. Insert the commutator key. The system proposes key enabling on all three zones with the lighting of leds 1, 3 and 4. If this is the desired configuration, remove the key while led 2 flashes quickly.



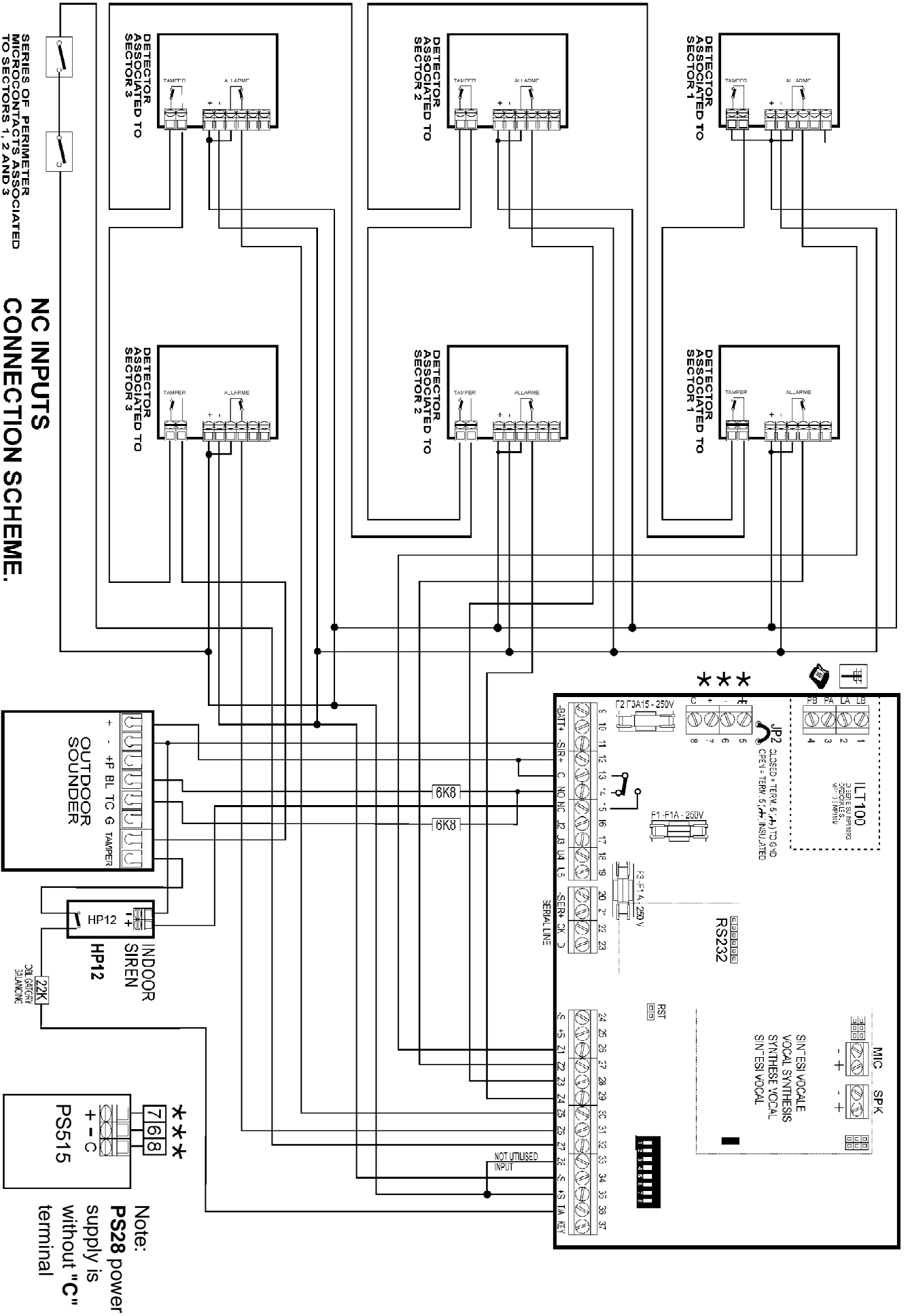
5. By leaving the key permanently inserted, the various combinations of zones with which the key can be associated are displayed with the lighting of leds 1, 3 and 4, as shown in the table below:

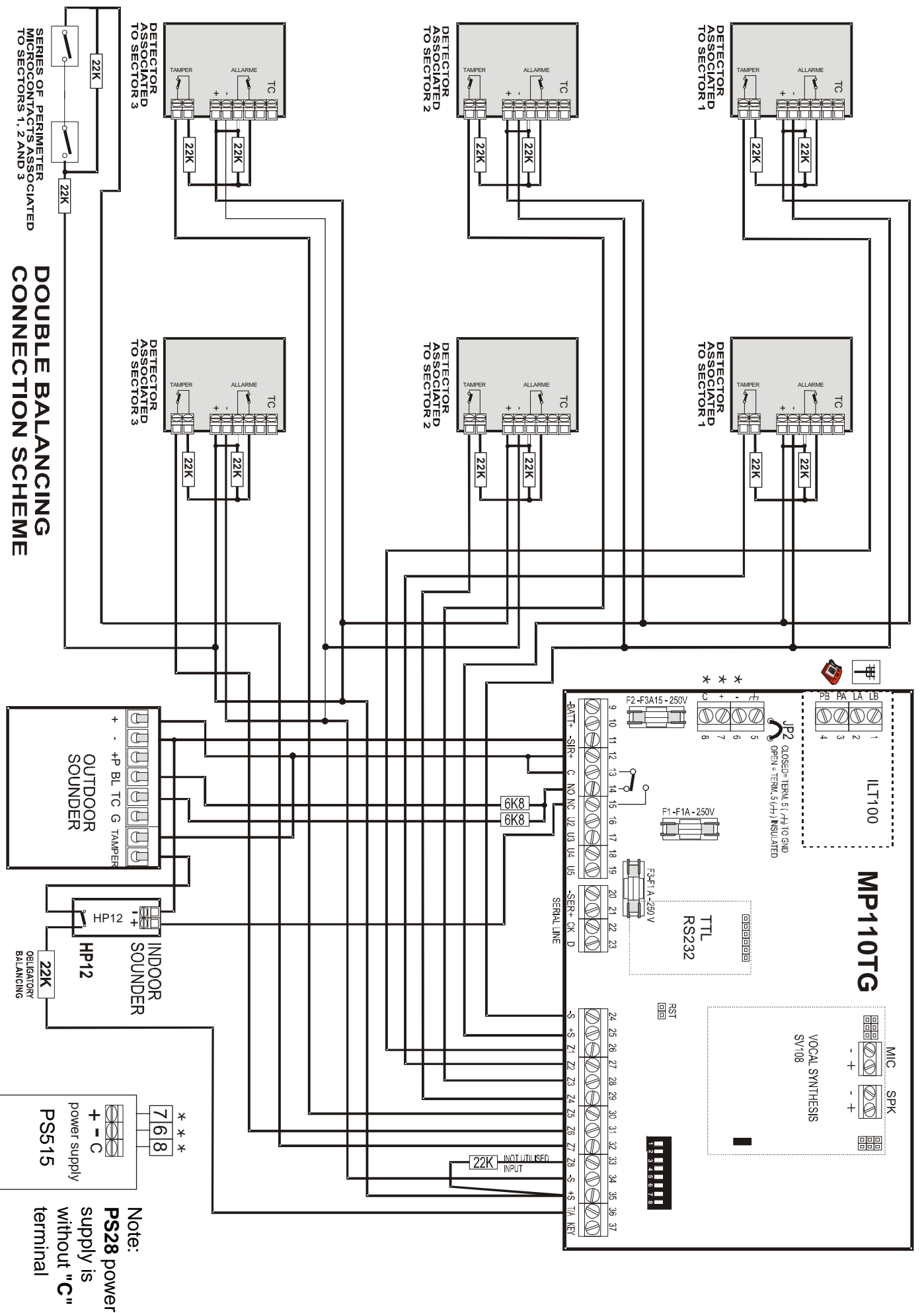
1	1 ON	3 ON	4 ON	the key is associated with all 3 zones
2	1 ON	3 OFF	4 OFF	the key is associated with zone 1
3	1 OFF	3 ON	4 OFF	the key is associated with zone 2
4	1 ON	3 ON	4 OFF	the key is associated with zones 1 and 2
5	1 OFF	3 OFF	4 ON	the key is associated with zone 3
6	1 ON	3 OFF	4 ON	the key is associated with zones 1 and 3
7	1 OFF	3 ON	4 ON	the key is associated with zones 2 and 3

6. When the desired combination has been set, remove the key ONLY WHILE LED 2 FLASHES QUICKLY.

7. **Re-introduce the key:** If the operation has a positive result, the leds of the sectors previously associated with the key turn on and led 2 flashes slowly waiting for other keys to be programmed, if any.

8. Remove the key. Return to item 4 to program the other keys or press **F** to exit





DOUBLE BALANCING CONNECTION SCHEME

SERIES OF PERIMETER MICROCONTACTS ASSOCIATED TO SECTORS 1, 2 AND 3

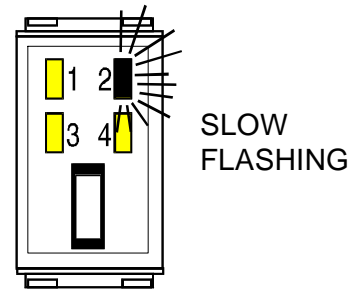
Note: PS28 power supply is without "C" terminal

3.5.2 Addition of a Key

1. Enter the MASTER USER code on the keypad and press keys **F** + **7** in sequence.
2. Press the **1** key several times until the following message appears on the display:
 - keypad with alphanumeric display: **"KEY ADDITION"**
 - keypad with segmented display : **"a"** (flashing)
3. Press the **7** key. Commutator led 2 flashes slowly to indicate system standby for entry of the additional key.
4. Proceed in the order described in items 4, 5, 6, 7 and 8 of the previous section.

3.5.3 Duplication of a Key Code

1. Enter MASTER USER code on keypad and press keys **F** + **7** in sequence.
2. Press key **1** several times until the display shows the following message:
 - KP100D keypad with LCD display: **"READ KEY CODE"**
 - KP100 keypad with segment display: **"L"** (flashing)
3. Press key **7**. Led 2 of the commutator flashes slowly to show that the system is waiting for the introduction of the key to be duplicated.
4. Introduce the key to be read. After approx. 2 seconds a double beep will be generated to confirm that the code has been read. The procedure is terminated and the system has stored the key code.
Press key **F** to exit. To make the desired key operating, follow the procedure "Addition of a key", para 3.7.2.



3.5.4 Check of Stored Keys

1. Enter the MASTER USER code on the keypad and press keys **F** + **7** in sequence.
2. Press the **1** key several times until the following message appears on the display:
 - keypad with alphanumeric display: **"KEY CHECK"**
 - keypad with segmented display: **"C"** (flashing)
3. Press the **7** key. Commutator led 2 flashes slowly to indicate

system standby for entry of the key to be checked.

4. After entering the key to be checked, if its code corresponds to the stored code, leds 1, 3 and 4 of all the devices will indicate the controlled zones. The number of the entered key appears on the segmented displays, while the alphanumeric display indicates the message "KEY NUMBER nn", where "nn" corresponds to the number of the key that is read.

If the key code entered does not correspond to the stored code, all zone leds will flash quickly and the message "UNKNOWN KEY" appears on the alphanumeric displays. Flashing will continue until the key is removed.

Press F to exit

4.0 USER FUNCTIONS

4.1 Change of one's code

Every operator can change his/her own code by carrying out the following steps in sequence.

1. Enter the access code. Its correctness is confirmed by a double beep of the buzzer or by an error beep.
2. Press key **C****. The display shows character **C**
3. Introduce the new code
The display shows flashing character **C** corresponding to the invitation to introduce again the new code to be checked.
4. Introduce the new code again.

If the new code introduced for the second time corresponds to the one introduced before, it is assumed as final and to confirm that the buzzer generates a double confirmation beep, otherwise there is an error signal and you leave the procedure.





Example
Main user wants to change factory code 1-11111. Enter 111111 on keyboard and presses key **C****. Introduces the new code, e.g. 165744. The **C** becomes flashing on display ; now digits 165744 are re-entered. If the buzzer generated a double beep the new code has been accepted.

Note: the code first digit must be necessarily the user identificative:
1 for MASTER code
2 for user 2
3 for the installer
4 for telesurveillant
5 for user 5
6 for user 6
7 for user 7
8 for user 8

4.2 Enabling/Disabling of User 2, Engineer's, Telemetry and Key Codes

1. Enter the User 1 (MASTER) code.
2. Press the **F** key, followed by the **C**** key. The message "ENABLE CODES" is displayed on the LCD. A flashing line appears on the segmented display.

It is now possible to enable/disable the engineer's code, the telemetry code, the user 2 code and the key code. These 4 codes are associated with the 4 leds present on the keypad:

-  ENGINEER
-  TELEMONITORING
-  USER 2
-  KEY CODE (EK)

Leds visualize respectively the status of the following codes:
Led on = Code enabled
Led off = Code disabled

3. Press the key next to the led to enable/disable the corresponding code.
4. Press the **EXIT F** key to exit the procedure.

USERS CODE ENABLING				
COD. UT.1	EXIT F	C**		

KEY CODE
When the CONTROL UNIT comes out of factory the key code is always enabled. Disabling it makes all existing connectors inoperative and turns them into leds repeating the C.UNIT status (ON/OFF/MON)

INSTALLER CODE
The installer code, if enabled, remains such until the first introduction of a user code followed by a partial or total activation or up to the acknowledgement of a key. As long as the installer is enabled it can also connect and disconnect

4.3 Enabling/Disabling of User Codes 5, 6, 7 and 8

1. Enter MASTER code.

2. Press key and then press key twice. The LCD display will show the message: "CODE AUX 05". The segment display will show number 5 (user 5 code). To choose another code to enable/disable, press keys or : the display will show the chosen code.

3. By means of leds 1,2,3 the sectors controlled by the code under reference are visualized.

Led on= sector controlled by the code under reference.

Led off= sector not controlled by the code under reference.

If, for example, all 3 leds are on, it means that the user under reference can arm or disarm the whole plant; if on the contrary only led 1 is on, it means that the user can manage sector 1 only.

If all 3 leds are off, the code under reference is disabled.

zone 1

zone 2

zone 3

4. To modify the visualized association press key .

(The leds of the associated sectors flash) and by keys , , (corresponding to sectors S1,S2,S3), associate or not the desired sectors to the user under reference.

The indication of the associated sector is provided by the flashing of the corresponding led. If the led is off, it means that the corresponding sector is not operating (for the code under reference).

associate zone 1

associate zone 2

associate zone 3

5. At the end of the configuration of the code under reference, press key . The leds of the associated sectors will turn on in a fixed mode.

6. To modify the association of the sectors of another code, choose it by keys or , then proceed as described from point 3 onwards.

7. Press key twice to exit and to store the choices made.

4.4 System activation/ deactivation by keyboard

4.4.1 Total/partial arming/disarming from keypad

- Enter a valid code and press one of the 4 following keys:

TOTAL all sectors referred to the entered code will be armed/disarmed (if all of them were OFF they will be ON, if at least one was ON, all of them will be OFF). The leds corresponding to the armed sectors will flash and then turn on in a fixed mode.

1 for the partial arming of Sector 1 (if associated with the entered code). Led **1** flashes – after 4 seconds it turns on in a fixed mode.

2 for the partial arming of Sector 2 (if associated with the entered code). Led **2** flashes – after 4 seconds it turns on in a fixed mode.

3 for the partial arming of Sector 3 (if associated with the entered code). Led **3** flashes – after 4 seconds it turns on in a fixed mode.

- Approx. 5 seconds are available (leds flashing) during which the arming time can be corrected, after this time the leds turn on in a fixed mode and the sectors are armed.
- In case of open inputs, the modes “Commutating lock with open zones” and “Open zone self-bypassing” will be armed, depending on the programming made (see para 5.11 alarm count).
- After choosing the desired sector configuration, arming can be confirmed by pressing key **A** without waiting for the timeout completion.
- By pressing **EXIT** **F** during the disarming procedure, the operation is quitted leaving the system status unaltered.

Note: the intermittent acoustic buzzer warning shows the output/input delay time.

4.4.2 Activation with reduced code

- It is sufficient to introduce the first 2 code digits followed by one of the keys **TOTAL** for total activation or **1**, **2** or **3** for partial activation
- Quick activation is possible only if the system is fully OFF.

4.4.3 Disarming with anti-robbery code

- The performance can be obtained only by means of the keypads.
- The disarming procedure described in para 4.4.1 is carried out, but it is necessary to enter the code increasing the last digit by one unit.
- Example: code 123456 would become 123457; code 132459 would become 132450.

The system turns off regularly but a 30s timeout is enabled during which if a correct code is not entered for the second time, a SILENT PANIC alarm will be generated on the programmed output and it will send the telephone alarms to all the numbers associated to the panic event. The event is not recorded in the event log.

4.4.4 Lock of alarms in progress

- The acknowledgement of a correct code (keypad entry, reading of a key, or mechanical key arming) immediately stops all alarms that may be in progress exception made for the communicator. The communicator stop can be carried out by disarming the system (for burglary events only). If the communicator has already started a transmission, the current call is completed and the following ones are cancelled.

4.4.5 Attempt to enter a wrong code

- In case of introduction of a wrong code for 4 consecutive times, the system visualizes a tamper on the keypads and the readers. When introducing a wrong code for the fifth consecutive time, the system starts a tamper alarm.

4.5 System activation/ deactivation by electronic key

Commutator leds 1 (zone 1), 3 (zone 2) and 4 (zone 3) indicate the system's current status:

ON = armed zones

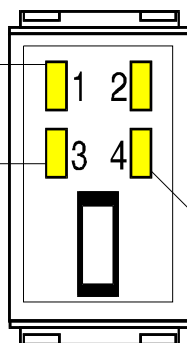
OFF = disarmed zones

ON = ZONE 1 ARMED

OFF = ZONE 1 DISARMED

ON = ZONE 2 ARMED

OFF = ZONE 2 DISARMED



ON = ZONE 3 ARMED

OFF = ZONE 3 DISARMED

1. Insert the commutator key and leave it inserted.
2. If the key inserted controls only one of the three zones, the status of the zone for which the key operation is enabled changes immediately.
3. If the key controls more than one zone, the system cyclically indicates the possible combinations that can be applied for a maximum of 4 times. If the key controls two zones, the system displays the following sequence:

1	1 ON -	3 ON	removal of key arms both zones
2	1 ON -	3 OFF	removal of key arms zone 1
3	1 OFF -	3 ON	removal of key arms zone 2

If the key controls all three zones, the system offers the following sequence:

1	1 ON	3 ON	4 ON	removal of key arms all three zones
2	1 ON	3 OFF	4 OFF	removal of key arms zone 1
3	1 OFF	3 ON	4 OFF	removal of key arms zone 2
4	1 ON	3 ON	4 OFF	removal of key arms zones 1 and 2
5	1 OFF	3 OFF	4 ON	removal of key arms zone 3
6	1 ON	3 OFF	4 ON	removal of key arms zones 1 and 3
7	1 OFF	3 ON	4 ON	removal of key arms zones 2 and 3

Removal of the key with one of these combinations set causes permanent arming of the selected mode and triggers the exit delay procedure (when programmed). With the key permanently inserted, at the end of the fourth cycle, the system exits the procedure and remains in the previous mode.

4. To disarm the system, insert the key and remove it when the leds go OFF.

4.5.1 Recognition of Key with Masked System (see par 5.10)

- When the system is masked, all the commutator leds are OFF. In this way it is impossible to know whether the system is armed and masked or actually turned OFF.
- The insertion of a key with valid code causes all four commutator leds to light up for 0.5s. This indicates that the key code has been correctly read and is followed by the display of system mode for 3.5 seconds.
- Removal of the key before this time has expired causes the system to return to the masked mode; leaving the key inserted enables a change in system mode like the one that took place with the arming/disarming procedure by electronic key.
- With the masked system, all the keypad leds are OFF. In this condition, it is impossible to know whether the system is masked or it is actually OFF. By typing a valid code on the keypad with which one is working, the system status is displayed for 1 minute.

4.6 Clock - LCD Keypad

4.6.1 Date/time visualization

- Press key **C**** followed by key **8**.
- The display shows date and time: "dd-mm-yy hh-mm" replacing the message "((ELKRON) MP 110)".
- To re-establish the factory set message replacing the time, press sequence **C**** + **0**.

4.6.2 Hour/minute modification

1. Enter Master or Engineer code
2. Press **F** and **8** in sequence
3. The display will show: "Prog. Time hh:mm"
4. Enter a value from 00 to 23 (2 digits required) for hours
5. Enter a value from 00 to 59 (2 digits required) for minutes

- To confirm and store the entered time, press key **F**.
- Before recording the entered time, the entered data are controlled. In case of inconsistency, an error beep is generated and you go back to point 3. In case of correct data, the new time is recorded and the positive operation is confirmed with an OK beep. When quitting by timeout, the modification is not saved.

PROCEDURE ACCESS				
COD. UT.1/3	EXIT F	8		

4.6.3 Date visualisation

1. Enter MASTER or ENGINEER code
2. Press **F** and **5** in sequence
3. The display will show: PRG DATE dd-mm-yy

PROCEDURE ACCESS				
COD. UT.1/3	EXIT F	5		

4. By means of the numeric keys enter the date of the desired day (2 digits from 0 to 31)
 5. Enter a value from 01 to 12 (2 digits) corresponding to the desired month
 6. Enter a value from 00 to 99 (2 digits) corresponding to the desired year
 7. To confirm and store the entered date, press key F
- The system carries out no control on the consistency of the entered data; the operator shall therefore ascertain that the programmed day/month data are correct before confirming. When quitting by timeout, the modification is not saved.

4.7 Clock - Segment Keypad

4.7.1 Time visualisation

- Press C**, followed by key 8.
- The display visualizes in sequence approx. every 1 second the following information:
 - **hh** flashing: 'hours' from 00 to 12.
 - **nn** flashing: 'minutes' from 00 to 59.
 - exit from procedure.

4.7.2 Date visualization

- Press C**, followed by key 5.
- The display visualizes in sequence approx. every 1 second the following information:
 - **dd** nn flashing, where nn = day of the month
 - **nn** nn where nn = month from 1 to 12
 - **AA** nn flashing where nn = year from 00 to 99 (00=2000, 01=2001, etc.)
 - exit from procedure.

4.7.3 Hour/minute modification

1. Enter MASTER or ENGINEER code
2. Press in sequence and ; the display will show the characters "hh" flashing to show the introduction of the hours.
 - Enter a value between 00 and 23 (2 digits required)
The display will show the entered data in a fixed mode.
The display will show the characters "mm" flashing to show the introduction of the minutes.
 - Enter a value between 00 and 59 (2 digits required).
 - To confirm and store the entered time, press key .
 - Before storing the entered time, the entered data are controlled. In case of inconsistency, an error beep is generated , you quit without modifying the data and the display will show the characters "hh" flashing to show a new data introduction. In case of correct data, the new time is stored and the positive result of the operation is confirmed by an OK beep. When quitting by timeout, the modification is not saved.

PROCEDURE ACCESS				
COD. UT.1/3	EXIT <input type="text" value="F"/>	<input type="text" value="8"/>		

4.7.4 Date modification

1. Enter MASTER or ENGINEER code
2. Press in sequence and
 - The display will show the characters "dd" flashing to invite the user to enter the day of the month.
 - By means of the numeric keys enter the date of the desired day (2 digits from 0 to 31).The display will show the number of the chosen day in a fixed mode.
 - The display will show the characters "mm" flashing to show the introduction of the month.
 - Enter a value from 01 to 12 (2 digits).
 - The display will show the characters "AA" flashing to show the introduction of the year.
 - Enter a value from 00 to 99 (2 digits).
 - To confirm and store the entered date, press key .
 - The system carries out no control on the consistency of the entered data; the operator shall therefore ascertain that the programmed day/ month data are correct before confirming. In case of correct data, the new date is stored and the positive result of the operation is confirmed by an OK beep. When quitting by timeout, the modification is not saved.

PROCEDURE ACCESS				
COD. UT.1/3	EXIT <input type="text" value="F"/>	<input type="text" value="5"/>		

4.8 System test

- Enter the access MASTER or ENGINEER code.
- Press key **F** + key **TEST 3**. All leds turn on. A 30s delay is armed during which the system test is carried out.
- By pressing key **SIREN 1**, you access the alarm siren test and all alarm actuators can be tested for 5s. To stop the alarm , press **SIREN 1** again or **EXIT F**.
- By pressing key **ZONE 3**, you access the input test procedure, any alarm memory is turned off and a 10min delay is armed , after which you automatically quit the test.
- After arming the test procedure, the sensor effectiveness can be tested by means of the WALK-TEST (you walk in front of the sensor). The keypad display will show the number of the sensor in alarm, while the buzzer will generate a sound for 5 seconds. NB. During the test CHIME outputs are also armed.
- If you walk in front of a “disabled” sensor, it is visualized on the display but the buzzer will generate no sound. This means that a disabled input is only stored but generates no alarm.
- By pressing key **EXIT F** from procedure, then it is possible to see the tested inputs resulted effective by means of the stored alarm visualization procedure (key **A** +key **1**) or by visualizing the event log.
- By pressing key **SIREN 1**, you access the alarm siren test and all alarm actuators can be tested for 5s. To stop the alarm press **SIREN 1** again or **EXIT F**.

Note: The test phase is signalled on all keypads and all commutators of the plant by means of appropriate indications on the displays and the slow flashing of the 3 sector leds.

PROCEDURE ACCESS			
COD. UT.1/3	EXIT F	TEST 3	

NOTE
During the TEST procedure, the system maintains the “inputs cut-out” and the “alarms count” programmings; therefore, the outputs are not enabled by alarms coming from the cut-out inputs or by input alarms, which have completed the set number of cycles.

NOTE
Test events are also memorized in the event historical file

5.0 INSTALLATOR FUNCTIONS

Opening of Unit – System Maintenance

By digiting the engineer's code (after its enabling – see par. 4.2), the user has 1 minute to open the unit without triggering an alarm at the corresponding outputs. In this situation, the tamper alarm is only memorized. After 1 minute is up, the 24 hour alarm is completely enabled, followed by the closing and re-opening of the 24 hour protection loop.













5.1 Reader/sector Association

- The reader/sector association allows to provide a reader with the control of one or more sectors. Providing no sector means **excluding** the reader.

PROCEDURE ACCESS			
INST. CODE	EXIT F	EXIT F	0

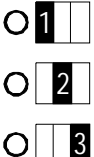
UTILITY

By inserting a key enabled to control three sectors into a reader enabled to work on only one sector, **only the sector** on which the reader is enabled to work will be run; the system behaves exactly as if a key controlling only one sector had been inserted. The utility of this function allows to activate/deactivate a specific sector with a simple manoeuvre and without necessarily starting a partialization cycle.

1. Enter installer code and press twice key .
2. Press key . LCD keyboard show the message "JOIN KEY nn" where "nn" means the first reader found connected. LED keyboard will show only the number of the reader under reference.
3. Through keys    , select the desired reader. Only the actually present readers will be proposed. S1,S2,S3 leds will visualize the sectors to which the reader is associated.
Led ON= sector associated
4. After selecting the reader desired press key  to access the modification of sector association. To associate sector 1 to reader desired press key , to associate it to sector 2 press key  and so on.
By pressing key  the status of the three sectors will be complemented.
5. Press  to leave the status of association modification for the reader under reference and to access the selection of the following reader. Actions from item 3 will be repeated.
6. By pressing  you leave the procedure and save the modifications made



If there is no reader, the LED displays will show the message "_" while LCD display will show "CONN.NOT PRESENT". the buzzer sends error signal and the procedure is left after about 5s.




The leds of the **sectors associated** to the reader **flash** while those of the **non enabled sectors** are off.



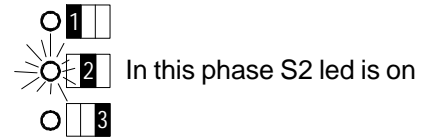
5.2 Inputs programming

PROCEDURE ACCESS			
INST. CODE	EXIT F	EXIT F	ZONE 3


1. Enter installer code.
2. Press twice key  + key  : input 1 programming is visualized.


3. To select and visualize the input to be programmed press keys   to select forward or backward or press key  and enter directly the input number.

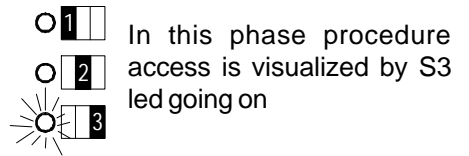
LED keyboard shows the flashing input number, while LCD keyboard shows the message
 ZONE= xx BURGLARY
 xx_ number of input under reference
 BURGLARY = current programming





In this phase S2 led is on



Wherever you are in the input programming , by pressing key  you go back to input 1

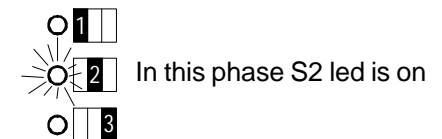
4. After selecting the input, press key  to modify current programming



In this phase procedure access is visualized by S3 led going on




5. By keys   , one of the following operating modes is selected :
 00 = BURGLARY
 01 = TECHNOLOGICAL
 02 = FIRE
 03 = PANIC SIL (SILENT PANIC)
 04 = PANIC SIR (PANIC WITH SIRENS)

6. After selecting the programming, press  to confirm selection made.
7. By leaving the procedure with key  , the modifications made are saved. When leaving by timeout date are left unaltered



In this phase S2 led is on


INTRUSION INPUTS ATTRIBUTES PROGRAMMING

-  led on= delayed input
led off= instant input
-  led on= LAST OUTPUT function enabled
-  led on= GONG/CHIME function enabled



To enable the function press the corresponding key
 "Last exit" (see par.12) function can be enabled only if the related input is delayed.



5.3 Inputs/Sectors Association

PROCEDURE ACCESS				
INST. CODE	EXIT F	EXIT F	6	




- It is possible to associate one input to one or more sectors. An input associated to no sector becomes unused even if the opening of this input is anyway signalled by  led.






1. Enter installer code

2. Press twice key  + key  : input 1 programming is visualized.


3. By keys   .select the input to be associated. The sectors associated to the input under reference are visualized by corresponding S1,S2,S3 leds going on. Led on =Sector associated.

LED keyboard shows the number of the input under reference, while LCD keyboard shows the message "AS-SOCIATE ZONE:xx" where "xx" means the input under reference.

S1 
 S2  Led on fixed
 = Sector associated
 S3 

4. To access the modification of selected input, press key  .
 The leds of associated sectors flash quickly. To modify association, use the corresponding sector keys    . By pressing key  the status of the three sectors will be complemented.

5. Press  to confirm selection made.






6. By pressing  , you leave the procedure and save the selections made. Leaving by timeout the modifications made are not considered.

5.4 Output programming and association to sector





PROCEDURE ACCESS				
INST. CODE	EXIT F	EXIT F	4	

- This procedure allows to program the outputs to the management of one of the possible alarm events. It also allows to specify the NH/NL level (normally high/normally low) of the electric outputs, the association to the sectors, and the AND/OR sectors mode for Burglary and TC outputs.
- Output 01 (control unit relay) is exclusively dedicated to the management of the burglary alarm and it is also possible to give it the management of the tamper alarm (with system OFF) and FIRE alarm. It is associated to the 3 sectors in OR sectors mode and this configuration cannot be modified.
- Output 01 (control unit relay) always manages the tamper alarm with system ON (even only 1 armed sector).
- For all other electric outputs, one of the possible modes can be selected.

The segment keypad visualizes the number of the output under reference, while the LCD keypad visualizes the message "PRG OUT xx tttt", where "xx" corresponds to the output under reference and "tttt" corresponds to the programmed mode.







1. Enter the Engineer's code and press key  + key  twice: the output 1 programming (control unit relay) is visualized (leds ,  et  turn on).





Output 1 Programming (CONTROL UNIT relay)


2. **NH/NL level programming (energized or de-energized relay)**
Press key . Press key  to program the desired level on the relay.
3. **TAMPER IN OFF**
Press key  to enable/disable the control unit relay for TAMPER IN OFF.
4. **FIRE ALARM MANAGEMENT**
Press key  to enable/disable the output to the FIRE alarm management.


Programming of other outputs


Follow the procedures described in item 1.


5. Through keys  , select the output to be programmed.
The outputs relevant to the peripherals are proposed only if these are present. The LED keypads show the output number in a flashing mode.
6. When the output to be programmed is visualized, press key .
7. Press key  to program the NH/NL level of the output under reference.
8. Press keys   to select the type of alarm that the output shall carry out. The LED keypads will show the alarm mode in a fixed mode with a value from 0 to f according to the following table:


00 = burglary	08 = TC
01 = tamper	09 = reset
02 = panic	0A = buzzer
03 = technical	0B = system status
04 = fire	0C = open zone
05 = CHIME	0D = telephone line
06 = Failure	
07 = LPA	
9. If the chosen type is Burglary or TC, use key  to program the AND/OR sectors mode. Moreover the sectors associated with the output under reference are visualized by the corresponding leds , ,  that turn on. It is possible to associate

The  led shows the level programming.
Led on= energized relay under quiescent conditions
Led off= de-energized relay under quiescent conditions

The  led shows the relay enabling to the tamper management with control unit in OFF.
Led on = enabled alarm

The  led shows the relay enabling to the fire alarm management.
Led on = enabled alarm

The  led shows the level programming
Led on = NH level
Led off = NL level
By programming the NH level the output provides a positive under quiescent conditions
By programming the NL level the output provides a positive under alarm conditions

The  led shows the AND/OR mode of the sectors associated to an output of burglary type (sector alarm) or TC type.

BURGLARY OUTPUT PROGRAMMED IN OR
The output commutates if an alarm is generated in one of the associated sectors.

BURGLARY OUTPUT PROGRAMMED IN AND
The output commutates if the associated sectors are all armed and an alarm is generated in one of these sectors.

SECTOR TC IN OR
The lock positive is missing if all associated sectors are armed.

SECTOR TC IN AND
The lock positive is missing if at least one of the associated sectors is armed.

the desired sectors by acting on keys , , . The led on corresponding to the selected sector means that the sector is associated with the output. Led off = non associated sector.

10. Press to go back to point 6. Press ^{EXIT} to quit the procedure and save the choices made.

11. When quitting by timeout, the modifications made **are not considered**.

NOTE 1

An output programmed as SYSTEM STATUS shows not only the armed/ disarmed status of the sectors, but also any alarm storage with the following mode:

- At least one armed sector, with no alarm storage, provides a positive.
- At least one armed sector, with alarm storage, provides a positive that is missing by short impulses approx. every 1 second.
- All disarmed sectors: the levels are opposite to those described above.

The default level of a System Status output is NH. It is advisable to use a control unit output rather than an expansion. If a stable output status is required, i.e. not affected by any alarm storage, it is preferable not to use the System Status typology but to program the output as ANDTC N.L. of the 3 sectors.

NOTE 2

The RESET mode is armed at every start up of the plant (total or partial) for 3 seconds.

5.5 LPA Output Programming

- It is possible to convey a set of alarm events to an LPA programmed output. In this procedure the alarms to be run by LPA output will be specified.

1. Enter installer code

2. Press twice key ^{EXIT} + key to access procedure.

LCD KEYBOARD

3. All alarms associated to LPA output are visualized on display (identified by a letter - see side note)

4. Press keys to select in sequence the possible events

associable to LPA output. If Led **ALARM** is on means that the current option is **associated**, viceversa if it is off it means that the option is not associated.

PROCEDURE ACCESS				
INST. CODE	<input type="text" value="F"/> ^{EXIT}	<input type="text" value="F"/> ^{EXIT}	<input type="text" value="1"/>	

The following message is visualized: "PRG LPA HCTFPSI" where HCTFPSI is the coding according to which the alarms associated to LPA output are identified:

- I = burglary
- S = Sabotage
- P = Panic
- T = Technological
- F = Fire
- C = Chime
- H = Failure

- After selecting the desired option, press key **A** to associate or not the current alarm event.
- By leaving the procedure with key **F**^{EXIT} the selections made are saved. Press key **1** to visualize programmings in brief (see item 3).

LED KEYBOARD

- Press keys **1** **2** to select in sequence the possible events associable to LPA output. The events, identified by a letter, are visualized on the display one at a time (see side table); if led **ALARM** is **on** , it means that the current option is **associated**, if it is off it means that the option is not associated.
- After selecting the desired option, press key **A** to associate or dissociate the function.

Leaving the procedure by key **F**^{EXIT} the selections made are saved.

l= Burglary
 5= Tamper
 P= Panic
 t= Technical
 F= Fire
 C= Chime
 h= Failure

5.6 Input Time programming

- Enter installer code
- Press twice key **F**^{EXIT} + key **5** to access procedure.
 The display of LED keyboard visualized in a flashing way the memorized input time expressed in tens of seconds.
- Set desired time by means of the numeric keys.
- By pressing key **F**^{EXIT} you leave programming and assume the desired value. Leaving by timeout, the previously memorized value is kept.

PROCEDURE ACCESS			
INST. CODE	F ^{EXIT}	F ^{EXIT}	5

The possible values are:

00 = 00s **05** = 50s
01 = 10s **06** = 60s
02 = 20s **07** = 70s
03 = 30s **08** = 80s
04 = 40s **09** = 90s

5.7 Alarm Time Programming

- Enter installer code.
- Press twice key **F**^{EXIT} + key **2** to access procedure. The display of LED keyboard shows in a flashing way the memorized alarm time expressed in minutes.
- By means of the numeric keys, set the desired time.
- By pressing key **F**^{EXIT} you leave programming and assume the desired value. Leaving by timeout, the previously memorized value is kept.

PROCEDURE ACCESS			
INST. CODE	F ^{EXIT}	F ^{EXIT}	2

The possible values are:

00 = 30s **05** = 5min
01 = 1min **06** = 6min
02 = 2min **07** = 7min
03 = 3min **08** = 8min
04 = 4min **09** = 9min

5.8 Prealarm Signal Enabling

1. Enter installer code.
2. Press twice key

EXIT F

 + key

S

3. The current programming status is visualized on display.
 - **LED display shows letter "d"** if the buzzer is disabled or **"A"** if enabled.
 - **LCD display** shows the message "PREALARM ON" if enabled or message "PREALARM OFF" if disabled.
4. By pressing key

S

 the status shifts from enabled to disabled and viceversa.
5. By pressing key

EXIT F

 you leave programming

PROCEDURE ACCESS							
INST. CODE.	<table border="1" style="display: inline-table;"><tr><td style="text-align: center;">EXIT F</td></tr></table>	EXIT F	<table border="1" style="display: inline-table;"><tr><td style="text-align: center;">EXIT F</td></tr></table>	EXIT F	<table border="1" style="display: inline-table;"><tr><td style="text-align: center;">S</td></tr></table>	S	
EXIT F							
EXIT F							
S							

- In this procedure it is possible to enable or not the buzzer to the acoustic signal of the input/output time.
- If the buzzer is enabled to signalling, it generates beeps at 1 second intervals throughout the output time. During input time, frequency will be equal to about 2 beeps per second.

5.9 Mechanical Key Programming

- The following procedure allows to specialize the mechanical key to work in an **impulsive** manner or **at level** (referred to negative).
- By programming the mechanical key to work at level, its OFF status prevails over all other devices. This means that it is possible to enable the other devices (keyboards, readers) to modify the system status (ON, OFF, PARTIALIZED) only if the **mechanical key is ON**.

1. Enter installer code.
2. Press twice key

EXIT F

 + key

7

 to access procedure.
3. Press key

7

 to change programming status. The input key function mode is indicated in the following way on the display

LED KEYPAD	LCD KEYPAD	MODE
I	PULSE KEY	PULSE
L	LEVEL KEY	LEVEL

4. After selecting the desired option, exit by

EXIT F

PROCEDURE ACCESS							
INST CODE.	<table border="1" style="display: inline-table;"><tr><td style="text-align: center;">EXIT F</td></tr></table>	EXIT F	<table border="1" style="display: inline-table;"><tr><td style="text-align: center;">EXIT F</td></tr></table>	EXIT F	<table border="1" style="display: inline-table;"><tr><td style="text-align: center;">7</td></tr></table>	7	
EXIT F							
EXIT F							
7							

The display visualizes the current programming with:

I = Impulsive

L = at level

NOTE
WITH KEY PROGRAMMED AT LEVEL YOU HAVE INPUT OPEN=PLANTON INPUT CLOSED=PLANTOFF

5.10 Masking Programming

- The MASKING programming allows to mask the system status to non authorized people (the operation details are described in para 4.5.1).
- Enter installer code.
 - Press twice key

EXIT
F

 + key

8

 to access procedure.
- Leds visualize the current status (see side):
- Press key

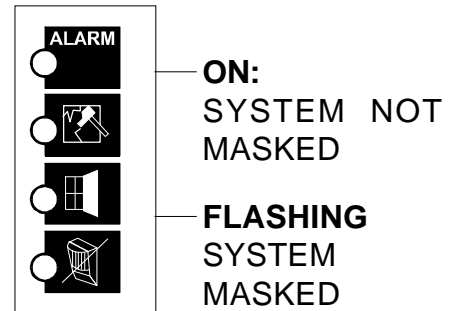
8

 to change programming status.
 - By pressing key

EXIT
F

 you leave programming and assume the selected status, Leaving by timeout, the previously memorized status is kept.

PROCEDURE ACCESS			
INST. CODE.	EXIT F	EXIT F	8



5.11 Alarms count, commutating lock with open zones, open zone self-bypassing

- For burglary events it is possible to program a max.number of alarms (0 to 9) that can be generated by every input, then the following openings of the burglary inputs that have already reached the count are only stored in the event log without generating any alarm.
- The opening of an input during an alarm is not considered for counting purposes.
- During the WALK-TEST the ring count is considered.
- At the end of this count, the display will show the relevant open input without activating the buzzer.
- The counter is reset every time that the control unit goes ON/OFF or every 24 h if this manoeuvre does not take place.
- In this programming it is also possible to enable/disable the commutating lock with open zones and the open zone self-bypassing.
- This last operation can be enabled only if the commutating lock with open zones has been previously enabled.

PROCEDURE ACCESS			
INST. CODE	EXIT F	EXIT F	0

- **COMMUTATING LOCK WITH OPEN ZONES:** if the commutating lock with open zones has been programmed, it will not be possible to arm –neither from keypad nor by DK key – the sectors to which the currently open zones are associated. If you try such an arming from keypad, a relevant warning is provided on the display and no arming will take place.
- **OPEN ZONE SELF-BYPASSING:** If both commutating lock and self-bypassing have been programmed, the zones left open are automatically bypassed when an arming from keypad or DK key is carried out.







NOTE

If the commutating lock is programmed with associated open zone self-bypassing, the arming is however not allowed if open 24h inputs are present.



- If the arming is made from keypad, the self-bypassing is properly signalled on the display. The arming regularly takes place and no alarm is generated. The self-bypassed zones are reentered automatically at their re-closing (even with armed system). A following opening will therefore generate the alarm.

NOTE:

In case of arming with electromechanical key or remote via Fast Link, the Commutating Lock and Self-bypassing functions are not considered even if programmed. The arming will take place in any case and in case of open zones an alarm will be generated.





1. Enter the engineer's code
2. To access the procedure, press key  and key   twice.
3. The display will show the current value from 0 to 9 (see side table). By means of the numeric keys choose the desired value (0-9).
4. Press key   to enable/disable the commutating lock with open zones.
5. Press key E to enable/disable open zone by-passing.
6. By pressing key , you quit the programming and the chosen status is taken. When quitting by timeout, the previously stored status will be kept.




00 = count disabled
01 = 1 alarm
02 = 2 alarms
03 = 3 alarms
04 = 4 alarms
05 = 5 alarms
06 = 6 alarms
07 = 7 alarms
08 = 8 alarms
09 = 9 alarms

- The  led shows the programming of the commutating lock with open zones.
LED on= commutating lock enabled
LED off= commutating lock disabled
- The  led shows the programming of the open zone self-bypassing
LED on= self-bypassing enabled
LED off= self-bypassing disabled

5.12 Mains Lack Time

- It is possible to program the mains lack time (timeout) before the event is sent via communicator. It is programmable with steps of 2 minutes, 1 hour, 2 hours, 4 hours. The mains return timeout is fixed at 2÷3 minutes.

1. Enter the engineer's code
2. To access the procedure, press key  + key  twice.
3. The display will show the current value (see side table). By key  choose the desired value (0-1-2-4).
4. By pressing key , you quit the programming and the chosen status is taken. When quitting by timeout, the previously stored status will be kept.

PROCEDURE ACCESS				
COD. 1/3				

0 = 2 minutes
1 = 1 hour
2 = 2 hours
4 = 4 hours

5.13 Event log

PROCEDURE ACCESS			
COD. 1/3	F	A	

- The storage of 64 events is available. The events are stored in a non-volatile memory (EEPROM); therefore they are kept also in case of no power.
- Every event shows the stored system status at the moment of the occurrence of the event.
- Access through: ENGINEER code /MASTER USER code + **F** + **A**.
- Use keys **1** and **2** for forward and backward consultation. Key **1** allows to scroll the events starting from the latest one to the last in time terms, viceversa with key **2**.
- For every visualized event, the buzzer of the keypad being used generates a double beep.
- When the last event (through **1**) or the latest event (through **2**), the buzzer generates a long beep.
- If during the consultation a quick access to the latest event is required, press keys **F** + **A** in sequence.
- **To cancel all stored events, press key **E** during consultation (CANCELLATION IS ALLOWED TO THE ENGINEER ONLY).**

5.13.1 Keypad led status during event consultation

Sector leds S1,S2,S3 show the status of the system at the occurrence of the event being visualized:

LED on= armed sector

LED off= disarmed sector

Similarly the line led will be:

OFF in case of mains lack.

ON in case of mains presence.

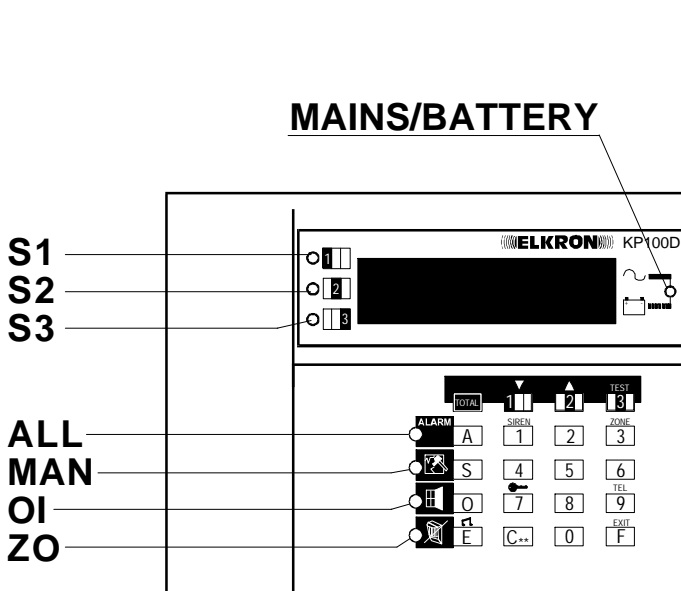
FLASHING in case of battery low.

The ALL led will be on in case of burglary alarm event.

The MAN led will be on in case of tamper alarm event.

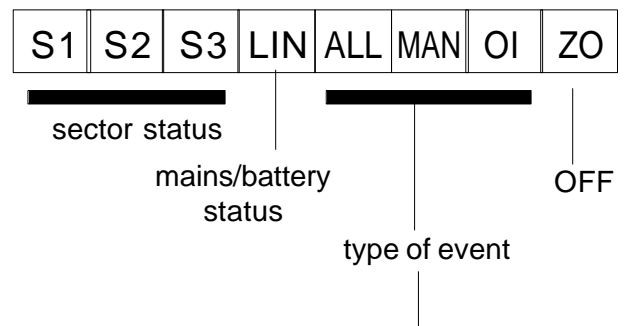
The OI led will be on in case of zone tamper alarm event (sensor tamper).

The ZO led will be always off.



NB: The sector status and the line status indicate the system status at the moment of the visualized event.

LED STATUS



EVENT	LED STATUS		
	ALL	MAN	OI
ALL	ON	OFF	OFF
MAN	OFF	ON	OFF
PAN	ON	OFF	OFF
TEC	ON	OFF	OFF
FIR	ON	OFF	OFF
TAMPER SENS.	OFF	ON	ON

5.13.2 Event visualization

- On keypads with LCD display 16 characters are used which are available for the clear visualization of the events with relevant details. Near every visualized event, by pressing key **3**, the date and time of that event will be shown. By pressing key **3** again you go back to the selected event.
- LED keypads in case of alarm will visualize the number of the input that has generated the event. To trace the details of the input under reference, see "Input coding table" para.2.4 .For other events not related to the zones, please refer to the symbols shown in the following paragraphs.

5.13.2.a Events of burglary, zone tamper, panic, technical, fire, zone disabling/enabling

Event	LCD Display	LED Display
Burglary	ALARM ZONE nn	nn (SEE par.2.4)
Zone tamper	TAMPER ZONE nn	nn
Silent/siren panic	ZONE PANIC nn	nn
Technical	TECHNICAL ZONE nn	nn
Fire	ZONE FIRE nn	nn
Zone disabling	u nn INSULAT Z.nn	nn
Zone enabling	u nn SETTED Z.nn	nn
Remote zone disabling	u nn INSULAT Z.nn	nn
Remote zone enabling	u nn SETTED Z.nn	nn

5.13.2.b Tamper events

For the tamper events not related to the zone number, the displays will visualize the event according to the following coding:

Event	Display LCD	Display LED
Control unit tamper	CONT.UNIT TAMPER	00
24h input-control unit	Z24H CONTROL PAN	09
False user code	FALSE USER CODE	FC
False key code	FALSE KEY CODE	FE
Telephone line tamper	TEL. LINE TAMPER	EL
Tamper-expansion 1	TAMPER EXPANS.1	10
24H input-expansion 1	Z24H EXPANS.1	19
Tamper-expansion 2	TAMPER EXPANS. 2	20
24H input-expansion 2	Z24H EXPANS. 2	29
Tamper-expansion 3	TAMPER EXPANS.3	30
24H input-expansion 3	Z24H EXPANS. 3	39
Tamper-expansion 4	TAMPER EXPANS. 4	40
24H input-expansion 4	Z24H EXPANS. 4	49
Tamper-keypad 1	TAMPER KEYPAD 1	bA
Tamper-keypad 2	TAMPER KEYPAD 2	bB
Tamper-keypad 3	TAMPER KEYPAD 3	bC
Tamper-keypad 4	TAMPER KEYPAD 4	bD
BUS Tamper-commutator 1	BUS READER 1	E0
BUS Tamper-commutator 2	BUS READER 2	E1
BUS Tamper-commutator 3	BUS READER 3	E2
BUS Tamper-commutator 4	BUS READER 4	E3
BUS Tamper-keypad 1	BUS KEYPAD 1	E4
BUS Tamper-keypad 2	BUS KEYPAD 2	E5
BUS Tamper-keypad 3	BUS KEYPAD 3	E6
BUS Tamper-keypad 4	BUS KEYPAD 4	E7
BUS Tamper – expansion 1	BUS EXP. 1	E8
BUS Tamper – expansion 2	BUS EXP. 2	E9
BUS Tamper – expansion 3	BUS EXP. 3	EA
BUS Tamper – expansion 4	BUS EXP. 4	EB

NOTE: The BUS tamper events take place both in case of peripheral disconnection and in case of a connection of a peripheral not present in the plant configuration.

5.13.2.c System events

Even	LCD Display	LED Display
Arming/disarming:		
user code	--- ON/OFF ---u nn	<i>Ad</i>
key code	--- ON/OFF ---k nn	<i>Ad</i>
mechanical key code	--- ON/OFF ---m k	<i>Ad</i>
Remote arming	ON FROM REMOTE	<i>Ar</i>
Telemanagement start	START TELEG. u nn	<i>Sl</i>
Telemanagement end	END TELEG. u nn	<i>El</i>
Test entrance	START TEST u nn	<i>St</i>
Uscita dal test	END TEST u nn	<i>Et</i>

NOTE: the event log will include all the inputs tested during the system test phase. The visualized access codes correspond to:

u nn= user code (nn: 01-08)

k nn= key code (nn= 01-51)

m k = mechanical key input

sys= operation made by the system (e.g. open zone self-bypassing)

5.13.2.d Failure alarm events

Event	LCD Display	LED Display
No power -control unit inputs	NO PWR ZONE CEN.	<i>FF</i>
No power- control unit outputs	NO PWR OUTPUTS	<i>FF</i>
No power-serial peripherals	NO PWR SERIAL	<i>FF</i>
Battery low	LOW BATTERY	<i>Lb</i>
OK battery	OK BATTERY	<i>ob</i>
No mains in control unit	NO MAIN C.PANEL	<i>nr</i>
Mains return to control unit	OK MAIN	<i>rr</i>
No mains –expansion 1	NO MAIN EXPANS. 1	<i>nr</i>
No mains –expansion 2	NO MAIN EXPANS. 2	<i>nr</i>
No mains –expansion 3	NO MAIN EXPANS. 3	<i>nr</i>
No mains –expansion 4	NO MAIN EXPANS. 4	<i>nr</i>
Mains return –expansion 1	OK MAIN	<i>rr</i>
Mains return –expansion 2	OK MAIN	<i>rr</i>
Mains return –expansion 3	OK MAIN	<i>rr</i>
Mains return –expansion 4	OK MAIN	<i>rr</i>
Power fail-control unit sensors	C.U. PWR SUPPLY	<i>PF</i>
Power fail –expansion 1	PWR SUPPLY EXP. 1	<i>PF</i>
Power fail –expansion 2	PWR SUPPLY EXP. 2	<i>PF</i>
Power fail –expansion 3	PWR SUPPLY EXP. 3	<i>PF</i>
Power fail –expansion 4	PWR SUPPLY EXP. 4	<i>PF</i>
Fuse fail-expansion 1	FUSE EXPANSION 1	<i>FF</i>
Fuse fail-expansion 2	FUSE EXPANSION 2	<i>FF</i>
Fuse fail-expansion 3	FUSE EXPANSION 3	<i>FF</i>
Fuse fail-expansion 4	FUSE EXPANSION 4	<i>FF</i>
Fail input-expansion 1	FAILURE ZONE 1A	<i>1A</i>
Fail input-expansion 2	FAILURE ZONE 2A	<i>2A</i>
Fail input-expansion 3	FAILURE ZONE 3A	<i>3A</i>
Fail input-expansion 4	FAILURE ZONE 4A	<i>4A</i>
Telephone line failure	TEL. LINE TAMPER	<i>tL</i>

NOTE: For LED keypads the failure element cannot be discriminated

FF = Fuse Fail

rr = Mains return

tL = Telephone line

PF = Power Fail

Lb = Battery low

nr = No mains

ob = OK battery

5.14 Direct Display of Failures

The keypad buzzer is immediately activated in the presence of a failure event, and the cause of the failure is displayed on the display. All the failure type programmed outputs are also activated. The displaying of failure events on both the LCD and LED are of maximum priority. Consequently, such indications will cover (conceal) any default messages (e.g., date and time).

If there is a concurrence of failures, all the causes will be repeatedly displayed in rotation. Failure messages will disappear only if the causes that triggered them are eliminated. The same is true for the buzzer warning. The buzzer may be turned off, even during a failure, by pressing the 'F' key.

The following table contains all the possible messages that can be displayed on the two different keypads. The characters on keypads with led display are displayed with flashing.

LCD DISPLAY	LED	CAUSE
UNIT F1	FF	F1 unit fuse failure (Inputs)
UNIT F2	FF	F2 unit fuse failure (Outputs)
UNIT F3	FF	F3 unit fuse failure (Peripheries serial)
EXPANSION FUSE 1	FF	Expansion fuse 1 failure
EXPANSION FUSE 2	FF	Expansion fuse 2 failure
EXPANSION FUSE 3	FF	Expansion fuse 3 failure
EXPANSION FUSE 4	FF	Expansion fuse 4 failure
NO UNIT NETWORK	AL	Absence of unit network
NO EXPANS.NEWORK 1	AL	Absence of expansion 1 network
NO EXPANS.NEWORK 2	AL	Absence of expansion 2 network
NO EXPANS.NEWORK 3	AL	Absence of expansion 3 network
NO EXPANS.NEWORK 4	AL	Absence of expansion 4 network
BATTERY LOW	bL	Battery run-down or missing
UNIT SENS.POWER SUP	PF	Low power supply in unit sensor
EXP1 SENS.POWER SUP.	PF	Low power supply in expansion 1 sensors
EXP2 SENS.POWER SUP.	PF	Low power supply in expansion 2 sensors
EXP3 SENS.POWER SUP.	PF	Low power supply in expansion 3 sensors
EXP4 SENS.POWER SUP.	PF	Low power supply in expansion 4 sensors
EXP 1 AUX ZONE	1A	1A zone alarm if programmed as failure
EXP 2 AUX ZONE	2A	2A zone alarm if programmed as failure
EXP 3 AUX ZONE	3A	3A zone alarm if programmed as failure
EXP 4 AUX ZONE	4A	4A zone alarm if programmed as failure

MANAGEMENT OF NETWORK ABSENCE/RESTORATION

The system provides for 5 network control points. One in the unit (intrinsic), and another for each expansion. When the auxiliary input is programmed for control, the absence of network on one or more control points is indicated as a failure, and recorded in the event log, only at the end of the 1 hour timeout. The same holds true for the restoration of network, when there is a 1/2 hour timeout. The network is considered to be present only if present at all control points.

The event is displayed clearly on the LCD display, and the message disappears as soon as the cause that triggered has been eliminated.

6.0 PC PROGRAMMING

- All programming normally performed with the 2 keypad models may also be carried out using a Personal Computer and dedicated software (Fast Link: remote-control management program developed in Windows environment).

Besides being more user friendly, and therefore, easier to execute, this type of programming allows the engineer to completely program the system from his Personal Computer (before meeting the customer), to save all data and to later download them on the customer's system.

- There are 2 connection modes:
 1. LOCAL via RS232: this connection mode requires a TTL/RS232 optional board.
 2. REMOTE mode via telephone line (for MP110TG version or MP110 with ILT100 only). This connection mode requires a modem. Recommended modem models are DIGICOM SNM46 - DIGICOM Raffaello.

6.1 System Requirements

- The system has the following minimum requirements for ideal operation:
 - IBM Computer, or compatible, with Pentium 75 processor or better
 - At least 8 Mb RAM storage
 - At least 12 Mb available on Hard Disk for program installation
 - 3.5 in, high density floppy disk and/or CD scanner
 - Windows 95-compatible monitor.
 - One available serial port
 - Windows 95 operational system or better
 - Mouse

6.2 Reception of Calls

- The program is capable of managing (for telephone communication only) telephone calls coming from the MO110TG systems, for all events that are linked to Modem type transmission. If management is of the manual type, after receiving a call, communication will last for a maximum of 15 minutes, during which time, **system status can be displayed** (alarm storage, open zones, tamperings, fuse failures, etc.) and **commands can be given**, e.g., the EXCLUDEing of a zone.
- **ATTENTION: In order for local/remote connection to be possible, the ENGINEER's CODE and the SYSTEM CODE (assigned by the engineer) that are programmed on the system must be the SAME as those programmed on FAST LINK.**
- The system is supplied with the following factory codes:

System code	55555555
Engineer's code	333333

6.3 Direct connection via RS232

- **ATTENTION**

Before making any connection, make sure that the serial connection port between the modem and the PC and the modem's control string are those set in the configuration menu.

- For an RS232 connection, it is necessary to connect the RSTTTL232 module to the control unit mother board.
- Cable connections to be performed:

Unit Side		PC Side
1	_____ DO NOT CONNECT _____	1
2	_____	2
3	_____	3
4	_____	4
5	_____	5
6	_____	6
7	_____	7
8	_____	8
9	_____	9

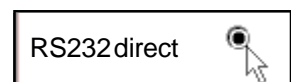
Both parts must have a 9-way female connector.

If the PC requires a 25-way connector, use commercially available 25/9 deratings.

ATTENTION

TO ENSURE CORRECT OPERATION, THE CABLE MUST NOT BE LONGER THAN 10 METERS.

- Select the RS232 Direct option from the System File page, and click on the "Call" pushbutton. The message "CONNECTED TO SYSTEM" will be displayed if connection takes place correctly. Click on the CLOSE pushbutton to terminate connection; the connection selection option returns to the first telephone number.



6.4 Remote Connection Via Modem

- **ATTENTION**
Before making any connection, make sure that the serial connection port between the modem and the PC and the modem's control string are those set in the configuration menu.
- After connecting the PC's serial port with the one present on the modem, select from the System File page which one of the two telephone numbers to call and click on "Call".

System telephone	<input type="text" value="02 6473289"/>	<input type="radio"/>
System telephone	<input type="text" value="02 4859422"/>	<input checked="" type="radio"/>

The message "CALL IN PROGRESS ... PRESS ESC TO INTERRUPT" is displayed on the bottom window on screen. Simply press the **Esc** key to interrupt the call.

- The message "CONNECTED TO SYSTEM" is displayed if the connection has taken place; press the Close pushbutton to terminate the connection.
- It is also possible to enable the answering machine skipping function if an answering machine or fax is connected to the number called and the user wishes to EXCLUDE it.
- Click on the *Skip Answering Machine* box and select the number of seconds of stand-by between the line's dropping, after the first two or three rings, and the actual connection. In this case, the modem dials the number selected, hears two or three rings and ends the communication; it stands by for the number of seconds selected for stand-by and re-dials the number. The unit is connected after the first ring.

If the transmitted codes do not correspond to the unit's codes, the modem terminates communication and sends the message:

INCORRECT CODE

ATTENTION

The unit terminates communication after 15' of connection with the message: TIMEOUT 15'.

**TECHNICAL CHARACTERISTICS OF UNITS MP110 – MP110M – MP110TG
AND OF PS515 - PS28 (Meanwell S-40-15) POWER SUPPLY**

- Rated power supply voltage	230V~50Hz+10-15%(MP110MmetallicversionwithPS28) 230V~ 50Hz +10 -15% (plastic versions with PS515)
- Max current absorption	250mA (vers. with PS515), 500 mA (vers. with PS28)
- Unit board absorption at 12V	50mA at rest with balanced inputs 70 mA with inputs NC
- Max board absorption during alarm	65mA, at rest with balanced inputs 85 mA with inputs NC
- Unit operating voltage	10V5 to 15V-
- Rated voltage at PS515/PS28 power supply output	13,8V- adjustable
- Max current supplied by the PS515 unit	1.5A
- Max current supplied by the PS28 unit	2,8A
- Max ripple PS515	300mV p.p. with I = 1.5A
- Max ripple PS28	100mV p.p. with I = 2,8A
- Measured efficiency	approx. 86%
- Current available for ext. devices (keypads, sensors, horns)	200 mA for versions MP110 to MP110TG 550 mA for version MP110M
- Accumulator placed in plastic cont.	12V to 6.5Ah (Max 7Ah), versions MP110 to MP110TG
- Accumulator placed in metal cont.	12V to 15Ah (max 17 Ah), version MP110M
- Anti-tamper	1A - 24V -
- Declared operating temperature	-10°C to +55°C
- Certified CEI standard operating temp.	+5°C to +40°C
- Guaranteed performance level	I (with positive lines Not Connected)
- II (with balanced or double balanced lines)	
- Max length of unit-peripheral serialline	500 meters*(2x0.75 cable sect.for feeder + 2 x 0.22 x data)
- Max current supplied at electrical auxiliary indication outputs (TC, panic, fire)	10mA
- Min/Max input time	0 sec to 90 sec at steps of 10
- Output time	same as input time + 10 sec
- Relay alarm time	programmable between 30 s and 9 min
- Indication of optical (LCD) and electrical failure due to low unit battery, fuses, low expansion board supply	
- Programmable output failure alarm time as long as failure lasts	
- Run-down battery threshold adjustment	11.2 V to 11.4 V ± 5%
- Battery Test: automatic (only PS515)	every hour and at switching to ON/OFF
- Degree of protection provided by casing	IP30/ IK 02

TECHNICAL CHARACTERISTICS OF REMOTE KEYPADS KP100 - KP100D LINKED TO MP110 SYSTEM

- Rated power supply voltage	12V-(drawn from motherboard - serial line)
- Min/Max operating voltage	10V5 to 15V-
- Rated 12V input current(vers. KP100)	18mA (all sectors OFF;21mA all sectors ON; 48mA (all sectors ON + retro lighting; max 70 mA during test)
- Rated 12V input current(vers. KP100D)	21mA (all sectors OFF;31mA all sectors ON; 90mA (all sectors ON + retro lighting;max 105mA duringtest)
- Type of communication	Elkron serial protocol
- Max length of serial line from unit	500 meters* (2x0.75 cable sect. for feeder + 2 x 0.22 x data)
- Max number of connectable keypads	4
- Series anti-tamper/anti-removal with clear indication	addressed on unit
- Degree of protection provided by casing	IP30 / IK 02
- Max number of possible combinations	100.000

TECHNICAL CHARACTERISTICS OF EP100 PARALLEL INPUT EXPANSION MODULE

- Rated power supply voltage 10V5 to 15V -
- Absorption at 12V rated voltage Max 30mA with all inputs Not Connected
Max 26mA with all inputs balanced
- Type of communication Elkron serial protocol
- Max length of serial line from unit 500 meters* (2x0.75 cable sect for feeder + 2 x 0.22 x data)
- Max number of expansions connectable to MP110 system 4 (for 8 inputs each + 1 for 24h + 1 for aux. zone)

TECHNICAL CHARACTERISTICS OF ES100 INPUT SERIAL EXPANSION MODULE

- Operation in sole combination with the **UR1Z** serializer modules.
- Rated power supply voltage 10V5 to 15V -
- Absorption at 12V rated voltage Max 30mA with 8 UR1Z modules connected
- Type of communication Elkron serial protocol
- Max length of serial line from unit 500 meters* (2x0.75 cable sect. for feeder + 2 x 0.22 x data)
- Max number of expansions connectable to the MP110 system 4 (for 8 URIZ modules each + 1 for 24h + 1 for aux. zone)

TECHNICAL CHARACTERISTICS OF DK2000M CONNECTOR LINKED TO MP110 SYSTEM

- Rated power supply voltage 12V- (drawn from motherboard-serial line)
- Absorption at 12V rated voltage 18mA (all zones OFF)
Max 30 mA(all zones ON + red led lit)
- Type of communication Elkron serial protocol
- Max length of serial line from unit 500 meters* (2x0.75 cable sect. for feeder+ 2 x 0.22 x data)
- Max number of connectors connectable to MP110 system 4
- Max number of programmable DK20 keys Unlimited
- Max number of random codes programmable by the unit > 4 billion

* The maximum distance that can be reached is closely linked to the power supply cable section (+ and –), to the serial line itself, and to **absorption at the other end**. In this connection, keep in mind that every **200m** of cable with 2x0.75 mm² section, with **100mA absorption**, determines a voltage drop of about **1V**.

PROGRAMMING FAST GUIDE

ENABLE USER CODES				
COD. UT.1	EXIT F	C**		PAG. 39

ASSOC.INPUTS SECTORS				
COD. INST.	EXIT F	EXIT F	6	PAG. 50

MECHANICAL KEY PROG.				
COD. INST.	EXIT F	EXIT F	7	PAG. 54

CLOCK SETTING				
COD. UT.1/3	EXIT F	8		PAG. 44

OUTPUT PROG.				
COD. INST.	EXIT F	EXIT F	4	PAG. 50

MASKING PROG.				
COD. INST.	EXIT F	EXIT F	8	PAG. 55

DATE SETTING				
COD. UT.1/3	EXIT F	5		PAG. 45

LPA ALARM EVENT PROG.				
COD. INST.	EXIT F	EXIT F	1	PAG. 52

ALARM COUNT				
COD. INST.	EXIT F	EXIT F	0	

SYSTEM TESTING				
COD. UT.1/3	EXIT F	TEST 3		PAG. 47

ENTRY TIME PROG.				
COD. INST.	EXIT F	EXIT F	5	PAG. 53

MAINS LACK TIME				
COD. 1/3	F	F	A	PAG. 56

ASSOC.READERS SECTORS				
COD. INST.	EXIT F	EXIT F	0	PAG. 48

ALARM TIME PROG.				
COD. INST.	EXIT F	EXIT F	2	PAG. 53

HISTORICAL EVENT FILE				
COD. 1/3	F	A		PAG. 57

ZONE PROG.				
COD. INST.	EXIT F	EXIT F	ZONE 3	PAG. 49

PRE-ALARM SIGNAL ENABLING				
COD. INST.	EXIT F	EXIT F	S	PAG. 54

COMPLIANCE WITH THE R&TTE 99/05 EC DIRECTIVE PERSONAL REPORT AND DECLARATION OF NETWORK COMPATIBILITY

Governmental approval for the transmitting and receiving equipment and the terminal telecommunication equipment has been abolished as of April 8th, 2000.

All the available versions of the Elkron **MP110** control unit comply with the R&TTE 99/05 EC Directive.

This equipment has been designed to operate with all the PSTN (Public Switched Telephone Network) switched public telephone networks with addressing performed through dual-tone signalling with several DTMF frequencies. It conforms to the R&TTE 99/05 EC – ETSI TBR21 Directive in compliance with the 98/482 EC Decision of the UE Council for trans-European connection as single terminal with a PSTN analog network.

Owing to the differences in the networks of the various countries, the approval does not guarantee itself correct operation at all of the PSTN network terminating points.

Therefore, it is recommended that you follow the technical instructions for the product, with regard to possible special hardware and software programming.

If you encounter troubles, and if you wish to use the equipment on other networks, contact first the product dealer or the manufacturer.

EC compliance statement is available either at Elkron customer service or through Internet site.

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