

# PUMA-INSTALL MANUAL

*ETA-SYS LTD.*

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## TECHNICAL DATA

Zone count	8 hardware zones on the PCB and up to 8 keyboard or radio - zones
Keyboard countmax	8
Power supply	220V / 20W; 12V, 3...7 Ah accumulator battery
Division	2 partitions + global
Power supply outputs count	4 with options for control of sirens, opening doors, fire detectors, activation on event
4-digit codes	1 Installation code.....Initial code 'Install'= '1234' 30 Master codes, User code, ..... Initial code 'Master 1'= '1111'
log	256 events
Telephones	9 with option of remote control of the alarm system, management of outputs, receiving SMS on events with the alarm system, alert on alarm via SMS and/or call.
LCD display	2x16 characters
Option for a reader of ISO cards/tags	built in a keyboard
Option for RF receiver for remote or panic buttons or radio zones	built in a keyboard

## CONNECTION

See Enclosure 1

## PROGRAMMING: GENERAL INFORMATION, FUNCTIONAL KEYS, CONNECTING A KEYBOARD – STEP 1 IN PROGRAMMING

### GENERAL

#### COMMANDS

4 – digit code + “function” or if a fast key “ENTER” is enabled, then all commands can be performed in a format “ENTER” + “function”, with the exception of disarming and Bypass which always requires a valid code.

#### BUTTON FUNCTIONS

Other than digits, some buttons have functional purposes:

- 1 - function 'BYPASS'
- 2 - function 'SYSTEM STATUS'
- 3 - 'MEMORY'
- 4 - 'BELL'
- 5 - 'CODE' requires a Master code
- 6 - 'PROGRAM' requires Installation code
- 0 – 'INFO' information about the power supply voltage and GSM signal strength.
- # - 'CLR' for clearing an incorrect data (Delete)
- F1- disarming, shown with 'X' on the display. In 'Programming' mode – cancel.
- F2- arming in mode 'AWAY', displayed with 'A'. In 'Programming' mode - '↑'.

F3- arming in mode 'STAY', displayed with 'S'. In 'Programming' mode - '↓'.

F4- 'fast key' 'ENTER', displayed with 'E'. In 'Programming' mode – confirmation of the input value. If used as function, it displays the open zones in the partition or all in the global keyboard.

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## ADDITIONAL BUTTONS

\* - 'PART' for temporarily plugging in of a given keyboard in another partition. The combination \*1, \*2 or \*3 is entered in order for the keyboard to temporarily switch to a given partition. For resetting it to its original position the combination \*\* is used, or automatically - simply by not typing anything for a given time.

Buttons to the right outside of the keyboard:

□ - duplicates button F2 'AWAY'.

□ - duplicates button F3 'STAY'.

□ - duplicates button F4 'ENTER'.

## CONNECTION OF A KEYBOARD – GENERAL INFORMATION

*IF YOU ARE GOING TO USE A KEYBOARD WITH A BUILT IN READER OR A REMOTE CONTROL, PLEASE MAKE THIS KNOWN IN YOUR ORDER, BECAUSE THE THE SOFTWARE OF THE KEYBOARDS IS DIFFERENT.*

The default system is programmed with one external module – keyboard with address 1.

The keyboards do not have a default address implemented. After powering, the keyboard is set to inactive mode with blinking lights and a message „Have No Address”. In order to acquire an address, enter the combination '\*EEEE(1,2 or 3)'. The digits 1,2,3 determine to which partition will the keyboard be assigned 1, 2 or the global one – 3. You should know that keyboard №1 adds zone №9, keyboard №2 – zone №10 and etc.

## HOW TO CHOOSE THE PARTITION ON THE KEYBOARD

- if the system is not to be divided in partitions, assign the keyboard to partition1 and assign zones only to that partition.
- if the system is to be divided in to two partitions:
  - if there is to be only one keyboard, it's good to be a global one;
  - if there is to be two keyboards:
    - if there is to be two different buildings (ex. two shops or two offices) one of the keyboards can be assigned to partition 1 and the other to partition 2.
    - if the case is a two floor house with a joint entrance, the keyboard on the second floor can be assigned to partition 2 and the one on the first floor to the global one, partition 3.
    - if there is to be at least three keyboards – one in partition 1, another in partition 2 and one in the global partition 3.

**You can always reset the addresses on the keyboards/modules and rearrange them again. Have in mind that the address of the keyboard also determines the number of its keyboard's zone and that you may have to also change the programming of the zones.**

## THE PROCESS OF PROGRAMMING IN 9 STEPS

*THE PROCESS OF PROGRAMMING IN 9 STEPS (ALSO SEE ENCLOSURE 4)*

*IN ORDER NOT TO MISS AN IMPORTANT STEP IN THE PROGRAMMING, PLACE A VALID SIM CARD WITH THE PIN CODE DISABLED, TURNED ON THE POWER SUPPLY AND THEN CONTINUE FROM STEP 1 THROUGH 9*

## STEP 1 IN PROGRAMMING – JOINING A MODULE

**1** The first keyboard (Address 1) can be added immediately. You decide which keyboard is going to be Address 1, decide which partition will represent and then enter '\*EEEE(1,2 or 3)'. The digit determines the partition. Normally, in around 1 sec., the keyboard acquires an address and displays „READY” or “NOT READY”, depending on all the zones being closed or not.

**1a** In order to add other keyboards/modules, access the programming mode from the already applied keyboard 1 (the default Installation code is 1234, if it's changed – use the new one): '1234 6', choose menu 'System', choose 'Add Module', after that go to the next keyboard which will be number №2 and zone №10, enter '\*EEEE(1,2 or 3)'. The digit determines the partition of this keyboard. Normally, in around 1 sec., the keyboard acquires an address, and also on keyboard №1 (the one in programming mode) will be displayed „Module 2 added”, “Zone 10 Added”.

Repeat pt.1a for all keyboards. It is important to wait for the current keyboard to acquire its address before typing '\*EEEE(1,2 or 3)' on the next one, so they do not acquire the same address, which will upset the communication.

**1b** In the way described in **pt.1a**, modules can always be added without deleting the old ones.

**1c** If a mistake is made and a module has to be removed, the addresses of all keyboards must be reset, which will also clear the array of modules in the system and to enter again the remaining, like it's shown in 'CONNECTION OF A KEYBOARD', 'HOW TO CHOOSE THE PARTITION ON THE KEYBOARD' and pts.1,1a.

'Reset' of the addresses is done in the following way. On any of the keyboards: enter programming mode (Installation code is required – 1234), press 6, choose menu 'System', choose 'Address Reset'. All keyboards must display a message “Have no address”, which will confirm the reset process and will allow you to begin from 'CONNECTION OF A KEYBOARD'.

**1d** If a keyboard/module is to be changed, there is no need to reset the addresses of all keyboards. Take down the old keyboard, connect the new one and after the power supply is turned on enter '\*EEEE(1,2 or 3)'. It is not necessary to access Programming mode, although it is an option.

**1e** If more than one keyboard is to be changed, again reset is not a necessary measure, but the typing of '\*EEEE(1,2 or 3)' must happen consecutively so they can acquire the addresses one after another.

## PROGRAMMING – NEXT STEPS

### GENERAL NOTES

Entering Programming mode is available by typing the Installation code (by default -'1234') and then choosing function 6 (from the options 1-6). This is possible if all other partitions are disarmed and none of them is in 'Programming', 'Codes' or 'Bypass' mode, which excludes the possibility for changes to be made from two places simultaneously. In these modes the system ignores the other keyboards and it is possible, after a while, they would start displaying “Not Connected”. This is not a problem with the connection, but instead means that the exchange with them is temporarily disrupted. Once exiting Programming mode they will resume normal functioning.

### DISPLAY INSTRUCTIONS

Cruising around the menus with '↑' and '↓' (F2,F3). 'X' (F1) serves the function of BACK (one menu up). Select 'E' (F4) to choose a menu.

For some special options a special menu appears on the second line of the display. For example:

```
----- 9 A B ----- FG
```

This means that currently 9, 10(A), 11(B), 15(F) and 16(G) choices are active.

Enabling and disabling options is performed by typing DOUBLE DIGIT numbers 01, 02, ... 16, which turns the value of typed option. '#' is used to clear all of them. For confirming use 'E' which saves the data set and exits the special menu. For exiting the special menu without making any changes press 'X'.

## MAIN MENUS – STEP 2 TO STEP 9:

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### INSTALL CODE

The Installation code by default is 1234. You can use it for programming the system, but not for arming/disarming.

In order to change it you must enter programming mode, which is possible if all other partitions are not armed or in any special mode. From any of the keyboards enter the Installation code (1234) and then press 6. The first menu is 'Install code', which we choose with 'E' and the current Installation code appears. Use 'X' (F1) to exit without changes or 'E' (F4) to confirm them.

#### *Reset of the Installation code:*

If the Installation code is forgotten, you can acquire a new one the following way: while power supply is off, the SIM card of the systems' GSM-module is taken out and put in to a cell phone. Then, in the SIM, a new recording is made with the number '00000xxxx' where xxxx represent the new Install code. There is no need to save it under a name. Once the card has been used in the system, it automatically makes space, in the SIM, for the Installation code. After the recording is done, the card is put back in the GSM module and the power supply is turned on. After around 5 seconds the new Installation code will take place. The recording in the SIM will be automatically deleted and ready if a new change is required.

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### MASTER CODE 1

By default the system has only code №1 assigned, a Master code, valid for all partitions – type 3. With it you can arm/disarm all partitions together or one by one and create/change other codes.

The Master code and its access privileges can also be changed from menu 5 ('Code') which can only be accessed by a valid Master code.

The Master 1 code can be accessed through the Programming mode, where if you decide to change it or record it (using 'E') you must know that it acquires global access privileges (it becomes valid Master code for all partitions). If you simply want to see the Master code without changing it use 'X' to exit the menu.

---

### RESET OF THE MASTER CODE:

All codes can be deleted and the Master code 1 set back to '1111' after a whole system reset. In most of the cases this is not necessary, because of the access you have, from Programming mode, to the Master 1 code and also the Installation code can always be reset.

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### SYSTEM

The following sub-menu:     Date/Time Set

If necessary you can enter the date and time in the given format.

In 99% of the cases this would not be the case as the system is synchronized with the GSM network.

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### FAST KEY 'E'

Enables/disables fast key 'E' to replace entering a code for some of the less important functions – 'Info', 'System' ...

After choosing the menu with 'E', use the ↑↓arrows to enable/disable and confirm with 'E' again.

**Add Module** Explained in pt.1a

**Address Reset** Explained in pt.1c

**System Reset** Choosing this menu will reset all options to the default ones.

It is suitable if the system is reinstalled at a new place.

It does not reset the keyboard's addresses, you will need to use 'Address Reset' for that.

---

### ZONES

This menu is used for programming the zones.

Fill in the chart below (you will find the same chart in enclosure 3 – Program template prepared for You to fill in), according to the following:



- o3 – Activates on silent alarm in Part 1
- o4 – Activates on silent alarm in Part 2
- o5 – Activates/deactivates on opening/closing of Part 1
- o6 – Activates/deactivates on opening/closing of Part 2
- o7 – Activates for 10 seconds, after disarming the system, if there was an alarm event. Its purpose is to provide power supply for the fire detectors (with reset after an alarm).
- o8 – Door lock management. Deactivates in time set in menu 'Program'-> 'Times'-> 'Door Time'.

There can be a combination of events for every output.

Example:

Out 1	Out1 Events	(12__56____)
Out 2	Out2 Events	(__3456____)
Out 3	Out3 Events	(12345678__)
Out 4	Out4 Events	(____8__)

## TIMES

Notice that times are general for all partitions! These are the default sets.

Out Time	(30)	Time to exit, seconds (for all partitions) (0-255)
In Time	(10)	Time to enter, seconds (for all partitions) (0-255)
Siren Time	(5)	Time for sound alarm, minutes (0-255)
Test Period	(24)	Gap period for sending a routine SMS providing info for the serviceability of the system, hours (0-255)
Door Time	(8)	Timer for opening the door, seconds (0-255)

## GSM SETTINGS

### PREPARING THE SIM CARD – REMOVAL OF THE PIN CODE PROTECTION

#### SUB-MENU DIAL CYCLES:

The programmed number represents the number of cycles each phone number will be dialed..

#### SUB-MENU TEL 1

There are two sub-menus: one for entering the telephone number and one for choosing which events are to be reported to this number.

Example:

Tel 1 Number	0878123456
Tel 1 Attributes	(1234__89__)

Options for telephone number (Tel Attributes):

(reminder – attributes are entered as double digit numbers 01,02,03...)

- o1 – receives a call on alarm event in Part 1
- o2 – receives a call in alarm event in Part 2
- o3 – receives SMS on alarm event in Part 1
- o4 – receives SMS on alarm event in Part 2
- o5 – receives SMS on opening/closing of Part 1
- o6 – receives SMS on opening/closing of Part 2
- o7 – receives routine SMS (general system events)
- o8 – enables this phone to control the relays

- o9 – enables this phone to arm/disarm Part 1
- o10 – enables this phone to arm/disarm Part 2 (it is entered as ‘10’ from the keyboard, but displayed as ‘A’)

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## CODES

The system has 1 Installation code – 1234 by default and up to 30 client codes (Master 1 by default is 1111) which include remote controls, cards, tags and radio zones (if there are any).

*CODES HAVE THE FOLLOWING ATTRIBUTES:*

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### TYPE:

- Master** - besides using it to turn on/off the system, they allow you to manage codes from the same partition (if there is separation of partitions)
- User** - codes which allow turning on/off the system
- User Arm Only** - allows only turning on (makes sense only if fast key ‘E’ is not allowed)
- Door Open** - code which activates only Out, for opening the door
- RF Zone** - code which is a radio zone (ex. remote panic button or radio-sensor). It is associated with zones from 16 down to 13 (16, 15, 14, 13)

---

### PARTITION

It is entered automatically depending on the partition from which the code is created.

- 1** Code for Part 1
- 2** Code for Part 2
- 3** Global code valid for Part 1 and Part2

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### CODE NUMBER

It is acquired automatically depending on the order in which the codes are entered. This number will be a requisite for the users when changing or deleting codes. Therefore, advise your clients to keep a list with the code numbers, owners of codes and their privileges.

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### CONSIDERATIONS ABOUT DEFINING THE CODE PARTITION

The considerations are mainly about Master and User codes, but they can be taken in mind while creating other type of codes.

**Case 1:** The system is not divided in partitions and all keyboards and zones work in Part 1 – entering codes (including Master and User) has no special features. It happens from any keyboard.

**Case 2:** The system is divided into partitions for a ‘Family house’ site – in this case create all codes with global privileges. In order for this to happen, the keyboard from which the codes are created must be global – Part 3 (enter \*3 beforehand if you work from a local keyboard). Then from a local keyboard, with the same code, you will be able to arm/disarm respectively the same partition (ex. a floor of the house) and from the global keyboard – arm/disarm the whole system.

**Case 3:** The system is divided into partitions for a ‘Two offices with common lobby’ site with one or two global keyboards. Create codes for partition 1 and partition 2 as local (Master and User codes to the respective partitions). In that case the only thing required from the users will be to enter their codes for arming/disarming. Fast key ‘E’ (F4) must be disabled.

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### CREATING A CODE

Let’s presume we want to create a ‘User’ code for Part1 from a keyboard in Part2.

First we change, temporarily, the keyboard to work in Part1:

\*1

After that we enter a valid Master code for Part1 (or a global Master) and function 5:

11115

From the menu 'What Code?' we choose 'New':

E

We enter 4 digits (ex. 7879) and press 'E':

7879E

We choose 'User':

E

On the suggestion 'New' we decline with 'X' if we do not want to continue with programming codes.

We try the new code.

If we want we can return the keyboard to the original Part:

\*\*

If not - it will automatically return after a while.

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## PROGRAMMING OF REMOTE CONTROLS AND CARDS/TAGS FOR ARMING/DISARMING, RADIO ZONES

*A SPECIAL FEATURE IS THAT IF A REMOTE CONTROL IS TO BE PROGRAMMED, THE KEYBOARD FROM WHICH YOU ARE DOING THAT HAS TO HAVE A RADIO MODULE AND RESPECTIVELY IF YOU ARE TO PROGRAM A CARD/TAG, THE KEYBOARD HAS TO HAVE A CARD READER. THIS IS NECESSARY BECAUSE ALL OTHER KEYBOARDS ARE BLOCKED WHILE A CODE IS BEING CREATED. IT IS A SAFETY MEASURE TO PREVENT ENTERING CODES FROM TWO DIFFERENT PLACES AT THE SAME TIME.*

Let's presume we add a remote control for work type User in partition 2, but we only have one radio receiving module on the global keyboard and Master from Part2 – 2222.

We go to that global keyboard (those with the receiver):

\*2

We wait for it to register in Part2.

We enter:

'22225'.

From the menu 'What Code?' we choose 'New':

E

We press a button on the new remote control.

If everything is OK we will be offered to choose a type.

We choose 'User'

E

On the suggestion 'New' we decline with 'X' if we do not want to continue with programming codes.

We try the remote control.

If we want we can return the keyboard to the original Part:

\*\*

---

## CHANGING A CODE:

From the menu 'What Code?' we choose 'Old'.

We enter the number of the code which is to be changed, ex. 11:

11E

We enter the new 4 digits, ex. 6565:

6565E

From the menu 'What Code?' we decline with 'X' if we do not want to continue with programming codes.

If it happens that you changed the Master1 from a keyboard in Part1 or Part2 it will become a Master in this partition (reminder – by default Master1 is global). It may happen that you do not have a Master code created for some of the other partitions (you do not have Master with privileges to create/change other codes in this partition). In order to fix that enter the menu Master code 1 in programming mode (see MASTER CODE 1), there you can program it (temporarily) and it will acquire global privileges.

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## DELETING A CODE:

It is the same as changing a code, but instead we leave the 4 digit space empty or clear it with '#'.  
It looks like that:

From the menu 'What Code?' we choose 'Old'.

We enter the number of the code which is to be deleted, ex. 11:

11E

On the suggestion 'Enter New Code' we press E or #E.

From the menu 'What Code?' we decline with 'X' if we do not want to continue with programming codes.

The number of the deleted code is now available and will be assumed by a next added code.

## PROGRAMMING OF CODES, REMOTE CONTROLS OR CARDS/TAGS FOR OPENING DOORS

Program the code (remote control or card) as mentioned above by choosing type 'Door Open'. You have to program a desired Out to have an option 8 activated – opening a door. After entering a code or using a remote control/card, Out will temporarily enable and after that disable. You can find time options for the door in 'Program'-'>'Times'-'>'Door Time'.

## CONTROLLING THE SYSTEM AND OUTPUTS WITH GSM

From his/her telephone the user calls the system's GSM number. After a response, if the user has privileges, he/she can control the system by using the telephone's keyboard. You should have in mind that if an output is programmed to be controlled by an alarm event or by arming/disarming, it cannot be controlled by telephone.

Commands:

- 18 – will turn on output 1
- 10 – will turn off output 1
- 28 – will turn on output 2
- 20 – will turn off output 2
- 38 – will turn on output 3
- 30 – will turn off output 3
- 48 – will turn on output 4
- 40 – will turn off output 4

If any of these outputs is programmed to control a door then it disables by itself after a while.

Door Time (see Programming).

- \*18 – will arm Part1 (if the Part1 zones are closed – 1 Ready)
- \*10 – will disarm Part1
- \*28 – will arm Part2 (if the Part2 zones are closed – 2 Ready)
- \*20 – will disarm Part2

When both partitions are armed the global partition will arm too. When one of two partitions is disarmed – so will the global one.

In the chart below you can see how the codes work with privileges from different partitions depending in which partition they are used. The conclusion is:

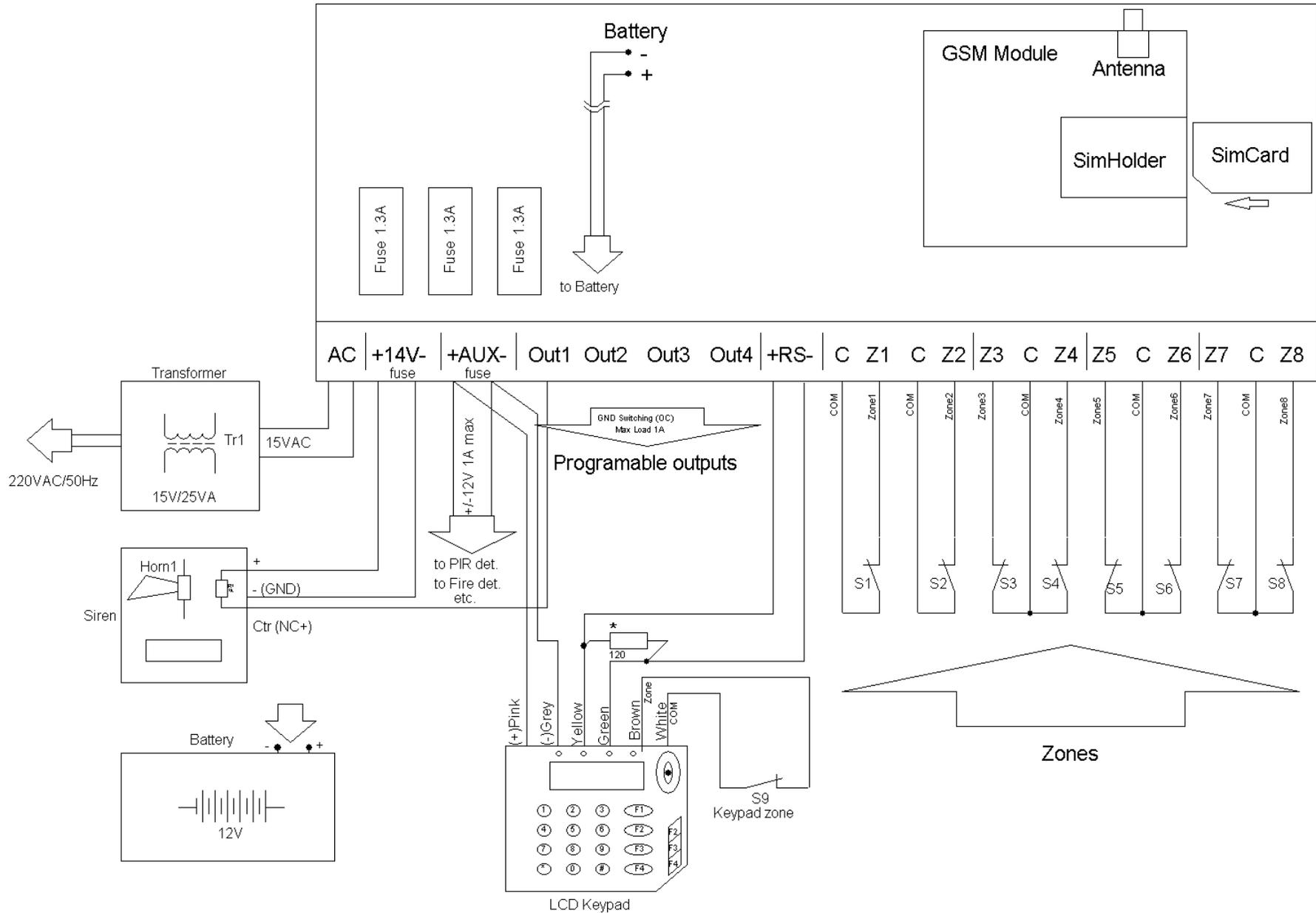
*THE CODE IS VALID ONLY IF IT IS USED IN ITS OWN PARTITION OR IN THE GLOBAL ONE.*

Code for Partition	In Partition:	Arm Action	Disarm Action
Global (3)	Global (Part3)	Arm (P1+P2+P3)	Disarm(P1+P2+P3)
	Part1	Arm (P1)+(P3 if P2 already Armed)	Disrm (P1+P3)
	Part2	Arm (P2)+(P3 if P1 already Armed)	Disrm (P2+P3)
Part1	Global (Part3)	Arm (P1)+(P3 if P2 already Armed)	Disrm (P1+P3)
	Part1	Arm (P1)+(P3 if P2 already Armed)	Disrm (P1+P3)
	Part2	No Access	No Access
Part2	Global (Part3)	Arm (P2)+(P3 if P1 already Armed)	Disrm (P2+P3)
	Part1	No Access	No Access
	Part2	Arm (P2)+(P3 if P1 already Armed)	Disrm (P2+P3)

## ENCLOSURE 2 DEFAULT OPTIONS

Menus Tree:	Default options (after Reset)
<b>Install Code</b>	<b>(1234)</b>
<b>Master Code 1</b>	<b>(1111)</b>
<b>System</b>	
<b>Date/Time Set</b>	<b>(.....)</b>
<b>Fast Key 'E'</b>	<b>( Enabled)</b>
<b>Add Module</b>	
<b>Address Reset</b>	
<b>System Reset</b>	
<b>Zones</b>	
<b>All Zones Part1</b>	<b>(1234__9__)</b>
<b>All Zones Part2</b>	<b>(_____)</b>
<b>Zones Delay</b>	<b>(_____9__)</b>
<b>Zones Follow</b>	<b>(12_____)</b>
<b>Zones Instant</b>	<b>(__34_____)</b>
<b>Zones Tamper</b>	<b>(_____)</b>
<b>Panic Silent</b>	<b>(_____)</b>
<b>Panic Aud.</b>	<b>(_____)</b>
<b>Fire Zones</b>	<b>(_____)</b>
<b>Zones Arm STAY</b>	<b>(__34__9__)</b>
<b>Zones Force</b>	<b>(_____)</b>
<b>Outputs</b>	
<b>Out 1</b>	
<b>Out1 Events</b>	<b>(_____)</b>
<b>Out 2</b>	
<b>Out2 Events</b>	<b>(_____)</b>
<b>Out 3</b>	
<b>Out3 Events</b>	<b>(_____)</b>
<b>Out 4</b>	
<b>Out4 Events</b>	<b>(_____)</b>
<b>Times</b>	
<b>Out Time</b>	<b>(30) sec</b>
<b>In Time</b>	<b>(10) sec</b>
<b>Siren Time</b>	<b>(5) min</b>
<b>Test Time</b>	<b>(24) h</b>
<b>Door Time</b>	<b>(8) sec</b>
<b>GSM settings</b>	
<b>Dial Cycles</b>	<b>(2)</b>
<b>Tel 1</b>	
<b>Tel 1 Number</b>	<b>(_____)</b>
<b>Tel 1 Attributes</b>	<b>(_____)</b>
<b>Tel 2</b>	
<b>Tel 2 Number</b>	<b>(_____)</b>
<b>Tel 2 Attributes</b>	<b>(_____)</b>
..... <b>Tel 9</b>	
<b>Tel 9 Number</b>	<b>( )</b>
<b>Tel 9 Attributes</b>	<b>( )</b>

# PUMA v1.0



\* Add a 120 Ohm terminal resistor at far-most keypad if the distance is greater than 100 meters



