mi64

Installer Manual

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1 Introduction to the mi64

The mi64 is a state of the art, microprocessor based, customisable sixteen-zone Alarm Panel. It is, with the addition of expander modules, expandable to a maximum of 64 zones. All features are programmable either directly via the keypad or the Finmon website (for authorized users only). Communication to the monitoring station is by means of an onboard GSM modem. Five programmable outputs are provided which may be used to operate peripheral devices or alternately activate a radio transmitter for dual technology monitoring applications. A dedicated fused siren output is provided. Each keypad has the option of one additional zone and one additional programmable output. Each expander module provides an additional 8 zones and two programmable outputs.

For correct operation, the Mi64 must be used in conjunction with the specified transformer/battery combination, appropriate signalling devices and peripheral sensors.

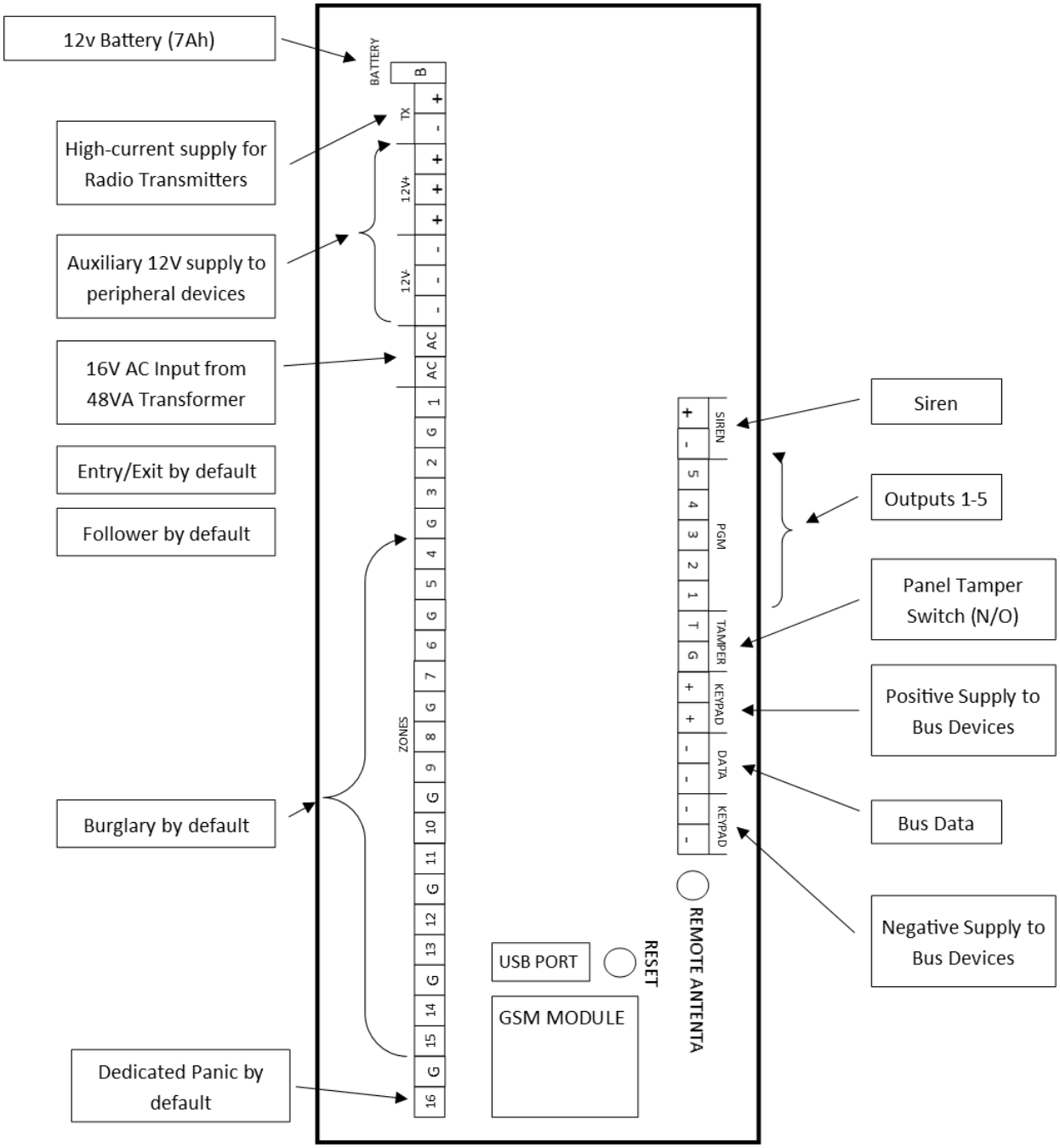
1.1 Features of the mi64

- 16 programmable, end-of-line supervised zone inputs
- Expandable to 64 zones using expander modules and keypad zones (8 zones per expander module and 1 zone per keypad)
- 4 partitions
- Optional tamper reporting per zone using double end-of-line resistors
- Dedicated tamper zone
- Five programmable outputs on the alarm panel, with an additional output per keypad and 2 outputs per expansion module
- Flash memory retains all program and event log data in the event of a total power failure
- Remote access to a timestamped event log
- Zone loop response time programmable to either 100 ms or 16 ms
- Up and downloadable from website
- Auto arm / disarm capability per partition and by day of the week
- Dynamic battery test
- Low battery cut out
- Remotely updateable firmware for panel, keypads, and expansion modules
- Integral GSM modem. Optionally the panel is available without the GSM modem but functionality is degraded
- Reporting via the GSM module and/or trigger outputs.

2 Installation and Wiring

Please see Figure 1 below.

Figure 1 Connection Diagram with EOL (End of Line) Resistor



2.1 EOL Resistors/Tamper per Zone

All zones are end-of-line supervised. Any unused zones must be terminated with a 3K3 resistor. The end of line resistor should be placed inside or as close to the sensor as possible. If the zones are NOT programmed to report tamper by zone use the 3K3 end-of-line resistor.

If tamper reporting is enabled for a zone, the 4K7 and 12K end-of-line resistors must be connected for that zone as per Figure 2 below. Note: Zone tamper is not a global setting but is enabled for individual zones. All zones programmed to report tamper must have dual end of line resistors.

Figure 2 Parallel EOL with Normally Open Contact

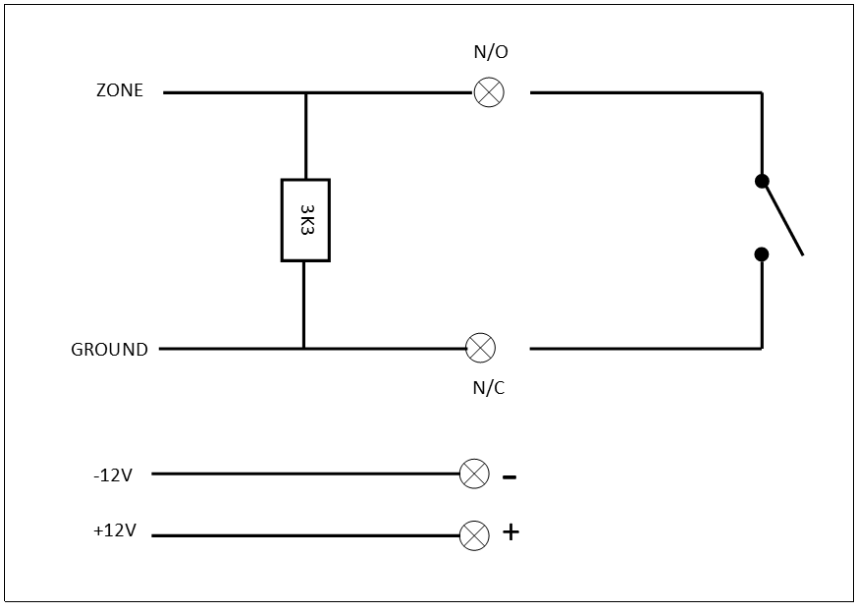


Figure 3 Serial EOL with Normally Closed Contact

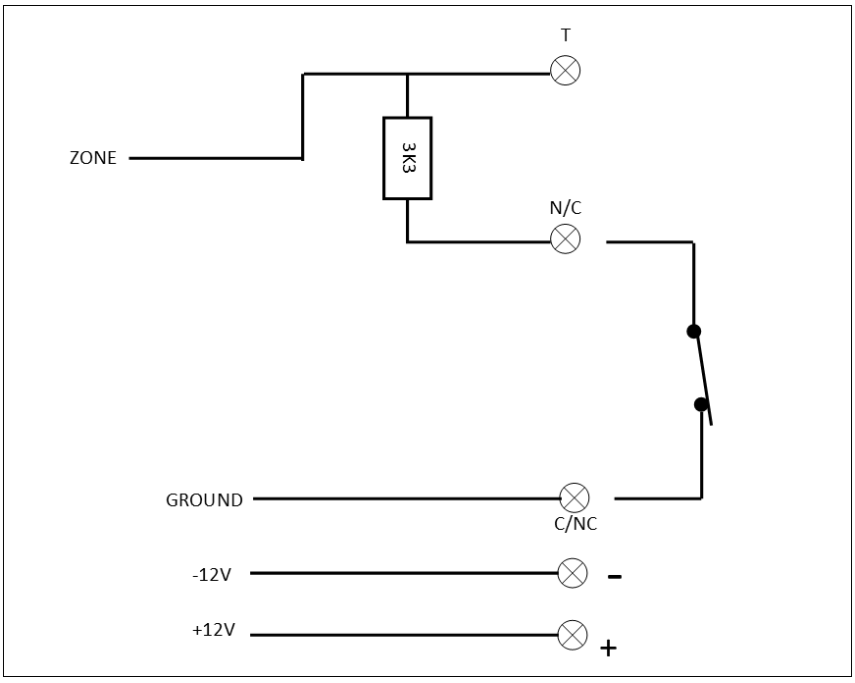


Figure 4 Connection: Tamper per Zone

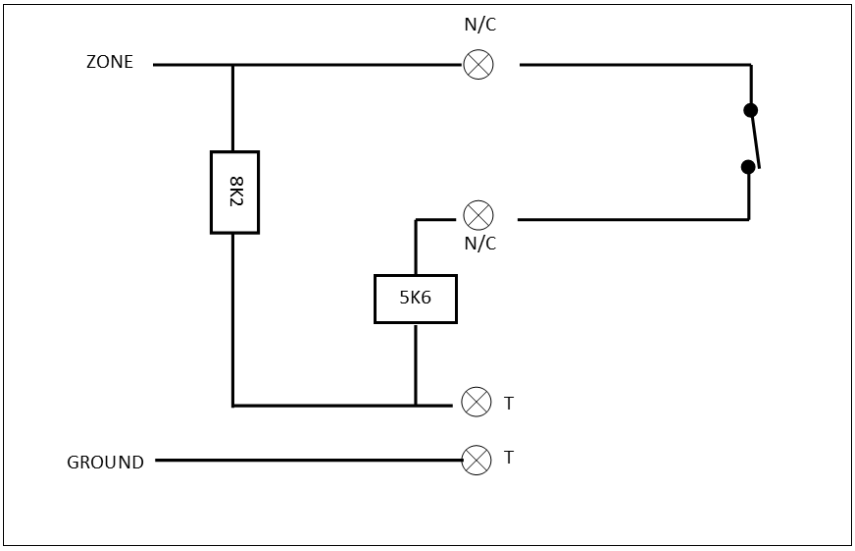
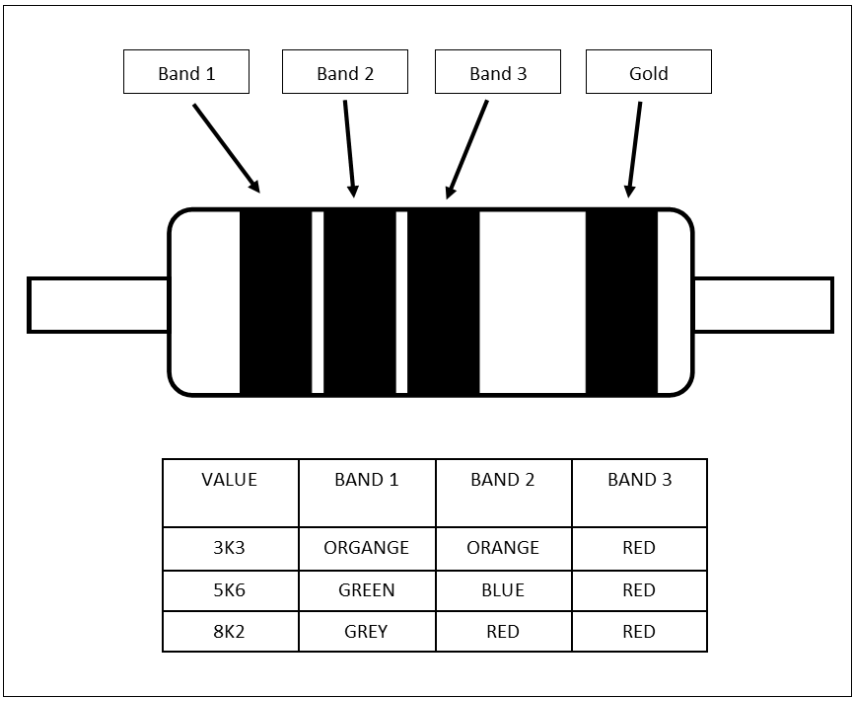


Figure 5 Resistors



VALUE	BAND 1	BAND 2	BAND 3
3K3	ORGANGE	ORANGE	RED
5K6	GREEN	BLUE	RED
8K2	GREY	RED	RED

2.2 Programmable Outputs

Current sink and source capability of the programmable outputs are as follows: Output high is a 12V source with a 56Ω series resistor. Output low is a 1000Ω resistor to negative. Any devices connected to a programmable output that require a high current must be connected via a relay board.

2.3 Key-Switch Armin/Disarming

The mi64 provides for arming and disarming using a momentary key-switch. The key switch must be a normally open spring-loaded type. If an external remote receiver is used it must provide a pulsed non-latching output.

When using a key-switch, the zone to which the key switch is connected must be programmed as an arm/disarm zone. Do not enable zone tamper. By default, the arm zone will arm the panel immediately, however an entry/exit delay may be enabled if required (see partition options).

2.4 Installing a Zone Expander Module

When installing a zone expander module, please refer to the manual supplied with the module. Note: A maximum of 5 expander modules may be added to the mi64. Each expander module provides 8 additional zones i.e. adding five expander modules will provide zones 17-56 in groups of eight. The last eight zones 57-64 are keypad zones. Each keypad provides 1 additional zone. A maximum of 8 keypads allows for 8 keypad zones. Keypad zones are disabled by default.

3 Additional Technical Data

- It is the installers responsibility to ensure a suitable transformer is used. For correct operation a transformer with a full load output voltage of between 13VAC and 16VAC with a 32VA minimum power rating is required. Transformer regulation should be better than 10% from 0 to full load. A 48VA transformer is preferable for larger installations. If the transformer is not rated correctly and excessive load is drawn from the Auxiliary 12V outputs and/or the battery is charging in the boost mode- the transformer will overheat and fail!
- Use a 12V sealed lead acid battery with a minimum rating of 7AH. The backup period after mains failure will depend on the number of keypads, sensors, and peripheral devices attached to the system. The current drawn by the panel and 1 keypad (no indicators lit) excluding sensors is 250mA.
- The mi64's integral battery charger will charge the battery at a constant current of 0.4A. This constant current charge mode is indicated by the BOOST LED being illuminated. The battery charge mode changes from constant current to constant voltage when the battery voltage reaches 13.8V i.e. fully charged.
- The box tamper is not end-of-line supervised and a N/C contact indicates a closed box.
- If the keypad output is programmed as an ARM indicator, the output with be 12V when the panel is armed, 0V when disarmed, and flashing when an alarm has been activated.

- The auxiliary 12V outputs will provide a combined total of 1.5A. If this is exceeded the LED located closest to the heat sink marked I LIMIT will illuminate to indicate a current limit condition and the output voltage will become unstable. If this occurs, it is necessary to reduce the load presented to the panel.
- The siren output requires a self-driven 12-volt siren. The siren minus terminal is connected to ground. The positive terminal of the siren is connected to 12V via a relay during the siren period. This output is fused at 2A.
- If a radio transmitter is being used for monitoring purposes the power for the transmitter should be taken from the "TX+" terminal.
- NOTE: The TX+ terminal is protected by means of the battery fuse. If excessive current (2 amps max) is drawn from this terminal, battery power to the alarm may be lost.
- Low battery is reported when the battery voltage drops below 11.5V and restores when it rises above 12V. If the battery voltage drops below 10.5V the low battery cut-out is activated to prevent deep discharging of the battery.

4 Hardware Reset Switch

If the panel is powered up with the reset button pressed, the installer code will be defaulted to [9999]. This option is programmable and may be disabled (not recommended).

5 Remote Access

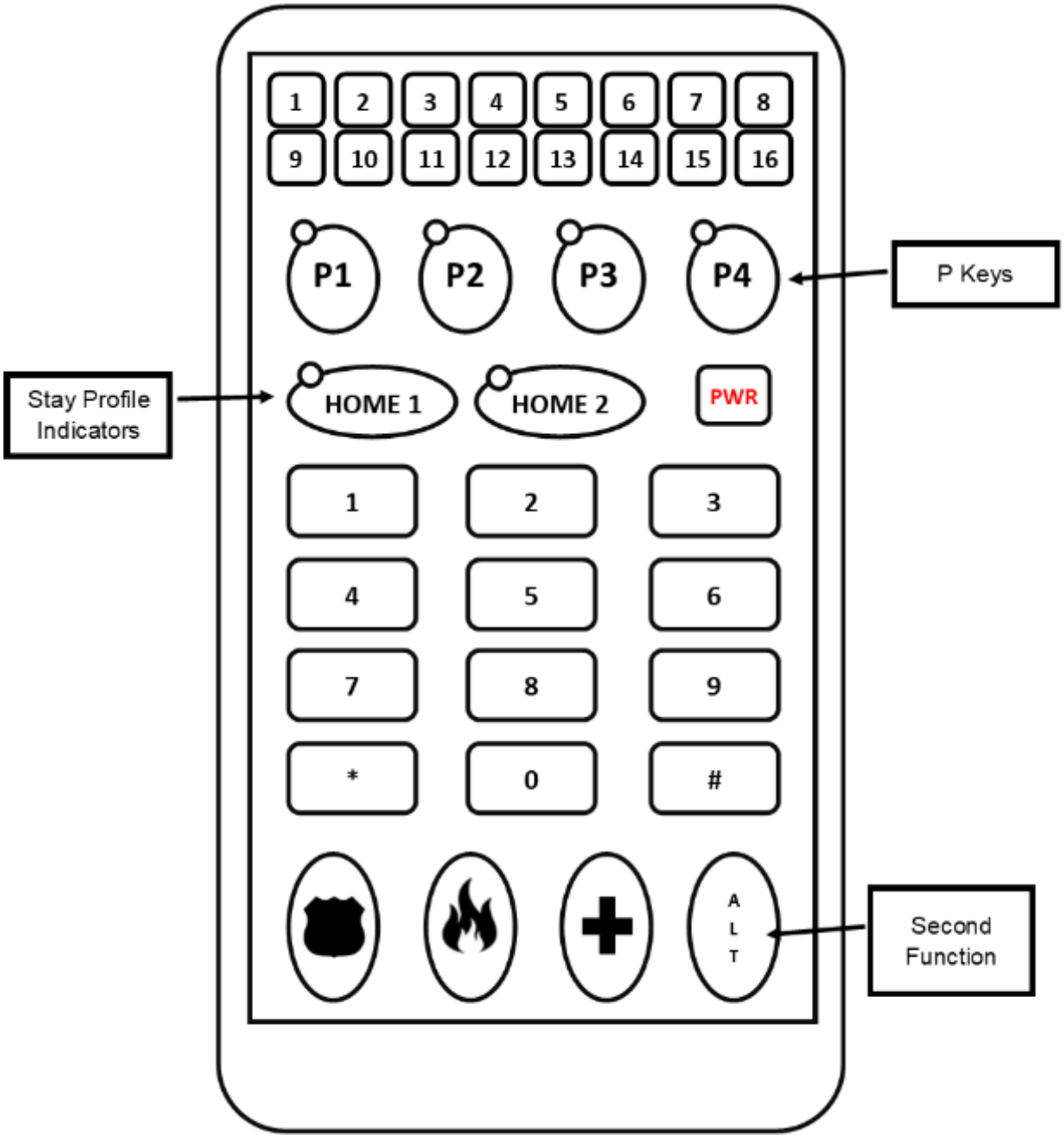
In order to access the alarm system remotely it is necessary to be registered as an authorised Finmon website user. Only alarm systems reporting to a monitoring company may be accessed by that monitoring company. On request, Finmon will issue a website username and password to authorised users. Upon gaining appropriate access to the alarm panel, full up/download functionality is provided. This provides for programming of various functions and features as well as retrieval of panel event history.

Additional download security may be enabled through programming mode. (See Location 541.)

6 Enrolling Keypads

The mi64 supports up to eight keypads.

Figure 6 Mi64 Keypad



Each keypad requires a unique address. This is done by setting the dip-switch on the back of the keypad PC board.

6.1 To assign a keypad

- Set the keypad address using the dip-switches. See Figure 7 and Table 1.
- Wire the keypad to the keypad bus.
- For further details refer to the flyer provided with your mi64 Keypad.

Figure 7: Location of Keypad Dip-switch

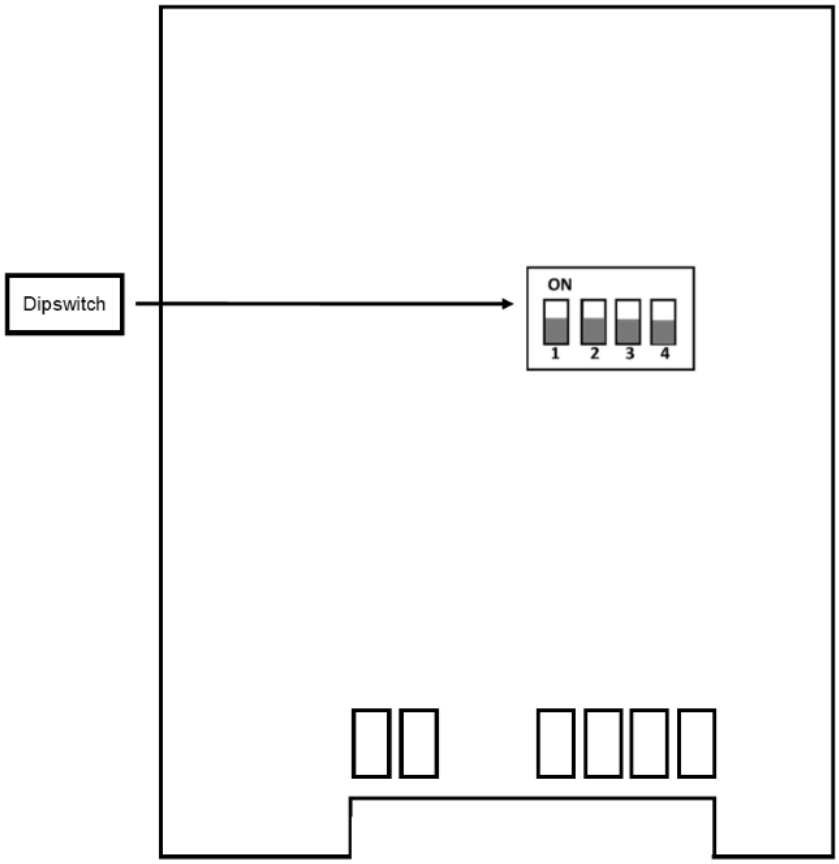
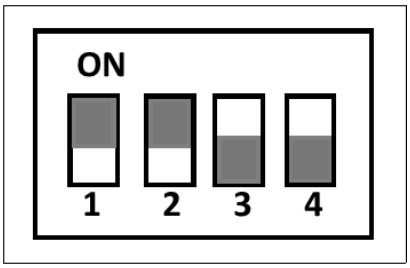


Table 1: Keypad Addresses

Keypad Address	Switches 0=Off X=ON				Keypad Zone
	1	2	3	4	
1	X	0	0	0	91
2	0	X	0	0	92
3	X	X	0	0	93
4	0	0	X	0	94
5	X	0	X	0	95
6	0	X	X	0	96
7	X	X	X	0	97
8	0	0	0	X	98

Dip-switch settings for a given keypad address are as per the table above e.g. to set the keypad address as 3 set the switches as illustrated below.

Figure 8: Keypad Dip-switch



6.2 Replacing Damaged Keypads

When replacing a damaged keypad:

- Remove the front of the keypad by undoing the retaining screw at the bottom and insert a screw driver to unlock the clips. Please note that the back cover of the keypad remains mounted.
- Make note of the existing keypad address.
- Set the new keypad to the same keypad address as the keypad being replaced.
- Clip the new keypad onto the back cover and tighten the screw at the base.

7 Event Log

The mi64 maintains an internal history of alarm and related activity. The event log will retain in excess of 1000 events. Once the log is full the oldest events will be overwritten by newest event.

The event log may be retrieved by authorised users using the Finmon website.

8 Alarm functionality

8.1 Keypad LED indicators

Keys P1-P4 are Partition selectors. At the top left of the partition selector is an associated status indicator. Keypads may be programmed to access any or all partitions. This must be programmed into location 6x00 (where x is the partition number). By default all keypads may access all partitions. Only partitions with assigned zones will be displayed.

The partition status (indicated by the zone status indictors) will be displayed for all partitions however all other keypad indications apply to the selected partition only. The current selected partition's status indicator will be brighter than the others. Changing the partition is achieved by touching the appropriate P key.

Example: If P1 is the brightest green LED, you are viewing partition 1 and the zone status indicators will display the status of the zones that belong to partition 1. The overall status of the other partitions is indicated by the partition status indicator colour. To view the zone status of these partitions, touch the appropriate P key to select another partition.

Each keypad is assigned to a default partition to which it will return after a timeout period. This timeout may be programmed in location 6x01(where x is the partition number).

Table 2: Partition Status LED Indicators

Indicator Colour	Description
Steady green	Partition ready to arm
Steady orange	Partition disarmed but not ready to arm i.e. some zones are violated
Flashing orange	Entry/exit delay
Steady red	Partition armed
Flashing red	Partition in an alarm condition

8.2 Stay Profile Indicators

When a selected partition is stay armed, the relevant Home indicator (Home1 or Home2) will illuminate red. This indicates the active home (stay) profile.

It is not necessary to disarm the panel to change home profiles, simply select the alternate home profile.

8.3 Zone Status Indicators

Table 3: Zone Status Indicators

Zone status indicator	Description
Flashing Red	Indicates a violated zone
Steady Illuminated	Indicates a bypassed zone

By default a keypad's zone status indicators will display the status of zones 1-16, however each partition may have its own customised selection of displayed zones. This may be programmed in locations 5x81-96. (where x is the partition number)

Although the keypad only displays 16 zones it is possible to view the zone status of zones 17 to 64 by holding the appropriate number key for 2 seconds as outlined below:

- Holding the 1 key will display the status of zones 1-16.
- Holding the 2 key will display the status of zones 17-32 (expanders 1 and 2).
- Holding the 3 key will display the status of zones 33-48 (expanders 3 and 4).
- Holding the 4 key will display the status of 49-64 (expander 5 and the keypad zones).
- Holding the 5 key will return the zone display the mapped zone selection for that keypad.

If the 5 key is not pressed the keypad will, after 5 minutes, default to the mapped selection and will sound a long beep.

8.4 User Codes

Up to 64 users are supported by the mi64. User codes must be 4 digits long. Each user may be assigned to one, or any combination of partitions. The default master user code (User 1) is 1234 which is assigned to all four partitions.

8.5 Programming User Codes

USEFUL NOTE: When programming the mi64 the [*] key is an enter key and the [#] is a clear key (deletes any digits in the buffer) or can be used to exit back to the previous mode.

To access User Programming:

- Touch the [Alt] key followed by the [*] key. The partition status indicators will flash as follows: P1-Orange, P2-Green, P3-Green, P4-Orange.
- Enter a Master User Code followed by the [*] key. The keypad will beep and the partition status indicators will flash- Green, Orange, Orange, Green.
- Select an option from the following table and then press [*].

Value	Function	Partition Status Indicators
1	Add a new user	Green, Orange, Orange, Green
2	Edit an existing user	Orange, Orange, Green, Green
3	Delete a user code	Green, Red, Red, Green
4	Delete a user by number	Red, Green, Green, Red

As an indication of which option has been selected the partition status indicators will cease flashing and display as per the table above.

- For the Add, Edit or Delete code options (option 1,2 and 3 above) enter the relevant user code and touch the [*] key.
- For Delete by user number option (option 4 above) enter the user code number and touch the [*] key.

In Delete modes (option 3 and 4) codes or users may be deleted sequentially. After deleting a code/user enter a star followed by another user or code followed by a [*] etc. alternately enter a [#] to exit the mode.

In Add/Edit Modes a partition status indicator will flash to indicate the selected Programming Page. Change between pages by touching the relevant P key.

Table 4: Programming Pages

Page	Function	Description
1	Partition assignment	Select the partition number followed by [*] to add or remove partitions to and from a user's profile. Only partitions belonging to the profile of the master code used to access programming mode may be added or removed.
2	User options	Press the option number followed by [*] to enable and disable the options as per the user option table below.
3	Add remote functionality	Press any button on an unused remote in order to enrol it to this user. Only 1 remote may be assigned per user code and only one user may be assigned to a remote.
4	View the user number and change user code	The user number is displayed in binary format. If you need to edit an existing user code, enter the new code followed by [*]. The user code will have been updated.

Table 5: User Code Options

Number	Option	Description
1	Master	Can add/remove and edit user codes
2	Duress	A duress code will disarm the panel normally and a duress signal will be sent to the alarm monitoring company. This signals that a user has been forced to disarm the panel under duress.
3	Arm to Disarm	This code will only disarm a partition if the same Arm to Disarm code was used to arm. This code may be given to a user whom has limited access to the premises.
4	Global Arm/Disarm	A Global code will simultaneously arm and disarm all partitions in a users profile. All partitions will follow the status of the partition which was selected at the time the code was entered.
5	Reporting	The user code will report an open and a close when arming and disarming.

8.6 Adding a web app user

The mi64 in conjunction with the mialarm web application allows users the following remote functionality:

- Status display
- Arming and Disarming
- Bypassing zones
- Setting and clearing of outputs.
- To add a web app user:
- Go to the Mi Alarm website: www.mialarm.co.za
- Register as a user and log on.
- Ensure all partitions are disarmed, and the panel is not in programming mode.
- Select 'add a device' on the app, enter the serial number of the panel. This can be found on the front cover of the main alarm housing. Enter a valid user code for that alarm.
- All partition status indicators and Home LEDs will flash green.

- Enter [*], [master code], [*] on a keypad to validate the web user for this alarm.

8.7 Arming a Partition

If the partition status indicator is Green the partition is ready to arm. An Orange partition status indicator indicates that there are violated zones which will preventing arming. Violated zones must either be cleared or bypassed (if arming with bypassed zones is allowed) before the partition may be armed.

Arming using a user code:

- If the keypad is currently displaying the partition to be armed enter a [valid user code], alternately touch the required partition key to select the desired partitioned then enter the code.
- The partition status indicator will flash orange and the keypad will beep for the duration of the exit delay.

During the exit delay, zones which are assigned to the entry/exit route may be triggered without causing an alarm. If the final entry/exit zone is not violated and the panel is programmed accordingly the system will "assume" you have remained on the premises and arm into the home mode.

Arming with a quick arm key:

- If this function is enabled, hold the relevant P key until it flashes orange and the exit beep will sound.
- Exit through the entry/exit route before the delay times out.

If the final entry exit zone is not violated and the panel is programmed accordingly the system will "assume" you have remained on the premises and arm into the home mode.

Home Arming:

Home arming is an arm mode in which pre-programmed zones (known as home or stay zones) are automatically bypassed. This allows access to predetermined areas without activating an alarm. Two different home profiles may be set for each partition.

Partitions may be programmed to automatically stay arm if no entry/exit zone violation is detected during the exit delay. In this case entering a user code and not leaving the premises will result in stay arming using the last stay profile used. The relevant partition status indicator will illuminate red as will one of the home status indicators. This indicates which home profile is active.

Alternatively, ensure the correct partition is selected, as indicated by the partition status indicators then touch and hold the home key (approximately 2

seconds) relating to the required profile. The relevant home status indicator will illuminate red. If a partition is armed in Stay Mode holding the other Home key will change the profile without the need to disarm.

8.8 Disarming a Partition

Violating an entry/exit zone will start the entry delay allowing access to the keypad via the entry route. The partition status indicator will flash orange and the keypad will beep until a valid code is entered to disarm the partition. If the code is not entered before the delay ends, or a zone that is not part of the entry route is violated, the siren will sound, and an alarm will be reported to the monitoring company.

8.9 Alarms

When an alarm is registered either while the panel is armed, or by activating a 24hr zone (panic), the siren will sound and the partition status indicator will flash red. The keypad zone/s indicator corresponding to the violated zone/zones will be flashing. The alarm condition is cancelled by entering a user code on any keypad displaying the alarmed partition. The user code must be valid for the indicated partition.

Once the alarm has been cancelled the zones which caused the alarm may be viewed by accessing the alarm memory, this is done by:

- Touching [Alt] followed by [0].
- To exit the alarm memory mode touch [#].
- A partition's alarm memory is overwritten each time that partition is armed.

8.10 Keypad Zone LEDs

By default LEDs 1-16 display zones 1-16- however this may be programmed per partition.

When programming Stay, Warning, Chime or Bypassing zones, entering the zone indicator number will add or remove the zone assigned to that zone to or from the profile. In order to program zones not assigned to a zone indicator in the relevant partition hold down the appropriate key from the table below. The zones will then be represented by the LEDs as shown in the table.

Key to hold down		LED															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Zone to bypass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
3		33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
4		49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64

To return to the partition mapping hold down the [5] key.

8.11 Setting up Stay Profiles

The mi64 provides two stay/home profiles per partition (Home 1 and Home 2). Violation of a home zone will not activate an alarm while a partition is stay armed. Violation of a warning zone will cause the keypad to "buzz" for a period before triggering an alarm. If a valid user code is entered during the "warning buzz period" an alarm will not be registered. The warning zone function is only active when a partition is stay armed.

Programming stay and warning zones:

- Ensure the keypad is displaying the appropriate partition.
- Touch [ALT] and then the appropriate Home key [Home 1] or [Home 2].
- The Home key indicator will illuminate green, P1 status indicator will flash orange, P2,P3 and P4 status indicators will flash green indicating the selected home profile is ready for programming.
- The zone indicators which are programmed as home zones will illuminate. Zone indicators corresponding to zones programmed as warning zones will be flashing.
- Add and remove home zones from the profile by entering the [zone number] followed by [*].
- To program warning zones touch P2, P2 status indicator will flash orange. Zone indicators corresponding to zones programmed as warning zones will illuminate and zone indicators programmed a home zones will flash. Add and remove warning zones by entering the [zone number] followed by [*].
- [#] to exit mode.

8.12 Chime Zones

When a partition is not armed, and a chime zone is violated the keypad/s will beep e.g. a door may be programmed as a chime zone for an audible alert on opening.

Programming chime zones:

- Touch [ALT] and then [2].
- Enter the zone number corresponding to the zone to programmed as a chime zone then [*].
- The zone indicator will illuminate.
- A chime zone may be cleared in the same way, enter the zone number then [*].
- Press [#] to exit the mode.

8.13 Bypassing Zones

To bypass a zone:

- Select [ALT] and then [9].
- Enter the zone number corresponding to the zone to be bypassed [*].
- The zone indicator will illuminate.
- A bypassed zone may be cleared in the same way, enter the zone number then [*].
- Press [#] to exit the mode.

8.14 Fault Conditions

When the alarm system detects a fault condition the power indicator will change from green to red.

To view the fault:

- Touch [ALT] then [7].
- An illuminated zone indicator/s will indicate the fault condition/s.

Refer to the table below.

Table 6: Fault Conditions

Zone Status Indicator	Fault Conditions
1	Siren Tamper
2	Auxiliary 12V Tamper
3	Box Tamper
4	AC Loss
5	Communication Fail
6	Low Battery
7	Device Tamper
8	Device Loss
9	Network Trouble

9 Programming Instructions

9.1 Introduction

The mi64 can be programmed either using the keypad or via the Finmon website. Programming the panel by means of the keypad is explained in the following sections of this manual. For information on programming the panel using the website, please log into www.finmon.co.za and follow the instructions.

9.2 Location Values

In certain locations the zone indicators will display the contents of the location in binary format. In others, each LED indicates an option that is either enabled or disabled (bitmapped locations). The table below indicates how to interpret binary format.

Table 7: Value Represented by Each Zone Indicator

LED	Value
Zone 1	1
Zone 2	2
Zone 3	4
Zone 4	8

To read a binary value- add the values represented by each lit LED. The total value is the number being represented. For example, if zone indicators 1,3 and 4 are illuminated, the value would be 13 as shown in the table below.

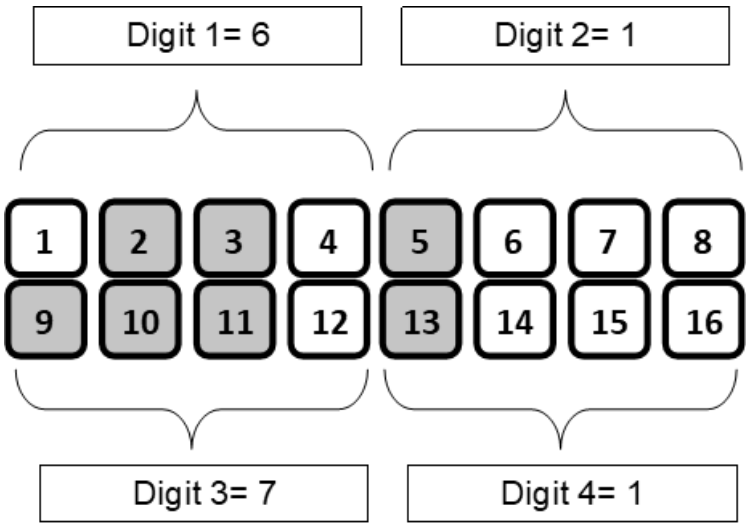
LED	Value
Zone 1 ON	1
Zone 2 OFF	0
Zone 3 ON	4
Zone 4 ON	8
Total	13

Table 8: Binary Representation

0=LED extinguished X=LED illuminated

Value	0	1	2	3	4	5	6	7	8	9
Zone 1 Indicator	0	x	0	x	0	x	0	x	0	x
Zone 2 Indicator	0	0	x	x	0	0	x	x	0	0
Zone 3 Indicator	0	0	0	0	x	x	x	x	0	0
Zone 4 Indicator	0	0	0	0	0	0	0	0	x	x

Example. If viewing a four digit account code - digit 1 would be represented by LED 1-4, digit 2 by LED 5-8, digit 3 by 9-12 and digit 4 by 13-16.



10 Programming the Panel

For all programming procedures:

- The [*] key functions as the enter key
- The [#] key functions as a clear key, backspace key and to exit programming mode.

If an error is made e.g. an incorrect value is entered, the keypad will beep three times. The incorrect entry will be automatically disregard, and allow the correct entry to be made without the [#] being pressed to clear the entry.

10.1 Entering Installer Mode

- Ensure that the panel is disarmed.
- Touch the [#] key followed by the [INSTALLER CODE].
- The default installer code is 9999.
- Touch the [*] key, a long beep will confirm program mode entry, the partition status indicators will display: red, green, green, red.

10.2 Programming Locations

The following procedure must be used to program locations:

- Enter the Installer Mode then enter the [LOCATION NUMBER] of the program location that you wish to change.
- Touch the [*] key.
- The partition status indicators will now change to green, red, red, green.
- The zone status indicators will now display the content of the selected program location. The contents may be in either binary or bitmapped format depending on the location selected.
- Enter the required value/make the selection then touch the [*]. Note: The new information is not entered until the star key is touched. If you do not wish to change the location value, touch the [#] key.
- If the data value has been changed, the buzzer will give a long beep indicating that a valid entry has been stored.
- Enter the next location number or press [#] to exit programming mode.
- On exiting programming mode, the keypad will once again display the panel status.

10.3 Programming Paged Locations

This procedure applies to programming time locations, setting up programmable output functionality and option locations where there are more options than zone indicators.

The following procedure should be used to program pages:

- After entering the location number, the partition 1 status indicator will flash indicating the first page is currently being displayed and is available to edit.
- The zone indicators will now display the relevant information for that page.
- To select another page, touch the associated partition key. The partition status indicator will now flash indicating that you have successfully entered this page. If the newly selected partition status indicator does not flash when selected, the selected page does not exist for this location.
- Entering information on the first page of the time and output locations will automatically advance the programming mode on to the next page, indicated by the relevant flashing partition status indicator. After completion of all programming pages touch [*].
- Alternatively press the [#] to exit.

10.4 Option Locations (Bitmapped locations)

These locations are used for programming various panel options, and an illuminated zone indicator indicates that an option corresponding to that zone number is enabled.

- Enter the option number using the keypad numbers followed by the [*] key to toggle the status of each option.
- The corresponding zone indicator will illuminate or extinguish on the keypad. If the zone indicator is illuminated the option is selected. If the indicator is extinguished the option is not selected.
- If there are more than 16 options. Option 1to 16 will be displayed on page 1, options 17-32 will be displayed on the second page. The second page is accessed by touching [P2].
- Touching the [*] key will save the displayed configuration. Touching the [#] key will exit the location.

10.4.1 Time Locations

Time locations are programmed as either minutes and seconds (mm:ss) or hours and minutes (hh:mm). All time locations consist of 2 pages accessed by touching either the P1key (for page 1) or P2 key (for page 2). If the location is a minutes and seconds page, page1 is for programming minutes and page 2 is for seconds. Similarly, if the location is an hours and minutes page, page 1 is for programming hours and page 2 is for minutes.

- After entering the location number- the contents of the first page will be displayed.

- Enter a new value then [*].
- The second page will be displayed, enter a new value then touch [*].
- The value will be saved, and the unit will be ready for a new location number.
- Alternately to view without changing values, touch the relevant P keys to swap between pages and press the [#] key to exit.

10.4.2 Day Schedule Locations

These are 'Option Locations' where zone indicators correspond to days as per the following table.

Zone Indicator	Day
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

10.4.3 String Values

When programming account codes or custom Contact ID strings enter the values sequentially and then press [*].

11 Program Location Summary

Following is a detailed description of all locations.

11.1 Location 0: Defaulting Options

Programming Location 0 with a value from the table below will perform the action described:

Value	Action
0	Default all alarm settings
1	Default only the master user code and its properties
2	Default all user codes and their properties
3	Default the download code

11.1.1 Zone Types

For adding zones to partitions refer to Partition Options.
The following table indicates which locations correspond to which zones:

Table 9: Zone Locations

Zone	Locations
Onboard zones	1-16
Expander 1 zones	17-24
Expander 2 zones	25-32
Expander 3 zones	33-40
Expander 4 zones	41-48
Expander 5 zones	49-56
Keypad Zones	91-98

Table 10: Programmable zone types

Value	Zone Type
0	**Zone Disabled** The zone will be disabled, and violation of this zone will be ignored.
1	**Primary Entry/Exit** For an armed partition the violation of a Primary Entry/Exit zone will initiate the primary entry delay. The duration of this delay is programmed under partition options. If a valid code is not entered before the entry delay period expires, an alarm condition will be registered. Violations of entry/exit zones are ignored during an exit delay.
2	**Secondary Entry/Exit** For an armed partition the violation of a Secondary Entry/Exit zone will initiate the secondary entry delay. The duration of this delay is programmed under partition options. If a valid code is not entered before the entry delay period expires, an alarm condition will be registered. Violations of Entry/Exit zones are ignored during an exit delay.
3	**Follower** Violation of a Follower zone during the exit delay will not activate an alarm. If the partition is armed, violation of a Follower zone

	without violating an entry/exit zone will cause an immediate alarm activation. If an Entry/Exit zone is violated, thereby starting an entry delay, violations of Follower zones during the entry delay will not cause an alarm activation.
4	**Arm** Violation of an Arm zone will cause the partition to which the zone is assigned to arm or disarm depending on its current status. To use this zone type, connect a momentary key-switch or a non-latching remote-control unit to this zone. An end of line resistor will still be required.
5	**Panic** Violation of a Panic zone will report a panic condition regardless of whether the panel is armed or disarmed. By default the siren output will activate. This may disabled (silent panic) in the corresponding zone option location.
6	**Burglary** If the panel is armed, the violation of a Burglary zone will cause the control panel to report an alarm condition. The behaviour of the siren will depend upon the value programmed into corresponding zone option location. When the panel is disarmed, a violation of a Burglary zone is ignored.
7	**24hr** Regardless of whether the panel is armed or not, a violation of a 24 Hour Alarm zone will cause the panel to register a burglary condition.
8	**Tamper** Violation of a Tamper zone will be reported regardless of whether the panel is armed or not. By default, the siren will be triggered if the partition is armed and a Tamper zone is violated. If the partition is not armed and a Tamper zone is violated the tamper condition will be reported however the siren will not sound.
9	**Guard Monitor** Violation of a Guard zone will report with the guard monitoring code and will not cause an alarm condition. Reporting of this zone violation is not dependant on the armed status of the partition.
10	**Outdoor** An outdoor zone will behave as per a burglary zone however an outdoor alarm will be reported. This contact ID reporting code is different to a burglary zone.
11	**Fire** A violation will report a fire condition regardless of the arm status. The fire output will be activated and the siren will pulse on and off at 1 second intervals.

12	**Silent Panic** Violation of a Silent Panic zone will report a panic condition regardless of whether the panel is armed or disarmed. There will be no audible or visual indication of the zone being violated, but the panic condition will be reported.

Table 11: Zone Defaults

Location	Zone	Default Option	Zone Type
1	1	1	Entry/Exit
2-3	2-3	3	Follower
4-15	4-15	6	Burglary
16	16	5	Panic

11.2 Location 201-298: Zone Options

These locations are used for customising zone types. It is generally not necessary to change these. Each zone type has a default set of pre-programmed options. If a zone type is changed i.e. from an entry/exit zone to a follower zone or reprogrammed i.e. an alarm zone is reprogrammed as an alarm zone, the default zone options for that zone will be reloaded.

The two digits after the 2 location number (2nd and 3rd digits) correspond to the zone number as per locations 1to 98 i.e. location 2**01** is zone 1options, 2**02** is zone 2 options and 2**35** is zone 35options etc.

Table 12: Zone Options

Page	Zone Option Number	Zone Option
P1	1	Entry 1 Options
P1	2	Entry 2 Options
P1	3	Entry/Exit Route
P1	4	Report Armed
P1	5	Report Always
P1	6	Alarm Armed
P1	7	Alarm Always
P1	8	Tamper Monitor
P1	9	Alarmed Arm Tamper
P1	10	Alarm Disarmed Tamper
P1	11	Cross Zone
P1	12	Shutdown Enabled
P1	13	Short-Loop Response
P1	14	Warning (buzz)
P1	15	Chime
P1	16	Arm

P2	1	Priority
P2	2	Fire
P2	3	Tamper
P2	4-16	Reserved*

Table 13: Zone Option Descriptions

Zone Option	Description
Entry 1	An Entry/Exit zone using the primary entry delay.
Entry 2	An Entry/Exit zone using the secondary entry delay.
Entry/Exit Route	Follower zone.
Report Armed	Violation of this zone will be reported when the panel is armed.
Report Always	Violation of this zone will report all violations whether the panel is armed or not.
Alarm Armed	If the panel is armed and this zone is violated the siren will sound, the strobe output will activate and the partition LED will flash red.
Alarm Always	Regardless of the arm status, if the zone is violated the siren will sound, the strobe output will activate and the partition LED will flash red.
Tamper Monitor	The zone is monitored for tamper (using dual end of line resistors). The tamper will always be reported regardless of whether the panel is armed or not.
Alarmed Arm Tamper	The siren will activate if the zone is tampered in an armed state.
Alarm Disarmed Tamper	The siren will activate if the zone is tampered in a disarmed state .
Cross Zone	Zones programmed as Cross zones will not immediately generate an alarm when violated. A number of violations must be registered within a specified time before the alarm is activated and the zone violations are reported. The violations may be in the same zone or any other zones programmed as cross zones. The Cross zone time will be set in minutes. The Cross zone count and time is programmed for each partition. By default a count of 2 within 5 minutes will activate the alarm.

Shutdown Enabled	If set, this zone will be included in the swinger shut down group.
Short-Loop Response	This zone will register a violation after 16 ms. If this option is disabled a violation will be registered after 100 ms.
Buzz	When a partition is stay armed, violating a buzz zone will cause the keypads to beep for a period corresponding to the primary entry delay. No alarm will be reported during this period. If the partition is disarmed during this time no alarm will be registered. If the partition is not disarmed during the delay period an alarm will be activated.
Chime	Violating a Chime zone when the panel is disarmed will cause the keypad to beep for a short time.
Arm	Violating an Arm zone will arm or disarm the partition depending on its status.
Priority	A Priority zone will activate the panic output rather than the burglary output.
Fire	A zone with this option set will trigger the fire output and cause the siren to pulse rather than sound continuously.

11.3 Location 3011-3982: Zone Reporting Codes

Although it is not recommended provision is made for customizing zone reporting codes.

Zone Number	Location for Violation Code	Location for Restoral Code
Onboard Zones 1-16	3011-3161	3012-3162
Expander 1	3171-3241	3172-3242
Expander 2	3251-3321	3252-3322
Expander 3	3331-3401	3332-3402
Expander 4	3411-3481	3412-3482
Expander	3491-3561	3492-3562

5		
Keypad Zones	391x-398x	391x-398x

Select the location number and enter the four digit Contact ID string required followed by [*], the panel will automatically append the appropriate zone and partition numbers when sending the code.

11.4 Location 400-453: General Setup Options

These are settings that do not affect a specific partition, but can affect the entire alarm system.

11.5 Location 400: General Setup

No.	Option	Description	Default
1	Global Siren Cancel	Enables a user to cancel a siren which has been activated in another partition.	Enabled
2	Siren Tamper	Enables siren tamper monitoring. This will indicate if the siren wires have been either shorted or cut.	Enabled
3	Device Tamper	Enables the monitoring of devices connected to the RS485 bus.	Enabled
4	Disable Installer Reset	Set this option to disable the hardware reset switch.	Enabled
5	Shutdown Re-enable	Enabling this function means that any swinger shutdown zones will be reactivated daily.	Enabled

11.5.1 Location 401: Keypad Display of Fault Conditions

Selects which fault conditions will be displayed on the keypad. Fault conditions will always be reported and a fault condition will be indicated on the keypad by means of a red PWR indicator (and an optional keypad beep). By default, all fault conditions will be displayed.

Note: All fault condition indications will clear once the fault condition is removed/fixed.

Table 14: Fault Condition Descriptions

No.	Fault Condition	Description
1	Siren Tamper	Indicates if the siren is open or short circuit.
2	Aux 12V	Indicates an over current condition of the auxiliary 12V.
3	Box tamper	Indicates when the alarm box is opened.
4	AC loss	Indicates AC failure. This is only indicated after the AC failure delay.
5	Communications fail	Indicates when the alarm system is unable to communicate with any of the IP addresses, no GSM connection or no more SMS's available. The condition will clear on a successful communication.
6	Low battery	Low battery is indicated when the battery voltage drops below 11.5V and restores when it reaches 12V. If the battery voltage drops below 10.5V the low battery cut-out is activated to prevent deep discharging of the battery.
7	Device tamper	A device tamper is indicated when a keypad, or expander tamper condition occurs. Viewing of this trouble condition will clear the indication.
8	Device loss	This indicated when the panel detects that a device connected to the RS485 bus is no longer communicating. Viewing of this trouble condition will clear the indication.
9	Network failure	Network failure is indicated when the modem is unable to establish a connection to the alarm server.

11.6 Location 402: AC Fail Delay

A 'Time Location' programmed in minutes and seconds which sets the delay before an AC Fail condition is registered. The default delay is 10 minutes.

11.7 Location 403: Siren Timeout

A 'Time Location' programmed in minutes and seconds which sets the time for which the siren will sound when an alarm is registered and not cancelled. The default siren time is 30 seconds.

11.8 Location 404: Auto Test Interval

A 'Time Location' programmed in days and hours to set the time between Auto Test Reports. The minimum programmable time is 1 hour.

11.9 Location 405: Auto Test Time

A 'Time Location' programmed in hours and minutes which sets the time at which the Auto Test will be reported. The hours location of the auto test interval must be set to zero for this location to take effect.

11.10 Location 406: Auto Test Reporting Code

This is a 'String Location' containing the nine characters that follow the account code and format identifier in the Contact ID string. The default is a standard periodic test string.

11.11 Location 407: Outputs to Invert

This is an 'Option Location' to select the outputs to invert.

By default the panel outputs are positive trigger. 12V is present when the output is triggered, and the voltage clears when the output is cleared. Invert the output for the opposite result, i.e. an output that is at 12V in the 'clear' state and 0V when 'set' or pulsed.

In order to program an output with inverted logic:

- Enter program mode, select location 407.
- Zone indicators corresponding to outputs which are NOT inverted will NOT be illuminated.
- To invert a given output select the required output from the table below by pressing the corresponding number on the keypad.
- Then touch [*].

In the table below: Kx= keypad number and y/z= expander module/output. For example, 1/2 designates output 2 of expander module 1, and K3 designates the output on keypad 3.

Table 15: Outputs to Invert

P	LED															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Page 1	1	2	3	4	5	1/1	1/2	2/1	2/2	3/1	3/2	4/1	4/2	5/1	5/2	K1
Page 2	K2	K3	K4	K5	K6	K7	K8	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED

For example, assume the keypad 4 output is to be inverted, enter program mode, select location 407, using the table below select page 2 by touching the [P2] key, touch the [3] key (Zone indicator 3 will illuminate) then touch [*]

11.12 Location 408: Shutdown Count

This location determines the number of times a zone may be violated during an arm cycle before automatic bypassing. This count applies to zones that have shutdown enabled. The default count is 10.

11.13 Location 410-423: Output Functions

An output may be programmed to perform a specific action if a certain event occurs. For each action location the output number is programmed on page 1 (partition 1 status indicator flashing), and the action on page 2 (Partition 2 status indicator flashing). To disable a function set its action to 0.

Table 16: Output Numbers

Output Device	Output Number	Description
Panel Onboard Outputs	1-5	These are the onboard outputs labelled PGM1-PGM5.
Expander 1	6-7	6: PGM 1 on expander 1 7: PGM 2 on expander 1.
Expander 2	8-9	8: PGM 1 on expander 2 9: PGM 2 on expander 2.
Expander 3	10-11	10: PGM 1 on expander 3 11: PGM 2 on expander 3.
Expander 4	12-13	12: PGM 1 on expander 4 13: PGM 2 on expander 4.
Expander 5	14-15	14: PGM 1 on expander 5 15: PGM 2 on expander 5.
Keypad Outputs	91-98	91: PGM 1 on keypad 1 92: PGM 1 on keypad 2 93: … 98: PGM 1 on keypad 8.

Table 17: Output Actions

Value	Output Action	Description
0	None	No action.
1	Set	The output will be set high (+12V)*
2	Clear	The output will be set low (0V)*
3	Pulse	The output will be set high (+12V) for a period and then return to 0V.*

		The period may be programmed per output. The default period is 3 seconds.

* The opposite voltages will apply if the output has been programmed to be inverted.

Table 18: Output Events

Location	Description	Default Output (P1)	Default Action (P2)
410	AC fail output	4	1 (set)
411	AC restore output	4	2 (clear)
412	Low battery output	5	1 (set)
413	Battery restore output	5	2 (clear)
414	Auto test output	0 (Not Assigned)	0 (disabled)
415	Siren trouble output	0	0
416	Aux 12 V trouble output	0	0
417	Expansion module tamper output	0	0
418	Expansion module loss output	0	0
419	Box tamper output	0	0
420	Communications failure output	0	0
421	RF jamming output	0	0
422	RF jamming restore output	0	0
423	Network trouble output	0	0

11.14 Location 450 – Installer Code

The default installer code is [9999].

- To change the installer code, enter location 450.
- A binary representation of the current installer code will be displayed.
- Enter [NEWCODE] followed by [*].

11.15 Location 451 - Download Options

Enter the value for the access security level required.

Value	Action
0	No download code required – The panel may be accessed via the Finmon website without a download security code. This can only be done if the panel is assigned to a customer and the user has valid access.
1	A download code must be entered from the customers webpage before access is granted.
2	A download code must be entered from the customers web page and the master user code must be entered on the keypad before access is granted.
3	No download access allowed.

11.16 Location 452 – Set Time

A 'Time Location' programmed in hours and minutes (24 hour clock). Only program this location if the mi64 is NOT connecting via the internal GSM modem.

11.17 Location 453 - Set Date

This is a 'String Location' entered in the following format: ddmmyyyy. Only program this location if the mi64 is NOT connecting via the internal GSM modem.

12 Partition Set Up

The mi64 provides for up to four partitions.
When entering partition location numbers replace 'X' with the relevant partition number e.g. Location 5100 will set the account code for Partition 1 and Location 5200 will set the account code for Partition 2.

12.1 Location 5x00: Account Codes

This is a 'String Location' into which four digit account code is programmed. This account number will be reported to the alarm monitoring company and is programmed per partition.
The default account code is 9998.

12.2 Location 5x01: Assigning Zones to the Partition

This 'Option Location' has four pages. The X in the location number represents the partition number. Select the relevant page from the table below, then select the required zone using the number keys followed by [*].

With respect to the table below,1/2 represents zone 2 of expander module 1, and K3 represents the zone on keypad 3.

Example, to assign zone 3 of the first expander module to partition 1:

- Enter [5101][*]
- Followed by [P2], [3], [*].

P	LED															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P2	1/1	1/2	1/3	1/4	1/5	1/6	1/7	1/8	2/1	2/2	2/3	2/4	2/5	2/6	2/7	2/8
P3	3/1	3/2	3/3	3/4	3/5	3/6	3/7	3/8	4/1	4/2	4/3	4/4	4/5	4/6	4/7	4/8
P4	5/1	5/2	5/3	5/4	5/5	5/6	5/7	5/8	K1	K2	K3	K4	K5	K6	K7	K8

12.3 Location 5x02: Partition Options

This is an 'Options Location' used to configure partition settings. Use the number keys followed by [*] to enable or disable the option.
For example, you would select number key [1] on Page 1 to enable/disable instant user code arm, and select number key [1] on Page 2 to enable/disable Silent Keypad Panic.

Table 19: Partition Options

Page	ZONE LED	Option	Description	Default
P1	1	Instant User Code Arm	If enabled there is no exit delay when a partition is armed.	Disabled
P1	2	Instant Arm Zone Arming	If enabled there is no exit delay when arming using an Arm zone.	Enabled
P1	3	Quick Away	Enables the Quick Away Arm keys.	Enabled
P1	4	Quick Stay	Enables the Quick Stay Arm keys.	Enabled
P1	5	Auto User Code Stay	The partition will stay arm when the partition is armed from a keypad and no Exit	Enabled

			zone is violated during the exit delay.	
P1	6	Auto Arm Zone Stay	Enables auto stay arm detection when arming using an Arm zone.	Disabled
P1	7	Forced Arm	If enabled, the partition may be armed with violated zones. When the partition is armed, any violated zones are automatically bypassed. If the zone subsequently clears during the arm cycle it will become active.	Disabled
P1	8	Bypass	This option must be enabled to allow bypassing of zones assigned to this partition.	Enabled
P1	9	Arm with violated exit route zones	If this option is enabled the panel may be armed with follower zones and entry/exit zones violated.	Enabled
P1	10	Arm/Disarm Siren Toot	If enabled the siren will sound for a short period when the partition is armed and two short pulses when disarmed.	Enabled
P1	11	Entry Keypad Beep	If enabled the keypad will beep during the entry delay.	Enabled
P1	12	Exit Keypad Beep	If enabled the keypad will beep during the exit delay.	Enabled
P1	13	Auto Disarm	Unless this option is enabled the time and days programmed in the Auto Disarm Schedule will be ignored.	Disabled
P1	14	Common Bypass	This option allows bypassing of zones which are shared by more than 1 partition.	Disabled
P1	15	Report Quick Arm	If enabled the panel will report when this partition is quick armed. If you wish to monitor opening and closings for this partition- this option should be enabled.	Enabled

P1	16	Report Stay Arm	If enabled the panel will report when this partition is stay armed.	Disabled
P2	1	Silent Keypad Panic	If enabled, keypad panics, remote panics, and incoming GPRS panics will be reported- however the siren will not be activated and the alarm condition will not show on the keypad.	Disabled

12.4 Location 5x10: Primary Entry Delay Time

This 'Time Location' is used for programming the primary entry delay. This timer begins when a primary Entry/Exit zone is violated. The programmed format is minutes and seconds.

12.5 Location 5x11: Secondary Entry Delay Time

This 'Time Location' is used for programming the secondary entry delay. This timer begins when a secondary Entry/Exit zone is violated. The programmed format is minutes and seconds.

12.6 Location 5x12: Exit Delay Time

This is a 'Time Location' programmed in minutes and seconds to set the exit delay time.

12.7 Location 5x20-23: Special Function Partition Outputs

Enter the output number required to perform the following functions, or 0 to disable the function. Note that all of these functions are disabled by default.

Location	Function	Description
5x20	Arm LED Output	This output will be set when the partition is armed, cleared when it is disarmed, and flashing when an alarm has been triggered.
5x21	Siren Output	This output is set when an alarm is triggered in this partition and clears after the siren timeout or when the alarm is cancelled by a user.
5x22	Strobe Output	This output is set when an alarm is triggered in this partition and is only cleared when the alarm is

		cancelled or the partition disarmed.
5x23	Chime Output	This output pulses when a chime zone is triggered.

Table 20: Output Numbers

Output Device	Output Number	Description
Panel Onboard Outputs	1-5	These are the onboard outputs labelled PGM1-PGM5.
Expander 1	6-7	6: PGM 1 7: PGM 2
Expander 2	8-9	8: PGM 1 9: PGM 2
Expander 3	10-11	10: PGM 1 11: PGM 2
Expander 4	12-13	12: PGM 1 13: PGM 2
Expander 5	14-15	14: PGM 1 15: PGM 2
Keypad Outputs	91-98	91: PGM 1 on keypad 1 92: PGM 1 on keypad 2 93: … 98: PGM 1 on keypad 8

12.8 Location 5x30-5x46: Partition Output Options

An output may be programmed to perform a specific partition related action if a certain event occurs. For each action location the output number is programmed on page 1 (partition 1 status indicator flashing), and the action on page 2 (Partition 2 status indicator flashing). To disable a function set its action to 0.

Refer to the table in the previous section for the output numbers.

Table 21: Output Actions

Value	Output Action	Description
0	None	These are the onboard outputs labelled PGM1-PGM5.
1	Set	The output will be set high (+12V)*
2	Clear	The output will be set low (0V)*
3	Pulse	The output will be set high (+12V) for a period and then return to 0V.* The period may be programmed per output. The default period is 3 seconds.

* The opposite voltages will apply if the output has been programmed to be inverted.

The program defaults for 'Open' and 'Close' are for Partition 1. These functions are disabled for the other partitions. All other defaults apply to all partitions.

Table 22: Partition Output Event Table

Location	Description	Default Output (P1)	Default Action (P2)
5x30	Close Output	3	1 (set)
5x31	Stay Close Output	0	0
5x32	Open Output	3	2 (clear)
5x33	Cancel Output	0	0
5x34	Alarm Restoral Output	0	0
5x35	Bypass Output	0	0
5x36	Forced Arm Output	0	0
5x37	Zone Tamper Output	0	0
5x38	Zone Tamper Restoral Output	0	0
5x39	Shutdown Output	0	0
5x40	Shutdown Restoral Output	0	0
5x41	Medical Output	0	0
5x42	Duress Output	1	3 (pulse)
5x43	Burglary Output	2	3 (pulse)
5x44	Panic Output	1	3 (pulse)
5x45	Fire Output	0	0
5x46	Tamper Zone Output	0	0

12.9 Location 5x50: Outputs to clear on open or cancel

These outputs will be cleared when the partition is disarmed, or an alarm is cancelled. If latching outputs are used for reporting they can be cleared on opening.

This is an 'Option Location', outputs corresponding to illuminated zone indicators will be cleared when the partition is disarmed or an alarm is cancelled. Use the corresponding number keys on the keypad to toggle. For example, to illuminate zone 3 indicator, press number key [3] followed by [*].

In the table below – 1/2 designates output 2 of expander module 1, and K3 designates the output on keypad 3.

Table 23: Outputs to clear on open/cancel

P	LED															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P1	1	2	3	4	5	1/1	1/2	2/1	2/2	3/1	3/2	4/1	4/2	5/1	5/2	K1
P2	K2	K3	K4	K5	K6	K7	K8	na	na	Na	na	na	Na	na	Na	na

12.10 Location 5x51: Outputs remotely controlled by user

This location allows you to give users remote access via the app to trigger/set/clear an output. For example, to open a gate which is connected as output 6. By default outputs 1-5 are disabled as these are programmed for reporting functions.

This an option location, were x is represented by the partition number. Use the number keys followed by [*] to enable or disable the output control.

In order to enable app control of the output:

- Select the location number for the appropriate partition.
- Outputs enabled to be set/cleared/triggered from the app are shown by an illuminated LED. Each LED represents the corresponding output as shown in Table 23 above. For example if LED 6 on Page 1 and LED 1 on Page 2 are illuminated- users assigned to this partition are able to control output 1 of expander 1 and the keypad 2 output.
- Then select the outputs to be enabled/disabled by toggling the appropriate zone indicator using the number keys.
- Then touch [*].

Please note that all users assigned to this partition will be able to trigger the outputs enabled.

12.11 Location 5x61: Auto Arm Delay

This location sets the time for which the keypad will beep prior to auto arming. The location is a 'Time Location' program format in minutes and seconds.

12.12 Location 5x62: Auto Arm Days

This is an 'Option Location' where x represents the partition number.

In order to select the days on which the partition will Auto Arm:

- Select the location number for the appropriate partition.
- Then select the days by toggling the zone indicator using the number keys (touching the 1 key will set zone 1 status indicator and change Sunday).
- Then touch [*].

Table 24: Auto Arm Days

Zone Status Indicator	Day
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

12.13 Location 5x63: Auto Arm Time

The time (in 24hr clock format) at which the partition will initiate auto arming on the days selected in location 5x52.
This is a 'Time Location' programmed in hours and minutes.

12.14 Location 5x64: Auto Disarm Days

This is an 'Option Location' to select the days on which the partition will Auto Disarm. Select the corresponding number key followed by [*] to select or deselect the day.
Refer to the table under Auto Arm Days.

12.15 Location 5x65: Auto Disarm Time

This is a 'Time Location' programmed in hours and minutes which sets the time (in 24hr clock format) at which the partition will auto disarm on the days selected in location 5x54.

NOTE: This function will only be active if the Auto Disarm option in the Partition Options location has also been enabled.

12.16 Inactivity Auto Arm

A partition may be programmed to arm automatically on certain days and times if no zone violations are detected for a programmable period.

12.17 Location 5x66: Inactivity Auto Arm Days

An 'Option Location' to select the days on which the Inactivity Auto Arm will apply. Select the corresponding number key followed by [*] to select or deselect the day.
Refer to the Auto Arm Day table.

12.18 Location 5x67: Inactivity Auto Arm Time

This is a 'Time Location' programmed in hours and minutes which sets the time (in 24hr clock format) at which, on the days selected, the panel will begin monitoring for a quiet period i.e. no zone violations. Once no zone violations have been detected for the time programmed in the inactivity period location, the auto arm delay will be initiated, after which the partition will arm.

12.19 Location 5x68: Inactivity Period

This is a 'Time Location' programmed in hours and minutes which sets the period for which in the absence of any zone violations (quiet period) will initiate auto arming.

12.20 Cross Zone Setup

A single violation of a cross zoned zones will not activate an alarm. A number of such cross zone violations or multiple violations of the same zone must be detected within a specified time before the alarm is activated. Cross zones are enabled under cross zone properties in the Zone Options Location.

12.21 Location 5x71: Cross Zone Time

A 'Time Location' programmed in minutes and seconds which sets up the period during which the violation count programmed in the following location must be reached. Note x is the partition number.

12.22 Location 5x72: Cross Zone Count

Note x is the partition number.

The number of violations of 'crossed zones' required, during the cross zone period, in order to register an alarm. The default value is 10. Use the number keys to input the required violations in order to register an alarm.

12.23 Location 5x81-96: Assigning Zones to Zone Indicators

Note x is the partition number.
Any zone indicator may be customised to represent any zone. By default LEDs 1-16 show the status of zones 1-16, however zone indicators may be reassigned to indicate the status of zones relevant to individual partitions i.e. If zone indicator 10 is to be programmed to indicate the status of zone 23 program 23 into location 5190 (assuming partition 1).

Table 25: Assigning Zones to Zone Indicators

Location	Zone Indicator
5x81	1
5x82	2
5x83	3
5x84	4
5x85	5
5x86	6
5x87	7
5x88	8
5x89	9
5x90	10
5x91	11
5x92	12
5x93	13
5x94	14
5x95	15
5x96	16

Use the values from the following table to assign the required zone to a zone indicator.

	Value
Onboard zones	1-16
Expander 1 zones	17-24
Expander 2 zones	25-32
Expander 3 zones	33-40
Expander 4 zones	41-48
Expander 5 zones	49-56
Keypad Zones	91-98

13 Keypad Set up

When programming keypad locations x represents the keypad number as set on the dipswitch on the keypad PC board.

13.1 Location 6x00: Assigning Partitions.

Note x is the keypad number.
An 'Option Location' (where x is the keypad number) to select partitions which may be accessed from this keypad. Toggle the partitions using the number keys on the keypad, followed by [*].

13.2 Location 6x01: Default Partition

Note x is the keypad number.
Selects the partition that the keypad displays by default, if a different partition is selected the keypad will return to displaying the default partition approximately 30 seconds after the last key entry.

13.3 Location 6x02: Keypad Options

Note x is the keypad number.
An 'Option Location' to set up keypad functionality. Toggle the options using the number keys on the keypad, followed by [*].

Table 26: Keypad Options

LED	Option	Description
1	Partition Timeout	The keypad returns to its default partition after accessing another partition.
2	Keypad Sleep Enabled	Keypad indicators will extinguish when no activity has been registered on the keypad after the keypad sleep timeout.
3	Keypad Zone Enabled	Changes detected on the keypad zone are reported to the alarm panel.
4	Unused	
5	Trouble Beep Enable	The keypad will beep when a new trouble condition is detected.
6	Coms. Indication Enabled	The PWR indicator will extinguish briefly on a successful communication.
7	Chime Enable	The keypad will beep when a chime zone is triggered.

13.4 Location 6x03: Keypad Sleep Timeout

Note x is the keypad number.
A 'Time Location' programmed in minutes and seconds. This sets the time after which all keypad indicators will extinguish. The timeout begins after the last

change in either the indicator status or key entry. Any change in keypad indicator status or any keypress will reactivate the keypad.

14 Output Setup

In the output setup locations xx represents the output number.

Output Device	Output Number	Description
Panel Onboard Outputs	1-5	Main control panel outputs labelled PGM1-PGM5.
Expander 1	6-7	6: PGM 1 on expander 1 7: PGM 2 on expander 1.
Expander 2	8-9	8: PGM 1 on expander 2 9: PGM 2 on expander 2.
Expander 3	10-11	10: PGM 1 on expander 3 11: PGM 2 on expander 3.
Expander 4	12-13	12: PGM 1 on expander 4 13: PGM 2 on expander 4.
Expander 5	14-15	14: PGM 1 on expander 5 15: PGM 2 on expander 5.
Keypad Outputs	91-98	91: PGM 1 on keypad 1 92: PGM 1 on keypad 2 93: … 98: PGM 1 on keypad 8.

14.1 Location 7xx00: Pulse Time

A 'Time Location' programmed in minutes and seconds. These locations set the period for which the output is set when it is pulsed.

14.2 Output Schedules

Outputs may be programmed to perform certain actions at a specified time and day. Two such schedules may be programmed for each output.

Table 27: Output Actions

Value	Output Action	Description
0	None	No action
1	Set	The output will be set high (+12V)*
2	Clear	The output will be set low (0V)*
3	Pulse	The output will be set high (+12V) for a period and then return to 0V.*

		The period may be programmed per output. The default period is 3 seconds

14.3 Location 7xx10: Schedule 1 Days

Note xx represents the output number.
An 'Option Location' to select the days on which the action for the first scheduled action occurs. To program the Schedule days select the location number for the appropriate output then select the days by toggling the zone indicator using the number keys (touching the 1 key will select or deselect Sunday) then touch [*].

Table 28: Schedule 1 Days

Zone Status Indicator	Day
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

14.4 Location 7xx11: Schedule 1 Time

Note xx represents the output number.
A 'Time Location' programmed in hours and minutes sets the time (24 hour clock) at which the first scheduled action will occur, on the days selected in location 7xx10.

14.5 Location 7xx12: Schedule 1 Action

Note xx represents the output number.
Enter a number from the Output Action Table below to select the action required for the first schedule.

Table 29: Output Action

Value	Output Action	Description
0	None	No action
1	Set	The output will be set high (+12V)*
2	Clear	The output will be set low (0V)*
3	Pulse	The output will be set high (+12V) for a period and then return to 0V.* The period may be programmed per output. The default period is 3 seconds

14.6 Location 7xx20: Schedule 2 Days

Note xx represents the output number. Use values from the Output Action table above.
An 'Option Location' to select the days on which the action for the second scheduled action occurs.

14.7 Location 7xx21: Schedule 2 Time

Note xx represents the output number.
A 'Time Location' programmed in hours and minutes to set the time (24 hour clock) at which the second scheduled action will occur, on the days selected in location 7xx20.

14.8 Location 7xx22: Schedule 2 Action

Use values from the Output Action table above to select the action required for the second schedule.

15 Expander Setup

15.1 Location 8x00: Monitoring Options

In this location x represents the expander number as set by the dip switch on the relevant expander module.
When an expander has an independent power supply the AC and battery may be monitored and appropriate fault conditions reported. The Auxiliary 12 V fuse may also be monitored.
This is an option location, use the number keys followed by [*] to toggle the options.

Trouble Condition Number	Fault Condition	Default Setting
1	AC Loss	Off
2	Low Battery	Off
3	Auxiliary 12V	Off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