



Pepper Controller | User Manual.

Operating across a vast range of industries, we use our expertise and insights to respond to client needs in sustainable and innovative ways. As such we bring our philosophy of sustainable solutions through partnership to life by remaining committed to finding new and innovative ways to address the challenges of today and tomorrow.

At Ataraxia we consistently strive to exceed your expectations, delivering technology with advanced cutting edge solutions no matter the scale or scope of your PROBLEM. We pride ourselves on our ability to provide and deliver the highest level of support.

The Ultimate goal – ‘Peace of Mind’



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System Overview

About the Ataraxia Pepper Spray Unit

Thank you for purchasing the Ataraxia Pepper spray alarm system. You have made a wise decision in choosing it, for It uses the latest in microcontroller technology and is specifically designed as a pepper spray alarm controller and SMS notification system. The pepper spray alarm controller has been designed to provide the easiest configuration and the best possible convenience to the user for setting up the controller. Please read this manual carefully before attempting to interface to the controller.

Monitoring

This system is capable of transmitting alarms, troubles and emergency information over GSM networks via SMS messages to specified users. If you inadvertently initiate an alarm, immediately notify the central station to prevent an unnecessary response.

NOTE: The SMS notification function must be enabled by the installer before it becomes functional.

Features:

- Canister Level Monitoring (Resettable with pushbutton)
- Support for External Status LED's
- External Alarm Output Relay (Closed contact on Alarm)
- Supports control for 2 Pepper Canisters (Individual Zones)
- 128 bit Encrypted Remotes with Unique User Id for Armed and Disarmed State
- Adjustable Siren Time
- Adjustable pepper spray release time and dwell time
- SMS Notifications on selectable alarm/fault states.

General System Operation

Your Pepper spray alarm system is made up of a QDE-ATX-MP1 Controller, one or more PIR's, a 7Amp/hr 13.5 Volt Battery, 12Volt Actuator, Siren, 16Vac 1.25 A power transformer and a Ataraxia pepper gas canister. One or more remotes is supplied with the system that is specifically code locked to the Ataraxia Units. the main controller have an audible indicator for specific events and LED's to indicate specific statuses.

IMPORTANT NOTICE

Security systems are generally very reliable but they may not work under all conditions and they are not a substitute for prudent security practices or life and property insurance. Your security system should be installed and serviced by qualified security professionals who should instruct you on the level of protection that has been provided and on system operations.



Remotes

Remotes are used to arm and disarm the system. Up to 15 Remotes can be programmed into each controlled via the supplied configuration software. A username can be tagged to each remote for customised SMS messages when a system is armed or disarmed. Please note that a system cannot be armed whilst the sensors detect movement. When a user tries to arm a unit while the sensor(s) detects movement, the internal buzzer will beep three times.

Arming the system

When the remote is pressed and siren sounds once, the system is armed. If the external status LED is used, it will light up to indicate that the system is armed. Please do not enter the site after the system is armed as it will result in the pepper gas being released, and SMS notifications to be sent to all configured users

Disarming the system

When the remote is pressed and siren sounds twice, the system is disarmed. If the external status LED is used, the light will go out to indicate that the system is disarmed. You can now enter the site as the Pepper gas release system is disabled. If configured, the controlled will send SMS's to users indicating that the system was disarmed.

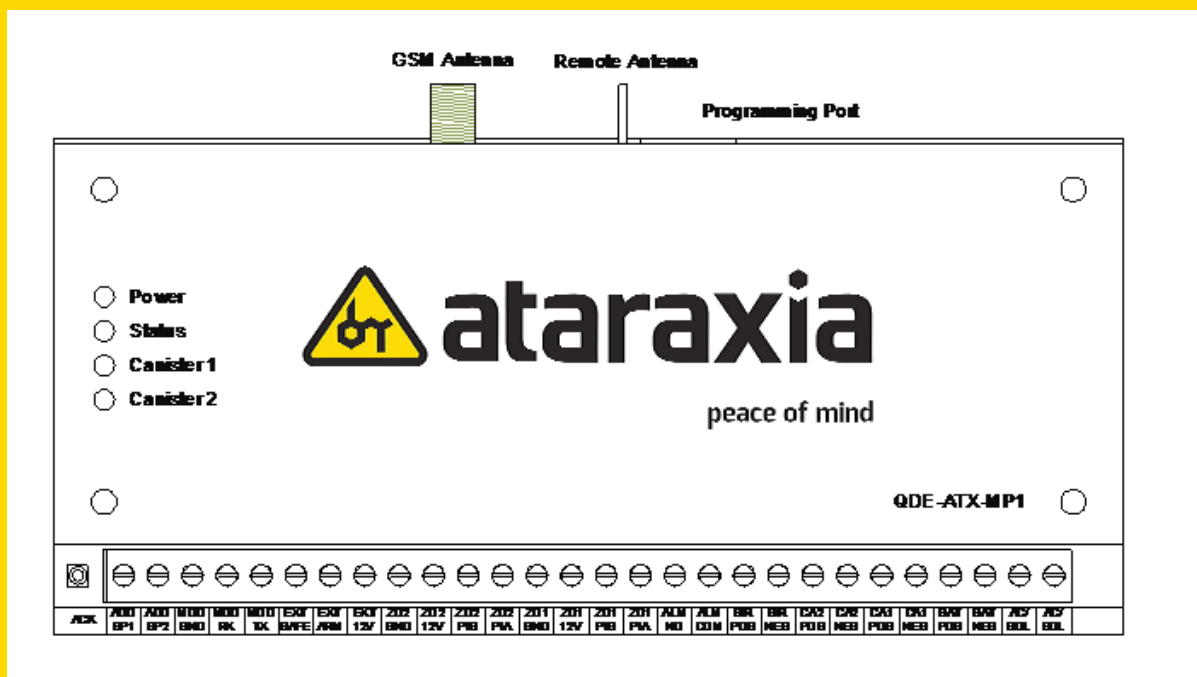
Intrusion Alarm

If an intrusion alarm sounds, indicated by a continuous bell or siren (configurable time period), the alarm may be silenced by pressing the remote supplied with the unit. This will disarm the unit. Please note that the pepper gas would have been released in the site and caution must be taken before entering the site.

NOTE: If you return and find that an alarm has occurred while you were away, it is possible that an intruder may still be on the premises.



Unit Wiring



Terminals:

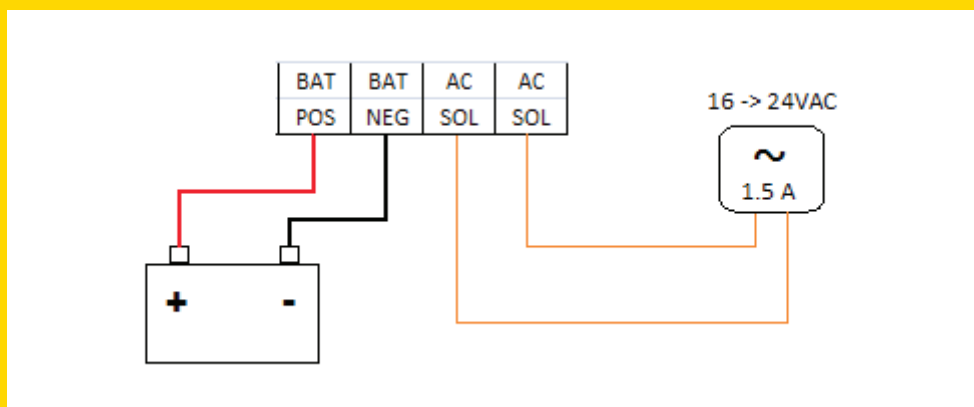
Please see below the names of the terminals as well as the meaning of each terminal and the use for it.

ADD	ADD	MOD	MOD	MOD	EXT	EXT	EXT	Z02	Z02	Z02	Z02	Z01	Z01	Z01	Z01	ALM	ALM	SIR	SIR	CAN2	CAN2	CAN1	CAN1	BAT	BAT	AC	AC
IN1	GND	GND	RX	TX	SAFE	ARM	12V	GND	12V	PIB	PIA	GND	12V	PIB	PIA	NO	COM	POS	NEG	POS	NEG	POS	NEG	POS	NEG	SOL	SOL

Power Supply

If you are powering from an AC Transformer (16 - 24Vac 1.5A Min) use the two terminals marked AC on the far right hand side of the unit.

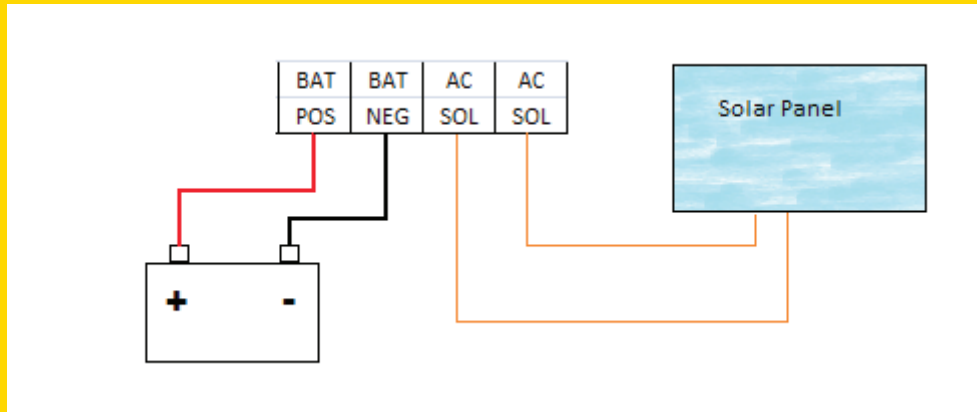
CAUTION: The battery terminals may not be reversed or wired improperly. Doing this will cause irreversible damage to the controlled as well as the connected sensors.



Powering from Solar Panel

If you are powering the unit from a solar panel use the two terminals marked AC/SOL on the far right hand side of the unit. Positive and negative wires from the solar panel do not need to be in specific terminal order.

Caution: The battery terminals may not be reversed or wired improperly. Doing this will cause irreversible damage to the controller as well as the connected sensors.



Connecting the Battery

Connect the Positive side of the battery to the Red battery lead or directly to the terminal marked: BAT / POS. Connect the Negative side of the battery to the black battery lead or directly to the terminal marked: BAT / POS

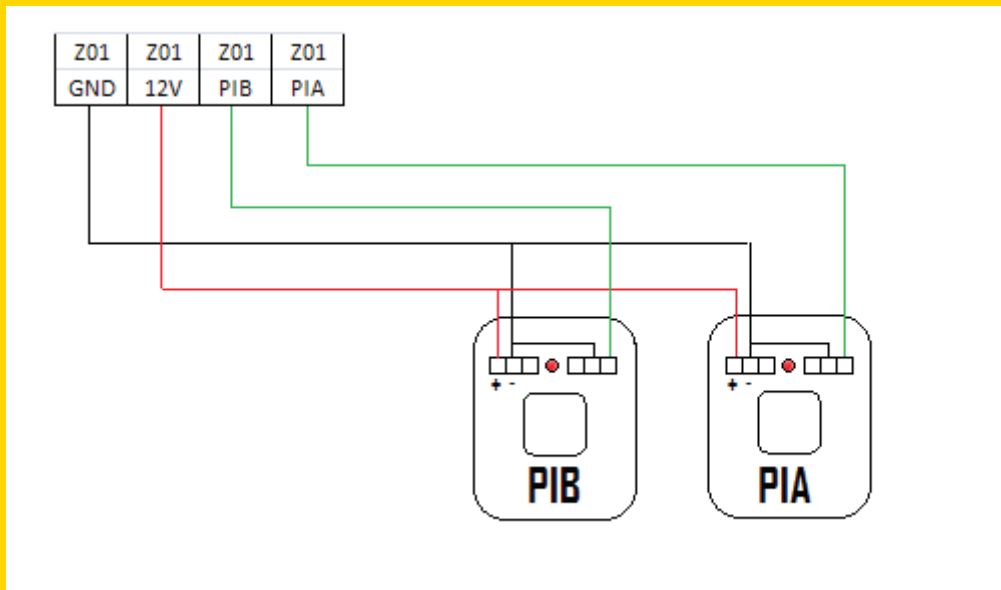
Caution: The battery terminals may not be reversed or wired improperly. Doing this will cause irreversible damage to the controller as well as the connected sensors.

Connecting the PIR or other sensors.

For each of the two zones on the controller, there are two connections for connecting sensors. For Zone 1, they are named Z01/P1A and Zo1/P1B. For Zone 2, it is named Z02/P1A and Zo2/P1B. The 12V terminal and Gnd terminal next to the zone input terminals, is to provide power to the sensors which may require power.

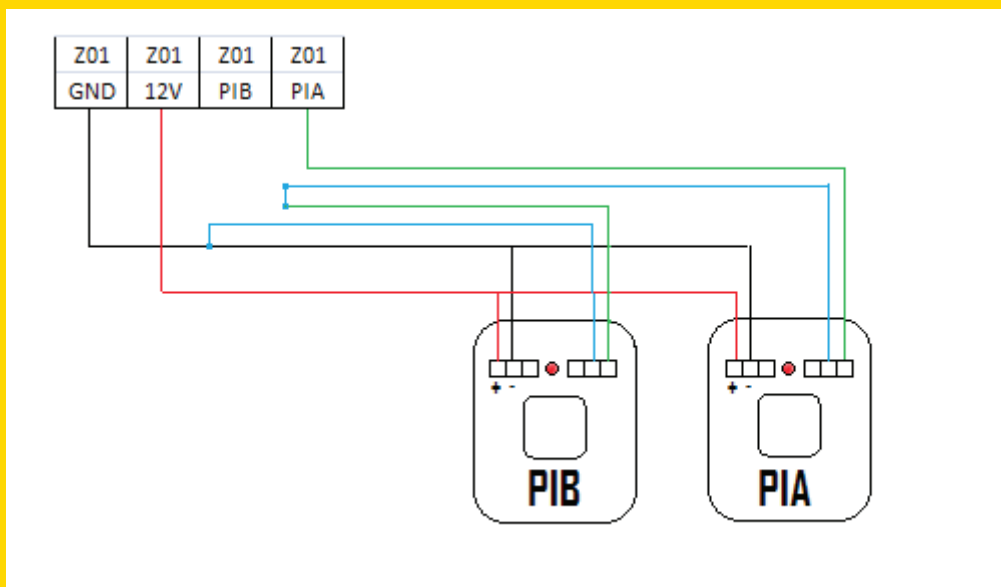
(i.e. PIR sensors). The zone input is active when the P1A and/or P1B terminal is not linked to ground. (Normally closed). P1A and P1B can be disabled\ enabled via the configuration software. The image below shows how the sensors should be connected.

Standard Connections of two PIR's connected to Zone 1 'A' and 'B'



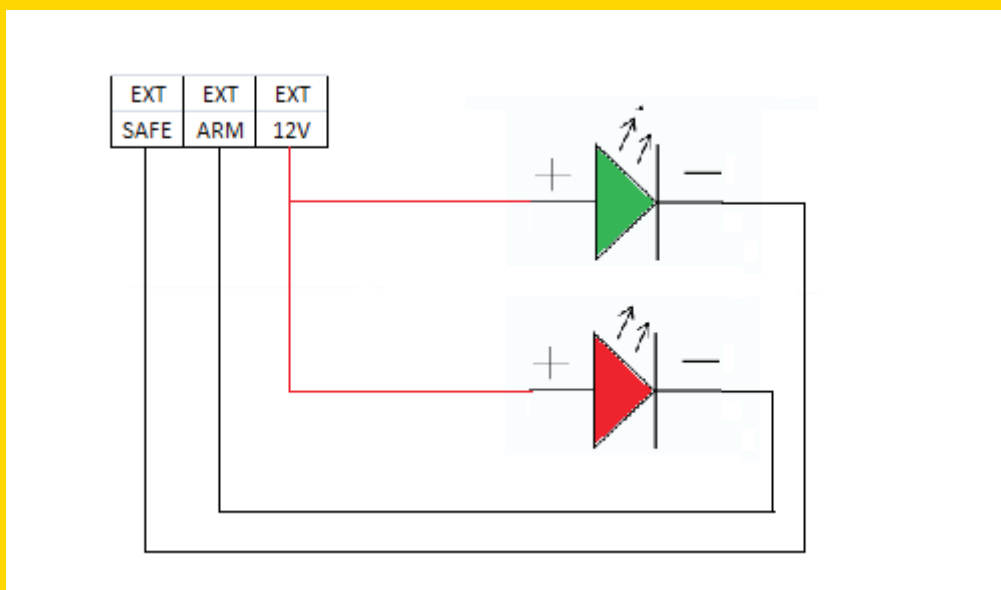
Using more than one PIR on a Zone input

If you want to connect more than one PIR on a Zone input, do the connection as detailed below. Please note that the system is wired in a closed loop. If more than one sensor is wired to a single zone input, the sensors **MUST** be wired in series configuration.



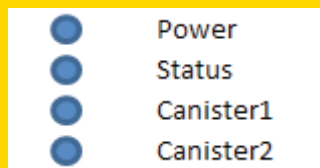
Connecting external LED's to display the status

You can display the status on external LED's wired to the outside of a building or structure to display the status of the alarm controller before you attempt to enter the building. The terminals marked as per the image below, can be used for this purpose. The EXT 12V power source is a protected power source specifically for the "Arm" and "Safe" LEDs and cannot be used to power any other device.



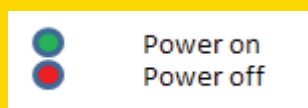
LED indicators

The main controller has 4 Tri Colour LED's to display specific statuses and information.



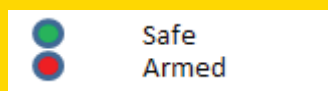
Power LED

When the Power LED is Green, it means that the controller is connected to external power (i.e AC Transformer or solar panel). When it is red, it means that the External supply is lost or removed. If configured, the "Power Off" status will send a SMS notification to configured users.



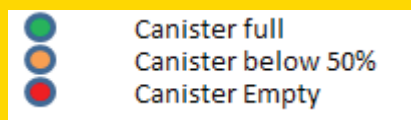
Status LED

The status LED displays the current state of the controller. If Red, it is armed and ready to release gas in the event of an intrusion. If the light is green, the controller is disarmed and it is safe to enter the monitored site. External LED's can also be wired to show the Status.



Canister LED

When the inserted Pepper Gas canister is full, the Canister LED will glow bright green. As the gas gets released, the light will go dimmer. When only 50% volume of the canister is left, the LED will turn yellow and progress to bright red as the pepper gas volume drops.

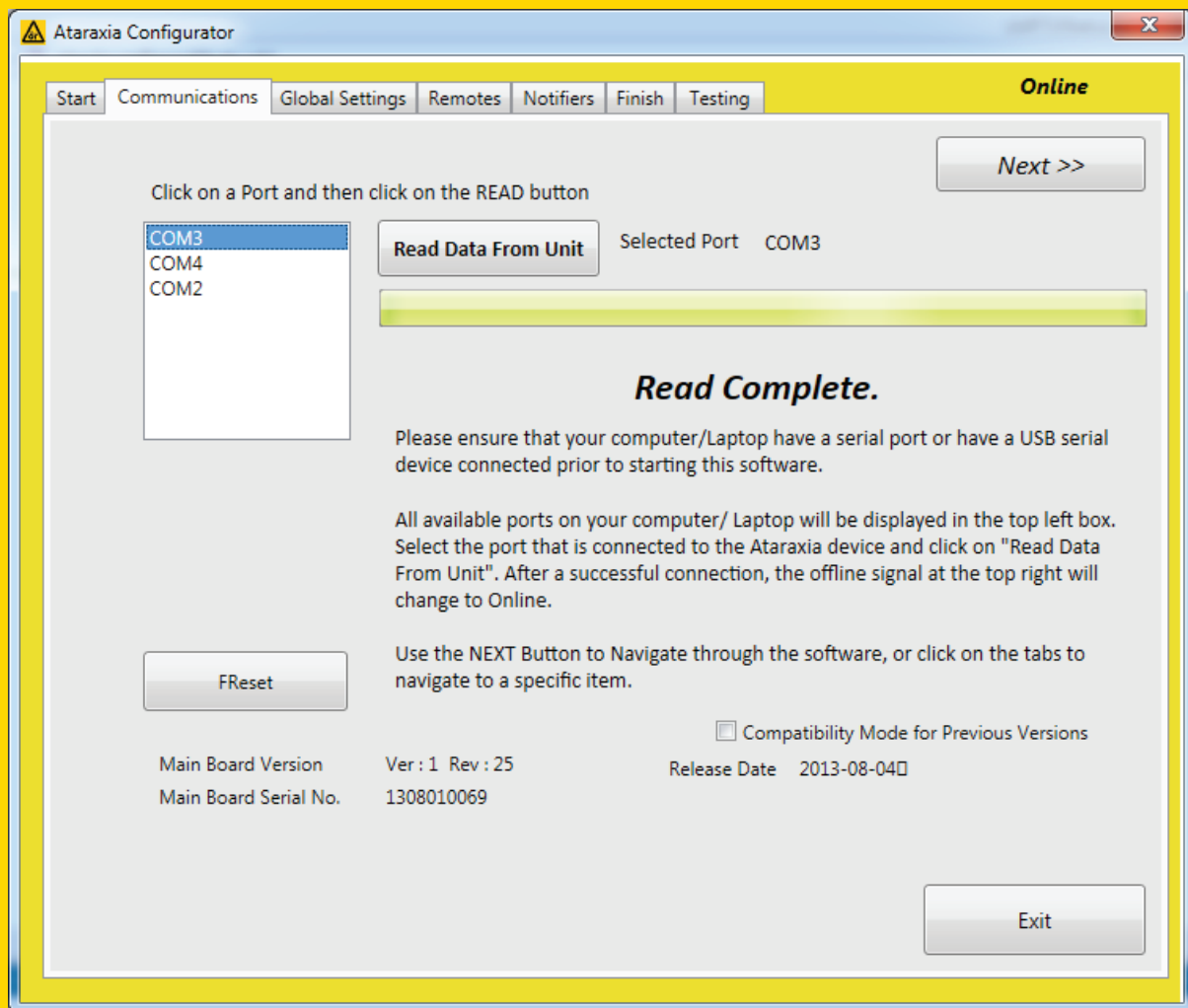


Software

Installing the Configuration Software

{ToDo}

Using the Configuration Software



Start the Application by clicking on the 'Ataraxia Configurator' Icon, located on your desktop or start menu. Click on the 'Next' button to navigate to the 'Communications TAB'. To communicate with the unit, you need a RS-232 port on your Computer / Laptop. You will also require the configuration programming cable. Select the port connected to the Main Controller. Click the 'Read Data From unit' Button. Follow the progress bar and wait for the 'Read Complete' message to appear.

Editing Global Settings

Ataraxia Configurator

StartCommunicationsGlobal SettingsRemotesNotifiersFinishTesting

Online

Next >>

Global Settings

Unit Name

New Ataraxia Unit

Master Name

Master

Slave Name

Slave

Siren/ Sound Bomb on Time (s)

8

Zone Config

☒ PIR A on Master Enabled

☐ PIR B on Master Enabled

☐ PIR A on Slave Enabled

☐ PIR B on Slave Enabled

☐ Both on to Trigger alarm

☒ Prepaid SIM used

☒ Cellmodem Enabled

☒ Modbus Interface

☐ Additional IO

☐ Enable Control Centre Uplink

Control Cente Number

+27833069073

Master Canister

Maximum Volume (in Seconds)

60

Dwell Time (in Seconds)

60

Spray Time (in Seconds)

4

Current Level (in Seconds)

30

Slave Canister

Maximum Volume in Seconds

60

Dwell Time (in Seconds)

60

Spray Time (in Seconds)

4

Current Level (in Seconds)

30

Auxiliary Input 1

Disabled

Auxiliary Input 2

Disabled

Editing Remotes

Ataraxia Configurator

Start Communications Global Settings **Remotes** Notifiers Finish Testing **Online**

Remotes [Next >>](#)

Remote1	Name	Remote1
Remote2	Code	10000150
Not Assigned	Button	☐ 1 ☐ 2 ☒ 3
Not Assigned	Button Code	4
Not Assigned	Synccounter	0
Not Assigned	☒ Enabled	Learn
Not Assigned		
Not Assigned		
Not Assigned		
Not Assigned		
Not Assigned		
Not Assigned		
Not Assigned		
Not Assigned		

Editing Notifiers

Ataraxia Configurator

Online

StartCommunications

Cellphone Notifiers

Next >>

SMS Notifiers

Deon
Not Assigned
Not Assigned
Not Assigned
Not Assigned
Not Assigned
Not Assigned
Not Assigned
Not Assigned

Country
South Africa (+27)

Service Provider
MTN [01]

Notifier Settings

NameDeon

Cell+27

☒ Enabled

☐ SMS on Power UP/Restart☐ Future 12

☒ SMS on Mains Fail☐ Future 13

☒ SMS on Battery Low☐ Future 14

☒ SMS on System Arm☐ Future 15

☐ SMS on System Disarm

☒ SMS on Alarm (Master)

☒ SMS on Alarm (Slave)

☐ SMS on Low Canister

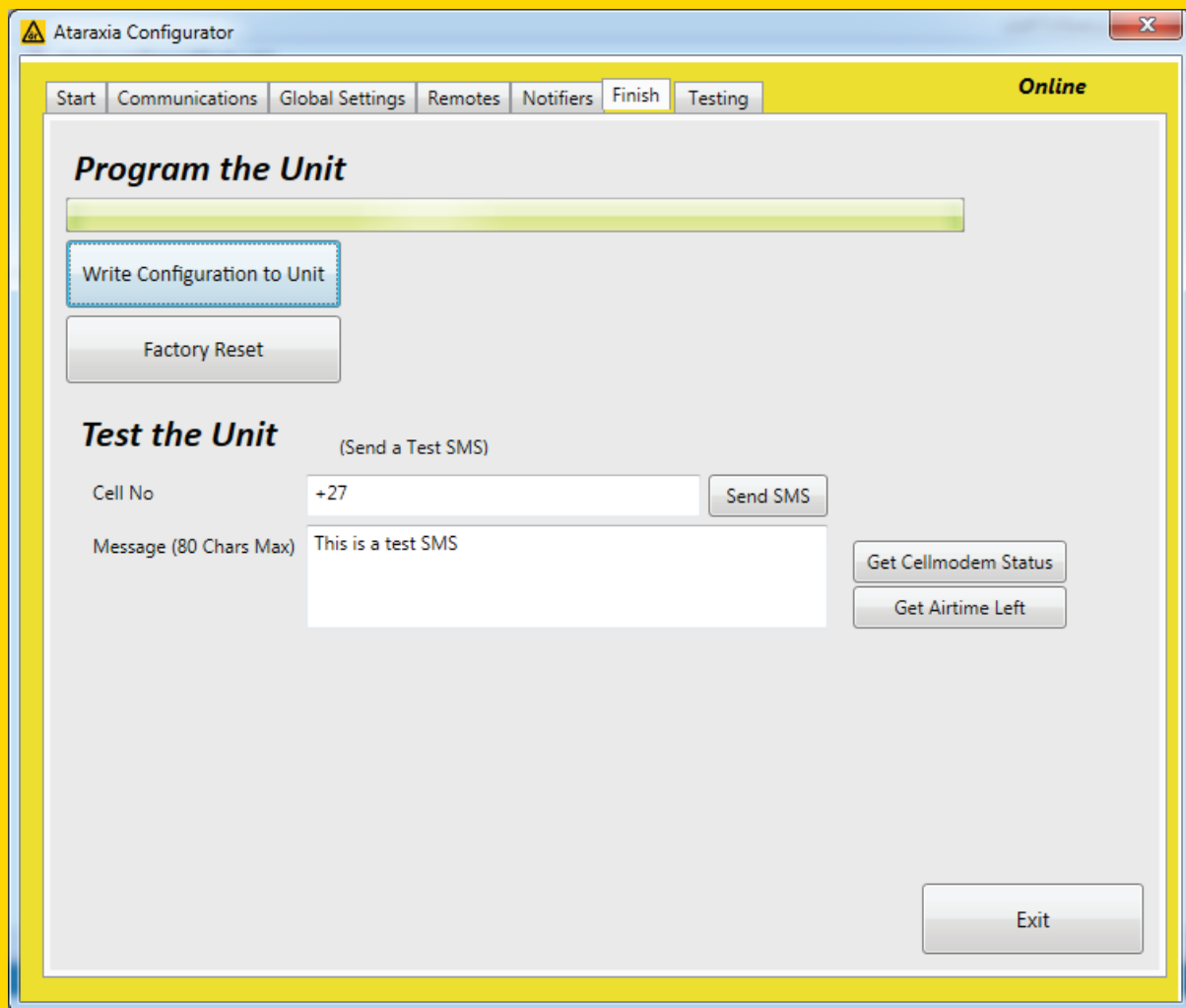
☐ SMS on Auxiliary Input 1

☐ SMS on Auxiliary Input 2

☐ SMS Low Airtime Alarm

☐ Allow SMS Control

Downloading the Configuration



The screenshot shows the 'Ataraxia Configurator' application window. The title bar includes the application name and a close button. The interface has a yellow header bar with a tabbed menu: 'Start', 'Communications', 'Global Settings', 'Remotes', 'Notifiers', 'Finish' (selected), and 'Testing'. The status 'Online' is displayed in the top right corner of the header.

The main content area is divided into two sections:

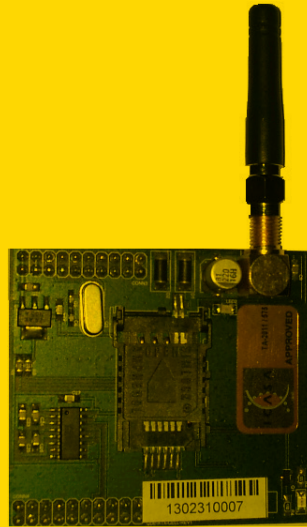
- Program the Unit**: This section contains a green progress bar, a button labeled 'Write Configuration to Unit', and a button labeled 'Factory Reset'.
- Test the Unit**: This section includes the instruction '(Send a Test SMS)'. It features a 'Cell No' input field with '+27', a 'Send SMS' button, a 'Message (80 Chars Max)' text area containing 'This is a test SMS', and two buttons: 'Get Cellmodem Status' and 'Get Airtime Left'.

An 'Exit' button is located at the bottom right of the main content area.

Add-on Modules

GSM Cell Modem Interface

{ToDo}



RS232 Modbus Interface

Currently the module only supports function-16 Modbus commands (Holding Registers).

These registers, however is all that is required to get all the information from the Ataraxia Controller.

Troubleshooting

Viewing Trouble Conditions

The control panel continuously monitors a number of possible trouble conditions. If one of these trouble conditions occur, it will be displayed on the LED's or ,if configured, and SMS's will be sent to specific users.

NOTE: A TROUBLE condition reduces the security your system is designed to provide. Call your installing company for service.

Maintenance

With normal use, the system requires minimum maintenance. The following points should be observed.

1. Do not wash the security station with a wet cloth. Light dusting with a slightly moistened cloth should remove normal accumulations of dust.
2. The battery/ bell test is designed to determine battery condition. We recommended, however, that the stand-by batteries be replaced every three years.
3. For other system devices such as smoke detectors, passive infrared, ultrasonic or microwave motion detectors or glassbreak detectors, consult the respective manufacturer's literature for testing and maintenance.

Notes to installers

System Failures

This system has been carefully designed to be as effective as possible. There are circumstances, however, involving fire, burglary, or other types of emergencies where it may not provide protection. Any alarm system of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some but not all of these reasons may be:

Motion Detectors

Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation. Passive infrared motion detectors operate by sensing changes in temperature. However their effectiveness can be reduced when the ambient temperature rises near or above body temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbeques, fireplaces, sunlight, steam vents, lighting and so on.

Access by Intruders

Intruders may enter through an unprotected access point, circumvent a sensing device, evade detection by moving through an area of insufficient coverage, disconnect a warning device, or interfere with or prevent the proper operation of the system.

Criminal Knowledge

This system contains security features which were known to be effective at the time of manufacture. It is possible for persons with criminal intent to develop techniques which reduce the effectiveness of these features. It is important that a security system be reviewed periodically to ensure that its features remain effective and that it be updated or replaced if it is found that it does not provide the protection expected.



Inadequate Installation

A security system must be installed properly in order to provide adequate protection. Every installation should be evaluated by a security professional to ensure that all access points and areas are covered. Locks and latches on windows and doors must be secure and operate as intended. Windows, doors, walls, ceilings and other building materials must be of sufficient strength and construction to provide the level of protection expected. A re-evaluation must be done during and after any construction activity.

Failure of Replaceable Batteries

This system's wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

Insufficient Time

There may be circumstances when the system will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time to protect the occupants or their belongings.

Component Failure

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

Inadequate Testing

Most problems that would prevent an alarm system from operating as intended can be found by regular testing and maintenance. The complete system should be tested weekly and immediately after a break-in, an attempted break-in, a fire, a storm, an earthquake, an accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, alarm indicating devices and any other operational devices that are part of the system.



Appendix A

Supported Modbus Address Registers

Function Code		Address	Description	Min	Max	Unit
16	+1	40 001	Canister Level (Master)	0	120	Sec
16	+2	40 002	Canister Level (Slave)	0	120	Sec
16	+3	40 003	Battery Voltage	0	20	V
16	+4	40 004	Supply Voltage	0	30	V
16	+5	40 005	Status Bits (RTU)	16bit	16bit	
16	+6	40 006	SMS Queue Length	0	30	
16	+7	40 007	Last Armed	32bit		
16	+8					
16	+9	40 009	Last Disarmed	32bit		
16	+10					
16	+11	40 011	Status Bits (Cell modem)	16bit	16bit	



LIMITED WARRANTY

Quantum Design and Engineering (PTY) Ltd. warrants the original purchaser that for a period of twelve months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use. During the warranty period, Quantum Design and Engineering (PTY) Ltd. shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials.

Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original owner must promptly notify Quantum Design and Engineering (PTY) Ltd. in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period.

International Warranty

The warranty for international customers is the same as for any customer within South Africa, with the exception that Quantum Design and Engineering (PTY) Ltd. shall not be responsible for any customs fees, taxes, or VAT that may be due.

Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to Quantum Design and Engineering (PTY) Ltd. must first obtain an authorization number. Quantum Design and Engineering (PTY) Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of Quantum Design and Engineering (PTY) Ltd. such as excessive voltage, mechanical shock or water damage;
- damage caused by unauthorized attachment, alterations, modifications or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by Quantum Design and Engineering (PTY) Ltd.);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance;
- damage arising out of any other abuse, mishandling or improper application of the products.

Quantum Design and Engineering (PTY) Ltd's liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty. Under no circumstances shall Quantum Design and Engineering (PTY) Ltd. be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) And of all other obligations or liabilities on the part of Quantum Design and Engineering (PTY) Ltd. Quantum Design and Engineering (PTY) Ltd. neither assumes nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

Out of Warranty Repairs

Quantum Design and Engineering (PTY) Ltd. will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to Quantum Design and Engineering (PTY) Ltd. must first obtain an authorization number.

Quantum Design and Engineering (PTY) Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained.

Products which Quantum Design and Engineering (PTY) Ltd. determines to be repairable will be repaired and returned.

A set fee which Quantum Design and Engineering (PTY) Ltd. has predetermined and which may be revised from time to time, will be charged for each unit repaired.

Products which Quantum Design and Engineering (PTY) Ltd. determines not to be repairable will be replaced by the nearest equivalent product available at that time. The current market price of the replacement product will be charged for each replacement unit.

WARNING:

Quantum Design and Engineering (PTY) Ltd. recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

