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1. INTRODUCTION

Welcome to the world of JVA Monitored Electric Security Fences. The proliferation of non-lethal, monitored, electric security fences in our towns and cities is indicative of the confidence the public has in this form of perimeter security. The reason for this popularity is simple – monitored electric security fences are effective, economical, easy to install, and they offer more D's of security than any other perimeter system:

DEMARICATION – The JVA fence around your property shows you mean business.

DEFLECTION – Would-be intruders will be deflected to softer targets.

DETERRENCE – The safe, powerful JVA shock is a strong deterrent to intruders.

DELAY – The physical barrier will delay an intruder – something they do not like.

DETECTION – The JVA's voltage monitor warns you of any tampering with the fence.

DENY – A well-erected electric security fence will deny entry.

DEPENDABLE – 60 seconds a minute, 60 minutes an hour, 24 hours a day, 365 days a year, your JVA electric security fence is monitored by an alert, sober, electronic watchman.

A first for South Africa: an energiser being viewed on a Web site with the voltages displayed, JVA's new GSM module is compatible with all of the JVA Z Range Security Systems. The module is designed to interface seamlessly with JVA's own internet platform to allow the end user to remotely monitor and control his electric fence energizer.

GSM, which stands for Global System for Mobile Communications, reigns as the world's most widely used cell phone technology. The 3G cell phone technology not



*An electric fence system
which meets current
safety regulations*



only gives far more reliable and faster data rates than previous technologies, but it is based upon a far better platform, that allows synchronous voice and data usage. With 3G, browsing the web and performing more media intensive data work becomes a reality and in some cases still rivals some broadband connections we have in our homes.

Clients can log in with their own login name and password, viewing all the JVA units on line and are able to add, change names and contact numbers for persons receiving SMS's from the GSM unit. They can have their Security Alarm Company receive an alarm from the GSM to their monitoring base station. They can also monitor their security away from home on their laptop and smartphone and enjoy the peace of mind of knowing their family and property are safe.

The JVA GSM can send SMS's to four relevant persons, who can receive various conditions of the JVA Energizer.

2. FEATURES

- Monitors and Controls the Electric Fence via a Computer or Smartphone anywhere in the world where cell phone coverage is provided
- Shows the Output and Return voltages of the energizer on the web page
- Shows the alarm condition and the alarm history
- Enables the Arming and Disarming of the energizer via the internet or via phone
- Sends alarm conditions via SMS
- Is used in conjunction with any JVA Energizer or JVA Monitor
- Neat, durable, easy-to-mount enclosure
- The GSM unit comes fitted with an aerial
- Uses 12 volt DC and is easily wired to the energizer
- Has gate monitoring, used via the JVA energizer
- Can control the automated gate by means of a dropped call from the cell phone
- Uses the auxiliary output for control of other equipment
- Enables more than one energiser to be monitored via the GSM unit
- Enables control of user name and password
- Automatically sends the user daily reports on the status of the fence

3. SPECIFICATIONS

Specification Name	Specification
Supply Voltage	12 volts DC only
Output Relays	Max 30 volts DC
Output Relay 1	Latched
Output Relay 2	Pulsed
Output Relay 3	Latched
Inputs	12 volts operation
SIM Card Required	Yes (activated, and airtime loaded)
Capability	Only JVA Z Range Security Systems

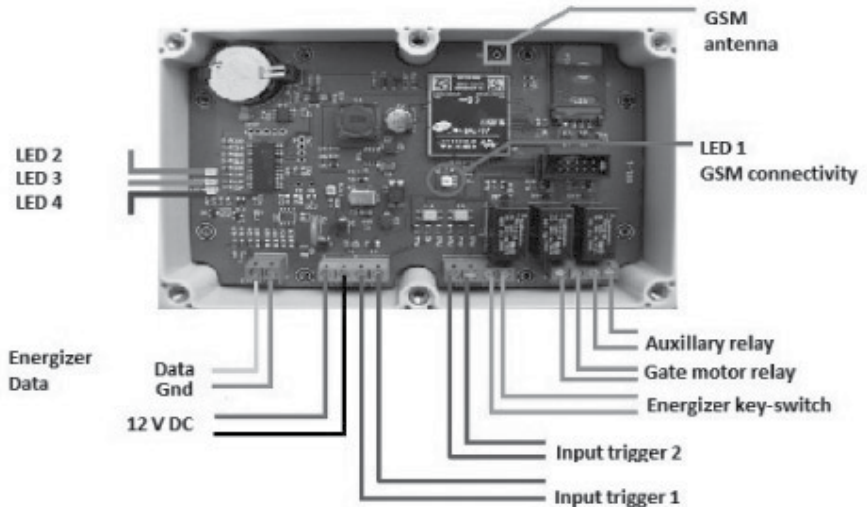
4. DESCRIPTION

4.1 External Cover



4.2 Wiring Connections and LED Indications

The diagram below shows the basic wiring needed for the JVA GSM unit to work and communicate with the Server and the JVA energizer or monitor.



With reference to the diagram above:

LED 1: Status LED – on when powered up

Slow flash – acquiring the GPRS network

Solid slow flash – If the GPRS network is not available or there is an issue with the SIM card, the light will burn steady, attempt a connection (start flashing briefly), then burn steady again and continue repeating this cycle.

Fast Flash – When the GSM server is requesting the device to send a status report or fetch a command, the light will start flashing faster for a few seconds.

LED 2: Blinks red when the GSM unit receives a voltage message from the energizer.

LED 3: Blinks red when the GSM unit receives a message.

LED 4: Blinks red when the GSM unit powers up.

Other wiring can be used for extra SMS notifications or commands. For example the gate output wires can be taken to a gate motor's Trigger and Common, and a dropped call from a phone will activate the output on the GSM unit, thereby opening or closing the automated gate.

4.3 Aerial

An aerial is provided and is a screw on type, which can be replaced should the signal strength be too low. Please ensure that the aerial is mounted away from any high voltage cables and AC cables which will cause harm to the GSM unit and will interfere with its reception.

If the GSM is mounted in a steel enclosure ensure that this is earthed and that the aerial is mounted outside and that the hole through which the aerial cable runs is sealed so no water ingress can occur.

4.4 SIM Card

The GSM unit requires a SIM card that has been activated and is loaded with airtime.

This should not only be a data bundle, but normal airtime as well. The SIM card should first be tested in a normal phone to ensure that it can make and receive calls and SMS's can be sent and Caller Line identity (CLID) is on.

Insert the SIM card into the GSM unit; connect the **12v dc** to the connector from the JVA unit. Ensure that the JVA keypad is wired to the energizer – 0V, 12V and *Data*. Power up the whole system and the GSM unit's Status LED will start flashing. A slow flashing LED means that the unit is looking for the cell phone network. If the LED stays on (without flashing), it cannot connect to the network or there is an issue with the SIM Card.

4.5 Inputs and Outputs

As previously discussed under *Wiring*, the inputs and outputs are used to connect to ancillary equipment.

Inputs 1 and 2 are positive (+) 12v DC, so the first terminal will go to Common and the second terminal will go to the normally closed contact of a relay. The JVA Z18 has extra relays which can be programmed for this purpose if need be. For example, a person can be notified by SMS when the energizer is armed. By naming the Input as *Energizer Armed* and wiring *Input 1* to relay 3 on the JVA Z18, the GSM unit will receive a trigger when the energizer is armed. The SMS will inform the user that the energizer is armed and the input is on. For example: *Energizer Armed at Demo Nelspruit SA. On*. When the energizer is disarmed, the SMS will read: *Energizer Armed at Nelspruit SA. Off*.

The outputs are potential free, so the *Gate Output* can be wired to the *Trigger* and *Common* of the gate motor control board. The gate output can be activated by sending the GSM unit a dropped call. The other two outputs can be activated by SMS's being sent to the GSM unit. The auxiliary output can be used to control any other device.

4.6 SMS Commands

There are various commands that can be sent to the GSM unit to control it. Only the persons who are registered on the GSM unit web site will be able to send these SMS commands.

ENG ON will close Output 1 and arm the energizer.

ENG OFF will open Output 1 and disarm the energizer.

The GSM Unit will inform the user by SMS that the unit has completed the request and the output has changed state.

AUX ON will close Output 3, and *AUX OFF* will open Output 3

STATUS=? will give the following information: the units signal strength out of 30; supply voltage; GPRS Status and gate pulse.

PULSE WIDTH= enables the pulse width of Output 2. The default setting is 10. The pulse width is sent in tenths of a second.

TEST RELAYS This command tests all the relays for 5 seconds.

REBOOT This command will reboot the modem.

OTAP This command will update the modem with the latest firmware.

4.7 Gate Control

Output 2 – The gate trigger is activated by a dropped call from a telephone number which is registered in the GSM unit.

When a dropped call is sent to the GSM unit the gate motor will trigger.

The client's telephone number must be entered in the programming Matrix and the gate control tick box must be ticked under that person's name and number.

4.8 Keypad (Optional)



All JVA Z Series Security Systems will work with the JVA Keypad, except energizers with Firmware Version 7v84 or lower which will not be able to use the GSM Unit. A JVA Z range keypad can be wired to the energizer with the JVA GSM unit, for controlling, monitoring and programming the system. The keypad address, however, needs to be changed in order for the GSM unit and the keypad to work together. More will be discussed in Section 5: *Installation*.

4.9 Website Monitoring

Various levels of security are available on the JVA GSM active website. A registered user will obtain a User Name and a Password to gain access to the JVA GSM unit with the allocated Security Level. The user is then able to view the energizer's status on line, in real time. The system can be armed and disarmed from the comfort of an office or house or even from a Smart cell phone.

The system is able to SMS four people with Alarm conditions. (Fence, Power failure, Battery and gate Status's) The voltage displayed on the website is in real time and the GSM unit updates regularly with the server website. One is able to view the history of the system, assisting one when there have been problems and one can correlate the information with break-ins or Armed Response timing.

The User is able to view all the energizers that are connected to the JVA GSM unit independently.

(See page 10 for an example screenshot of the JVA GSM website.)

4.10 Programming of the JVA GSM

The programming of the JVA Energizer and JVA GSM needs to be done by a qualified installer who has working knowledge of the systems. All programming is done on line, via the JVA Security Website. Each GSM unit will have an Installer assigned to it, along with all the users needed to monitor the system. The energizer and keypad need to be programmed accordingly by the installer or JVA staff member. The rest of the programming will be discussed later in the manual.

Example Screenshot of JVA GSM website


Customer:	<input type="text" value="Nels Shop"/>	ID:	<input type="text" value="377"/>	Date Last Updated:	<input type="text" value="07/10/2013"/>
GSM Unit Description:	<input type="text"/>	Date Created:	<input type="text" value="28/07/2012"/>	Time Last Updated:	<input type="text" value="09:58:23"/>
Energizer Description:	<input type="text" value="JVA GSM MQ2 Nelspruit"/>	Time Created:	<input type="text" value="22:38:27"/>	Last Updated By:	<input type="text" value="ChrisSuper"/>
Energizer Number:	<input type="text" value="1"/>	Created By:	<input type="text" value="JS"/>		

Active:

[List My Energizers](#) [Save the New Description](#)

Status of Energizer as at: 07/10/2013 09:58:23

Model: <input type="text" value="Z18"/>	Type: <input type="text" value="Single Zone"/>	Energizer PIN: <input type="text"/>	Action: <input type="text"/>
---	--	-------------------------------------	------------------------------



TO ARM AND DISARM

Arm: High Power:

Disarm: Low Power:


Current Status + Volts = On

Feed Volts: VOLTS AS AT: 07/10/2013 09:58:23


Return Volts:

[Update Energizer](#)


These Icons show the Energizer Status, GREEN is GOOD, RED indicates TROUBLE



[List My Energizers](#)



[Clear Alarm Memory](#)



[Connection History](#)

[Update Energizer](#)

[Configure my GSM Device](#)

Description

10

5. INSTALLATION

5.1 Programming the JVA Energizer

Ensure that the JVA GSM unit is not connected when doing any programming on the energizer and the keypads. If there is only one energizer to be connected to the GSM unit, that energizer needs to be programmed as the *Master*.

Using the JVA Keypad the following must be done.

- Make sure the key switch is turned off and IN1 is not looped
- Connect the battery
- Connect the keypad
- On the keypad, enter [Installer's code] [*] [0] [#], then [26].
(Default Installer Code: 0 1 2 3 4 5.)
- Enter the required value (e.g. [1] for master) then [#].
- Enter [*] [#] to exit programming

If there are going to be more than one energizer connected to the GSM unit, one must be made the *Master* and the rest *Slaves*. There can be only one Master in each group.

See the table below as reference.

Value (x)	MODE
0	NO GROUP
1	MASTER
2	SLAVE 1
3	SLAVE 2
4	SLAVE 3
5	SLAVE 4
6	SLAVE 5
7	SLAVE 6
8	SLAVE 7
9	SLAVE 8

5.2 Programming the JVA Keypad

Up to three keypads can be used to remotely monitor and control the *Z Series Security Energizers*. Each Keypad must have its own *unique Keypad address*. Each Keypad must be connected one at a time to the master energizer to set the keypad address. Please note that the *JVA GSM unit* is regarded as the *Master Keypad* so address 1 and 2 should not be used when programming.

Keys Used For Changing Messages

[1]	[2] Character up	[3] Not used	Emergency only
[4] Cursor Left 	[5] Next Message	[6] Cursor Right 	Fire not Used
[7]	[8] Character Down	[9]	Panic not used
[*]	[0] Last Message	[#] Enter/Exit	Bypass not Used

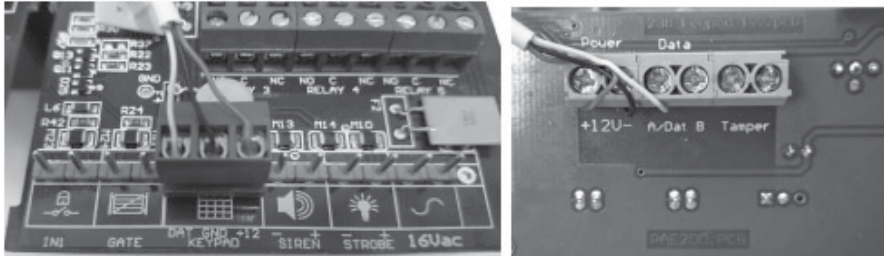
To activate the Keypad Programming Mode, enter the [Installer's Code] [*] [0] [1] [#] Once all the keypads have been programmed, de-power the system completely. Then wire the main keypad to the keypad connection on the Master energizer. If there are more than one Z Series Security Systems, the GND and DATA outputs must be connected from the Master to the Slaves.

The JVA GSM Unit can now be connected to the system. To ensure that the Master energizer reads all the keypads and the GSM unit, enter [*] [6] [8] [#]. The keypad will then analyse the group.

Note that the Keypad address 8 cannot be used as this is set aside for a different protocol.

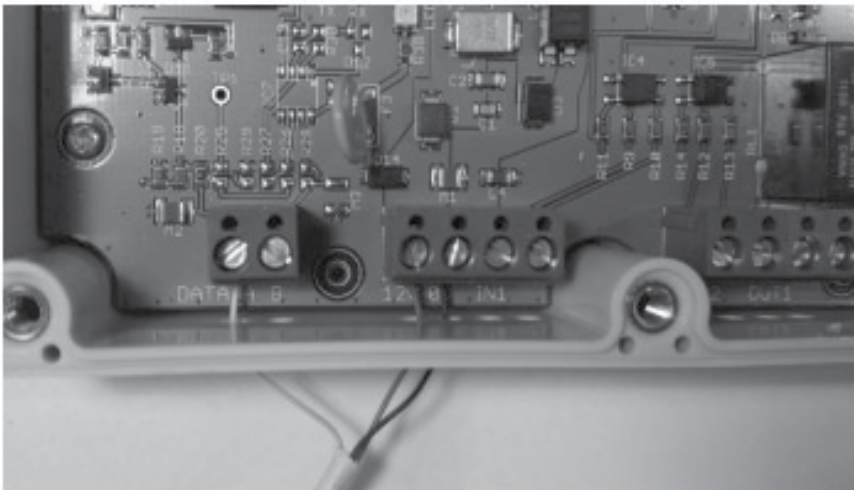
5.3 Wiring the JVA Keypad to the JVA Energizer

Energizer Keypad



Connect +12 GND and DAT on the energizer to +12 – and Dat on the keypad side.

5.4 Wiring the JVA Energizer to the GSM Unit



Connect Data, 12V and 0V from the GSM unit to the energizer's Dat, +12 & GND.

6. PROGRAMMING ON THE WEBSITE

6.1 Website and Login

Please ensure that a profile has been setup for the user/installer on the JVA website. This can be done by the JVA IT technician. It is recommended that browser *Firefox* or *Google Chrome* is used.

Browse to the JVA Security Website, www.jvasecurity.co.za and click on the GSM tab (top right) and a new page will open. Click on *Login*. Type in the User Name and Password. Click on the *Login* button. The faster the internet connection, the better. It may take a while to receive page updates with a slow connection.

6.2 Assigning the GSM Unit to a Branch

Super users will allocate GSM units to each branch on the JVA Website to the person who will be handling the GSM Units. The branch user will be able to allocate them to a listed Installer and program them. A branch manager or designated staff member needs to have access to the GSM units, installers/customers plus the end user, and control of the energizer.

Below is a sample screen shot of what a branch user will view. He will be able to see all the GSM units under his control.

Branch	Installer	Customer	Site Description	IMEI	Activated	Active	Version	Last Comm. Update	
Nelspruit			Work GSM device	359193030120950			1.1.1	16/02/2012	GSM History
Nelspruit				359193030120687			1.1.1	16/02/2012	GSM History
Nelspruit	Robson Fencing	Tombo Farm	Tombo Farm	359193030120907		✓	1.1.1	31/05/2012	GSM History
Nelspruit	Call in the Handyman	Allen Rainsford		359193030120265		✓	1.1.1	22/05/2012	GSM History
Nelspruit	KNIGHTS FENCING	Birgit Oosthuizen	Brondal Marathon	359193030120901		✓	1.1.1	31/05/2012	GSM History
Nelspruit				359193030120281			1.1.1	16/02/2012	GSM History
Nelspruit				359193030120257			1.1.1	16	

The table is self-explanatory, but the *Last Comm Update* Column is necessary to see if the GSM unit is working. If it is green there is a communication connection, but if it is red there is a communication problem.

The table will tell you if the number has been assigned to any installer and the name of the end user, and if the GSM units are Active. The Active GSMs units are ticked under the Active Column. Notice also that the Branch is green for all units, which means that the unit is correctly assigned and some of the above units have been assigned, but the GSM IMEI numbers highlighted have not been assigned to an installer or customer and are hence not active.

6.3 Installer

The installer will need to have a Company Profile and an *Installer* User created by the JVA Branch User.

6.3.1 Creating an Installer Company Profile

Before a GSM Unit can be assign to an *Installer*, an Installer Profile needs to be created. Under each *Installer* there will be Users that will fall under that specific Installer Profile. The users under the Installer Profile have access to certain functions depending on what Access Level they have been allocated.



Click on the Installer tab, on the left under *Configure*.

A new screen appears. See page 16.

Maintain Installer Details

Branch	Installer	Active	
Nelspruit	Call in the Handyman	<input checked="" type="checkbox"/>	Installer's Users Emails
Nelspruit	KNIGHTS FENCING	<input checked="" type="checkbox"/>	Installer's Users Emails
Nelspruit	Robson Fencing	<input checked="" type="checkbox"/>	Installer's Users Emails

Click on the icon, fill in all the necessary details of the Installer.

The Installer's Company Name goes under *Description*.

Ensure that the *Active* block is ticked! If not, tick it, otherwise the user is denied access.

Then once all information is entered, click on the tab to save the information of the *Installer*.

Wait, and then click on the tab to return to the above screen. Confirm that the Installer has been added.

See the example below.


Edit an Existing Installer

Branch: <input type="text" value="Nelspruit"/> Description: <input type="text" value="Draad Trek PTY ltd"/> Address: <input type="text" value="24 Silver Street"/> <input type="text" value="Slow veki Centre"/> <input type="text" value="Nelspruit"/> Telephone Number: <input type="text" value="0137550808"/> Fax Number: <input type="text"/> Summary Daily Report: <input checked="" type="checkbox"/> Active: <input checked="" type="checkbox"/> (If you deactivate this Installer All the attached users will be deactivated) Pays Fees: <input type="checkbox"/>	Contact Details Contact Name: <input type="text" value="Chris"/> Contact Email: <input type="text" value="demo@vodamail.co.za"/> Contact CellNo: <input type="text" value="072 007 89 89"/> Email Message: <input type="text"/> Banking Details Bank Account Type: <input type="text"/> Bank Account Number: <input type="text"/> Bank Branch Number: <input type="text"/>	ID: <input type="text" value="245"/> Date Created: <input type="text" value="11/07/2012"/> Time Created: <input type="text" value="09:03:48"/> Created By: <input type="text" value="Nels"/> Date Last Updated: <input type="text" value="11/07/2012"/> Time Last Updated: <input type="text" value="09:31:29"/> Last Updated By: <input type="text" value="Chris"/>
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[Installer's Users](#) [Emails](#)






6.3.2 Creating an Installer User

To create *Users* under the *Installer's* profile, click on the *Installer's Users* and a new browser page will pop up, with *Maintain Installer Users*.

Click on the  icon, fill in the user's details again and his Security Access level. Then ensure that *Active* is ticked, and then click *Save*. More users can be added if required. It is advisable not to have too many for security reasons.

See example below.

Edit an Existing Record

Full Name: <input type="text" value="Chris"/>		ID: <input type="text" value="840"/>
ID Number: <input type="text" value="1"/>	Security Profile ADD EDIT VIEW Branches: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Installers: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Customers: <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Sites: <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Users: <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Date Created: <input type="text" value="30/05/2012"/>
Cell No: <input type="text" value="072 007 8989"/>		Time Created: <input type="text" value="11:42:26"/>
Email: <input type="text" value="demo@vodamail.co.za"/>		Created By: <input type="text" value="Nels"/>
Telephone No: <input type="text" value="013 7527152"/>		Date Last Updated: <input type="text" value="30/05/2012"/>
Fax No: <input type="text" value="013 7553048"/>		Time Last Updated: <input type="text" value="16:07:41"/>
Login Name: <input type="text" value="Test Nels"/>	Last Updated By: <input type="text" value="Chris"/>	
Password: <input type="text" value="1234"/>		
Address: <input type="text" value="Unit D1"/>		
: <input type="text" value="Waterfall Park"/>		
: <input type="text" value="Rapid street"/>		
: <input type="text" value="Nelspruit"/>		
Active: <input checked="" type="checkbox"/>		
Member of Web Access Group: <input type="text" value="Admin 100"/> 		
   		

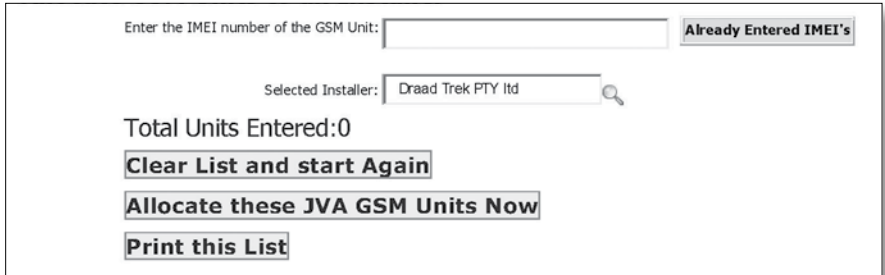
Tick the Security Profile as shown above for the User to view the actual energizer, reconfigure the GSM and edit customers.

Click on the *Save* icon. 

6.3.3 Assigning the GSM Unit to an Installer

Find the table menu on the left under *Allocation* and click on *To Installer*.


Allocate GSM Units to an Installer



Enter the IMEI number of the GSM Unit:

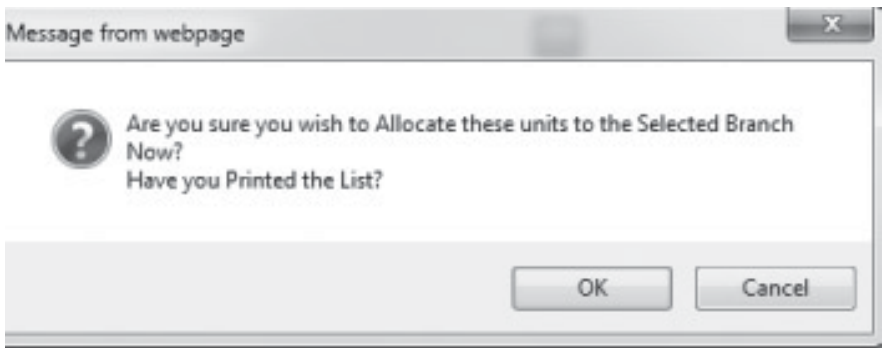
Selected Installer:

Total Units Entered:0


Enter the GSM IMEI number and then click on the search  to look for the Installer, and then select the *Installer*. In the middle of the page click on the small square tab, which will then accept the GSM's IMEI number.

Click on the *Allocate these JVA GSM Units Now* tab to allocate the GSM unit to the installer.

If there are more than one GSM units that need to be allocated, enter the IMEI number. Click on *Already Entered IMEI's* then add the next IMEI number for allocation. Once all the IMEI numbers have been entered, allocate all the units by clicking on the blank button below in the middle of the page, then click on *Allocate these JVA GSM Units Now*.



Message from webpage

 Are you sure you wish to Allocate these units to the Selected Branch Now?
Have you Printed the List?

Click on *OK* then the Unit(s) will be allocated.

If you click on *GSM Device* to view the GSM units allocated to your branch, it can be seen that the Installers' details have been entered. (Second Column)


6.4 Customer

6.4.1 Creating a Customer Profile

The Installer needs to log in and create his Customer's Profile.

To create the Installer's Profile, click on Customers.




Here one is creating a *profile* and not a *user*. This could be a farm name or company or a family residence.

A heading *Maintain Customer Details* will appear. Click on the  icon, fill in the customer's (end user's) details, and ensure that the *Active* box is ticked. Save the customer details.

See the screen shot below for an example.


Edit an Existing Customer Record


Branch: <input type="text" value="Nelspruit"/>	Contact: <input type="text" value="Samson Ehubesi"/>	ID: <input type="text" value="1189"/>
Installer: <input type="text" value="Draad Trek PTY ltd"/>	Cell No: <input type="text" value="082 456 1234"/>	Date Created: <input type="text" value="11/07/2012"/>
Customer: <input type="text" value="Rainbow Chickens"/>	Bank Account: <input type="text"/>	Time Created: <input type="text" value="14:01:03"/>
Address: <input type="text" value="Plot 45"/>	Bank Type: <input type="text"/>	Created By: <input type="text" value="Draad Trek"/>
: <input type="text" value="District Road D67"/>	Bank Account Number: <input type="text"/>	Date Last Updated: <input type="text" value="11/07/2012"/>
: <input type="text" value="Umhlaas Road"/>	Bank Branch Number: <input type="text"/>	Time Last Updated: <input type="text" value="14:01:03"/>
: <input type="text" value="Kw azulu Natal"/>		Last Updated By: <input type="text" value="Chris"/>
Telephone Number: <input type="text" value="0333 456789"/>		
Fax Number: <input type="text" value="0333 4589720"/>		
Email: <input type="text" value="inkoko@vodamail.co.za"/>		
Pays Fees: <input type="checkbox"/>		
Active: <input checked="" type="checkbox"/>		

Browse to the customer list in order to see that the Customer profile has been set up.

6.4.2 Creating a Customer User

Browse to *Configure*, click on *Customers*, then click on the Edit tab  next to the End User Profile.

Then click on , then click on the  icon and a new tab will open. Fill in the actual user's details, for instance the Security Manager or a person who will be viewing the site. Save the details and close the tab.

Now you will have set up the Customer, but his Security Profile needs to be created. This can be done by the person from the JVA Branch.

See the example below.

Edit an Existing Record

Full Name: <input type="text" value="Samson Bhubesi"/>	ID: <input type="text" value="840"/>
ID Number: <input type="text" value="6512065113084"/>	Date Created: <input type="text" value="30/05/2012"/>
Cell No: <input type="text" value="082 456 1234"/>	Time Created: <input type="text" value="11:42:26"/>
Email: <input type="text" value="inkoko@vodamail.co.za"/>	Created By: <input type="text" value="Draad Trek"/>
Telephone No: <input type="text" value="0333 7001223"/>	Date Last Updated: <input type="text" value="30/05/2012"/>
Fax No: <input type="text" value="0333 7001556"/>	Time Last Updated: <input type="text" value="16:07:41"/>
Login Name: <input type="text" value="Layers 1"/>	Last Updated By: <input type="text" value="Chris"/>
Password: <input type="text" value="1234"/>	
Address: <input type="text" value="Umlaas Road Farms"/>	
: <input type="text" value="Umlaas Road"/>	
: <input type="text" value="Kw azulu Natal"/>	
: <input type="text"/>	
Active: <input checked="" type="checkbox"/>	

Security Profile

ADD EDIT VIEW

Branches:

Installers:

Customers:

Sites:

Users:

The *Installer's* customer will be able to View, edit Customers, Sites and Users.

The Security Level of the profile can be lowered or increased depending on the user.

Once this is done, save the data.

6.4.3 Assigning the GSM to a Customer

Click on *To Customer* under *Allocation* and allocate the GSM to the customer. Enter the IMEI number of the GSM unit and then search for the *Customer*. Once the data is entered click on the *Already entered IMEI's* and then click on the tab in the middle of the page to allocate.

Allocate GSM Units to a Customer

See the example on page 21.

Enter the IMEI number of the GSM Unit:

Selected Customer:

Total Units Entered:0


Once this is done, it will become evident from the list that the GSM unit has been allocated to the customer.

6.5 Programming the GSM Unit

Although a JVA Branch User can program the unit, it is recommended that the Installer program the unit at his allocated Security Level.

6.5.1 GSM and Contact Person Particulars

The Installer or a JVA Branch User needs to log in to complete this information.

The user must click on GSM Device under *Configure*, and then click on the edit tab .

A new page will show information for the GSM, some of which will already have been entered.

Ensure that all the required information is entered; otherwise the information will not be saved.

- Site description – location of the site? For example, *Rainbow Chickens* is the Customer and the site could be *Layers' Farm* as Rainbow might have various other electric fences.
- Address – Full address of the site.
- Modem Cell no – the GSM unit cell number
- Pin – the SIM card pin number
- Puk – the SIM card puk number
- Contact Name – Name of the Person who will be in charge of the site
- Contact number – Telephone number of the contact person
- Contact Cell number – Cell number of the contact person
- Contact email – email address of the contact person

The IMEI number will already be entered and SIM balance will show once the GSM unit communicates with the JVA Website.

Ensure that the Current Version is 1.1.5 (or higher) and the *Active* box is ticked.

If all the above information is entered, scroll down the page and click on the **SAVE THE DATA** tab.

6.5.2 Matrix Programming

The installer and the client need to decide which alarm condition needs to be SMS'ed; they have the choice of up to 4 people. There are various options for certain conditions under each name; the appropriate box must be ticked.

There is a CMS number which can be added for Alarm Response Companies. They will need to supply this number to the Installer.

Once all the details have been entered, click on the **SAVE THE DATA** tab again to save.

Web Server will send the information automatically to the GSM unit once the information is saved.

See the example on page 23 for entering the information.

6.6 Energizer

6.6.1 Activating the JVA Z Range Security System

Log in as the customer to view the energizer. The following will appear.

Customer:	<input type="text" value="Rainbow Chickens"/>	ID:	<input type="text" value="158"/>	Date Last Updated:	<input type="text" value="21/10/2012"/>
GSM Unit Description:	<input type="text"/>	Date Created:	<input type="text" value="13/12/2011"/>	Time Last Updated:	<input type="text" value="15:20:10"/>
Energizer Description:	<input type="text" value="JVA Z28"/>	Time Created:	<input type="text" value="09:22:04"/>	Last Updated By:	<input type="text" value="Chris"/>
Energizer Number:	<input type="text" value="1"/>	Created By:	<input type="text" value="Draadtrek"/>		
Active:	<input checked="" type="checkbox"/>				
List My Energizers		Save the New Description			

Ensure that the *Active* box is ticked and the energizer description is entered, then save the details.



Matrix - Tick Box for SMS Alarms

Name	Samson					CMS	CMS Codes
Cell Number	082 456 12						
CMS Code							
Gate Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Fence Alarm Zone 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Fence Alarm Zone 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power Fail	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power Restore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Tamper Alert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Gate Open	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Gate Closed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Low Battery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Low battery Restore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Low SIM Balance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Input Trigger 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Input Trigger 2							

Programming on the website

6.6.2 Model Type

Just under *List My Energizers* and *Save the New Description*, there is *Version and Type* and under that there is a *Model* selection for the energizer. Click on the down arrow and select the correct JVA Z Range Security System.

Version: Type:

Model:

Fill in the energizer details and the model. Then click on the *Active* box.

Save the information and click on the icon. It can then be seen that the Energizer and GSM is activated with a green block under *Last Comm update*.

	ZONE 1	ZONE 2	
	Arm: <input type="radio"/>	Arm: <input type="radio"/>	
	Disarm: <input type="radio"/>	Disarm: <input type="radio"/>	
	Return Volts: <input type="text" value="8.4"/>	Return Volts: <input type="text" value="5.8"/>	
	High Power: <input type="radio"/>	High Power: <input type="radio"/>	
	Low Power: <input type="radio"/>	Low Power: <input type="radio"/>	
	<input type="button" value="Update Energizer"/>		
	<p>These Icons show your Energizer Status, GREEN is GOOD, RED indicates TROUBLE</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>GOOD BATTERY</p> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div>		

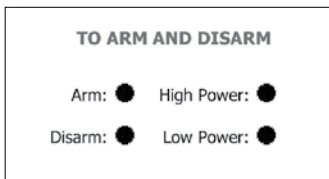
6.7 Testing the GSM Unit

The Installer or Customer can now check that the JVA GSM unit is working. Ensure that there is airtime on the SIM card.

Whoever is entered on the *Matrix* can SMS the unit with Status=? and the unit will reply with the signal strength, battery voltage and GPRS value. One can then see how strong the signal is and if a better aerial is needed or not.

In order to arm the energizer in high power, click on the *High Power* and *Arm* button, then click on *Update Energizer*. It will take between 3-8 seconds for the web page to show the voltages and arm the energizer.

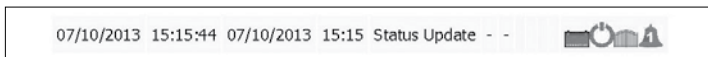
LED 1 will flash fast, informing you that it is communicating with the server.



One can also view the *Connection History* which will show, along with the voltages, at what time the unit was armed. See below.



Disarm the unit, and then click on the *Update Energizer* tab. After a while the web page will show that the unit has been disarmed. Again check the connection history. One can see that there is no voltage. See below.



7. OPERATION OF THE JVA GSM UNIT

7.1 Arming and Disarming

With the testing of the unit, one becomes familiar with these functions. See Section 6.7. By using the Website to arm and disarm the energizer, the user overrides the keypad, as the GSM is the *Master Keypad*.

7.1.1 Arming and Disarming from the Cell Phone

A person who has his number programmed on the GSM unit, can SMS the unit with the command *ENG ON* to arm, and *ENG OFF* to disarm. A confirmation will be sent to the person from the GSM unit stating that the command has been executed.

7.2 High and Low Voltage Monitoring

This is a wonderful facility on the JVA Z Range Security Systems, whereby High or Low voltage can be monitored and controlled. Low voltage is when the energizer produces voltage lower than 1 KV (1000v). This is ideal for instance around residential areas or schools where children can inadvertently touch the fence during the day. The security system can still monitor the fence and create an alarm when there is an intrusion.

With High voltage, the energizer will power up the fence at the required joule rating for the resistance on the fence and send the highest possible voltage required for instance at night when there are no children and maximum deflection is required. These functions can be set on the energizer screen, next to the Arm and Disarm tabs.

See that the low or high power tab options have been selected. The date and time when the fence voltage was last updated is also displayed.

Low Voltage Example

TO ARM AND DISARM

Arm: High Power:
 Disarm: Low Power:

Current Status + Volts = On

Feed Volts: VOLTS AS AT: 08/10/2013
 Return Volts: 09:11:04

High Voltage Example

TO ARM AND DISARM

Arm: High Power:
 Disarm: Low Power:

Current Status + Volts = On

Feed Volts: VOLTS AS AT: 08/10/2013
 Return Volts: 09:16:30

7.3 Energizer Status

Just under *List My Energizers* and *Save the New Description* one can see when the Website was last updated with the GSM.

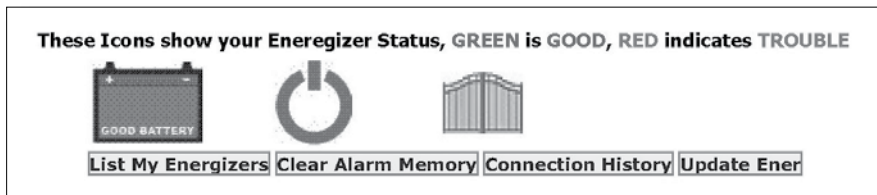
Status of Energizer as at: 08/10/2013 08:31:31

If the web page has been idle for a while simply press F5 to refresh the page. (In Firefox)

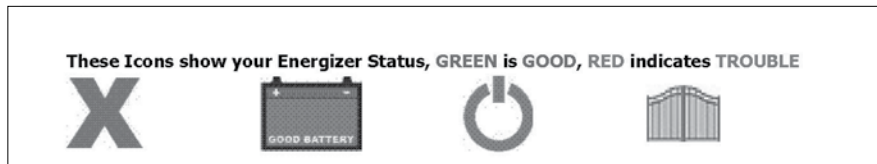
The website will show when there is a power failure, battery low and a gate open condition.

If one looks at the bottom of the page one can see a battery, a power button and a gate. If each of these is green, then all is well with the system.

Should the mains fail then the power button will turn Red, and the persons who are to be notified on the *Matrix* will receive an SMS about the condition.



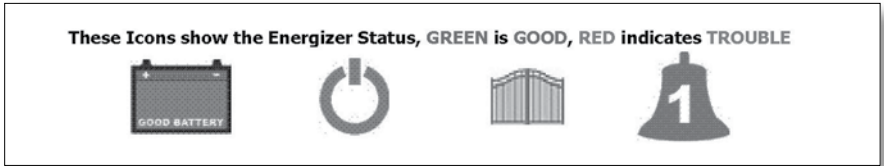
Should there be an issue with the electronics, the website will show a Red X at the bottom. This means that the Installer needs to go out to site and check the electronics or send the PCBs to his local JVA Branch.



7.4 Fence Alarm Conditions

When there is a fence alarm, the GSM unit will inform those who have their cell phone numbers programmed. The GSM unit will also relay the information to the website.

For a Single Zone Energizer a single Red Bell will be seen.



Should there be a Two-Zone Energizer, the following will appear.



7.5 Maintaining the Energizers

The JVA Z-Range Security Systems that are connected to the JVA GSM unit, can also be viewed in a table by clicking on *List my Energizers*. One is able to see all the *Feed* and *Return* voltages from all the units. To view the actual Energizer, click on the edit tab. Each energizer will be numbered and a description given. See page 29.

7.6 List of GSM Units

Some clients may have more than one GSM unit registered in their names, as they monitor more than one site. When one logs onto the site, a list of all the GSM units will appear. Choose the site that needs checking and it will show the GSM *Matrix*. Click *List Energizers* and the *Maintain Your Energizer Units* screen will appear. One can see which GSM units are communicating as the Last update Comm will be green. If it is not communicating, the icon will be red.

Maintaining the Energizer Units

Energy Num	Descrip	Type	Feed Volt 1	Return Volt 1	Feed Volt 2	Return Volt 2	+ve Return Voltage	-ve Return Voltage	Arm Zone 1	Arm Zone 2	Zone 1 Low Power	Zone 1 High Power	Zone 2 Low Power	Zone 2 High Power	System Status Icons	Connect ion History
1	ZONE 1 Layer 1	Single Zone	8.5	9.2	---	---	---	---	<input checked="" type="checkbox"/>	---			---	---		
3	ZONE 2 Layer 2	Single Zone	8.6	9.0	---	---	---	---	<input checked="" type="checkbox"/>	---			---	---		
										<input type="checkbox"/> ARM	<input type="checkbox"/> DISARM	<input type="checkbox"/> ARM	<input type="checkbox"/> DISARM	<input type="checkbox"/> ALL	<input type="checkbox"/> ALL	<input type="checkbox"/> ALL

Configure my GSM Device



8. PROGRAMMING THE INPUTS AND OUTPUTS

These are extra inputs and outputs on the GSM unit. The information about them can be seen via the Website. When making changes, one needs to remember to save the information so that it can be sent to the JVA GSM unit.

8.1. Energizer Outputs

Output 1

The GSM unit does not actually need to be wired to an energizer for the output to work, but the function will be helpful if one needs to know if the output is on/off. The information is sent via the Keypad data to the energizer. In the block next to *Energizer*, type in the message text that will be SMSed to persons in the contact list. Those contacts will receive an SMS when this output is given a command. To activate this output, SMS the message *ENG ON* to the unit.

8.2. Gate Output

Output 2

This output can be wired to an Automated Gate Motor, to trigger it remotely from a dropped call. The person's number needs to be on the *Matrix* for this to take effect. A user friendly name can be entered for example *Main Gate* as a *description* for the Gate output. To activate this output, send it a dropped call.

8.3. AUX Output

This can be used for various options: to switch lights off and on, bypass a siren, bypass the pedestrian key switch for a roller gate contact, etc. This is a latched relay output. To activate this output SMS *AUX ON*. To switch off the relay, SMS *AUX OFF*.

8.4. Input 1

This is a positive trigger. It can be used to monitor the arming and disarming via SMS, or inform a person when a fence fault is cleared. This can be wired into external JVA Relay boards or use the strobe output on the Z13, Z14 and Z28. The Z18, ZM1 and ZM20 have extra relays built in. By programming those relays one will be able to trigger the GSM unit.

8.5. Input 2

Same as Input 1.

9. HELPFUL TIPS

- 9.1. Ensure that the SIM Card has been registered and has airtime, before starting the process.
- 9.2. Disable the security pin on the SIM Card.
- 9.3. Never give out the passwords for the users to anyone. If one needs a password to be changed, the Installer must assist and change it on the person's profile.
- 9.4. Always program the JVA Z Range Security System first, then the keypad. Then connect the GSM to the system. Use *68# to analyse the group. This should be done whenever the system is depowered and powered up again.
- 9.5. Check the signal strength of the unit before completing the installation. SMS Status=? to the GSM unit. If the signal strength is below 16, it is advisable to install a better aerial. There must be 3G connectivity available in the area where the GSM unit will be installed.
- 9.6. If using a keypad on the system, remember to change the keypad address.
- 9.7. If used internationally kindly contact your nearest JVA distributor or Contact Person, as a special setting needs to be sent to the unit.

