JVA

JVA Technologies (Australia), in partnership with Ndlovu Fencing (South Africa), has drawn on over 40 year's experience in some of the world's most tesng international and local security markets, to produce a product range to satisfy the needs of the world security electric fencing markets ranging from simple domesc requirements, to high security installaons. JVA products and experse haàve become trusted choices for local and internaonal customers as they meet the strict specificaons required to secure important government contracts for prisons, airports, power staons, banks, housing estates, defence facilies and municipalities.

JVA's global partnerships enable it to combine award winning Australian engineering design experse with local South African, cost effective, assembly and accessory manufacture. From lessons learnt in challenging African, South American, Asian and other world markets, combined with the high tech demands of South Africa and countries such as America, Australia and Europe, JVA engineers have succeeded in producing a robust product range that connuously sets internaonal standards of quality, innovaon and cost effectiveness.

Ndlovu Fencing has strategically posioned, sales and service outlets throughout Southern Africa, each with its own in-house technical personnel, which makes it the ideal partner for JVA to offer fast and efficient a. er-sales repair service and on-the-spot expert technical advice throughout Africa.

Canada

North America

Panama

Caribbean

Brazil

Chile

South America

Sweden

Europe

Russia

China

India

AFRICA

Philippines

Malaysia

Indonesia

Australia

New Zealand

Trading Partners

CONTENTS

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, relatively simple to install, and the JVA Electric Security Fence offers more Ds of security than any other perimeter system:

Demarcaon – The   JVA fence around your property shows you mean business.
Deflecon – W ould-be intruders will be deflected to so   er 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.
Detecon – 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.

Every second the JVA energizer discharges a very short-duration, safe, high-voltage impulse down the fence live wire. The JVA security energizer then monitors the voltage at the end of this live wire, thereby checking that the voltage is being maintained along the entire fence line. In the event of a voltage drop caused by either shorting, cutting or poor maintenance, the monitor will trigger an alarm, thus alerting you.

Manufactured to meet the most stringent international safety standards, the JVA Range is in a class of its own when it comes to features and benefits at an affordable price.

JVA Z11 & Z13 Economy Security Energizer

Z13

The JVA Z11 and Z13 One-Zone Security Energizers are the entry level energizers in the Z-Range.

They are manufactured to meet customer demand for a simple, no-frills, economical unit for small, domestic, commercial and industrial sites. The units are fully compatible with the Z-Range keypad and when wired up to a keypad are fully programmable.

Features:

- High Voltage, Single Zone Fence Monitor triggers alarm when the live wires are tampered with
- Earth Wire Monitor triggers alarm when the earth wires are tampered with
- Gate Monitor input to monitor the gate
- 1.8 and 3 Joules maximum output energy, respecv ely
- Compliant with IEC60335-2-76
- Built-in Lightning and Surge Protecon
- Internal Ba ery Backup in case of power failure
- Up to 24-Hour Monitoring in the event of a power failure
- Low Power Opon – Ideal f or locaons wher e monitoring is required but high voltage is not required 24 hours on the fence
- Energizer supplied with secure Key Switch Operaon
- Diagnosc Mode
- Keypad Compable – Use oponal Z -Range Keypad
- Dynamic Voltage Monitoring minimizing arcing and false alarms while maximizing power and ba ery life.

JVA Z14, Z18 and Z114 Energizers

The JVA Z-Range of One-Zone Security Energizers with LCD displays are top-of-the-range energizers meeting all requirements from the basic home security fence to fully integrated high profile installations. These energizers have LCD displays showing out and return voltages, battery condition and fence programming settings. The units are fully compatible with the Z-Range keypad and when wired up to a keypad are fully programmable. The energizers can be networked with other Z-Range energizers to synchronise pulses and become a multi-zone group for larger sites where many zones are required. These energizers can be controlled by a PC or up to 3 keypads, or 1 keypad up to 14 Z-Range energizers.

Z14

Z18

Z114

Features:

- High-Voltage, Single-Zone Fence Monitor triggers alarm when live wires are tampered with
- Earth Wire Monitor triggers alarm when the earth wires are tampered with
- LCD Voltage Out and Return Display
- Gate Monitor input to monitor the gate
- Dynamic Voltage Monitoring minimizing arcing and false alarms while maximizing power and battery life
- 4, 8 and 14 Joules maximum output energy respectively
- Compliant with IEC60335-2-76 Built-in Lightning and Surge Protection

- Up to 24-Hour Monitoring in the event of a power failure
- High and low power options
- Energizer supplied with secure Key Switch Operation
- Diagnostic Mode
- 2 Standard Fully Programmable Relays plus option for 3 more on request
- Keypad Compatible – Use a Z-Range Keypad
- Programmable to Bi-polar or Standard
- Pulse Synchronisation in group mode
- Anti-tamper option programmable on request
- Internal Battery Backup in case of power failure

What is Bi-POLAR fencing?

The JVA Z14, JVA Z18 and Z114 Energizers can be programmed to Bi-Polar mode. This gives rise to the question: What is Bi-Polar Fencing and what exactly are the benefits of this wiring configuration?

A Bi-Polar fence is an all-live wire fence. A Bi-Polar energizer has the ability to pulse synchronized positive and negative pulses down alternate wires of the same fence line. So, instead of having alternate live and earth wires on the same fence line, one now has one wire with a positive pulse and one wire with a negative pulse. This means that all the wires on the security fence are live

with the exception of the open true-earth wire in the fence grid, should one be included.

A reading taken between the positive pulsing or negative pulsing live wires and the earth, will give half the voltage of a normal live/earth configuration. However, when one touches both the positive and negative pulsing wires, one will receive the 'full monty'. The big plus factor of this configuration is that, by reducing the voltages to each wire, one helps eliminate the annoying and often difficult-to-eliminate arcing experienced in coastal or dusty areas.

Out –
Earth
Out +
Return –
Earth
Return +
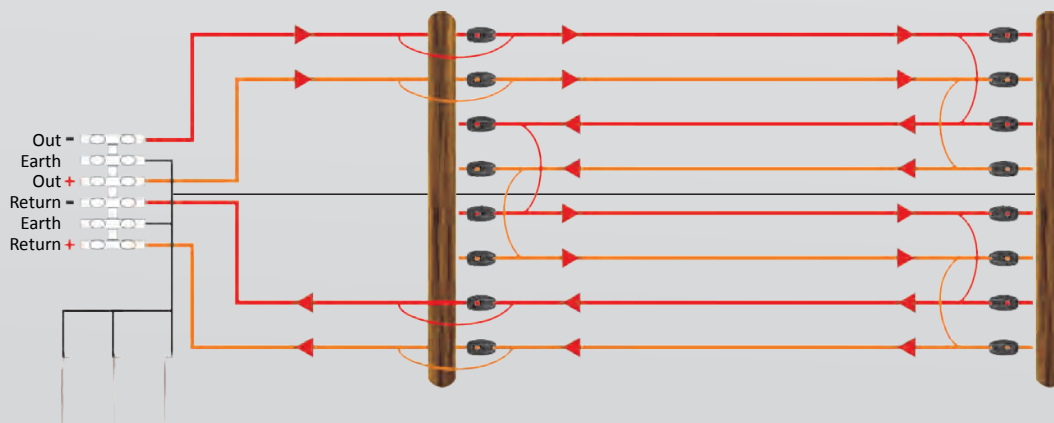
JVA Z28 Standard

The JVA Z28 Two-Zone Security Energizer with LCD display is a top-of-the-range high power energizer ideal for installations where better zone identification is required. The Z28 can meet all requirements from longer wall-top fences to industrial and high profile installations. The energizer has an LCD display showing return voltages for each zone, battery condition and fence programming settings. The unit is fully compatible with the optional Z-Range keypad and when wired up to a keypad is fully programmable. The energizer can be linked with other Z-Range energizers to synchronize pulses and become a multi-zone group for larger multi-zone sites. The Z28 can be controlled by a PC or up to 3 keypads, or 1 keypad can control up to 14 Z - Range energizers.

Z28

The Z28 is unique in that each zone is individually controllable, allowing each to be individually operated and programmed via the keypad. Unlike many other energizers available in the market, a short on one zone on the Z28 will have no effect on the voltage on the other zone. The Z28 is in essence two Z14 energizers in one. This means each zone, powered by one Z28, can be individually armed or disarmed in high or low voltage mode – an excellent safety feature.

Features:

- High Voltage, Dual-Zone Fence Monitor triggers alarm when live wires are tampered with
- Earth Wire monitor triggers alarm when the earth wires are tampered with
- LCD Voltage Return Display for both zones
- Gate Monitor input to monitor the gate
- 4 Joules maximum output energy per zone
- Compliant with IEC60335-2-76
- Built-in Lightning and Surge Protection
- Internal Battery Backup in case of power failure

- Dynamic Voltage Monitoring minimizing arcing and false alarms while maximizing power and battery life
- High and low power options
- Energizer supplied with secure key switch operation
- Diagnostic Mode
- 3 Standard programmable relays (1 siren and 2 strobe) – excellent for communication
- Optional extra Relay Board on request – total 6 relays
- Keypad Compatible – Add Z-Range Keypad
- Up to 18-Hour Monitoring in the event of a power failure
- Pulse Synchronization

LCD Display
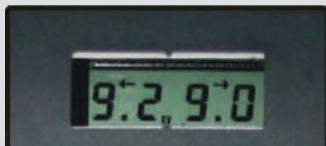
- Fence *Out* and *Return* Voltage Display on Z14 and Z18
- Fence Return Voltage Display on Z28 and Bi-Polar models
- Actual Battery Voltage
- Low Battery Warning
- Battery Condition
- Programme Settings
- Software Version
- Diagnostic Feed-Back

Certification

It is a legal requirement both locally and internationally that electric fence energizers must comply with stringent safety criteria as stipulated in IEC 60335-2-76:2006. JVA energizers comply with these standards. All JVA units are tested and certified by Power Lab Limited and Test Africa both internationally accredited test laboratories.

TEST Africa

Locally certified

Internationally certified

Power Lab Limited

Report Number PL2008039/ASNZS

JVA Arming Devices

The standard JVA Energizer can be chosen with a keyswitch or a magnec tag to arm and disarm the unit.

Magnec Keys

Radial Keys

JVA Keypad

NEW
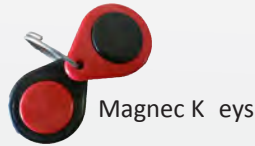
JVA Menu-driven Keypad

The Z Range JVA Keypad is manufactured specifically for the JVA Z Range. JVA has simplified things by designing one keypad to operate the full range of Z Energizers from a simple home Z13 system to a high profile multi-zone system. The JVA Keypad with its backlit LCD display gives the user, at a glance, all the information that may be required. The JVA Keypad displays out and return voltages and can be fully customized with custom messages and names for Zones and Gates –*e.g. Front Gate/Back Fence*, etc.

Z14KP

Features:

- One JVA Keypad operates the full Z Range
- Backlit LCD Display
- 1 to 14 energizers can be controlled from one keypad
- 1 to 3 keypads can be used to control one energizer
- Zone Voltage displayed on the keypad
- Zone Voltage Scrolling Function display for Multi-Zone systems

- Simple 3-wire operation
- Battery Voltage Request display to energizer LCD
- User menu-driven display
- Ability to customize zone and gate names
- Maximum 100m on conventional communication cable

Keypad 02 → Keypad 03 → Keypad 04 → Unit 01

Keypad 01 → Unit 01 → Unit 02 → Unit 03 → Unit 04 → Unit 14

Perimeter Patrol Software → Unit 01 → Unit 02 → Unit 03 → Unit 14

JVA 9-Inch Android Keypad with housing

NEW

The JVA Touch Screen Keypad is manufactured specifically for the control and management of the full range of JVA Z-Range Energizers and Monitors, from a simple home Z11 to a high profile mul-z one ZM20 system. The nine inch screen gives the user, at a glance, or a touch all the informaon that may be required.

Features:

- New easy-to-use graphical user interface, touch screen keypad for the JVA Z Series range
- Provides a menu driven programming interface for devices: each device can have its unique sengs programmed from a drop-down list of possible values, with names and descripons of each se ng a vailable. So installers will not need to refer to a manual to configure a device
- Provides a method of loading and saving site configuraons, including de vice configuraons, cus tom zone names and configuraons, individual user permissions and more which means ZM20 sector programming can be saved and recalled and common setups can be saved and quickly loaded into new devices
- Generates Maintenance Alarms when the site isn't correctly configured
- Alarms can be sent to a user via email or SMS by ulising the inbuilt Wi-Fi connecon (V ersion dependent)
- Supplied with a wall mountable steel casing
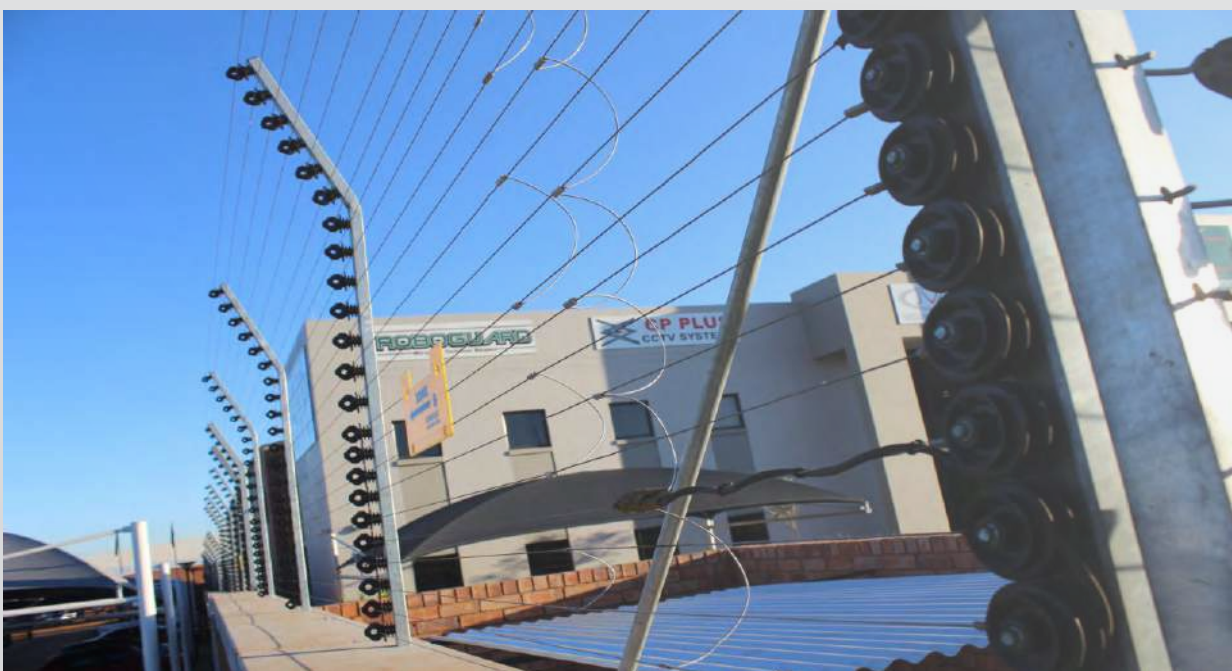
SPECIFICATIONS	Z11	Z13	Z14	Z18	Z114	Z28
Stored energy	3J	5J	6J	12J	17J	2x6J
Maximum Output energy	1.8J	3J	5J	8J	14J	2x4J
Output voltage maximum	10kv	10kv	10kv	10kv	10kv	10kv
Output voltage LCD display	Keypad	Keypad	✓	✓	✓	
Return voltage LCD display	Keypad	Keypad	✓	✓	✓	✓
Backup time maximum	24hrs	24hrs	18hrs	18hrs	16hrs	14hrs
Ext 16VAC transformer	✓	✓	✓	✓	✓	✓
Battery volts	12v	12v	12v	12v	12v	12v
Battery capacity	7Ah	7Ah	7Ah	7Ah	9Ah	7Ah
Pulse frequency	0.8 Hz	0.8 Hz	0.8 Hz	0.8 Hz	0.8 Hz	0.8 Hz
Pulse width	0.3ms	0.3ms	0.3ms	0.3ms	0.3ms	0.3ms
Alarm delay	*	*	*	*	*	*
Siren time out	*	*	*	*	*	*
Bi-Polar Capability			✓	✓	✓	

*Programmable by keypad

RECOMMENDED SERIES WIRE LENGTH	Z11	Z13	Z14	Z18	Z114	Z28
1.2mm s/steel	0.6km	0.8km	1km	1.5km	2km	2x1km
1.6mm s/steel	1.2km	1.4km	1.6km	2km	2.5km	2x1.6km
2mm s/steel	1.8km	2.1km	2.4km	3.3km	3.6km	2x2.4km
1.2mm braided galvanized	2km	3km	4km	8km	10km	2x4km
2mm braided galvanized	2.5km	3.5km	5km	8km	10km	2x5km
2.24 galvanized HSS	3km	4km	6km	10km	14km	2x6km
1.6mm aluminium wire	6km	8km	10km	20km	25km	2x10km

DIMENSIONS	Z11	Z13	Z14	Z18	Z114	Z28
Size (height, width, depth) mm	300×190×115	300×190×115	300×190×115	300×190×115	300×190×115	300×190×115
Weight (without battery)	2.0kg	2.0kg	2.1kg	2.4kg	3kg	2.4kg

POWER CONSUMPTION	Z11	Z13	Z14	Z18	Z114	Z28
Average current draw	500mA	500mA	550mA	1000mA	1200mA	1000mA
Peak current draw	600mA	600mA	700mA	1200mA	1400mA	1200mA

All energizers in the Z-Range can be used in a Multi-Zone Network

SOLAR PANEL SPEC	Z11	Z13	Z14	Z18	Z114	Z28
Recommended battery	50 Ah	50 Ah	50 Ah	105 Ah	105 Ah	105 Ah
Solar panel	75w	75w	75w	100w	100w	100w

Solar panel calculations based on an installation in Johannesburg, South Africa.
Location-specific recommendations available on request.

WARRANTY	Z11	Z13	Z14	Z18	Z114	Z28
2-year warranty	✓	✓	✓	✓	✓	✓

CERTIFICATION	Z11	Z13	Z14	Z18	Z114	Z28
Compliant (IEC60335-2-76)	✓	✓	✓	✓	✓	✓

FEATURES	Z11	Z13	Z14	Z18	Z114	Z28
Fence monitor	✓	✓	✓	✓	✓	✓
Gate (aux.) monitor	✓	✓	✓	✓	✓	✓
Low voltage monitor	✓	✓	✓	✓	✓	✓
Siren driver	✓	✓	✓	✓	✓	✓
Strobe driver	✓	✓	✓	✓	✓	✓
Armed Response	✓	✓	✓	✓	✓	✓
On/Off reset key	✓	✓	✓	✓	✓	✓
Remote control option	✓	✓	✓	✓	✓	✓
Battery backup	✓	✓	✓	✓	✓	✓
Keypad LCD Optional	✓	✓	✓	✓	✓	✓
Multi-Keypad Compatible	✓	✓	✓	✓	✓	✓
Keypad Voltage Display	✓	✓	✓	✓	✓	✓
Keypad tamper Alert	✓	✓	✓	✓	✓	✓
Microprocessor	✓	✓	✓	✓	✓	✓
Programmable	✓	✓	✓	✓	✓	✓
Earth Monitoring	✓	✓	✓	✓	✓	✓
Security	✓	✓	✓	✓	✓	✓
Software Controllable	✓	✓	✓	✓	✓	✓
Solar Power Option	✓	✓	✓	✓	✓	✓
Number of Zones	1	1	1	1	1	2
Multi-Zone Pulse Sync	✓	✓	✓	✓	✓	✓

JVA Electric Fence Management Devices

JVA Directional Volt Meter

The JVA Electric Fence Fault-Finder is a 2-in-1 tool designed to display fence voltage and current and lead the user quickly to the location of the fault on an electric fence.

Features:

- Built-in voltage and current meters with digital screen display
- Simple-to-use, one-touch operation
- No wires or clips means no tangles or shocks
- Brightly illuminated arrows indicate fault direction
- Automatic pulse polarity recognition – will operate accurately with any brand of energizer
- Gives low battery warning if the battery needs replacing
- Positive location gives more accurate and steady current readings
- Can be used in all weather
- Is made to withstand tough environments
- Commonly available battery that is easily replaced by the user

A301

Fence Beeper

Economical keyfob tester, which, when held in close proximity to a working electric fence, responds with a loud beep.

JVA BEEP

JVA Remote Control

The JVA Remote Control is a handheld remote control used for arming and disarming.

Fence Nite Lite

Features:

- Flashes with every fence pulse
- Visible for up to 100m at night and 20m by day
- Seven high bright LED's for long life and extra brightness
- Connuous monit oring – no reset required
- Designed to be connected between live and earth fence wires
- Stainless steel connecng wir es
- May reduce fence voltage by up to 0.3 kV
- Sealed weatherproof unit – no maintenance or ba eries required
- Can be placed anywhere on the fence
- Available in various colours

N704R

N704G

N704B
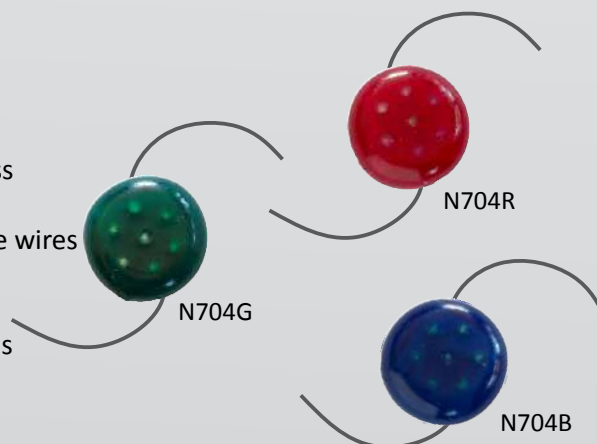
JVA ZM1 Fence Monitoring System

The ZM1 is designed to be coupled with any standard electric fence energizer (see Limitations below) to power and monitor an electric fence. It can control large energizers, making it ideal on large agricultural, game and border security fences. The combination of the ZM1 and the energizer operates in the same way as a single JVA Z series energizer, with the exception that the pulse power level of the energizer cannot be modified. The ZM1 monitors the live feed line from the energizer to the fence and determines if the fence is working properly, by measuring the voltage, current, and therefore power, flowing to the fence.

An agricultural energizer transformed into a security system by addion of a` JVA ZM1 Monitor (does not require a return line)
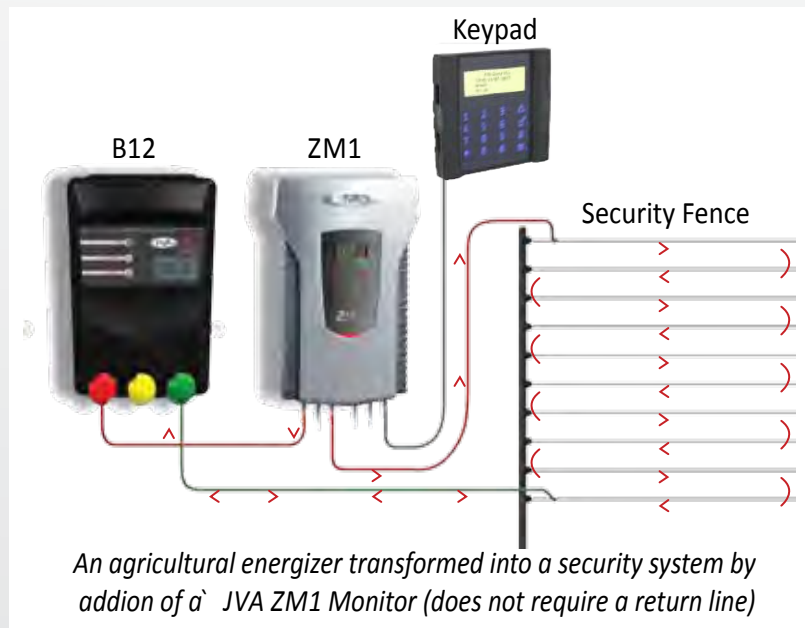
As such, it does not require a return line from the end of the fence. This can represent a large saving on installation costs on new fences or make monitoring an existing fence possible if no return line was originally wired. The ZM1 can, however, also monitor the return if that is desired. The ZM1 has many programmable options which can be adjusted using a JVA Z-Series keypad. By correctly setting the alarm threshold levels, it is possible to determine if a fence has been cut or shorted at any point.

Features:
- Built into the wall mountable Z-Series energizer enclosure
- Does not require a return line
- LCD current display (load)
- LCD earth voltage display
- LCD voltage display for out and return voltage
- Controllable and Programmable via keypad with similar codes to the Z-Series
- Monitors fence voltage and current to trigger an alarm if current rises or voltage falls (load increases)
- Can be combined with any energizer (see Limitations below) to produce a full featured security electric fence energizer/monitor
- Start and end of fence monitoring
- Able to be monitored via PC (using Z Control or Perimeter Patrol software)
- Run from 16Vac or 12V DC external source
- Built-in battery charger plus connection for alternate larger external battery and charger
- Controls 12V DC feed to energizer
- Can control a 220Vac energizer via external relay (not supplied), (12V coil, 240Vac rated contacts)
- Remote on/off or key switch
- Gate contact input
- Siren and Strobe switched 12V DC outputs 3 on board relays with many programmable functions

Output readings

Input readings

Limitations
- The maximum energizer power is 36 Joules (Stafix M36 or similar)
- An energizer used with the ZM1 must comply with IEC6033-2-76 (or similar) safety standard
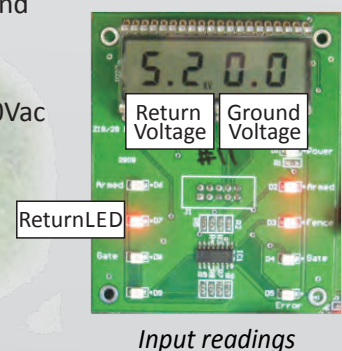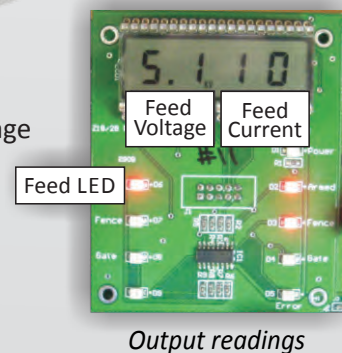
JVA ZM20 & ZM50 Sector Fence Monitoring Systems

ZM20

ZM50

The JVA ZM20 and ZM50 are advanced security electric fence monitoring systems, enabling the partitioning of an electric security fence into 20 or 50 programmable sectors. This gives greater accuracy in detecting the locality of a fault on the fence line which in turn allows for quicker targeted responses and/or better camera positioning.
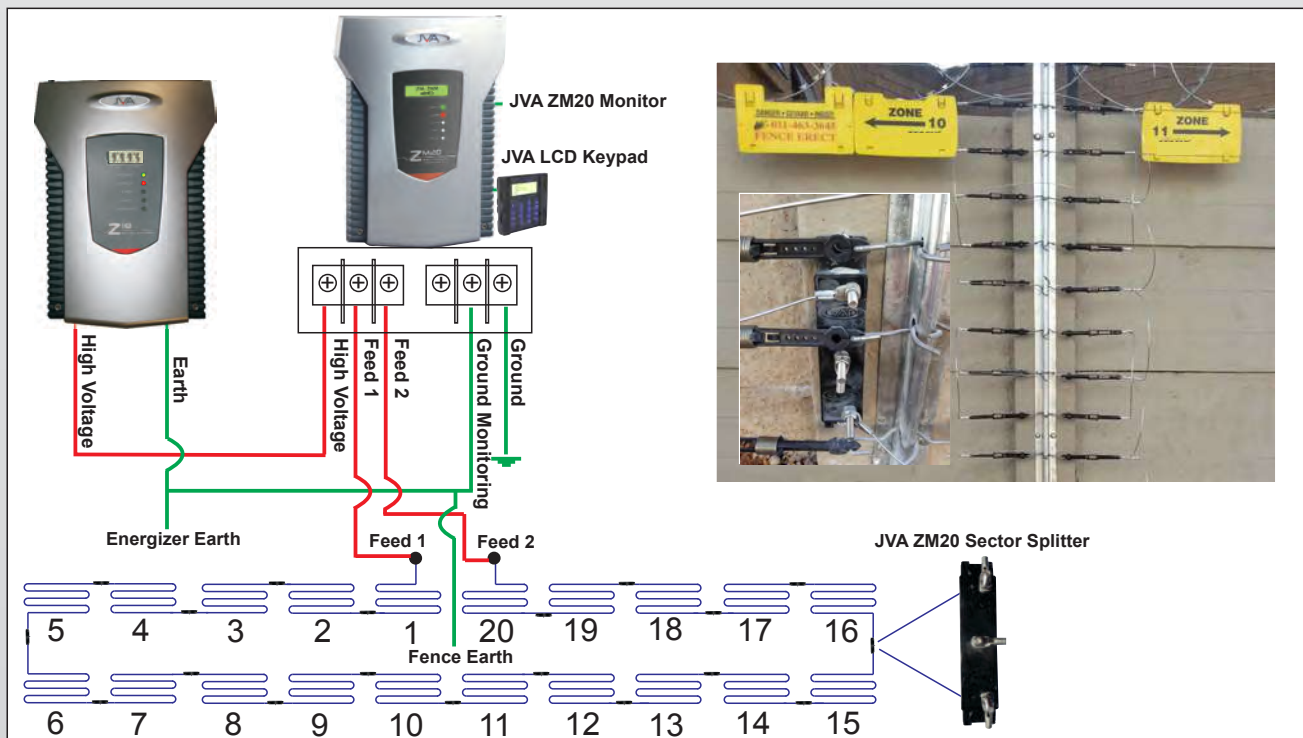
The system is ideal when energizer placement in the field is not always possible. An energizer in one location can partition a single high voltage zone into 20 or 50 manageable sectors.

Features:

• TCP/IP Connectivity with optional LAN Interface Board
• Reduces the cost of multi-zone systems
• Accurately divides a High Voltage Fence Zone into up to 20 or 50 Sectors
• Is able to be monitored via a Keypad or a PC using Perimeter Patrol software, or any Web enabled device with the addition of a JPAE212 Web Server, with e-mailed alarms and able to be integrated into third party security management systems, at a variety of levels
• Dual HV Feed, increases deterrent and reduces the effect of a cut wire
• The JVA ZM monitor can be powered by any JVA electric fence energizer
• Monitor 1 - 20 or 1 - 50 fence loops up to 8km wire length or maximum loop resistance of 1000 ohm
• 2 - 20 or 2 - 50 Programmable sectors
• Cut or bridge alarm on sudden reduction in current
• 3 Programmable dry contact control relays
• Siren and strobe switched 12V DC outputs
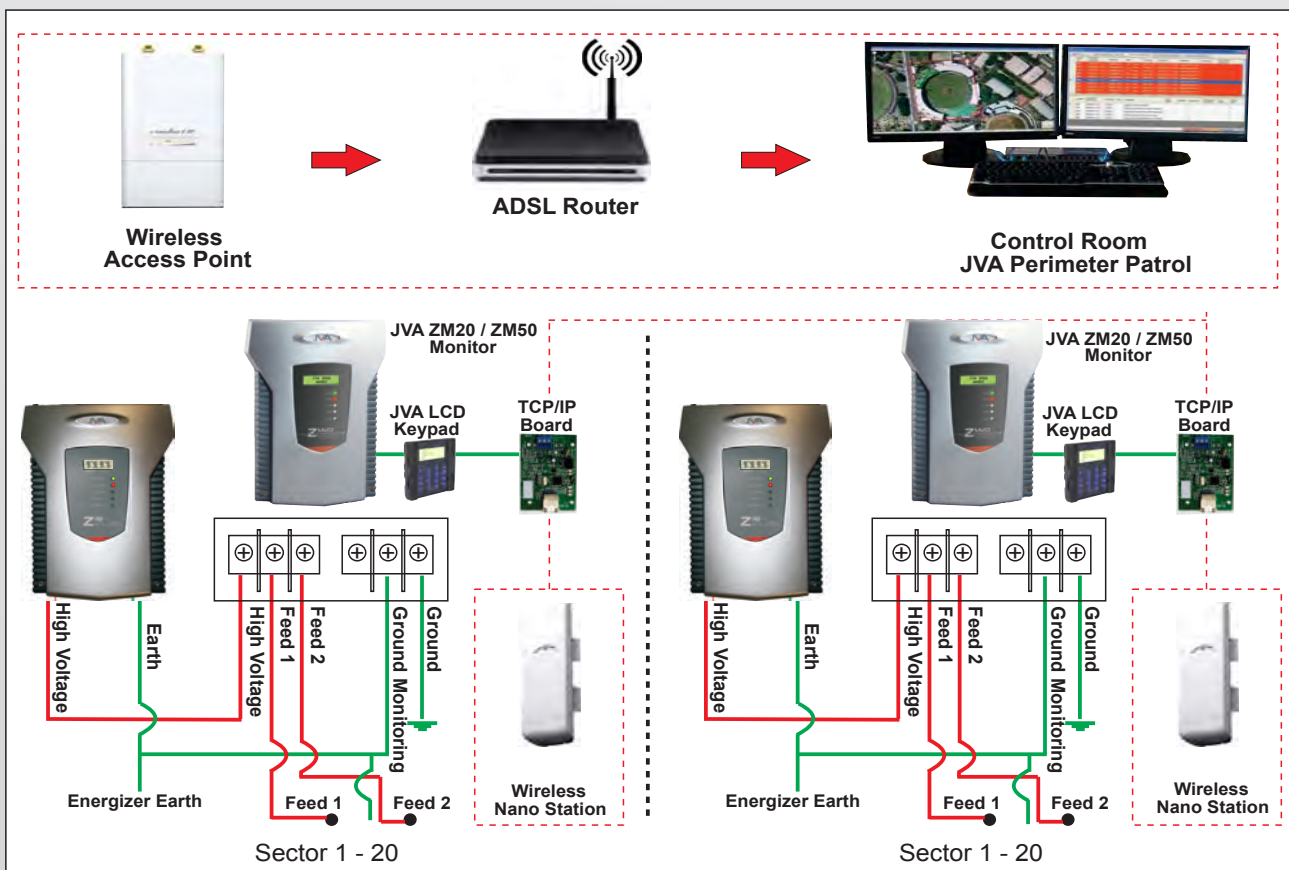• Built in charger and space for a 12V 7Ah backup battery

JVA ZM20 Mimic Installation

JVA ZM20 Monitor

JVA LCD Keypad

High Voltage

Earth

High Voltage

Feed 1

Feed 2

Ground Monitoring

Ground

Energizer Earth

Feed 1

Feed 2

Fence Earth

JVA ZM20 Sector Splitter

| 5 | 4 | 3 | 2 | 1 | 20 | 19 | 18 | 17 | 16 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |

JVA ZM20 & ZM50 Multi-Zone, Multi Sector System

On larger sites consisting of multiple networked energizer stations, the ZM20s and ZM50s can further divide the individual energizer zones into multiple sectors.

This improves detection as High Voltage zones are broken up into smaller more manageable sectors. The energizer stations would then, through the LAN, (Local Area Network) be networked back to the control room to the PC Perimeter Patrol Management System. Through the use of a WAN, (Wide Area Network) the JVA High Level Interface (HLI) can further integrate the system into an offsite multiple site management system for a larger control centre set up.

Wireless Access Point

ADSL Router

Control Room JVA Perimeter Patrol

JVA ZM20 / ZM50 Monitor

JVA LCD Keypad

TCP/IP Board

High Voltage

Earth

High Voltage

Feed 1

Feed 2

Ground Monitoring

Ground

Wireless Nano Station

Energizer Earth

Feed 1

Feed 2

Sector 1 - 20

JVA ZM20 / ZM50 Monitor

JVA LCD Keypad

TCP/IP Board

High Voltage

Earth

High Voltage

Feed 1

Feed 2

Ground Monitoring

Ground

Wireless Nano Station

Energizer Earth

Feed 1

Feed 2

Sector 1 - 20

JVA ZLM4 Low Voltage Monitoring System

LV Zone 1   LV Zone 2   LV Zone 3   LV Zone 4

HIGH VOLTAGE ZONE 1

ZLM4 4 ZONE SYSTEM

The ZLM4 is a 4-zone, low voltage, electric fence monitor. The ZLM4 may be used by itself or in conjuncon with a number of high voltage security electric fence energizers. The ZLM4 monitors up to 4 loops of fence wire, each up to several hundred meters long, to detect someone tampering with the fence by cung or shorng the wires. When used in conjuncon with a high voltage electric fence energizer, the ZLM4 is wired to the non-energized earth wires on the fence. In this way, the ZML4 can be used to split one high voltage zone into up to 4 low voltage monitored zones for improved targeng of the response to potenal security breaches.

The ZLM4 is compable with the JVA Z series energizers. It may be connected via a keypad bus network with other Z series devices to enable the whole group to be controlled via one keypad, or linked to a PC running JVA Perimeter Patrol sow are. The ZLM4 monitors a low voltage loop using intrinsically safe, isolated ELV DC. It employs a connuity check for detecng open circuits, DC voltage level sensing to detect a short to ground and pulse voltage sensing to detect a short to a line powered by a high voltage fence energizer.

The advanced features of this device allow the performance to be tuned to the fence and to the parcular requirements of the site. This is done by adjusng the device's programmable opons. The ZLM4 will report an alarm on: detecng a low voltage loop cut (open circuit); shorted to ground (short); when high voltage from an electric fence energizer wire is shorted to the monitored low voltage loop; or when two low voltage loops short to one another (cross couple).

The ZLM4 is an ideal soluon for maintaining detecon but enabling an installer to keep his fence SANS 10222-3 Compliant, by keeping the fence below 1.5m monitored but without a High-Voltage shock, in public access areas.

Features:

- Can be used to split a single security electric fence zone into up to 4 low voltage zones
- Can detect a short, cut, or if the monitored wire is touching a high voltage wire
- Optional LCD display — displays which zone is in alarm and other information
- Controlled and programmed via a JVA Keypad with similar codes to the JVA Z series
- Able to be integrated into third party access control and security information management systems at a variety of levels
- Enables the construction of systems from economical key switch operation to complex PC controlled applications
- Runs from 16Vac or 12V DC external source
- Built-in Battery Charger for optional 7aH back up battery
- Siren and Strobe switched 12V DC outputs for standalone operation
- 2 Control Inputs and 4 Relays with many programmable functions for low level integration with other systems
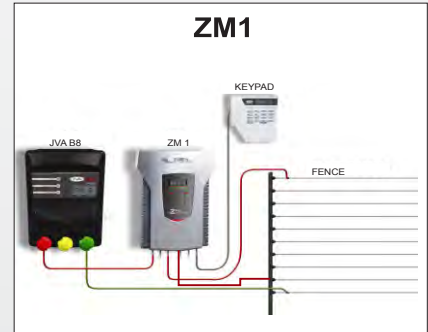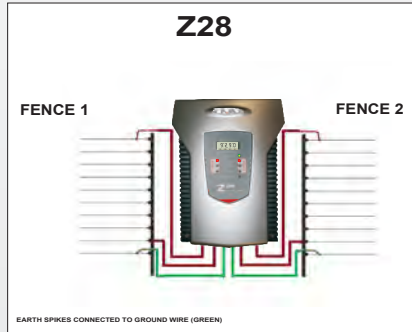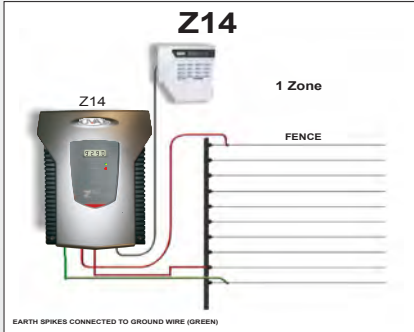- Fence connection are fully isolated from power and IO as per relevant part of ICE60335.2.76

High voltage
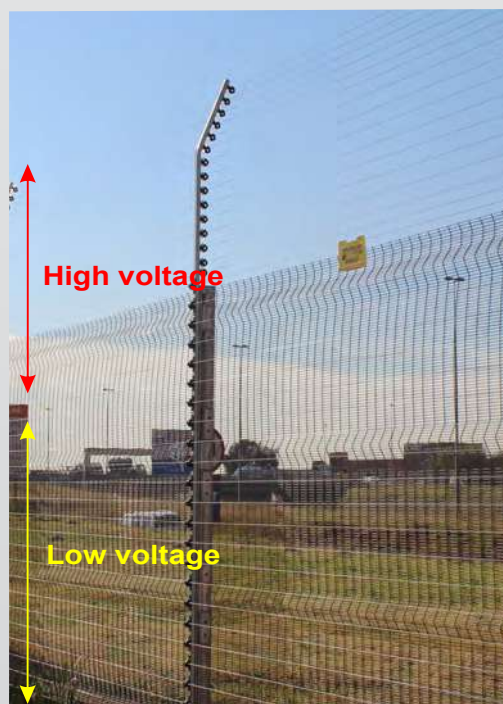
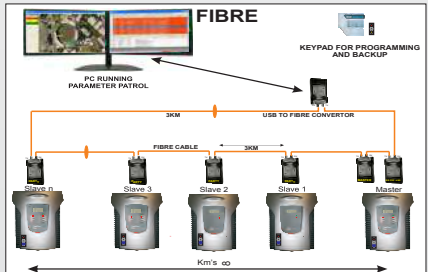**Low voltage**
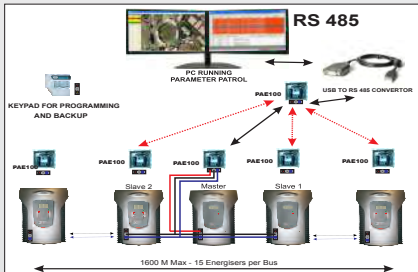
ZLM4 used to make fence
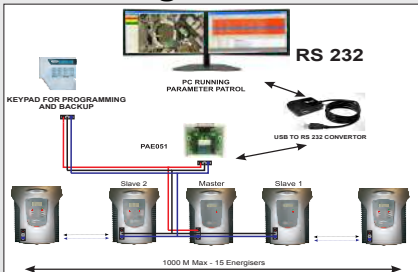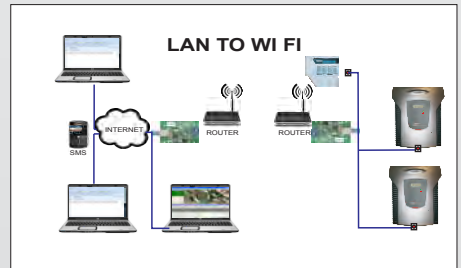*IEC 60335 / SANS 10222-3 Compliant*

JVA Multi-Zone Methods
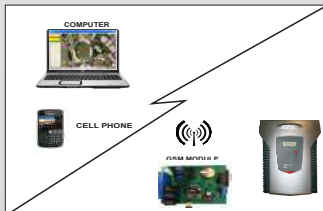
Basic High Voltage Stand-Alone Monitoring Options

Z14

Z14
1 Zone
FENCE

EARTH SPIKES CONNECTED TO GROUND WIRE (GREEN)

Z28

FENCE 1   FENCE 2

EARTH SPIKES CONNECTED TO GROUND WIRE (GREEN)

ZM1

KEYPAD
JVA B8   ZM 1
FENCE

Networking

RS 232

KEYPAD FOR PROGRAMMING AND BACKUP
PC RUNNING PARAMETER PATROL
USB TO RS 232 CONVERTOR
PAE051
Slave 2   Master   Slave 1
1000 M Max - 15 Energisers

RS 485

KEYPAD FOR PROGRAMMING AND BACKUP
PC RUNNING PARAMETER PATROL
PAE100   USB TO RS 485 CONVERTOR
PAE100   PAE100   PAE100   PAE100   PAE100
Slave 2   Master   Slave 1
1600 M Max - 15 Energisers per Bus

FIBRE

KEYPAD FOR PROGRAMMING AND BACKUP
PC RUNNING PARAMETER PATROL
3KM   USB TO FIBRE CONVERTOR
FIBRE CABLE   3KM
Slave n   Slave 3   Slave 2   Slave 1   Master
Km's ∞

LAN Monitoring TCP / IP

LAN TO PERIMETER PATROL

SMS
INTERNET
LAN

LAN TO WEB SERVER

SMS
INTERNET   LAN

LAN TO WI FI

SMS
INTERNET   ROUTER   ROUTER

GSM Monitoring   Radio Telementry   Low Voltage Monitoring

COMPUTER
CELL PHONE
GSM MODULE

COMPUTER
Base Station
Antenna
8 Channel Transmitter
Antenna
8 Channel Transmitter

LV Zone 1   LV Zone 2   LV Zone 3   LV Zone 4   LV Zone 5   LV Zone 6   LV Zone 7   LV Zone 8
HIGH VOLTAGE ZONE 1   **HIGH VOLTAGE ZONE 2**
Dual ZLM4 8 Zone System

Current Monitoring

COMPUTER

PC RUNNING PERIMITER PATROL

OR

GSM MODULE

JVA B12

JVA ZM20 DISPLAYS SECTORS

Feed 1
Feed 2
S1   S2   S3   S4 - S6

ALARM SHORT ON SECTOR 8

S9   S8   S7
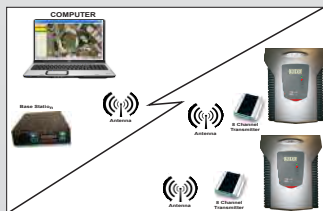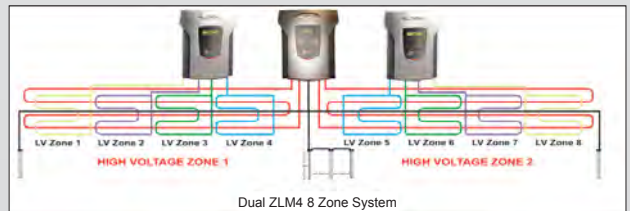
Pulse Synchronization

The synchronization of electric fence energizer pulses, powering different zones on a multi-zone electric security fence, is a necessary safety requirement to prevent someone from receiving a potentially dangerous shock. The danger arises when multiple zones, powered by different energizers, intersect each other as is often the case in urban security installations.

The zones may be electrically isolated from each other at the point of intersection. However, it is still possible for someone to touch two different zones simultaneously. Should this happen, the possibility exists that a person will receive a shock which will be either of a greater magnitude or of a higher frequency than is safe or legal.

Synchronized System - Fence Line

So the purpose of synchronizing the electric fence pulses is to limit their frequency and magnitude to ensure that these are within safe levels. By pulsing the energizers in a group simultaneously, it is possible to receive a shock only once per pulse cycle. If energizers were able to fire a pulse, irrespective of when energizers powering neighbouring zones were pulsing, it would be possible to receive a shock at a higher frequency than is considered safe. For instance, in the picture below, if it were not for synchronisation, a person at point A could get shocked by fence E1 and then by fence E4 a fraction of a second later.

Synchronised System – internal view

Synchronizing pulses also means that the magnitude of the energy passing through a person who touches two zones simultaneously is *less* than the arithmetic sum of the energy put out by the two energizers. Thus the energy passing through the person is kept within international safety standard requirements.
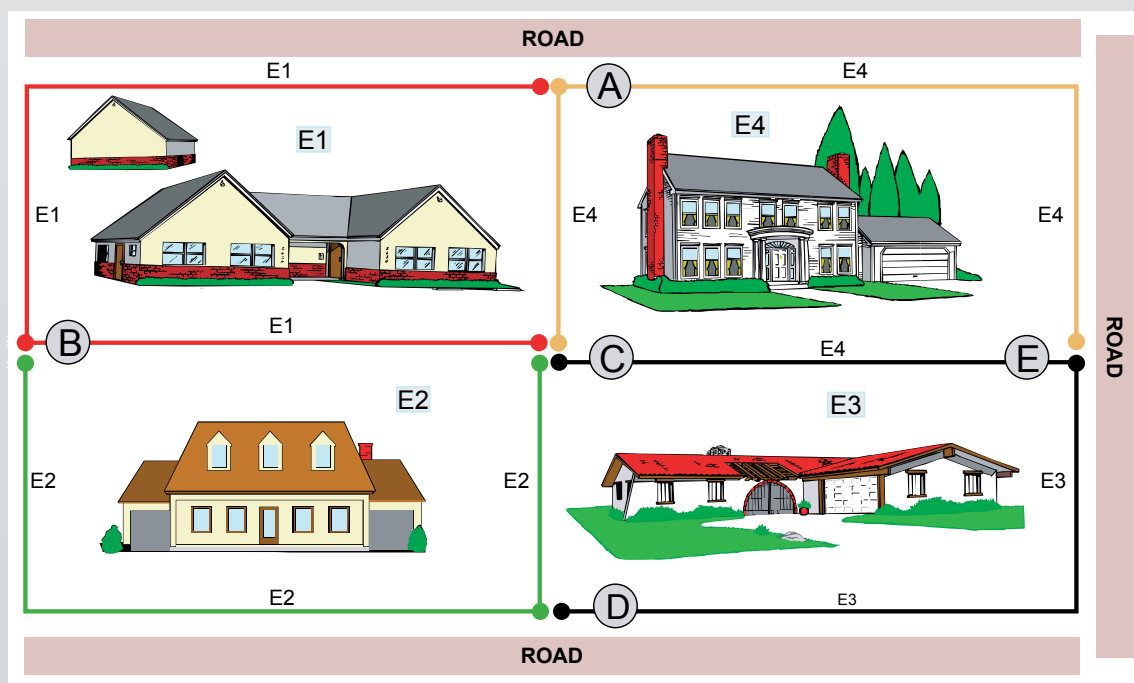
Group Synchronization Pulse Feature

In certain installations, such as walled estates, retirement villages, and large commercial and industrial complexes, it may be preferable to sectorize a fence line by installing a number of individual energizers and then linking them together into a group. In this group mode, while the Z - Range Energizers will each power a specific sector of fence line, they will now act as one energizer by pulsing in perfect syncronization with each other, while also ensuring that the energy output of the group meets legal requirements.

Notes

1. Each energizer within the group can be switched on or off individually and the group's master energizer can even be turned off without affecting the others.

2. A slave energizer will alarm if the keypad bus is broken between it and the master.

3. The keypad may be disconnected after programming the system, as it is not required for group operation.

Keypad

Master

JPAE223

LAN CABLE

PC Running Perimeter Patrol Software

Slave 1

Slave 2

Slave 3

Slave 4

Group Synchronized System

Communication Medium

Cables using RS232, RS485, Fibre Optic or Wireless installed along a fence line, provide the communication link between JVA energizers in a synchronized group system.

This form of communication enables energizers, positioned along the fence line, to communicate with, and be controlled by, a central control room where voltage levels and alarm situations can be monitored and recorded on a JVA Perimeter Patrol Management System.

Fibre Optic Cable or Wireless is the preferred option when long distance is required or when the site is situated in high lightning areas.

JVA Wireless System

Wireless communication enables transfer of information between two or more JVA devices without the need for hard wiring. The wireless transceivers operate on unlicensed frequencies of 2.4 and 5.8 Ghz.

Energizers are connected to a TCP/IP Interface which is then connected to the Wireless transceiver via Cat 5 cable. This creates a Wireless TCP/IP network which can be used to transfer voltage and alarm data to JVA Perimeter Patrol Software located in a control room, laptop, smart phone or tablet. This also enables remote monitoring of fence conditions from anywhere in the world.

The use of Wireless Repeaters, Omni Directional, 90 and 120 degree Sector Aerials, enables one to create point-to-multi-point communications that will cover a wide variety of applications. Wireless TCP/IP Networks offer further benefits, namely the addition of IP devices such as IP cameras which enable the user to view and monitor the electric fence zone.

The flexibility of wireless communications allows connectivity from 1 to 40Km and is a very cost effective solution. The wireless connectivity also reduces the likelihood of lightning damage to the entire system as the strike impact is isolated to the electronic equipment in the strike region only, as there is no physical cable conductor for the surge to pass through to reach the entire network.
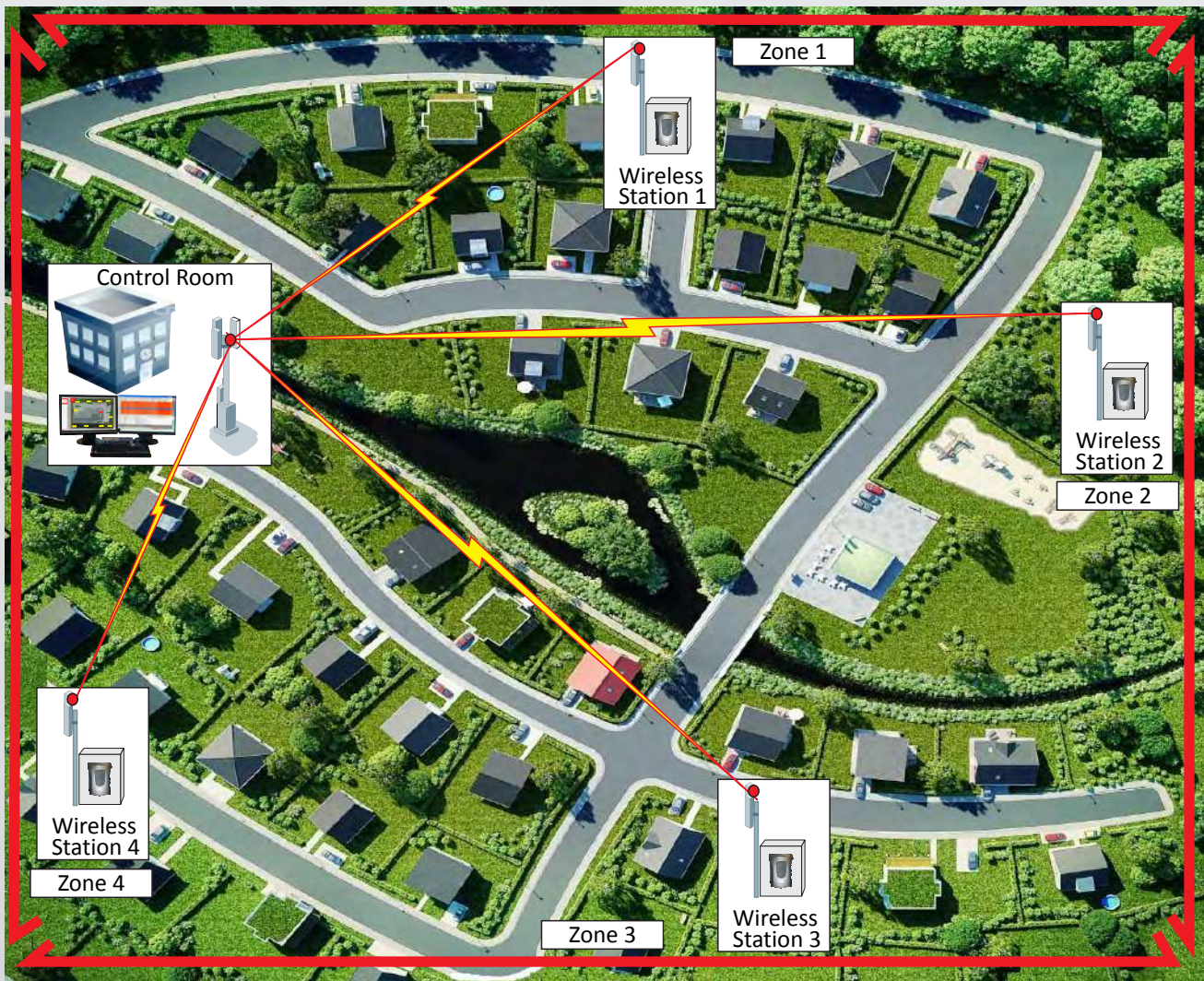
JVA Wireless Systems

Wireless Antenna Installation

Programming TCP/IP Board

Energizer Field Station

Programming Wireless Device

Wireless Antenna at Control Room

Wireless Repeater at Entrance

Wireless Repeater Station

Wireless Antenna Installation

Control Room

JVA Perimeter Patrol

This Perimeter Patrol Software is ideal for a standalone system where the user requires a visual representation of an electrified enclosure (mimic screen) and the ease of operation that a Windows compatible GUI application can provide. It can also be integrated into existing systems using RS232, RS485, Fibre Optic Cable, Wireless Communication, Local or Wide Area Network protocols. The JVA Perimeter Patrol Software Package enables one or more energizers to be monitored and controlled from a PC.

JVA Perimeter Patrol can be used to quickly view the status and voltages of electric fences and devices; alert and email the user when the fences, gates or other devices need attention; arm and disarm electric fences according to a custom schedule and remotely access electric fence systems. Icons representing the energized zones are positioned over an image of the site map. Status and voltage information from the various zones throughout the site are updated in real time from a remote or central location. The PC speaker or external *Input/Output* Interface Board can be used to generate an audible alarm.

JVA Perimeter Patrol Professional

JVA Perimeter Patrol Advanced adds PC connectivity, TCP/IP communications, SQL Database and Server Client options to the security electric fence, giving peace of mind that comes from being able to check that the fence is working from anywhere in the world.

JVA Perimeter Patrol Advanced runs on a dual screen Microsoft Windows based PC connected to JVA security Electric Fence Energizers via RS232, RS485, Fibre Optic Cable, TCP/IP Interface Cards and Wireless.

Dual Screen Perimeter Patrol Setup

Control Room, Johannesburg

JVA Perimeter Patrol High Level Interface

The High Level Integration Program (HLI) allows the user to take control of multiple Perimeter Patrol Sites and display all the sites on one control room screen. This is ideal for offsite management.

JVA HLI is a server which accepts incoming connections from multiple remote Perimeter Patrol sites and sends information back to them. In order to have high level integration, the JVA Range of devices must first be able to communicate with a JVA application such as a Perimeter Patrol running on a Windows based PC.

HLI Integration options available include a DLL based Software Developer's Kit (SDK) with documentation and basic control demo Windows Form application and OPC which will enable any third party OPC compliant GUI to access and control connected Z Series devices. For the systems integrator, the DLL approach is the fastest and most flexible method of making live connections between their applications and JVA Z Series's devices.

The JVA Perimeter Patrol High Level Interface (HLI) allows one to customize, monitor and control JVA Security Electric Fence systems from within one's own software environment. The software connects to the JVA Perimeter Patrol program over an encrypted TCP/IP Connection.

Client A

Perimeter Patrol Client A

Client B

Perimeter Patrol Client B

HLI Control Room

Client C

Perimeter Patrol Client C

Client D

Perimeter Patrol Client D

JVA Network Interface Boards
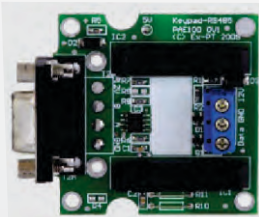
RS 485
JPAE100

The RS485 provides optical isolation to the communication link between Z-Series Energizers while utilising the RS-485 serial bus standards.
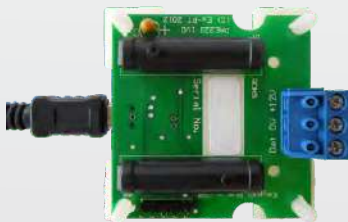
USB Adaptor
JPAE223

The USB Adaptor allows easy connection between a PC running Perimeter Patrol and a group of Z-Series Energizers. It also provides optical isolation to protect the PC from electrical noise generated on the Energizer Keypad Bus.
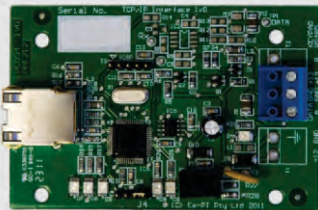
TCP/IP Board
JPAE212

The TCP/IP Board enables the energizer/s to communicate with any other TCP/IP device on the Local Area Network via a unique IP address.

The Internet protocol suite is the set of communications protocols used for the Internet and similar networks, and generally the most popular protocol stack for wide area networks. It is commonly known as TCP/IP, because of its most important protocols: Transmission Control Protocol (TCP) and Internet Protocol (IP).

GPIO
JPAE222

The General Purpose Input Output Board (GPIO) easily provides 3 standalone Inputs and 4 Outputs that integrate external equipment into the Perimeter Patrol System. The inputs can be used to monitor devices such as motion detectors, IR beams or door contacts, while the outputs can be used to turn on security lighting, sirens or even water pumps. It can also provide Output Expansion for Energizers by directly monitoring their status. Finally, the GPIO board can be configured to provide a combination of Perimeter Patrol Outputs and Energizer Expansion Outputs on the one board for greater flexibility.

Ethernet GPIO
JPAE224

The Ethernet General Purpose Input Output Board (GPIO) is a combination of the PAE212 TCP/IP and PAE222 GPIO boards that provides 3 standalone Inputs and 4 Outputs that easily can monitor either Digital or Analogue devices such as temperature sensors, pressure sensors and water level indicators, while the outputs can be used to turn on security lighting, sirens or water pumps.

JVA GSM Communicator

Alarm

Remote Cell Phone warning service

SMS

Web

EVENT LOGGIN

PASSWORD ACCESS & LEVELS

CUSTOMIZED SMS'S & E-MAILS

MULTIPLE SITES & ENERGIZERS
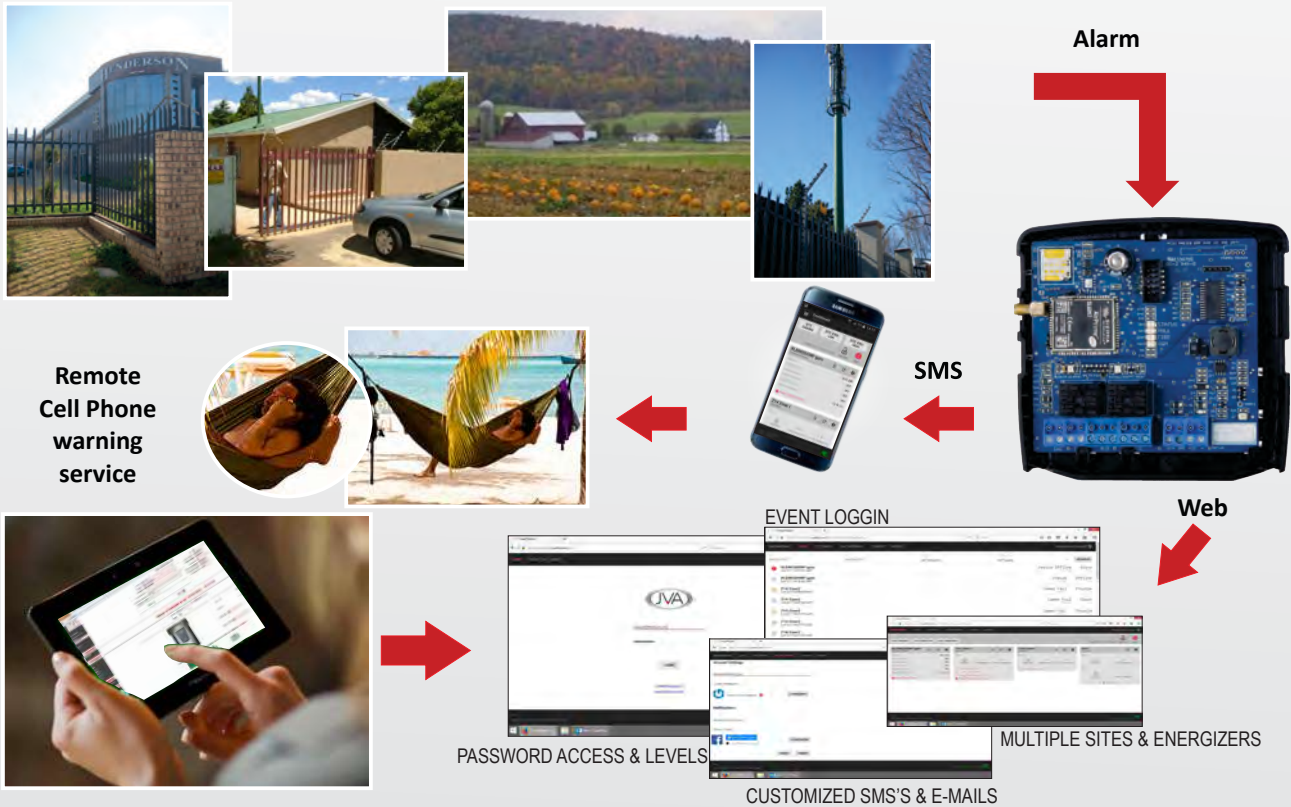
JVA's new GSM module is compable with all of the JVA range of energizers. The module is designed to interface seamlessly with JVA's own internet pla orm to allow the end user to monitor and control his electric fence energizer. More specifically, the end user may log in using his personal user name and password to configure the module to do the following:

- Real-Time Notifications (Get email and SMS notifications of Alarms
-)Site Sharing (Share your sites with others, with user access controls)
- Monitor Site's History (Easy search history of events and who had access)
- Status of your sites at a glance (Will tell you if a site is off line or whether there are active alarms)
    - Power supply to energizer
    - Feed and return fence voltages
    - Tamper conditions
    - Gate statuses
    - Battery condition
- Clean, crisp, User Interface on all JVA Devices (Displays information you need, whether on your mobile or desktop PC)
- Can be connected to up to 15 Z series devices
- Two Output Relays (30V DC 8 amps)
- Two Inputs (Dry contact or active pull down)
- Micro Sim Card required
- Monthly subscription includes 10 free SMS's and free Cloud Usage
- There is a Cloud Router Free pack which will allow a person to merely View a site; view a device (s)
- There are three user levels, Admin/Supervisor/Normal
- By using a JVA ZM1, any energizer make can be brought into the cloud management system

Electric Fence Applications

Domestic Applications

Aesthetically pleasing electric fences provide security and peace of mind for

… retirement villages …

… residential complexes …

… and private dwellings.
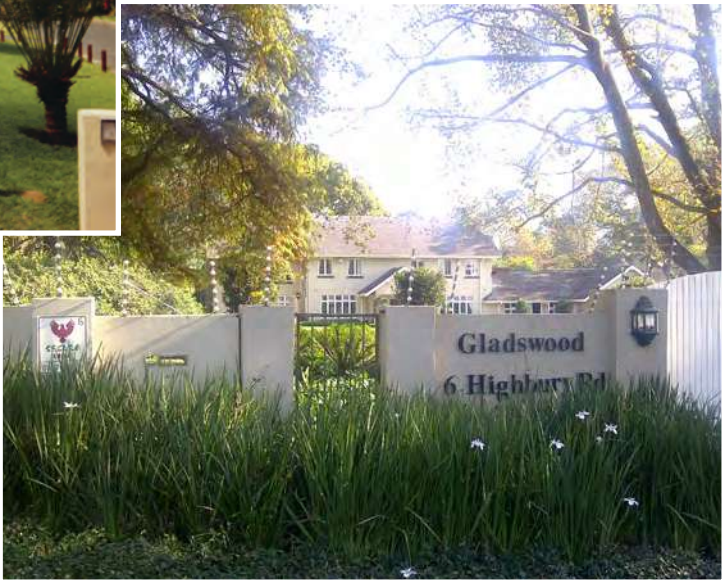
Commercial Applications

Monitored electric fences are being used extensively on commercial sites to protect company assets and personnel:

... office blocks ...

... wholesalers ...

... garages ...

... vehicle parks.

Industrial Applications

No site too big. No site too small. From communication towers to large industrial complexes, monitored electric fences are proving the ideal solution for:

… communication towers …

… factory complexes …

… petro-chemical refineries …

… general industrial plants.

Pirates in for a Shock

Over fifty JVA Z14 energizers have been purchased by a major shipping company, plying the African shipping lanes to protect their ships against pirates. A simple cantilevered barrier, erected around the ship's deck, is proving highly effective in preventing pirates from boarding their vessels at sea. The barrier is also an effective deterrent to would-be thieves when the ships are docked in a harbour.

Around the World with JVA

Domestic security in Las Pinas, Philippines

Prison security, South America

*Installation team,
Papua New Guinea*
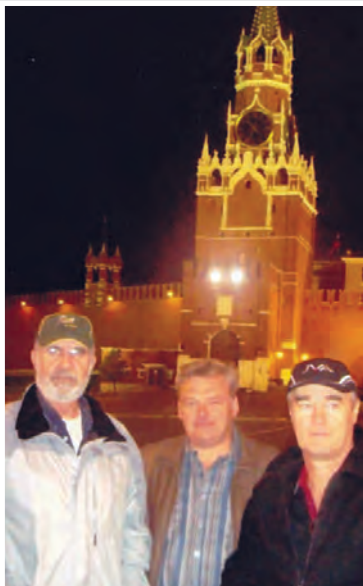
JVA delegation to Moscow

Security fence installation, India

*JVA security installation,
Africa*

Around the world with JVA (Continued)

Residential Fence, Pakistan

Estate Fence, Hartebeespoort (SA)

Prison Fence, Kimberley (SA)

Domestic Fence, Kyalami (SA)

Prison Fence, USA

Chicken Farm, Swaziland

Domestic Fence, Panama

Commercial Fence, India

Estate Fence, Midrand (SA)

UN Embassy, Senegal

Vehicle Storage, UK

Farm security, SA

Security Fence, Santiago

Container Depot, NZ

Power Station, Chili

Petrol Storage, USA

Residential Fence, Johannesburg (SA)

Petro Chemical Plant, Nigeria

Y24 (2.4m)
Y25A (3m)

Iscor Y-Standard
- The strong, convenonal, Y -Standard, can be fi ed with Y-Standard or bobbin insulators
- Can be used as intermediate supports for security and wildlife electric fences
- Available in 2.4m and 3m lengths and in black or galvanized

Y005 (2.4m), Y027 (3m)

JVA Big Hole Y-Standard
- This strong, custom manufactured, standard has larger holes punched through it to take the plasc Pop-em and JVA Y-Standard insulator
- With the Pop-em insulator the wires run through the Y-Standard which makes it difficult to push them apart
- Available in 2.4m and 3m lengths and in black or galvanized

EY-0900 (0.9m),
EY-1800 (1.8m),
EY-2100 (2.1M),
EY-2400 (2.4m), EY-3000 (3m)

Rolled Profile Standard
- This lighter, hot-dipped, galvanized profile pole can be used with Pop-Em or Y-Standard insulators
- Supplied in 1mm or 2mm thick rolled
- Can be used to reinforce palisade, or as a light, intermediate, freestanding standard
- Available in 0.9m to 3m lengths

Y023P, Y024P

Security Corner Poles & Stays
- JVA Electric Fence Centres stock fully galvanized 96mm x 2mm poles in 2.4m and 3m lengths
- The poles are drilled with 2 holes at 90 degrees 10mm apart for S-Hooks
- The posts are used to turn corners

Y023P, Y024P

Security Inline Posts & Stays
- JVA Electric Fence Centres stock fully galvanized 96mm x 2mm poles in 2.4m and 3m lengths
- The poles are drilled with 1 hole at 10mm apart along the post for S-Hooks
- The posts are used for inline straining and at starng poin ts and gates

Custom Designed

Electro Palisade
- As the name implies – this is palisade with a bite
- Custom built, hot-dipped galvanized, or painted palisade
- Specially designed insulators enable one to electrify and monitor the palisade fence

Wall-Top Brackets

Ndlovu Fencing (Pty) Ltd has a well-equipped steel fabricaon factory and powder-coang plant. These facilies enable us to quickly and economically manufacture our standard, or custom-designed, wall-top brackets. Wall-top brackets can be either hot-dipped galvanised or powder-coated depending on a customer's requirements. Ndlovu Fencing can also custom manufacture aluminum or stainless steel, wall-top brackets. Customized orders require approximately seven working days for compleon. All JV A Electric Fence Centres hold a wide variety of wall-top fencing brackets in stock at all mes.

5 & 6 Wire PVC Round Bar
- 10mm PVC coated, electro galvanized round bar
- Available in black or white

PVCP5   PVCP6
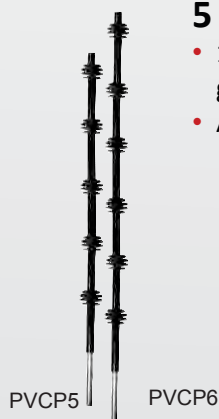
5 & 6 Wire Round Bar
- 10mm HD galvanized or powder-coated round bar
- Fied with 5 or 6 bobbin insulators
- Very economical and easy to fit

R104   R105

F101   F102
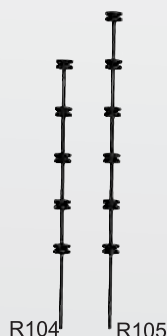
5 & 6 Wire Flat Bar
- 20mm x 5mm flat bar wall-top brackets
- Available straight or angled, in black or white powder-coated or HD galvanized

6, 8 & 10 Wire Square Tube
- 20mm square tube wall-top brackets for the more quality-conscious installer
- Brackets can be fied with black or white Pop-Em, Flat-Bar, or Nail-On insulators
- Can be straight or angled, HD galvanized or powder-coated

X100   X102   X111

X107*
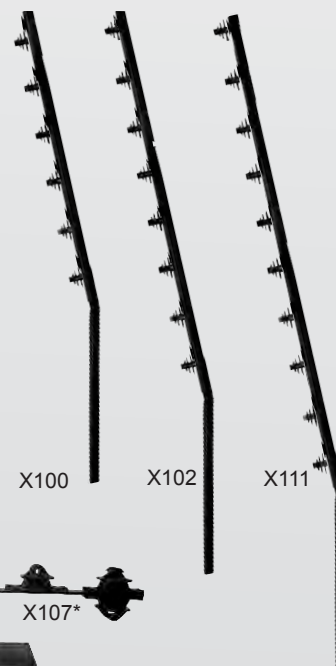
5 & 6 Wire Profile Bracket
- For use on flat topped walls
- Angled profile for added security
- Bracket is fied with base plate for secure aachment to the wall
- Available in black or white, powder-coated or HD galvanised

X112   X105

5 & 6 Wire T-Bracket
- Ideal for an unobtrusive fence on top of a high wall
- Available in black or white powder-coated or HD galvanised

Y101   Y102

Lug   Stay Clamp
- This lug is fied to one end of a stay to facilitate aaching the stay to a wall
- The stay clamp is used to aach the top of the stay to a round bar bracket

600mm & 750mm Stays
- 8mm round bar stays are used to stabilize, strain and corner round bar, wall-top brackets
- The stay can be supplied as is, or with a lug welded onto it
- Available in black or white, powder-coated or HD galvanised

ST3   ST1   ST2
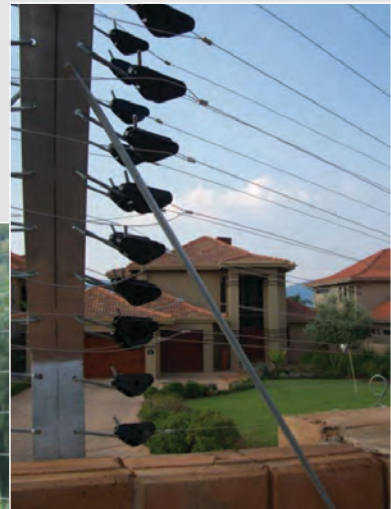
Insulators

Strain Insulators

N679
Plastic Jumbo Strain
(UV stabilized plastic)
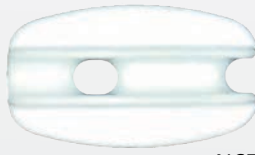
N678
Jumbo Strain Security
(Hardened plastic for higher tensioning)

N681
GFT Strain
(Glass fibre, DMC fire resistant)

N676
Porcelain Bullnose Strain
(Fire-proof)

Intermediate Insulators

N671
Plastic 10mm Round Bar Bobbin
(UV stabilized plastic)

N683A
Gate Strain and Combi Bobbin
(UV stabilized plastic)

N686
Porcelain Bobbin
(Fire-proof)

N685
Large and Small GFT Bobbin
(Glass fibre, DMC fire resistant)

N673E
Export Nail-On
(UV stabilized plastic)

N673
Nail-On
(UV stabilized plastic)

N690
Y-Standard
(UV stabilized plastic)

N690JVA
JVA Y-Standard
(UV stabilized plastic)

N672
Flat Bar Bobbin
(UV stabilized plastic)

N672
Anti-Twist Flat Bar Bobbin
(UV stabilized plastic)

N691
Pop-Em 19 — 25mm
(UV stabilized plastic)

N691D
HD Pop-Em 25 — 55mm
(UV stabilized plastic)

N521
GFT Buzz Bar
(UV stabilized plastic)

N692
Palisade Bobbin
(UV stabilized plastic)

N698B
Ring Insulator LD

N698
Ring Insulator HD

(Square tube or Wall-mount screws supplied separately)
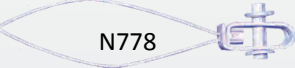
Tensioners
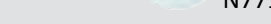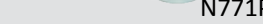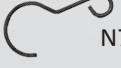
Walltop Wire Tentioners
(1mm - 1.6mm wire)

N791
N791B

Security Spring
(304 stainless steel
and Nylon)

N784
N691-2P

Compression Nylon Spring
(304 stainless steel)

N779
N778

Mini Donza
(Galvanized or
304 stainless steel)

N785

JVA Mini Nylon Tweaker
(Ideal for coastal
installaons)

N795

Midi Tweaker
(Nylon flush-mount
for walls and square tube)

N794

Mini Tweaker Combo
(304 stainless steel
and Nylon)

N789

Tweaker Tool
(Nylon multi-tool)

N786

Maxi Tweaker
(Strong nylon quad
securing tensioner
1.6mm - 2.2mm wire)

Free-Standing Fence Wire Tensioners
(1.6mm - 2.24mm wire)

N770P

Plastic Combi
(Hot-dipped galvanized
or 304 stainless steel)

N775G
N771G

GFT Combi
(Hot-dipped galvanized
or 304 stainless steel)

N775P
N771P

Porcelain Combi
(Hot-dipped galvanized
or 304 stainless steel)

N760

Atlas
(Hot-dipped galvanized)

N780
N781

**Combi & Jumbo Strain
S-Hook** (6mm hot-dipped
galvanized or stainless steel)

N777

Spring Hook
(2.5mm 304 stain-
less steel)

N790

Mini Tweaker S-Hook
(3mm 304 stain-
less steel)

N788

Maxi Tweaker S-Hook
(4mm)

Line Clamps
Ensure good electrical connections

N499

Ferrule
(4mm)

N500

Ferrule
(6mm)

N721S

Mini
(Mech Galv)

N721M

Medium
(Mech Galv)

N740

Standard
(Hot-dipped)

N742HDG

U-Bolt
(Hot-dipped)

Accessories

Earth Loops (Triggers alarm if fence wires are separated)

E108

E105

E102

E106

Bi-Polar Security SIS Series Monitor Loop
Allows for earth and live monitoring or Bi-Polar monitoring

Intermediate Earth Loop
316 Stainless Steel or
4mm Fully Galvanized

Ground or Wall-Mounted Earth Loop
316 Stainless Steel or
4mm Fully Galvanized

Earth Spikes

E103

E101

E105A

Reinforced Bar with Clamp
120cm/150cm
Hot-Dipped Galvanized

Angle Iron with Clamp
120cm/150cm
Hot-Dipped Galvanized

SABS with Clamp
120cm Copper-Coated

Under-Gate Cable

N730S

N730H

SN730

HT Cable So, Slimlineą
For wall-top applicaons
Available in 50m, 100m,
200m and 1000m

HT Cable – Hard
For freestanding applicaons
Available in 100m,
200m and 1000m

HT Cable Aluminium
Low resistance for long lead outs
Available in
200m and 1000m

Fencing Wire

N735

N751, N752, N753

N736
grades 1 mm – 157m/kg

N737
N738

Braided Wire
High tensile, low resistance
Available in 1.2mm, 1.5mm and
2mm Galvanized, Stainless Steel
or Aluminium 1.2mm — 135m/kg

Aluminium Wire
Low resistance
Available in 1000m
rolls in 1.6mm;
2.0mm and 2.5mm

Stainless Steel Wire
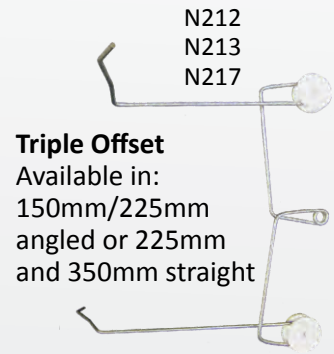Available in 1 mm to
3mm in 304 and 316
grades 1mm — 157m/kg

High Strain Steel Wire
Full range available in
light or double galvanized
2.24mm 50kg 1650m
2.00mm 50kg 2000m

Off-Set Brackets

Single Offset
Available in: 225mm, 350mm and 450mm lengths
Also available in: 225mm offset to take a Nail-On insulator

N201
N202
N203

Double Offset
Available in: 225mm and 350mm lengths

N210
N211

N212
N213
N217

Triple Offset
Available in: 150mm/225mm angled or 225mm and 350mm straight

Fencing Tools

N703

T004

N702
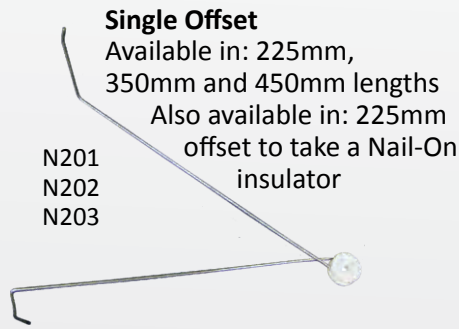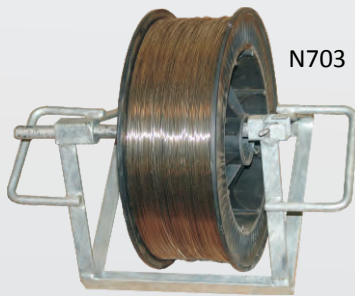
Braided Wire Reel Holder
For use with Braided and S/S Wire

Rotosure Measuring Wheel
Fence-line measurement, accurate to the cm
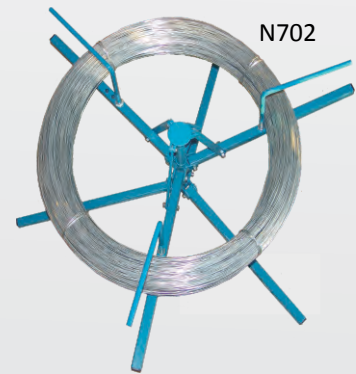
Spinning Jenny
For use HSS Wire

Enclosures

SB300W

Batteries

AA – B7

AA – 56

AA – 76

NS33B

7-Amp/Hr Battery

56-Amp/Hr Deep Cycle

105-Amp/Hr Deep Cycle

Smart 15 12V Battery Charger

Solar Panels

Solar panels utilize premium polychrystalline cells secured in heavy duty aluminium frames. Polychrystalline panels provide superior efficiency of sunlight to electrical current, resulting in faster charging of batteries. A full range of solar panel sizes from 10 watt to 140 watt are available.

140W
100W
80W
50W
40W

N803   N804   N813   N810   N820
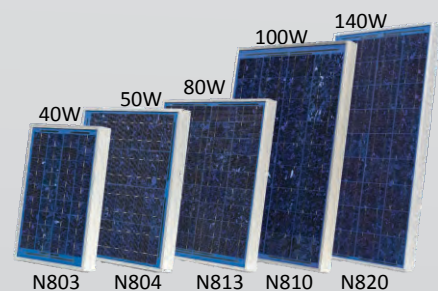
Accessories (connued)

Warning Devices

N704

Fence Flashing Lights

N352

Strobe Light

N527

Siren (10w/15w – 12v DC)

Customized Signs

N699

Light Duty Wall-Top Warning Sign
UV stabilised with double clips

N701

Heavy Duty Free-Standing Warning Sign
UV stabilised with double clips

Gate Contacts

N524

Standard Gate Contact

N525

Series Gate Contact

N526

In-Line Gate Contact

N526B

N526SAG

Slide-Across Series Gate Contact

Switches

S710

Swivel Cut-Out Switch

S711

Heavy Duty Cut-Out Switch

N705

Flood Gate Controller

N514

Radial Key Switch

Tools

MTS3812

Concrete Nipper

RIC0670

Raco Mini Bolt Cuers

T002

Professional Crimper

HON7038

Convenonal Fencing Pliers

Lightning and Surge Protecon

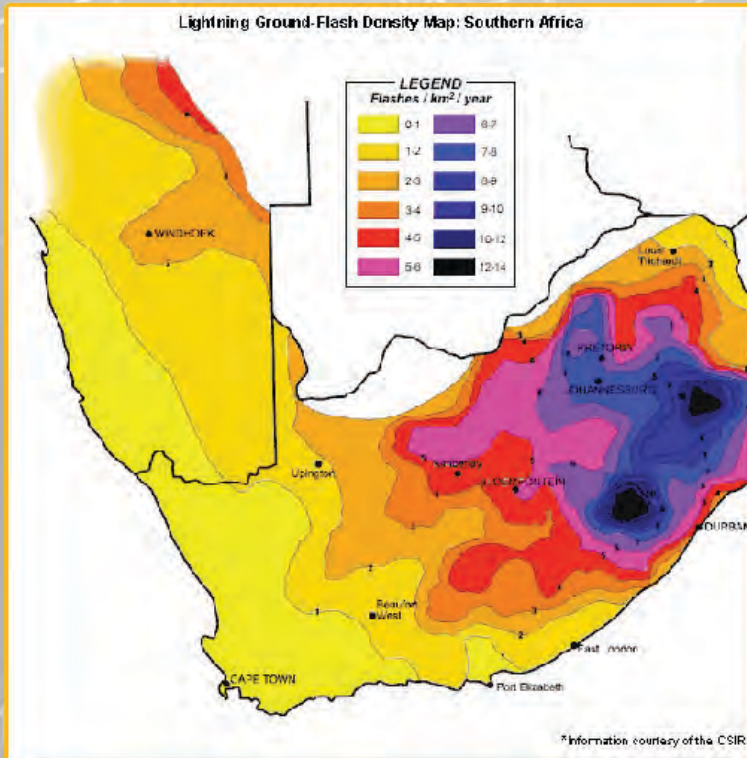Lightning is the most powerful and most destrucv e 'natural enemy' of electric fences and while one can take precauons ag ainst it, no lightning protecon kit will t otally guarantee protecon ag ainst a strike. It will however considerably help reduce the risk and damage to an energizer.

Lightning Ground-Flash Density Map: Southern Africa
*Information courtesy of the CSIR

JVA Fence Line Lightning Diverter

Cover OFF   **Cover ON**

The unique, V-shaped JVA Electric Fence Lightning Diverter is fully SANS 10222-3 compliant and is ideal for incorporation into lengthy agricultural and wildlife fences in areas where lightning is problematic.

Features:
- Fence line Lightening Diverter
- Ideal for installation on long fence lines
- Choke and Arc gap built into one diverter
- Large protected terminals
- Unique V shape favours lightening's preference for shortest straight line route to ground
- Adjustable Arc Gap
- SANS 10222-3 Compliant (20KV Protection and Terminal Touch Protected)
- Waterproof design for external installation

JVA Dual Lightning diverter

AT LAST, a lightning diverter that can handle both the Feed-Out and Return circuits of a security energizer! Also, its Two-Stage protecon c an withstand a lightning surge of up to 2000 Amps, liming the v oltage return to the energizer to an acceptable 15kV. This Dual - Channel Diverter is ideal for any JVA Security Energizer, especially on security fences in areas experiencing high lightning intensity.

Features:
- Feed and Return wiring protection
- Affordable sacrificial security component
- One Diverter required for most installations
- Provides a highly visible indication of a lightning surge
- Large sturdy terminals for solid under-gate wiring
- Dust resistant design and cover for internal use only

220V Under/Over Voltage Protecon Plug

In the event of an over or under mains power supply to the energizer, this product completely protects the energizer by temporarily disconnecng the energizer form the mains supply.

C016

Cover OFF   **Cover ON**

Wireless Beams

www.**ROBOGUARD** Outdoor Beams .co.za

The Roboguard is a reliable and affordable outdoor surveillance system. It is an ideal add-on system to any electric fence or alarm system, or as a complete stand-alone security system. The Roboguard Headquarters can accept signals from up to 8 base locations, thus easily dividing a property into up to 8 clearly identifiable zones.

Roboguard Beams
ROB001

Portable Headquarters
HQ001

Wireless Keypad
DP002

Keyfob Transmitter
TRX005

- Roboguard dual-beam system is state-of-the-art equipment and technology
- The portable Headquarters can monitor up to 8 sensors and will give both an audible and visual alert
- The head quarter can operate off mains power via a power adaptor and has a 24-hour battery backup
- The sensors are supplied in black, white or green and have internal batteries with a ±2-year lifespan
- The Headquarters monitors any tampering with the sensors, as well as battery levels and possible communication problems
- The Roboguard sensor is weatherproof, tamper-proof, robust and impervious to lightning and UV damage
- A basic kit includes a headquarters and one sensor (guard) to which additional sensors can be added
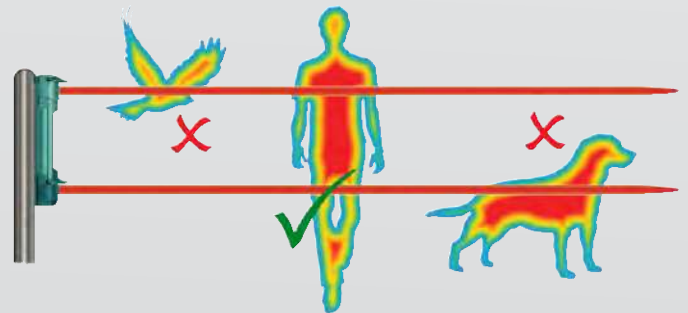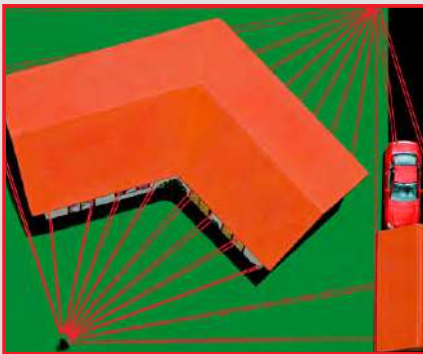
Roboguard

A battery-operated, dual-sensor, outdoor movement detector designed to detect intruders and wirelessly transmit the information to a Roboguard Base station.

Portable Headquarters (HQ)

A portable 8-zone, 4-output, base-station is used to receive and announce signals from up to 8 Roboguard Sensors. The HQ can also be wired to a siren and/or an up-line alarm panel.

Alarm Interface

The Roboguard alarm interface is used to interface up to four Roboguards with individual intruder detect, tamper and status LED's. It is designed to connect easily to a burglar alarm panel.

Receiver

A separate receiver that provides the data stream for the Keypad and for the repeater station

Keypad

A 4-zone, 4-output fixed Roboguard base-station is used to interface Roboguards into an existing alarm panel — ideal for larger installations that require more than 8 guards.

Transmitter

A Roboguard Transmitter is capable of transmitting roboguard intruder and roboguard remote alarms in response to triggering from externally connected systems.

Keyfob Transmitter

A handheld remote transmitter is used as a panic button and remote control for radio base-stations. 4-button and 6-button versions are available.

Roboguard Beams   Roboguard Alarm Interface   eGPIO Board   Perimeter Partrol System
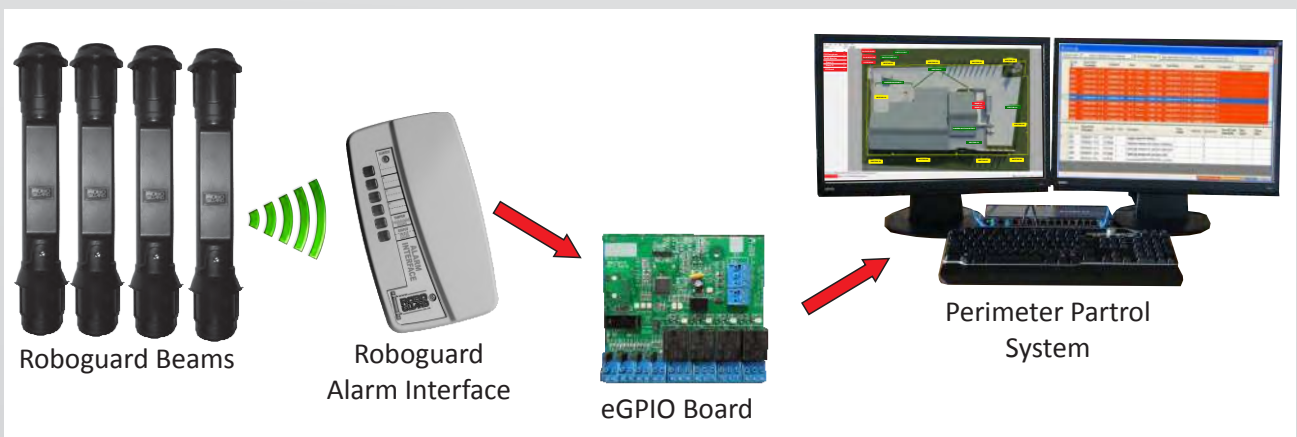
Diagram of a Roboguard Interfaced with a Perimeter Patrol System

JVA Agricultural Energizers High Power LCD Energizers

JVA Mains/Battery High Power LCD Energizers

The NEW MB8, MB12 and MB16 IP Energizers® have 8, 12 and 16 Joules output energy respectively and can now be controlled from anywhere in the world using your mobile phone App. The energizer's have a LCD display to show fence voltage and Joules. All these newly styled energizers include an audible warning if there is a serious fault on the fence and Auto-Sync TM technology, all of which help keep your fences safe.

These universal or Mains/Battery powered energizers give you the added option of running on 12V should you not always have 240V available.

Some Features of our LCD Range

- Mains powered
- Battery powered
- Digital control
- Smooth Wave shape
- Power on demand
- LCD showing Kv and Stored Energy
- Ant and moisture protection
- UV stable enclosure
- Overload indication (Audible and Visible)
- Lightning protection
- Reverse battery protection

- Self-reseting fuse
- Solar capability
- Low battery indication
- Over discharge battery protection
- Battery life maximization
- Battery voltage measurement
- Power adaptor included
- Audible alarm
- Bi-Polar output
- 3-year warranty.

	MB16	MB12	MB8
Stored Joules	23J	18J	12J
Energy Output	16J	12J	8J
Power Consumption at 12.5Vdc	1.6 A	1.25 A	0.9 A
Recommended Fence Line Distance	12Km	10Km	8Km

JVA Agricultural Mid-Range LED Energizers

JVA MB Mid-Range Battery and Mains LED Energizers

The MB1.5, MB3 and 4.5 Electric Fence Energizers have between 1.5 and 4.5 Joules output energy per pulse, to power up to 45km of fence. This innovative design means you can have versatile portable power from a 12V battery when needed, or run it from 240Vac mains electricity where that is available. Optional JVA Solar Kits and external batteries are available on request to make these units fully portable.

	MB4.5	MB3	MB1.5
Stored Joules	6J	4J	2J
Energy Output	4.5J	3J	1.5J
Power Consumption at 12.5Vdc	0.5A	0.3A	0.15A
Recommended Fence Line Distance	4Km	3Km	2Km

JVA Portable Energizer Range

Solar Range Energizer SV10 & SV5

The SV10 & SV5 energizer are ready to go straight out of the box! A reliable built-in rechargeable ba ery and integrated solar panel means that the JVA Solar Energizers are totally portable, without the need for extra ba eries and hardware. The Energizers have an LCD display so that the user can see the Voltage and Joules on the fence at a glance. Just slide the energizer onto any Y-standard, a ach the fence and switch it on. The SV10 energizer has 1.0J output energy and the SV5 energizer has 0.5J output energy per pulse. They are suitable for permanent and temporary fencing.

Solar Range Energizer SV2

The SV2 energizer is ready to go straight out of the box! A reliable built-in rechargeable ba ery and integrated solar panel means that the JVA Solar Energizers are totally portable, without the need for extra ba eries and hardware. Just slide the energizer onto any Y-standard, a ach the fence and switch it on. The SV2 energizer has 0.2J output energy per pulse.

Portable RSG1

The RSG1 is a portable 0.1J electric fence energizer with a built in rechargeable ba ery, suitable for strip grazing and any temporary fence applicaons up to 1km. The RSG1 is packaged with both a 240V mains power adaptor and a 12V "cigare e" adaptor to recharge it. It will run for over two weeks between re-charges.

JVA Pet 100 Kit

Portable Pet Energizer

The Pet 100 energizer has the opon of being mains or ba ery powered. It is a nice compact design with a UV stable enclosure. For larger dogs and longer distances, pet electric fence kits can be made up by using strip grazing accessories and energizers.

After Sales Service, Repairs and Consultancy

In security, product reliability and fast and efficient back-up service is paramount. So, an installation is only as good as the security company's ability to provide sound products and service. Apart from its certification, JVA also offers a two-year warranty on its products. Ndlovu Fencing is also proud to be able to offer a 24-hour, turn-around on repairs to JVA products at their in-house repair and service facilities at Ndlovu Fencing's Electric Fence and Security Centres nationwide.

In addition, a country wide JVA dealer network is ever present to provide fast and efficient in-field installation and back-up service. Further, should an accredited JVA dealer not provide satisfactory back-up service at an installation where he has installed and commissioned JVA products, the company undertakes to meet all obligations relating to those JVA products that have been installed. While fence maintenance, fault finding, and fence repairs are excluded from this undertaking, the company does offer consultancy services and advice on where and how best to solve fencing challenges. With over forty years experience in the field of electric security fencing, Ndlovu Fencing's management is proud still to be servicing customers it first sold to in 1978.

Training

In addition to having trained sales personnel and in-house service technicians at all our distribution outlets, JVA also has fully equipped training facilities with trained facilitators where regular training courses, ranging from a basic introductory course on electric fencing to installation techniques, legal requirements, to advanced technical training on our wide range of products is offered. We also run in-house customised training courses for specialised groups at locations such as venues serving security associations, farmer's security forums, schools, neighbourhood watch's and game reserves.

Ndlovu Fencing offers a comprehensive SAQA registered course and examinaon to qualify as an installer registered to issue a Cerfic ate of Compliance. (COC)

Ndlovu Fencing (Pty) Ltd, JVA's African distributors, are leading role players in the seng up of the current South African Electric

Fencing Standards and Regu-laons and Ndlovu' s management are members of associaons such as S ASA, SABS Standards Comi ee, the Electric Fence and Components Manufacturer's Associaon and the South African Game Fencing Associaon.

Ndlovu Fencing and JVA's close associaon with its vast range of internaonal trading partners means that the companies keep abreast with the latest internaonal trends, developments, and requirements.
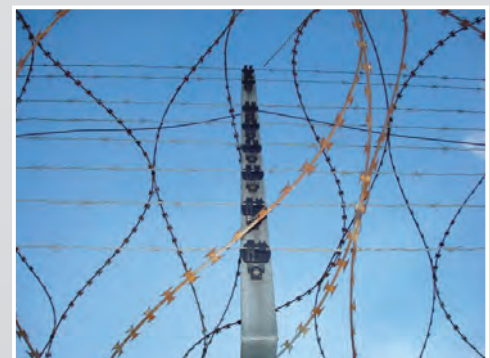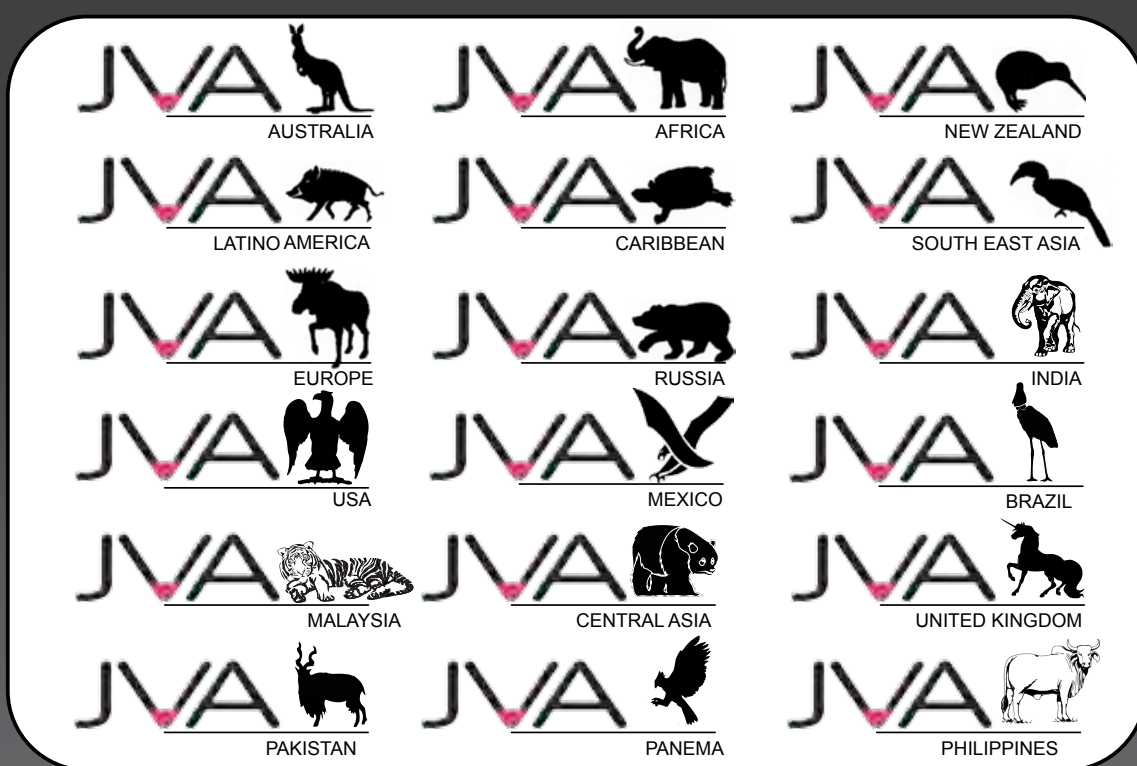
Do's and Dont's

Do's

- Do select the right energizer for the job on hand. Determine the fence load and check that the energizer can cope with this load.
- Do make sure that your system is well earthed.
- Do place the energizer in a safe locality and out of reach of children.
- Do secure all joints with either line clamps or ferrules.
- Do seal the joints to eliminate any corrosion.
- Do be conversant with the law and codes of practice applicable to electric fencing (SANS 10222-3).
- Do make sure that there are no local by-laws that may influence your installation.
- Do make sure that your client is fully conversant with the workings of the unit you have installed.
- Do make a sketch of your layout and of the wiring configuration of the fence. Retaining this will facilitate fault finding and maintenance.
- Do make sure that your supplier can service the unit you have chosen and that spares are readily available.
- Do make sure that your installer is a registered installer and ask for references.
- Do make sure that you receive a *Certificate of Compliance* from the installer.
- Do make sure that the energizer you have installed is certified and meets the required statutory safety requirements (SANS 60335-2-76:2006).
- Do consult your neighbour before installing an electric security fence. Assuming you meet all the legal requirements, s/he has no reason to object.
- Do let only suitably qualified people operate your system and limit the number of key holders.
- Do make sure that the energizers are synchronized where there is the possibility of a person touching two fence lines powered by two different energizers.
- Do display warning signs as per the legislation.

Don'ts

- Don't electrify barbed wire
- Don't include H.T. feed-out wires and H.T. return wires in the same conduit.
- Don't include H.T. wires in the same conduit as low voltage communication cables, as you will encounter induction problems.
- Don't combine unlike metals, i.e. copper earth stakes attached to galvanized wire, as electrolysis will occur and your wires will soon corrode away.
- Don't have an overhang that encroaches on your neighbour's property or over municipal property.
- Don't install two energizers on the same fence line.
- Don't earth your energizer to a mains or telecommunicaon   earth system.
- Don't attach your earth to taps, dairy, or shower pipes as you could experience induced shocks.

JVA	AUSTRALIA	JVA	AFRICA	JVA	NEW ZEALAND
JVA	LATINO AMERICA	JVA	CARIBBEAN	JVA	SOUTH EAST ASIA
JVA	EUROPE	JVA	RUSSIA	JVA	INDIA
JVA	USA	JVA	MEXICO	JVA	BRAZIL
JVA	MALAYSIA	JVA	CENTRAL ASIA	JVA	UNITED KINGDOM
JVA	PAKISTAN	JVA	PANEMA	JVA	PHILIPPINES

JVA products manufactured and distributed by Ndlovu Fencing T/A Stafix Electric Fence and Security Centres

Bloemfontein
Kolbe Laan 36
Oranjesig, Bloemfontein
Tel: 051 448 6695/6

East Rand (Jet Park)
219 Jet Park Road
Aerostar, Johannesburg
Tel: 011 397 3507

Klerksdorp
72 Central Avenue
Flamwood, Klerksdorp
Tel: 018 468 8273

Pinetown
7 Suffert Street
Pinetown
Tel: 031 702 6351

Pretoria
1185 Steve Biko Road
Wonderboom South, Pretoria
Tel: 012 335 4290

Cape Town
Unit 15, Viking Business Park
Epping Industria, Cape Town
Tel: 021 534 5056

East London
Shop 8, Paphos Park
Devereaux Avenue
Tel: 043 726 6652

Nelspruit
D1, Waterfall Park, 15 Rapid Street
Riverside Industrial Park, Nelspruit
Tel: 013 752 7152

Polokwane
9 Suez Street
Nirvana, Polokwane
Tel: 015 292 6273

Rustenburg
No 1 Howick Avenue
Shop No 7, Waterfall Mall
Tel: 014 537 2884

Vanderbijlpark
5 Prime Business Park
Vanderbijlpark
Tel: 016 931 0408

Centurion
74 Cantonments Road
Lyttelton, Centurion
Tel: 012 880 0222

George
Shop 3, 57 York Street
George
Tel: 044 874 0669

North Rand (Kya Sand)
174 Bernie Street
Kya Sand, Randburg
Tel: 011 708 6442

Port Elizabeth
45 Mangold Street
Newton Park, Port Elizabeth
Tel: 041 365 7178/9

Somerset West
Shop 4, Broadway Centre
Urtel Crescent, Somerset West
Tel: 021 851 1978

West Rand (Roodepoort)
602 Ontdekkers Road
Delarey, Roodepoort
Tel: 011 472 8823

Durban North
Unit B, 213 Northway
Durban North
Tel: 031 563 0274

Kimberley
29A Schmidtsdrift Road
Rhodesdene, Kimberley
Tel: 053 861 5631

Pietermaritzburg
51 Winston Road
Pietermaritzburg
Tel: 033 342 6727

Potchefstroom
35 Dr James Moroka Avenue
Potchefstroom
Tel: 018 297 1488

Upington
Updustria Business Park
4 Progressus Street
Tel: 054 332 1458

e-mail: Gauteng – efc@stafix.co.za
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Website: www.jvasecurity.com

DEALER'S STAMP