

**NEMTEK**  
GROUP OF COMPANIES



**DRUID LCD**

**Electric Fence Energizer**

# User Manual

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Introduction & company profile ..... 3

Guarantee ..... 4

Nemtek group outlets ..... 5

Foreword ..... 6

Symbol interpretation ..... 7

Symbol to label link ..... 8

Operation without a keypad ..... 9

Operation with a keypad ..... 10

Using your keypad ..... 11 – 16

Keypad zone focus ..... 17

Document revision history ..... 18

No user serviceable parts inside the energizer.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similar qualified persons in order to avoid a hazard.

## **INTRODUCTION**

Thank you for choosing our product! NEMTEK Electric Fence Energizers are designed and manufactured to provide many years of reliable use, if installed and maintained correctly. The guidelines provided in this manual will assist you with the basic operation and maintenance of your DRUID LCD.

The DRUID LCD is designed and manufactured in South Africa for the South African and international market. More information on our products and general information are available on our web site at: <http://www.nemtek.com>.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

## **COMPANY PROFILE**

The NEMTEK Group of Companies manufacture and distribute intelligent electronic security and perimeter control systems and have been involved in the security industry since 1990.

We have our own research and development team, designing and manufacturing a full range of globally competitive electric fence energizers and related products.

NEMTEK is continually updating its products according to South African and international standards in order to ensure the highest quality products and continuous customer satisfaction.

**Electric fencing can be lethal. Avoid head contact with the fence. Ask the installer to explain the options of current limiting resistors, the programmable output energy levels as well as the low-voltage operation of the energizer.**

## **GUARANTEE**

The DRUID energizer, manufactured by IO Tech Manufacturing (Pty) Ltd, is guaranteed for a period of two years from date of sale against defects due to faulty workmanship or materials.

IO Tech Manufacturing (Pty) Ltd will, at its discretion, either repair or replace a product that proves to be defective.

IO Tech Manufacturing (Pty) Ltd guarantees that the product, when properly installed and used in line with the specification as determined by IO Tech Manufacturing (Pty) Ltd from time to time, will execute its function of generating a suitable potential. IO Tech Manufacturing (Pty) Ltd does not guarantee that the operation of the product will be uninterrupted and totally error free. Faulty units must be returned to one of the Nemtek Group outlets. The buyer shall pay all shipping and other charges for the return of the product to Nemtek or Nemtek Security Warehouse.

## **LIMITATION OF GUARANTEE**

The guarantee does not apply to defects resulting from acts of GOD, modifications made by the buyer or any third party, misuse, neglect, abuse, accident and mishandling.

## **EXCLUSIVE REMEDIES**

The remedies provided herein are IO Tech Manufacturing (Pty) Ltd's sole liability and the buyer's sole and exclusive remedies for breach of guarantee. IO Tech Manufacturing (Pty) Ltd shall not be liable for any special, incidental, consequential, direct or indirect damages, whether based on contract, tort, or any other legal theory. The foregoing guarantee is in lieu of any and all other guarantees, whether expressed, implied, or statutory, including but not limited to warranties of merchantability and suitability for a particular purpose.

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## **FOREWORD**

The DRUID LCD energizer should ideally be operated by means of a remote keypad to obtain access to the many energizer features and receive the greatest protection. It can however be operated by means of a Nemtek tab or remote switch.

The energizer display will light with a blue (OFF), green (all is OK), yellow (alarm in history or other medium priority event) or red (active alarm condition exists) background to announce the energizer's state at a glance and from a distance.

The gate input is functional even when the energizer is not energizing the fence. Use the Gate Alarm Bypass function if this input is to be ignored.

The DRUID LCD energizer includes many user and installer settings. These will be retained in the event of total power loss. i.e. The battery is exhausted during a prolonged mains failure.

A new battery with a full charge will typically provide in excess of 24 hours backup. This time will vary with fence condition though.

The DRUID LCD energizer incorporates an advanced and patented fence voltage regulation, arc detection and avoidance system. What this means is that the fence energy is maintained at a higher level than would normally be achievable using a conventional energizer on the same fence, when factors such as poor or damaged insulators, wet insulators after a rain storm, or salt build up on insulators (at the coast) prevent the fence from supporting a high voltage. A conventional energizer will push all available energy through any arcing that may occur across the insulator, thus reducing the fences effectiveness. The DRUID LCD energizer however will detect the arcing and then attempt to operate the fence at a voltage just below that at which arcing occurs, thus maintaining higher energy levels on the fence and improving the effectiveness of the fence. Nemtek is the inventor and patent holder of this innovative technology.

**SYMBOL INTERPRETATION**

Fence or Gate alarm condition present **⤵**  
 Fence or Gate alarm history (occurred in the past) **⌚**  
 Fence or Gate alarm bypassed **⚡**

Gate is open **⦿**  
 Gate alarm immediate (alarm will sound the moment the gate is opened) **i**

Mains power present **⚡**  
 Mains fail history (occurred in the past) **⌚**  
 Mains power fail with internal battery condition GOOD **🔋**, LOW **🔋** or FLAT **🔋**

Energizer requires servicing (if displayed for an extended period) **⚡**  
 Energizer possibly tampered with (front cover is, or was opened) **t**  
 Energizer set to silent alarm (no external siren or strobe will activate) **s**

Fence set to low power **l**  
 Fence voltage is below CHECK threshold **!**  
 Fence voltage is below ALARM threshold **x**  
 Fence is off **⦿**  
 Fence condition indication from **0** to **9** (higher values are better)

**Fence condition and voltage notes**

Fence voltage CHECK and BAD (alarm) thresholds are installer settable values.

The fence condition indication should be maintained at a high value for maximum fence effectiveness. This is achieved through regular maintenance of the fence, cutting back and removal of foliage from off the fence, removal of dead slugs, snails, spiders and other insects from off of insulators, and replacing any insulators that may have failed.

## SYMBOL TO DESCRIPTIVE LABEL LINK

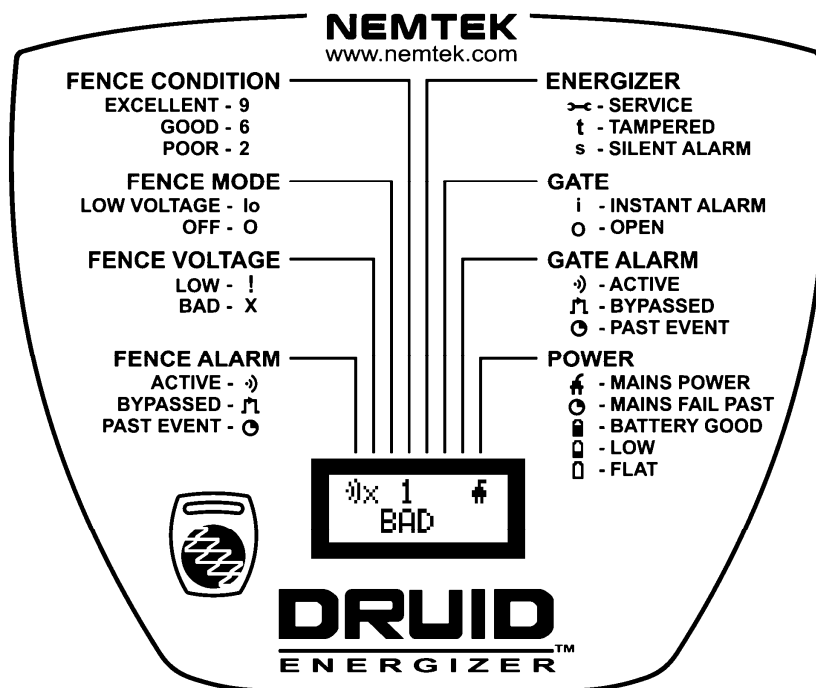
A symbol shown on the LCD (Liquid Crystal Display), depending on its position, is linked through one of the eight linking lines above the LCD to one of eight descriptive labels.

A brief interpretation of the symbol displayed on the LCD is to be found under the descriptive label it is linked to.

Example: An **o** symbol on the top line of the LCD, depending on its position will either indicate that the gate is open, or that the fence is off.

If the **o** symbol is positioned on the left of the display under the third linking line, the symbol is linked to the FENCE MODE label and is interpreted to mean that the fence is off.

If however the **o** symbol is positioned on the right of the display under the sixth linking line, the symbol is linked to the GATE label and is interpreted to mean that the gate is open.



The interpretations of the symbols shown on the LCD depicted above are:


\*Pictured above is the DRUID 13/15, the DRUID 18/114A/2x fascia looks a little different but is still applicable.

SYMBOL	linked to LABEL	Interpretation	Note
☺	FENCE ALARM	ACTIVE	Fence is in alarm
x	FENCE VOLTAGE	BAD	Fence voltage is too low
1	FENCE CONDITION	POOR	Fence condition is poor
⚡	POWER	MAINS POWER	Mains power is present







## OPERATION WITHOUT A KEYPAD



### Activating and deactivating the energizer

Unless this feature has been disabled by the installer, the energizer can be activated or deactivated by presenting the Nemtek plastic tab over the corresponding logo  on the fascia of the unit. Remove the tab when the energizer produces a short beep, after which the energizer will toggle its operating state. The energizer can also be configured to use a remote switch.

### Acknowledging and silencing an alarm condition

Present the Nemtek plastic tab over the corresponding logo  on the fascia of the unit. An initial short beep will be heard as the tab is detected, but keep holding the tab in place until a second longer beep is heard. The siren will be silenced if not yet timed out, the internal beeper will stop sounding and the strobe will be deactivated. One of the alarm , alarm history  or event  symbols will indicate the source of the alarm.

### Clearing an alarm or event from memory

An alarm  symbol indicates that the condition persists and will have to first be corrected. An alarm history  symbol indicates the fault no longer exists and simply turning the energizer off and on again, or presenting the tab until the long beep is heard, will clear the memory condition. Only if the alarm condition is resolved will the energizer operate without alarm activation.

## **OPERATION WITH A KEYPAD**

The energizer may be operated by up to two keypads. In this case the Nemtek tab becomes optional. (Installer programmable feature).

In order to provide different access levels to the energizer and its functions two different types of user are defined.

A master user has full control of the energizer and may bypass different alarm functions. Only the master user may change the PIN (Personal Identification Number) for all users. There is only one master user with a default PIN 1234. The master user is referred to as user number 1 or PIN 1.

A reset user can acknowledge and silence alarm events and clear alarms and events from history, but cannot switch the energizer on or off or change any parameters or settings that require PIN access. There is only one reset user with a default PIN 5555. The reset user is referred to as user number 2 or PIN 2.

Most energizer user functions are accessed using the master PIN followed by a \* key, a two key sequence, and then completed with the # (enter) key. The two key sequence consists of a function key and then a 1 (yes) or 0 (no) key to indicate if the function is to be enabled (yes) or disabled (no).

The exception to the above is the Panic Alarm and Display Info functions. Both of these functions do not need the master PIN and \* key sequence in front of the 2 key sequence, however the codes will still work if the master PIN and \* key sequence is inserted.

Additionally the Display Info function accepts more than just the 1 and 0 keys as will be detailed later in this manual.

### **Altering the brightness of the keypad symbols**

The brightness of the keypad symbols can be increased or decreased by pressing and holding the 1 or 7 key respectively. The keypad will beep while the indicator brightness is changing. No PIN is required for this operation.

## USING YOUR KEYPAD



All keypad codes must end with the # key to enter the code sequence.

If you pause for more than five seconds between key presses, the keypad will produce a fast beeping sequence and all earlier keys will be deleted.

A correctly entered sequence will be acknowledged with two beeps.




### Activating and deactivating the energizer MASTER PIN #

The energizer can be activated or deactivated by entering the four digit master PIN (default master PIN is 1234).



If the fence is off, the  symbol under the FENCE label on the keypad will be lit and on the energizer display the  symbol linked to the FENCE MODE label will be shown.

If the fence is on, one of the GOOD, CHECK or BAD indicators on the left of the keypad will be lit and the energizer display will show GOOD, CHECK or BAD, depending on the fence condition and fence voltage.

### Acknowledging and silencing an alarm condition RESET PIN #

Enter the reset PIN (default reset PIN is 5555). The siren will be silenced if not yet timed out, the internal beeper will stop sounding and the strobe will be deactivated. One of the alarm , alarm history  or event  symbols will indicate the source of the alarm. The above can also be achieved through entering the master PIN, however the energizer operating state will be toggled at the same time.



### Clearing an alarm or event from memory RESET PIN #

An alarm  symbol indicates that the condition persists and will have to first be corrected. An alarm history  symbol indicates the fault no longer exists and simply entering the reset PIN will clear the memory condition. Only if the alarm condition is resolved will the energizer operate without further alarm activation.

The above can also be achieved through turning the energizer Off and On again using the master PIN.



**FENCE ALARM BYPASS**  $\frac{\text{MASTER PIN}}{\text{---}} * 21 \#$  (alarm bypassed)  
 $\frac{\text{MASTER PIN}}{\text{---}} * 20 \#$  (alarm not bypassed)

Use this feature to prevent the alarm from sounding when a fence fault occurs. Typically you would not want to bypass the fence alarm, however this feature is available should it be needed.

If the fence alarm is bypassed, the  symbol under the ALARM label on the keypad will be lit and on the energizer display the  symbol linked to the FENCE ALARM label will be shown.

**FENCE LOW POWER**  $\frac{\text{MASTER PIN}}{\text{---}} * 31 \#$  (low power)  
 $\frac{\text{MASTER PIN}}{\text{---}} * 30 \#$  (high power)

Use this feature for example when children are playing in the vicinity of the fence. The fence operating voltage and power are reduced to a level that is far less painful than when the fence is touched at full power. The fence low power voltage is an installer programmable voltage.

If the fence is in low power, the  symbol under the FENCE label on the keypad will be lit and on the energizer display the  symbol linked to the FENCE MODE label will be shown.

When disabled, the energizer returns the fence to high power.

**SILENT ALARM**  $\frac{\text{MASTER PIN}}{\text{---}} * 81 \#$  (siren and strobe are bypassed)  
 $\frac{\text{MASTER PIN}}{\text{---}} * 80 \#$  (siren and strobe are not bypassed)

Use this feature to prevent the siren from sounding and the strobe light from activating when an alarm event occurs. The internal beeper will however still sound. This feature is useful in periodic testing of the system.

If Silent Alarm is enabled, the **s** symbol under the UNIT label on the keypad will be lit and on the energizer display the **s** symbol linked to the ENERGIZER label will be shown. (No symbol exists on the DRUID 4-Zone keypad)





**DISPLAY INFORMATION****6 ? #**

Replace the ? above with the required digit for the information you want displayed as listed below.

**• GOOD, CHECK, BAD****6 0 #**

This is the default display as shipped from the factory and shows the words GOOD, CHECK or BAD dependent upon the fence voltage and fence condition.

**• V-PEAK OUT, V-PEAK RETURN****6 1 #**

This display shows the energizer output (o) and return (r) terminal voltages in kilo volts (kV)

**• STORED ENERGY, CAPACITY USED****6 2 #**

This display shows the stored energy in joules (j) and the energizer effort or capacity used as a percentage (%). The larger the fence installation or the greater the loading on the fence, the harder the energizer has to work to maintain the voltage on the fence. This is reflected as an increase in stored energy and energizer capacity used. The energizer cannot work harder than 100% effort.

**• FENCE VOLTAGE LOSS****6 3 #**

This display shows the voltage drop, or loss as a percentage (%), across the fence from beginning to end.

**• BATTERY VOLTAGE****6 4 #**

This display shows the internal battery voltage level in volts (V).

No PIN is required for the Display Information code as no operating parameters are altered.





## **KEYPAD ZONE FOCUS**

The DRUID LCD 2x range of energizers contain two independent output channels or zones. The 2x range is essentially two energizers in a single housing. Rather than having to install a keypad for each zone, a method to focus the keypad onto a specific zone has been programed into the 2x range.

Up to four zones and two energizers can be controlled from a single Druid 4-Zone keypad.

The 4-Zone keypad includes four ZONE labels, and one SELECT label. When one of the ZONE labels is lit, all keypad activity is directed to that zone and the energizer controlling that zone. The keypad displayed zone alarm and status information is specific to the highlighted zone.

The keypad focus can be changed from zone to zone by typing in a single digit representing the zone, followed by the hash/enter (#) key.

For example;

**1#** changes the keypad focus to zone 1 and the energizer controlling both zone 1 and zone 2

**4#** changes the keypad focus to zone 4 and the energizer controlling both zone 3 and zone 4.

To change the keypads focus to all zones so that keypad activity is directed to both energizers and so that all four zones respond, type **0#** into the keypad. While in global focus and normal conditions exist on all zones, no ZONE label will be highlighted on the keypad. The keypad displayed zone alarm and status information will be the sum of all zone information displayed simultaneously, while in global focus.

The keypad will always revert back to global focus after about 30s of inactivity. A short beep from the keypad will announce this transition.

However, if any zone requires your attention due to a zone alarm or past event, that zone's, ZONE label will flash, and the SELECT label will light up, prompting you to change the focus of the keypad to that particular zone, so that you can assess and respond to the condition present at that zone.

### **Note:**

When activating all zones while in global focus, if any zone is already active, the result will be that all zones become inactive. To activate all zones or deactivate all zones simultaneously, the zones must all be in the same state to begin with.

## **DOCUMENT REVISION HISTORY**

Rev 1.0, 16 April 2009

First release

Rev 1.1, 4 Nov 2009

DRUID 18 and 114A details added

Rev 1.1a, 16 Mar 2010

Reference to "Remote On/Off tool" removed

Rev 1.2, 29 Feb 2012

DRUID LCD 2x details added.

"Persons using this appliance", and "Replacement of supply cord", clauses added.