

NEMTEK
www.nemtek.com



Druid LCD 20

Electric Fence Monitor

Installer Manual



Table of Contents

Introduction & disclaimer	3
Guarantee	4
NEMTEK group outlets	5
Foreword	6
Mounting & battery replacement	7
PC Board replacement	8
Connections	9
Fence wiring diagrams	10
4-zone installation	12
Network cards and NEMTEK Connect	13
Large network	14
Solar installation	15
Detailed service indicators & fuses	16
Installation notes	17
Programmable options	18
Programmable options summary	29
Document revision history	30

Introduction & disclaimer

INTRODUCTION

The DRUID LCD 20 is a low voltage (less than 50V peak), fence monitoring system, which will alert the user if a fault condition (open-circuit or short-circuit) is introduced to the fence. For increased security the DRUID LCD 20 can be used in conjunction with an electric fence energizer, provided the energizer output energy is 8 joule or less.

The unit is battery (12V 7AH nominal) operated and suitable for connection to mains power (AC 100V-240V, 50-60Hz).

The batteries to be used are rechargeable lead-acid batteries. Non-rechargeable batteries must not be used. The lead-acid batteries require venting and it is imperative that the unit be situated in a well-ventilated area. A new fully charged battery will typically provide in excess of 24 hours backup.

DISCLAIMER

NEMTEK Holdings (Pty) Ltd or any of its subsidiary companies does not guarantee that the operation of the product will be uninterrupted or totally error free.

Specifications may be altered without prior notification.

GUARANTEE

The Druid LCD 20 fence monitoring system, manufactured by NEMTEK, is guaranteed for a period of two years from date of sale against defects due to faulty workmanship or materials.

NEMTEK will, at its discretion, either repair or replace a product that proves to be defective.

NEMTEK guarantees that the product, when properly installed and used in line with the specification as determined by NEMTEK from time to time, will execute its function of generating a suitable potential. NEMTEK 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 NEMTEK's sole liability and the buyer's sole and exclusive remedies for breach of guarantee. NEMTEK 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.

NEMTEK Group outlets

HEAD OFFICE - NORTHRIDING

Tel: +27 (0)11 462 8283/4

Email: websales@nemtek.co.za

Northriding Commercial Park, Stand 251,

Aintree Avenue, Northriding, Randburg, South Africa

EXPORTS

Tel: +27 (0)11 462 8283/4

exports@nemtek.com

EDENVALE

Tel: +27 (0)11 453 1970

Unit 1, Meadowdale Office Park, Corner Dick Kemp
and Herman Road, Edenvale, South Africa

CAPE TOWN

Tel: +27 (0)21 386 3742

Or Tel: +27 (0)21 386 3100

21 Concord Crescent, Airport City

Cape Town, South Africa

PORT ELIZABETH

Tel: +27 (0)41 581 4130

Or Tel: +27 (0)41 581 4064

Unit 4, 51 Leadwood Crescent, Fairview

Port Elizabeth, South Africa

PINETOWN

Tel: +27 (0)31 701 2125

Or Tel: +27 (0)31 701 3131

19 Henwood Road, Pinetown, KwaZulu-Natal

South Africa

NELSPRUIT

Tel: +27 (0)13 752 2187

44 Rapid Road, Riverside Industrial Park

Nelspruit, South Africa

UPINGTON

Tel: +27 (0)54 332 1338

7 Vooruit Street, Building 5, Upington, South Africa

TRAINING

Northriding Commercial Park, Stand 251,

Aintree Avenue, Northriding, Randburg, South Africa

AUSTRALIA

Tel: +61 8 9303 9855

Unit 5, 19 Innovation Circuit,

Wangara, 6065, Perth, WA, Australia

Website: www.nemtek.com

E-mail: nemtek@nemtek.com

Manufactured in South Africa

The DRUID LCD 20 should ideally be operated by means of a remote keypad to obtain access to the many monitoring features and receive the greatest protection. It can however be operated by means of a NEMTEK tab or external switch.

The unit includes many user and installer settings. These will be retained in the event of total power loss, like when the battery is exhausted during a prolonged mains failure.

The unit can be configured as a master only, 2 zone installation, or as a master and slave networked 4 zone installation. Only a master unit can communicate with keypads and other devices present on the keypad bus.

A set of jumpers positioned above each of the three unit's relays, allow the relay contacts to be configured as either wet (providing 12V nominal power) or dry (potential free) contacts.

The unit's 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 system state at a glance and from a distance.

NEMTEK Connect

NEMTEK Druid LCD 20 units can be upgraded for remote connectivity through a smartphone application or internet browser via **NEMTEK Connect**. Contact NEMTEK for more information on the hardware and software upgrades required.

Mounting & battery replacement

STEP 1: Disconnect mains. Open the lid after removing the two cap screws. Unplug the battery terminals if connected.

STEP 2: Remove screws and battery bracket

STEP 3: Remove battery

*Dispose of old battery according to legal requirements. Do not replace with a non-rechargeable battery!

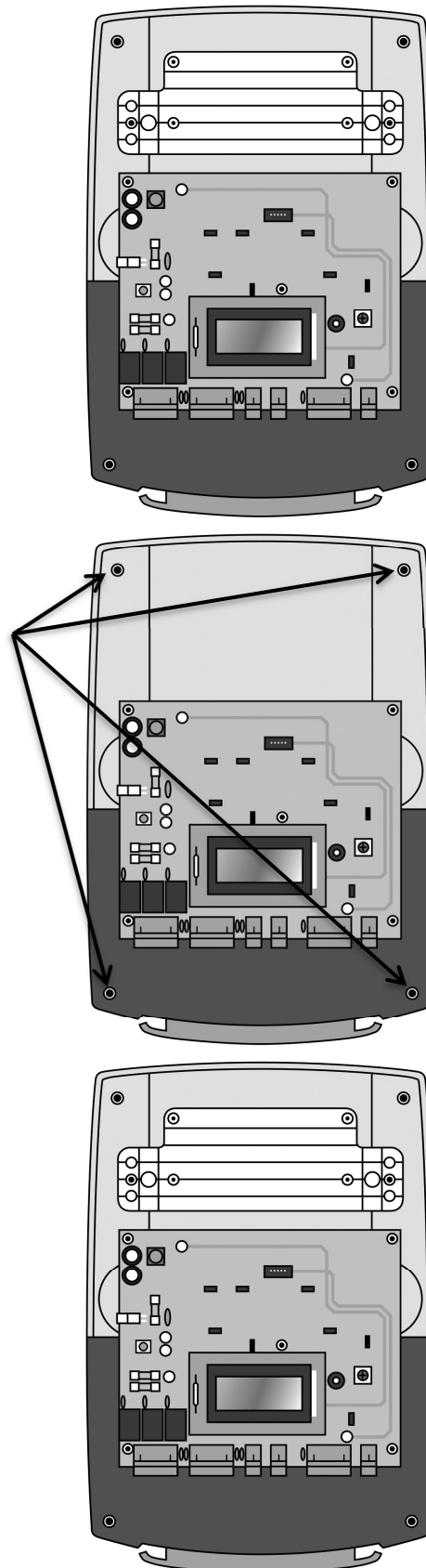
STEP 4: Use a drilling template and drill 4 x 8mm holes in the wall for mounting the unit. Four nail-in anchors are supplied with the unit. Insert the plastic sleeve of the nail in anchor into the wall then hammer the screw in with a screwdriver and hammer. Leave a gap slightly more than the thickness of the casing between screw heads and wall. Position the casing so that the screws go through the slots provided then drop it into position. Tighten the top 2 screws to secure the casing. The bottom two screws will slot into the casing for stability, they don't need to be tightened.

STEP 5: Insert battery with the negative terminal to the top.

STEP 6: Place the battery bracket back (with plastic offsets at the top) and fasten the screws into place.

STEP 7: Connect battery wires. Close the lid by hooking the top of the lid in first and then fasten the bottom down with the two cap screws. Apply mains power to the unit.

Note: Unit to be mounted vertically against a flat surface, in a well-ventilated area. Avoid prolonged exposure to direct sunlight.



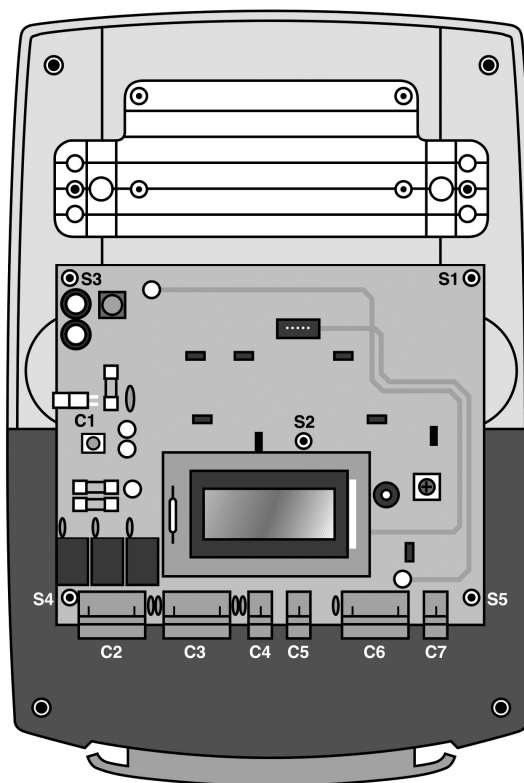
PC Board replacement

STEP 1: Disconnect mains power and the battery terminals if connected.

STEP 2: Remove all seven connectors, C1 – C7.

STEP 3: Remove the five screws, S1 – S5.

STEP 4: To remove the PC Board, gently pull the PC Board away from the mounting plate, unplugging it from the connectors beneath it. There are four spade connectors beneath the PC Board in the middle of the board.

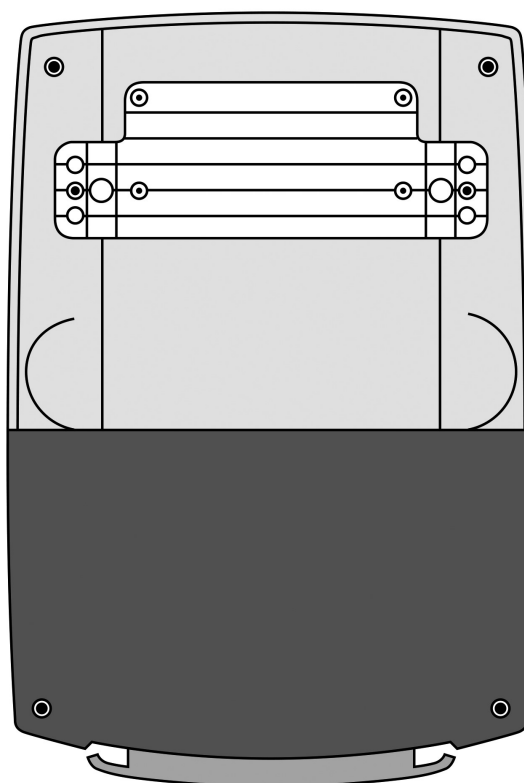


STEP 5: To replace the PC Board, align the four spade connectors in the middle of the PC Board using the guide tabs, and gently press the PCB down into place.

STEP 6: Re-insert and tighten the five screws.

STEP 7: Reconnect the seven connectors to the PC Board.

STEP 8: Reconnect the battery terminals and apply mains power.



Connections

12V DC Strobe Light for Zone 2

12V DC Strobe Light for Zone 1

20W max 12V DC Siren

Radio alarm not to be powered from unit!

Gate Switch (Normally closed)

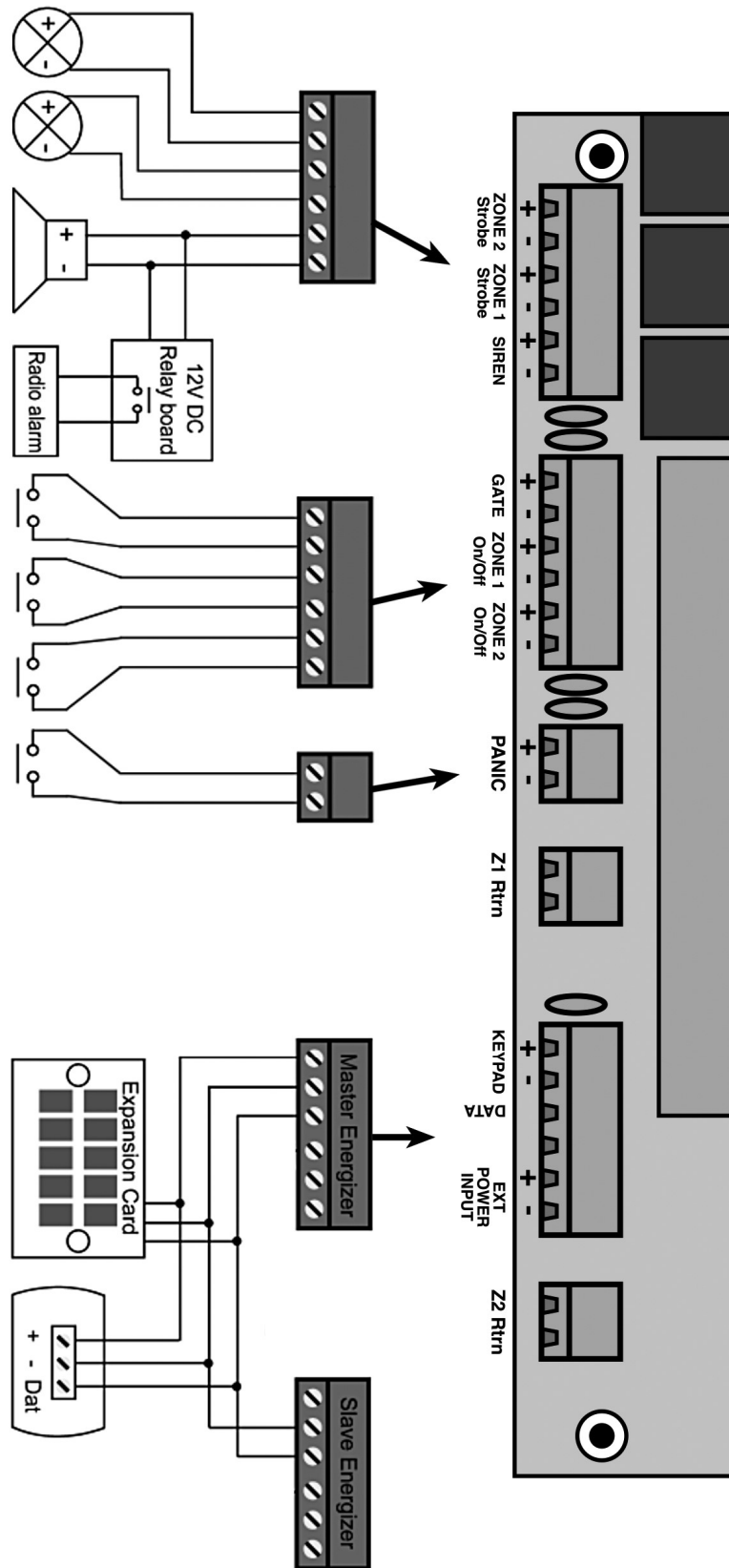
External On/Off Switch for Zone 1

External On/Off Switch for Zone 2

Panic Switch (Normally closed)

A maximum of two NEMTEK Druid 4-Zone keypads, two expansion cards and 100m of comms cable can be connected.

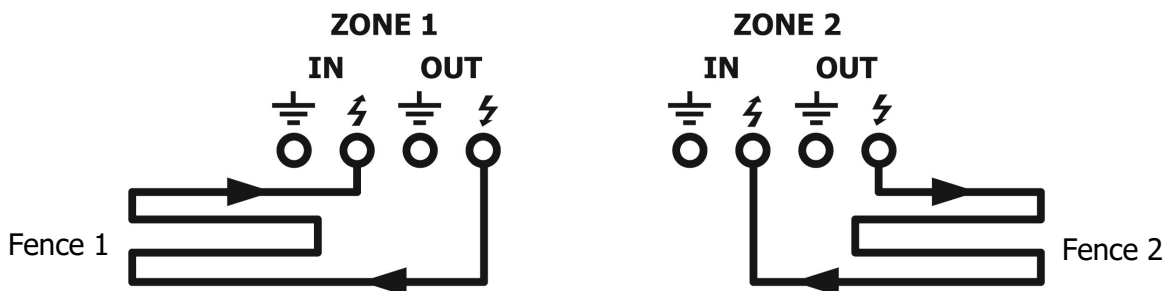
A total of two units can be linked together. See; Creating a 4 zone installation, later on in this manual.



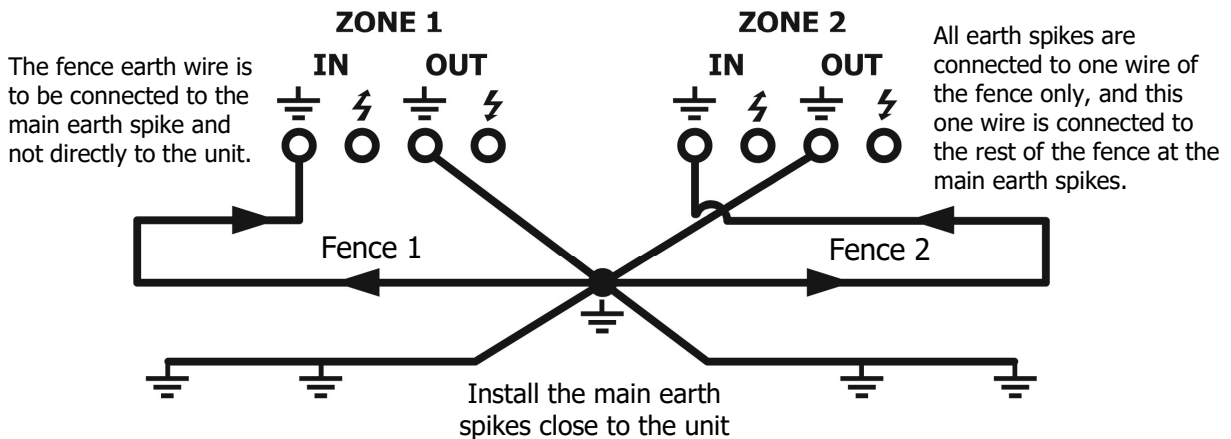
Fence wiring diagrams

The Druid LCD D20 can be connected to a standard electric fence installation, as a low voltage substitute for an electric fence energizer. The installation and erection of an electric fence in, South Africa, is to be done according to the latest addition of SANS 10222-3. In other countries, according to relevant specifications.

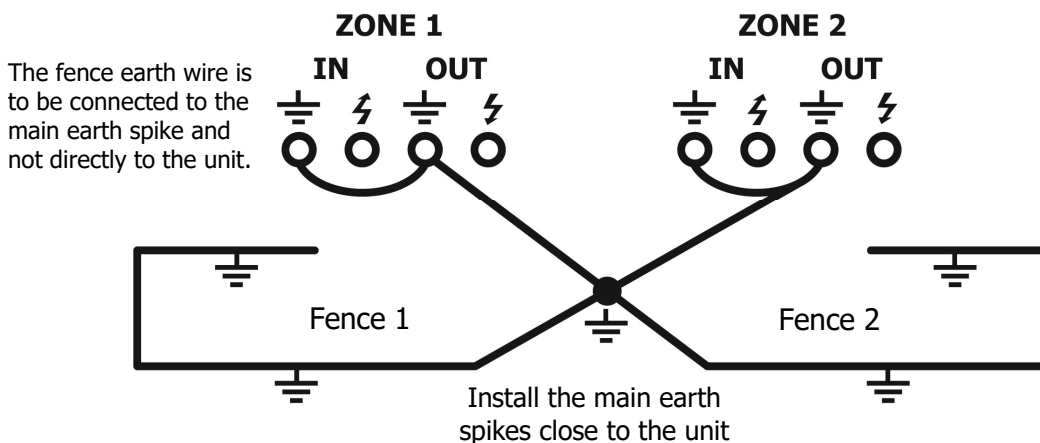
Live wire connection



Earth wire connection with earth loop monitoring (preferred)



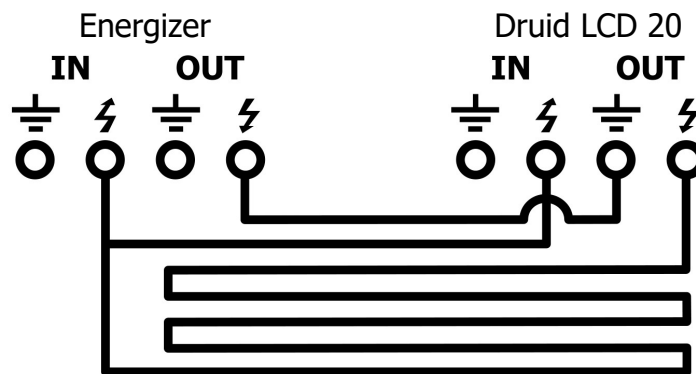
Earth wire connection with no earth loop monitoring



Fence wiring diagrams

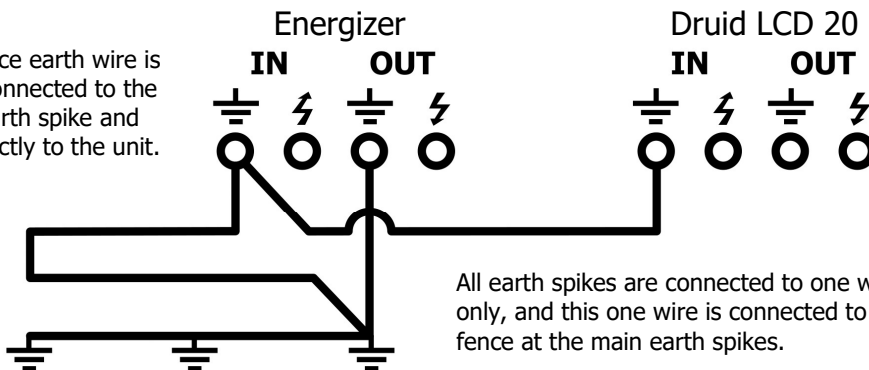
The Druid LCD 20 can also be connected to an electric fence in conjunction with an electric fence energizer for added security. Ensure that the output energy of the electric fence energizer is 8 joule or less to prevent damage to the Druid LCD 20. Always consult the installation manual of the energizer before installation.

Live wire connection



Earth wire connection with earth loop monitoring (preferred)

The fence earth wire is to be connected to the main earth spike and not directly to the unit.

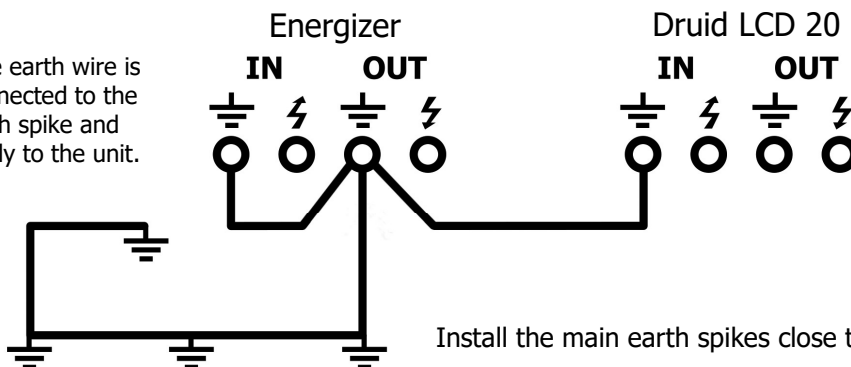


All earth spikes are connected to one wire of the fence only, and this one wire is connected to the rest of the fence at the main earth spikes.

Install the main earth spikes close to the unit

Earth wire connection with no earth loop monitoring

The fence earth wire is to be connected to the main earth spike and not directly to the unit.



Install the main earth spikes close to the unit

Note: Diagrams illustrate connections of only 1 zone for simplicity. Both zones can be wired as shown.

4-zone installation

CREATING A 4-ZONE INSTALLATION

Using two DRUID LCD 20 units, or a DRUID LCD 2x energizer and DRUID LCD 20 unit, a four-zone installation can be created. Implementing four zones, a property owner can identify the location of an attempted intrusion to a greater degree of accuracy. For example, the front, back, left or right side of the property can each be a unique zone.

To create a four-zone system, the two units need to be linked via the keypad bus by connecting the system ground (KEYPAD-) wires and the data wires (DATA) together (see diagram on page 9).

One unit must be configured as a master, and the other unit configured as a slave. A unit is configured by means of a Master/Slave jumper on the main PCB, just below the LCD display. A master will have the jumper absent, and a slave must have the jumper inserted. When a DRUID LCD 2x energizer and a DRUID LCD 20 are connected together, the DRUID LCD 2x energizer must be set as the master and the DRUID LCD 20 as the slave to prevent the energizer from generating a synchronisation loss fault.

Master will show as zones 1 & 2 on the keypad.

Slave will show as zones 3 & 4 on the keypad.

Lastly, the master needs to be informed whether a slave unit is connected, creating a four-zone system or if it is a master only, two-zone system. This is to allow a communication failure (service alarm) to be generated should the slave unit not respond to the master's request for information, and so that the keypad can be dealt with correctly as either a two- or four-zone installation.

The **SLAVE UNIT PRESENT** setting is set by first entering installer mode, and then entering installer code **5001*#**. Further details of this code can be found in this manual under the **PROGRAMMABLE OPTIONS** section.

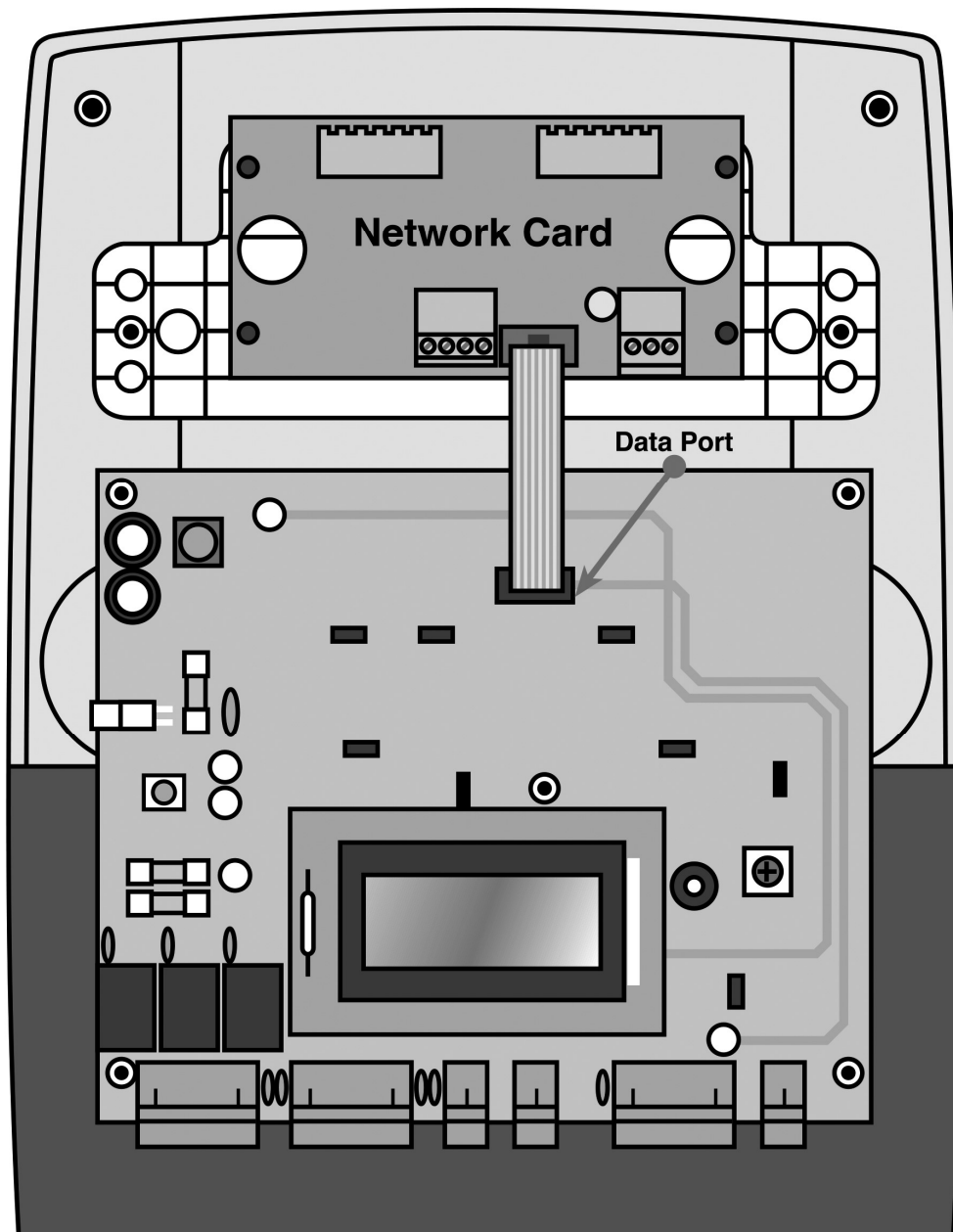
Note: Please read the section, **KEYPAD ZONE FOCUS**, in the Druid LCD 20 User Manual. This section explains how to direct keypad inputs to a specific zone, or to all zones simultaneously. Installer **PROGRAMMABLE OPTIONS** which are zone focus specific will have the following text appear below the programmable option later in this manual:

"Can be directed to a specific zone, using **KEYPAD ZONE FOCUS**"

Network cards and NEMTEK Connect

The Druid LCD 20 has a data port to which communications cards, such as a network card or a NEMTEK Connect card, can be connected. These cards enable networking or remote access and control of the unit.

Visit the NEMTEK website, www.nemtek.co.za, for the latest details on the smartphone app and networking options available to you.



Large network

A total of 32 Druid LCD 20 units or Druid LCD 2x energizers (64 Zones) can be networked together.

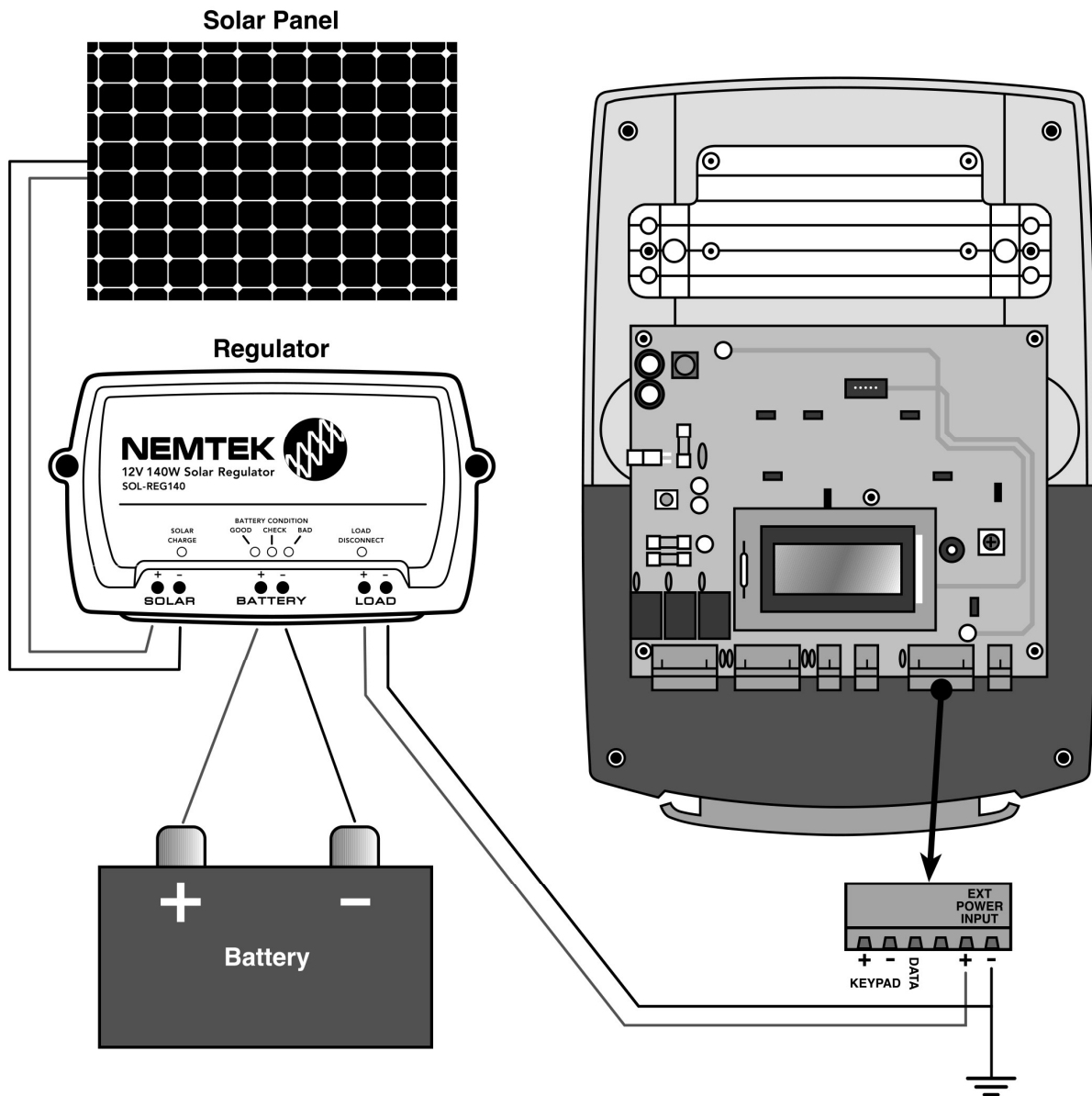
Each of the units will need to have a unique address in the range **1-32**.

The unit's large network address is set using installer code **51??*#** detailed on **page 28** of this manual.

Please read the energizer synchronisation requirements in the Druid LCD 2x Installer Manual if more than one energizer is connected to the network.

Solar installation

The Druid LCD 20 can be powered using a solar power installation, instead of mains power. Always use a good quality 12V solar regulator with an output power rating of at least 50W. The unit must be configured for solar installation by entering the keycode **4071*#** (refer to keycode description later in this manual).



Note: If the Druid LCD 20 has a Nemlink Ethernet card installed, a separate earth spike, not connected to the fence ground, must be installed at least 2m away from the fence earth.

Detailed service indicators & fuses

When the unit's front cover is opened while displaying a service condition (spanner symbol), and the service condition is still present, further information will be displayed indicating the cause of the service condition as listed below.

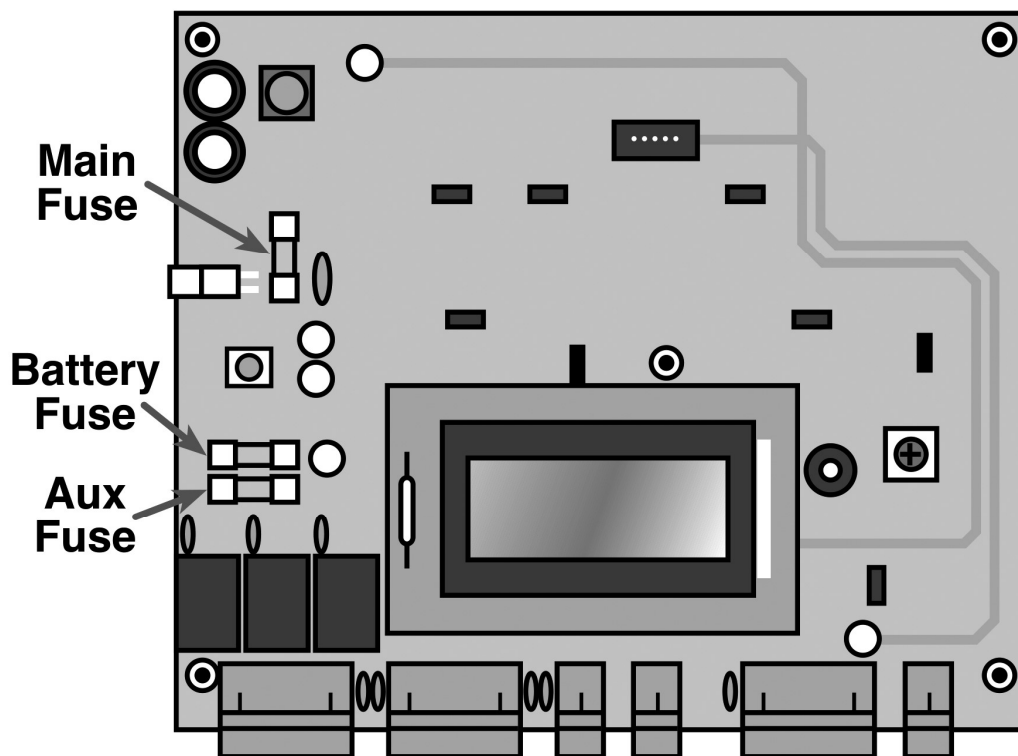
A = Aux fuse blown

B = Battery fuse blown, battery fault or not connected

N = Slave unit communication failure

FUSE DESCRIPTION AND FAULT SYMPTOMS

All fuses are of the "fast blow" type. The Main fuse has a 4A rating, while the Battery and Aux fuses have a 2A rating.



Main Fuse: Unit displays a battery symbol, and not the mains power symbol (plug).

Battery Fuse: Unit does not operate when mains power is disconnected.

Aux Fuse: The Siren and strobes do not function.

Installation notes

- Keep the wires to the fence separate from the keypad, gate, siren, strobe and mains wiring.
- Do not try and modify the unit. Any unauthorized modifications will null and void the warranty and possibly render the unit illegal.
- If the external On/Off facility is used, the wire between the remote switch and the unit can be up to a 100m in length. The switch contact must be open for the fence to be monitored.
- A remote receiver can obtain 12VDC from the keypad bus. Current consumption must not exceed 0.1 Amps. This is not sufficient to supply power for an armed response transmitter.
- The siren and strobe light total current consumption should not exceed 1.8Amps.
- Never use the unit's battery to power a radio alarm transmitter or alarm panel.
- The wire between the magnetic gate switch and the unit can be up to a 100m in length, but must not run parallel with any fence wires. The gate switch must be open circuit if the gate is open.
- The remote keypad cable must not exceed 100m in total length. Avoid running this cable parallel with any fence (high voltage) wires.
- You may connect a total of two keypads, one expansion card and one slave unit to a DRUID LCD 20 set to master.
- Use HT (high voltage) wire between the fence and the DRUID LCD 20, including the earth wire. Never run these wires in the same conduit or through the same hole as the low voltage wiring.
- Always use ferrules or line clamps to connect two fence wires together. Avoid using dissimilar materials for connections like copper on steel.
- When replacing the front of the unit, hook the top in first while holding it at an angle and then push it closed at the bottom. Fasten the lid down with the two cap screws.
- Always test the fence after installation for correct short and open-circuit alarming at various points along the fence.
- Do not use the unit with non-rechargeable batteries.
- The unit contains a sealed lead-acid battery that will vent to the atmosphere under certain conditions. For this reason, it is imperative that the unit is installed in a well-ventilated area.
- Do not use this unit in conjunction with an electric fence energizer of which the output energy exceeds 8 joule.
- Refer to the applicable laws concerning the installation of electric fences in your area.

Programmable options

RESTORE FACTORY DEFAULTS 2 3 8 9

Returns the unit configuration, including all PINs, to their factory default values

Enter this code within 60s of powering the unit on after complete power removal, i.e mains and battery power removal simultaneously.

ENTER PROGRAMMING MODE * 0

Enables programming mode

Programmable options can only be changed once the unit is placed into programming mode. The keypad will beep three times if the code is accepted. The factory default installer PIN is **012345**. Programming mode will timeout and exit after five minutes or upon entering the *# exit code.

CHANGE INSTALLER PIN 0 0 ^{NEW}

Changes the factory default six digit installer PIN to a new six digit PIN

SIREN ON TIME 0 1 *

Sets the siren on (active) time

m = minutes, s = x10 seconds

Programmable range is **0101*#** (10s) to **0141*#** (4m:10s)

Factory default value is **0120*#** (2m:0s)

Siren active time is the amount of time that the siren will sound before automatically turning off, if not reset by the user.

SIREN OFF TIME 0 2 *

Sets the siren off (inactive) time

m = minutes, s = x10 seconds

Programmable range is **0201*#** (10s) to **0241*#** (4min:10s)

Factory default value is **0230*#** (3min:0s)

Siren off time is the amount of time that the siren will be forced to remain off after having automatically timed out (siren on time) from a previous alarm condition.

Programmable options

EVENTS BEFORE RE-ARM TIMEOUT **0 3 0 ? * #**

Sets the total unacknowledged events before the re-arm time comes into play

? = total events before re-arm time

Programmable range is **0301*#** (1 event) to **0307*#** (7 events)

Factory default value is **0303*#** (3 events)

See SIREN RE-ARM TIME below.

SIREN RE-ARM TIME **0 4 d h h m m * #**

Sets the sirens re-arm time period

d = day, hh = x10 hours + hours, mm = x10 minutes + minutes

Programmable range is **0400001*#** (1min) to **0471402*#** (7d:14h:02min)

Factory default value is **0410000*#** (1d:00h:00min)

The re-arm time comes into play after the siren has sounded for the set number of events without being manually reset by the user. This is required by law to prevent an alarm from sounding indefinitely while the owner is not home to correct the alarm condition.

RELAYS ACTIVE OPEN **0 0 6 ? * #**

Set the active state of all three relays on the unit's PCB.

? = 0 (relay closed when active) or 1 (relay open when active)

Factory default value is **0060*#** (relay normally open, closed on activation)

Typically used when the unit is connected to an alarm system requiring a normally closed input.

STROBE LIGHT Z1 RELAY FUNCTION **0 0 1 ? * #**

Selects between zone 1 strobe light only, or zone 1 & 2 combined function.

? = 0 (zone 1 strobe light) or 1 (zone 1 & 2 combined)

Factory default value is **0010*#** (zone 1 strobe light only)

The Z1 strobe light relay can be assigned to be active when an alarm is triggered on zone 1 only (0), or an alarm is triggered on either of zone 1 or zone 2 (1)

Programmable options

STROBE LIGHT Z2 RELAY FUNCTION 0 0 2 ? * #

Selects between zone 2 strobe light, or unit on/off indication.

? = 0 (zone 2 strobe light) or 1 (unit on/off indication)

Factory default value is **0020*#** (zone 2 strobe light only)

The Z2 strobe light relay can be assigned to be active when an alarm is triggered on zone 2 only (0), or to indicate when the unit is on (1). Both zone 1 and zone 2 need to be active for the relay to indicate that the unit is on.

SIREN RELAY FUNCTION 0 0 3 ? * #

Selects between gate alarm, unit on/off indication, or service alarm, when in ALARM SENSOR MODE only.

? = 0 (gate alarm) or 1 (unit on/off indication), or 2 (service alarm)

Factory default value is **0030*#** (gate alarm)

The siren relay can be assigned to be active when a gate alarm occurs (0), or to indicate when the unit is on (1), or to activate on service alarm (2). Both zone 1 and zone 2 need to be active for the relay to indicate that the unit is on.

STROBE RELAY FUNCTION SENSOR ALARM MODE 0 0 7 _ * #

Selects between gate alarm, unit on/off indication, or service alarm, when in ALARM SENSOR MODE only.

? = 0 (gate alarm) or 1 (unit on/off indication), or 2 (service alarm)

Factory default value is **0030*#** (gate alarm)

The siren relay can be assigned to be active when a gate alarm occurs (0), or to indicate when the unit is on (1), or to activate on service alarm (2). Both zone 1 and zone 2 need to be active for the relay to indicate that the unit is on.

Programmable options

ALARM SENSOR MODE

4 0 8 ? * #

Enable or disable the unit's alarm sensor mode.

When this mode is active, the display will indicate "AlmSensr"

? = 0 (conventional monitoring mode) or 1 (alarm sensor mode)

Factory default value is **4080*#** (conventional monitoring mode)

When in alarm sensor mode, the strobe relays, regardless of STROBE LIGHT Z1/Z2 RELAY FUNCTION settings, will function as follows;

The Zone 1 strobe relay is active only as long as zone 1 is in alarm condition.

The Zone 2 strobe relay is active only as long as zone 2 is in alarm condition.

The siren relay by factory default will be active only as long as the gate is in alarm condition. If, however the siren relay function has been altered using the SIREN RELAY FUNCTION, the siren relay will be active as long as both fence zone 1 and zone 2 are active.

Additional status information can be obtained, such as zone active, zone check condition, mains fail, service and tamper conditions, by fitting an expansion card onto the keypad bus.

This mode is typically used when the unit is connected to an alarm system and no user interaction with the unit will take place. The unit is thus treated as simply another alarm detecting sensor for the alarm panel.

Programmable options

GATE ALARM DELAY TIME

1 0 m s * #

Sets the gate alarm delay time

m = minutes, s = x10 seconds

Programmable range is **1001*#** (10s) to **1041*#** (4min:10s)

Factory default value is **1010*#** (1min:0s)

The gate alarm will only sound once the gate has remained open for longer than the GATE ALARM DELAY time. The GATE ALARM INSTANT user code can be used to temporarily override this delay period, and the GATE ALARM BYPASS user code can be used to temporarily disable the gate alarm function.

GATE CHIME ON CLOSE

1 1 9 ? * #

Enable or disable a gate close chime, only when gate chiming is enabled.

? = 0 (no chime on close) or 1 (chime on close)

Factory default value is **1190*#** (no chime on close)

The user can enable a gate chime notification using the GATE CHIME user code, as detailed in the Druid LCD User Manual. This GATE CHIME ON CLOSE installer code additionally enables chiming on closure of the gate as well.

INPUT TOGGLE SELECT

1 1 1 ? * #

Selects toggling or direct on/off control of the fence monitoring.

? = 0 (direct control) or 1 (toggle control)

Factory default value is **1110*#** (direct control)

With direct control, the fence monitoring is switched on when the input transitions to open circuit. With toggle control, the fence monitoring state is toggled each time the input transitions from closed to open circuit.

Z1 ON/OFF INPUT FUNCTION

1 1 2 ? * #

Sets the functionality of the Z1 On/Off input.

? = 0 (On/Off), 1 (panic), 2 (lock Z1 in an inactive state if input is open i.e. safety lockout)

Factory default value is **1120*#** (On/Off)

Programmable options

Z2 ON/OFF INPUT FUNCTION

1 1 3 ? * #

Sets the functionality of the Z2 On/Off input.

? = 0 (On/Off), 1 (panic), 2 (lock Z2 in an inactive state if input is open i.e. safety lockout)

Factory default value is **1130*#** (On/Off)

FENCE STATE AT POWER ON

2 0 2 ? * #

Sets the operating state that the fence is returned to after a complete power failure has ended.

? = 0 (off), 1 (on) or 2 (fence returns to on/off state at power loss)

Factory default value is **2022*#** (fence returns to on/off state at power loss)

A complete power failure occurs when the unit shuts down due to the internal battery running flat during a prolonged mains power failure.

*Can be directed to a specific zone, using KEYPAD ZONE FOCUS.

FENCE CONDITION CHECK LEVEL

2 2 0 ? * #

Sets the value at which the CHECK message will be displayed should the fence condition indicator reduce to or below this set value.

? = check level between 1 and 8

Programmable range is **2201*#** (1 = poor) to **2208*#** (8 = good)

Factory default value is **2207*#** (7 = fair)

*Can be directed to a specific zone, using KEYPAD ZONE FOCUS.

FENCE ALARM LEVEL

2 3 0 ? * #

Sets the value at which the BAD message will be displayed, and at which the alarm will sound, should the fence condition reduce to or below this set value.

? = alarm level between 0 and 7

Programmable range is **2300*#** (0 = poor) to **2307*#** (7 = fair)

Factory default value is **2305*#** (5 = poor)

The alarm level must always be set below the check level for the new setting to be accepted.

*Can be directed to a specific zone, using KEYPAD ZONE FOCUS.

Programmable options

FENCE ALARM DELAY

2 5 ? ? * #

Sets the delay time for the unit to alarm, after a violating fence condition has occurred.

?? = number of seconds before alarm occurs

Programmable range is **2501*#** (1s) to **2515*#** (15s)

Factory default value is **2503*#** (3s)

*Can be directed to a specific zone, using KEYPAD ZONE FOCUS.

BUZZER MUTE

4 0 0 ? * #

Enables or disables the buzzer mute on the unit and keypad during an alarm condition.

? = 0 (disabled – buzzer unmuted) or 1 (enabled – buzzer muted)

Factory default value is **4000*#** (disabled)

MAGNETIC SWITCH

4 0 1 ? * #

Enables or disables the magnetic switch.

? = 0 (disabled) or 1 (enabled)

Factory default value is **4011*#** (enabled)

When using a keypad, disable the magnetic switch to increase the level of security offered.

TAMPER ALARM

4 0 3 ? * #

Enables or disables the tamper alarm function.

? = 0 (disabled) or 1 (enabled)

Factory default value is **4031*#** (enabled)

When enabled, the tamper alarm will sound if the unit's front is opened while the unit is on. The tamper symbol "t" will always be shown on the display, regardless of whether the tamper alarm is enabled or disabled.

Programmable options

SERVICE ALARM

4 0 4 ? * #

Enables or disables alarming during a service condition.

? = 0 (disabled) or 1 (enabled)

Factory default value is **4041*#** (enabled)

DISPLAY INSTALLER TEL NUMBER

4 0 5 ? * #

Enables or disables the displaying of the installers telephone number during a service condition.

? = 0 (disabled) or 1 (enabled)

Factory default value is **4050*#** (disabled)

When enabling this function, don't forget to set a new telephone number using the (10 digit new telephone number)# code below.

SHOW KEY PRESSES ON LCD

4 0 6 ? * #

Enables or disables the displaying of keypad key presses on the unit's display.

? = 0 (disabled) or 1 (enabled)

Factory default value is **4061*#** (enabled)

For increased security when the unit and keypad are far apart, it may be desirable to disable this function and so prevent the user PIN being read from the unit's display.

SOLAR POWERED INSTALLATION

4 0 7 ? * #

Modifies the unit operation for permanent battery operation.

? = 0 (disabled, requires mains power) or 1 (solar installation)

Factory default value is **4070*#** (disabled)

If the unit is to be run permanently from battery power, which is typically the case when running a solar powered site, then enabling this function will prevent the unit from reacting to mains power loss as an error condition.

MAINS FAIL CHIME

4 0 9 ? * #

Enable or disable mains fail chime.

? = 0 (no chime on mains fail) or 1 (chime on mains fail)

Factory default value is **4091*#** (chime on mains fail)

The unit and connected keypad will chime upon detecting mains failure, if enabled.

Programmable options

DEACTIVATION ON COMMS LOSS 4 8 0 ? * #

Enable or disable whether the unit deactivates fence monitoring when communication is lost.

? = 0 (Deactivation disabled) or 1 (Deactivation enabled)

Factory default value is **4800*#** (Deactivation disabled)

When enabled, the unit will deactivate the fence monitoring when no network communication is present for longer than 60 seconds on the data port. The deactivation only happens once after a communication loss and the function is reset on each successful communication restoration. Therefore, after a communication loss deactivation event, if the unit is manually activated again using the keypad, mag switch or digital input, it will then not deactivate again while communication remains lost.

The communication would have to be restored and then lost again (for more than 60s) for the unit to then self-deactivate again.

SLAVE UNIT PRESENT 5 0 0 _ * #

Enable or disable whether a slave unit should be present.

? = 0 (Master only 2-zone system) or 1 (Slave connected 4-zone system)

Factory default value is **5000*#** (Master only 2-zone installation)

The master unit needs to be configured as to whether a slave unit is connected, creating a four-zone system, or if it is a master only two-zone system. This is required so that a communication failure (service alarm) can be generated should the slave not respond to the master's request for information, and so that the keypad can be dealt with correctly as either a two- or four-zone installation.

Programmable options

EXPANSION CARD CONFIGURATION 5 0 2 ? *

Selects the configuration used in assigning a function to each of the ten relays and each of the four inputs on the expansion card.

? = configuration to select (contact NEMTEK for customized configurations)

Programmable range is **5020*#** to **5022*#**

Factory default value is **5020*#** (Configuration 0)

The expansion card address jumper must be set to 1 for the master unit's information or 2 for the slave unit's information.

Configuration 0.

Relay 1 = Expansion card communication timeout.
Relay 2 = Zone 1 On/Off status.
Relay 3 = Zone 2 On/Off status.
Relay 4 = No Function.
Relay 5 = No Function.

Relay 6 = Mains fail.
Relay 7 = Battery low or Service alarm.
Relay 8 = Zone 1 in "Check".
Relay 9 = Zone 2 in "Check".
Relay10 = Unit tamper state.

Input 1 = Zone 1 On / Off control.
Input 2 = Zone 2 On / Off control.

Input 3 = No Function.
Input 4 = No Function.

Configuration 1.

Relay 1 = Expansion card communication timeout.
Relay 2 = Zone 1 On/Off status.
Relay 3 = Zone 2 On/Off status.
Relay 4 = No Function.
Relay 5 = No Function.

Relay 6 = Zone 1 in "Check".
Relay 7 = Zone 2 in "Check".
Relay 8 = Mains fail, battery low, service, tamper.
Relay 9 = Zone 1 in alarm.
Relay10 = Zone 2 in alarm.

Input 1 = Zone 1 On / Off control.
Input 2 = Zone 2 On / Off control.

Input 3 = No Function.
Input 4 = No Function.

Configuration 2.

Relay 1 = Expansion card communication timeout.
Relay 2 = Zone 1 On/Off status.
Relay 3 = Zone 2 On/Off status.
Relay 4 = No Function.
Relay 5 = No Function.

Relay 6 = Mains fail.
Relay 7 = Battery low, service alarm.
Relay 8 = No Function.
Relay 9 = No Function.
Relay10 = Tamper.

Input 1 = No Function.
Input 2 = No Function.

Input 3 = No Function.
Input 4 = No Function.

LARGE NETWORK TOPOLOGY 5 0 4 ? *

Switches the large network topology from daisy chain to multi drop.

? = 0 (Daisy chain) or 1 (Multi drop)

Factory default value is **5040*#** (Daisy chain)

See the "D24 RS485 Network card" manual for further information on network topologies.

Programmable options

LARGE NETWORK ADDRESS

5 1 ? ? * #

Sets the address of the unit connected in a large network.
Programmable range is **5101*#** (Address 1) to **5132*#** (Address 32)
Factory default value is **5100*#** (No address)

A maximum of 32 units can be networked together using network cards.
The factory default address of 0 is a broadcast address which allows a unit to be found on a new network, but for the network to operate correctly the unit must finally be assigned an address in the range of 1 to 32.

SET INSTALLER TEL NUMBER

**10 Digit Installer
Tel Number** _ _ _ _ _ #

Sets the telephone number to be displayed during a service condition.

The telephone number must be exactly 10 digits long and the displaying of this number must be enabled, as the factory default is to not display this number. (See code **4051*#**)

EXITING PROGRAMMING MODE

* #

Exits programming mode.

Programmable options summary

RESTORE FACTORY DEFAULTS	2 3 8 9 #
ENTER PROGRAMMING MODE	(6 digit installer PIN) * 0 #
CHANGE INSTALLER PIN	0 0 (new 6 digit installer PIN) #
SIREN ON TIME	0 1 m s * #
SIREN OFF TIME	0 2 m s * #
EVENTS BEFORE RE-ARM TIMEOUT	0 3 0 ? * #
SIREN RE-ARM TIME	0 4 d h h m m * #
RELAY ACTIVE OPEN	0 0 6 ? * #
STROBE RELAY FUNCTION SENSOR ALARM MODE	0 0 7 ? * #
STROBE LIGHT Z1 RELAY FUNCTION	0 0 1 ? * #
STROBE LIGHT Z2 RELAY FUNCTION	0 0 2 ? * #
SIREN RELAY FUNCTION	0 0 3 ? * #
GATE ALARM DELAY TIME	1 0 m s * #
GATE CHIME ON CLOSE	1 1 9 ? * #
INPUT TOGGLE SELECT	1 1 1 ? * #
Z1 ON/OFF INPUT FUNCTION	1 1 2 ? * #
Z2 ON/OFF INPUT FUNCTION	1 1 3 ? * #
FENCE STATE AT POWER ON	2 0 2 ? * #
FENCE CONDITION CHECK LEVEL	2 2 0 ? * #
FENCE CONDITION ALARM LEVEL	2 3 0 ? * #
FENCE ALARM DELAY	2 5 m s * #
BUZZER MUTE	4 0 0 ? * #
MAGNETIC SWITCH	4 0 1 ? * #
TAMPER ALARM	4 0 3 ? * #
SERVICE ALARM	4 0 4 ? * #
DISPLAY INSTALLER TEL NUMBER	4 0 5 ? * #
SHOW KEY PRESSES ON LCD	4 0 6 ? * #
SOLAR POWERED INSTALLATION	4 0 7 ? * #
ALARM SENSOR MODE	4 0 8 ? * #
MAINS FAIL CHIME	4 0 9 ? * #
DEACTIVATION ON COMMS LOSS	4 8 0 _ * #
SLAVE UNIT PRESENT	5 0 0 ? * #
EXPANSION CARD MAPPING	5 0 2 ? * #
LARGE NETWORK TOPOLOGY	5 0 4 ? * #
LARGE NETWORK ADDRESS	5 1 ? ? * #
SET INSTALLER TEL NUMBER	(10 digit installer tel number) #
EXITING PROGRAMMING MODE	* #

Revision History

Rev 1.0, 12 January 2021

First release.