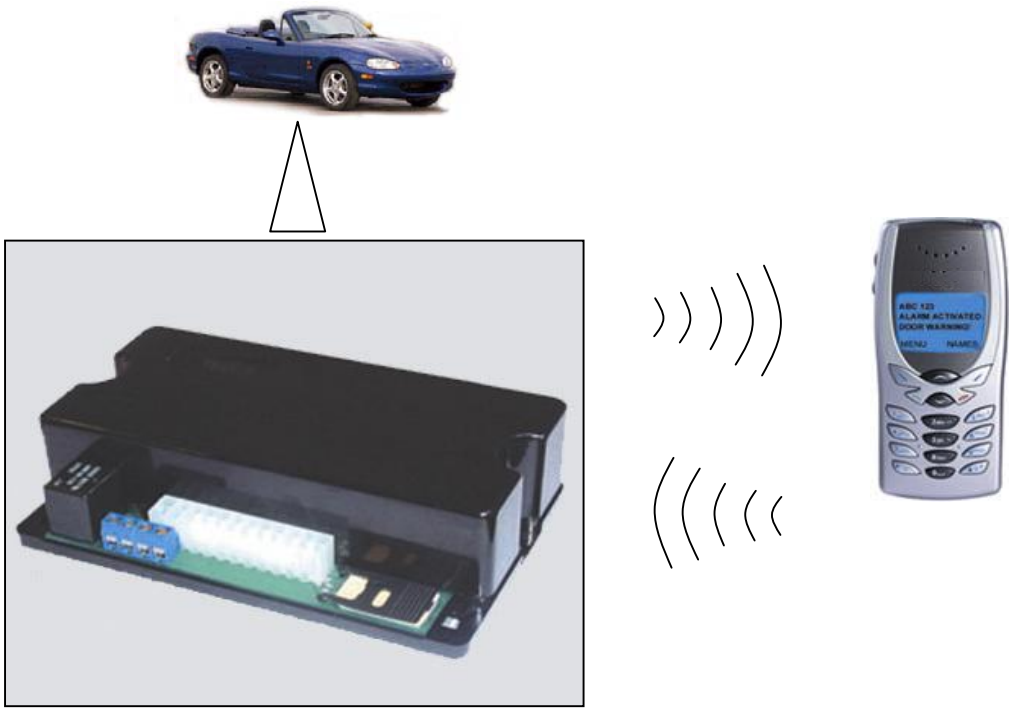

Model: Transformer SMS

PART NO: TSMS

Designed in Australia by

RhinoCo® TECHNOLOGY
LEADING THE CHARGE!

Instruction Manual

Factory Car Alarm Upgrade Providing Alarm Notification Via SMS Messaging

N517

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Quick Reference Guide

STEPS TO QUICKLY SETUP THE TRANSFORMER SMS

1. Setup the PIN Number.
   (ref. 2.6.7. To Change Your PIN Number)

2. Setup the Identification of the alarm system.
   This 'Identification' is a description for the system that appears at the start of every SMS message you will receive from the alarm system.
   (ref 2.6.8 To Change The ID Of The System)

3. Setup the Phone Numbers that the system will send messages to. Refer to the sections Adding/Erasing Phone Numbers from the systems memory.
   (ref. 2.6.4.-2.6.6. Add/Read/Erase Phone Numbers)

NOTE: To receive a FULL list of all commands, send just your PIN number to the TRANSFORMER SMS.

Please note down the relevant details for the alarm system. i.e. The phone numbers that have been programmed into the system, Car Rego Number and the Phone number of the actual TRANSFORMER SMS.

PROGRAMMED PHONE NUMBERS REFERENCE

Vehicle ID (Eg. Registration Plates) _____

TRANSFORMER SMS Phone Number _____

This is the phone number of the TRANSFORMER SMS alarm system.

Stored Phone Numbers

Telephone _____ Telephone _____

Telephone _____ Telephone _____

Telephone _____

1. Introduction

The Transformer SMS Adds State-of-the-Art 2 Way GSM Mobile Phone Communication to Your Existing Factory Car Alarm

- If you intend to rely on the existing factory fitted alarm system in your vehicle, this product enables you to be notified on your mobile phone if the factory alarm is activated
- Notification of factory alarm activation via SMS text message
- Use the original factory remote controls to arm/disarm the system
- Receive SMS alerts when your car battery is low
- Up to 5 people can be notified upon alarm activation
- Failure to respond to an SMS alert causes the system to ring the primary user to gain maximum attention

1.1. Mobile Features

- Remote notification by SMS if the alarm has been triggered and why
- Up to 5 mobiles can be stored & sent notifications (programmable)
- Low battery notification by SMS
  i.e. if you leave your headlights on in your car.
- Programmable 6 digit PIN code for secure operation
- 3 Relay Outputs remotely controlled via SMS (negative outputs)
- Negative Pulse Lock / Unlock Signals to allow remote locking / unlocking of doors (vehicle must be fitted with central locking).
- Positive acknowledgement of ALL SMS commands sent to the TRANSFORMER SMS.
- Warning of no phone coverage on turning ignition off (i.e. no GSM service/coverage)

1.2. Alarm Features

- Fully Microprocessor Controlled
- Ultra-Bright Red Flashing Dash Led Light When Ignition Switched Off
- Negative Output When Ignition Turned Off For Powering Optional Alarm Tilt Sensor.
- Two Negative Inputs Activating SMS Warning Messages On Change Of State
- Negative Pulse Central Locking Outputs To Allow Remote Locking / Unlocking Of Doors

1.3. What You Get

Below is a list of parts included with system.

Item	Description	Quantity	Image
1.	**Main control unit** This All-In-One unit incorporates the mobile phone engine, the SIM card holder, and the main security alarm electronics module. The main wiring harness plugs into the main control unit securely via the 24 way connector. .	1	
3.	**GSM Antenna** The phone antenna plugs directly into the main control unit. The antenna enables the phone signals to be transmitted and received via the mobile network used.	1	
5.	**Wiring Harness** The all black security wiring harness plugs directly into the main control unit. These wires connect the module to the sensors in the vehicle and other accessories.	1	

1.4. Mobile Phone Unit Safety Precautions

Important notes about on-board GSM phones.

1.4.1. Aircraft Safety

Mobile phones can interfere with an aircraft’s navigation system and its mobile network. The use of the Mobile Phone Units on board aircraft is forbidden by law and should be switched off.

1.4.2. Electronics in Medical Equipment

Radio transmitters, including mobile phones can interfere with the operation of inadequately protected medical devices. Please address all questions to a doctor or manufacturer of the medical device.

1.4.3. Precautions in the Event of Loss/Theft

If your Mobile Phone / Mobile Phone Unit , your SIM card or both go missing, notify your network operator immediately in order to avoid misuse.

1.4.4. Important Information

Under no circumstances shall RhinoCo be responsible for any loss of data or income or any special, incidental, consequential or indirect damages howsoever caused.

2. Installation & Operation

2.1. Planning the Installation

Planning and Wire Routing	
Main Unit	The *TRANSFORMER SMS* main unit should be located under the dashboard; out of sight from any would be thief. The main module does not have to be on the driver's side, but is probably more convenient to install on the drivers side as most of the wires used will be found on the driver's side.
GSM Antenna	The phone antenna must be placed under the dashboard at the very top, or in the pillar, preferably furthest away from any metal as the phone signal transmits and receives through the windscreen. The antenna should be straight with no bends. The antenna is the last 8.3cm of the antenna wire, which has been stripped. I.e. The antenna should be placed under the dash and stuck to the very top of the underside of the dash above the speedometer or as high as possible

Installing the Sim Card

Before you insert the Sim Card you must be certain that the POWER and BACKUP BATTERY are removed from the alarm. You can then place the Sim Card in the holder on the front of the unit as shown and re-apply power otherwise you will damage the Sim Card!

2.2. Installing and Wiring The Main Unit

Harness Connections

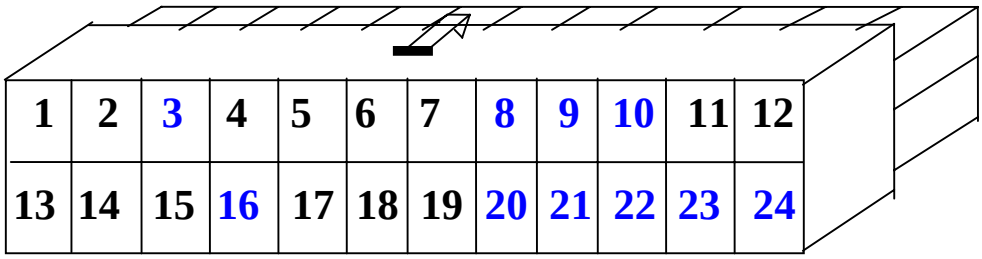
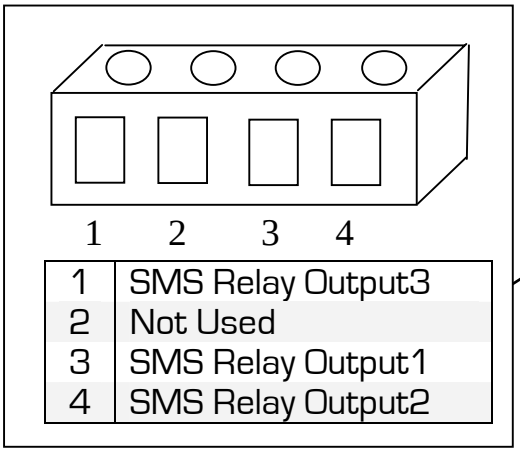


Figure 1

PIN No	CONNECTION	PIN No	CONNECTION
1	NA	13	NA
2	NA	14	NA
3	Factory Alarm Negative Input	15	NA
4	NA	16	Auxiliary Negative Trigger Input
5	NA	17	NA
6	NA	18	NA
7	NA	19	NA
8	Negative Output When Ignition Off	20	Negative Pulse Lock
9	Ignition Input	21	Positive LED
10	Negative Pulse Unlock	22	Negative LED
11	NA	23	Ground
12	NA	24	+12V DC Power



1	SMS Relay Output3
2	Not Used
3	SMS Relay Output1
4	SMS Relay Output2

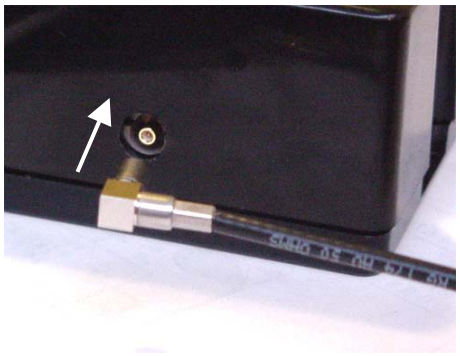
SMS Controlled Relay Output is a 150mA Negative Output when activated i.e. ‘ONOUT1’ Refer to section 2.6.2. SMS Controlled Relay Output

2.2.1. Extended Wiring Descriptions

PIN No	CONNECTION
3	Factory Alarm Negative Input: Connect to a negative on alarm output wire from your factory alarm system i.e. a wire that switches either to or from negative when the factory alarm is activated. When this wire changes state (has negative ground applied or removed), the system will send the SMS alarm message “Alarm Activated”.
8	Optional Connection: Negative on arm. This is a switched negative output (150mA maximum). The output switches negative when the system is armed (ie ignition turned off). Connect it to the negative wire of accessories to the alarm that need to turn on only when the system is armed. (For example usually black on the tilt sensor).
9	Connect to a +12 Volts ignition switched lead, which ***DOES NOT FALL TO 0 VOLT WHEN THE ENGINE IS CRANKED.***
10	Optional Connection: Negative Pulse Unlock Signal (150mA Max). Optional connection to vehicle’s existing central locking system to enable remote unlocking of doors via SMS.
20	Optional Connection: Negative Pulse Lock Signal (150mA Max). Optional connection to vehicle’s existing central locking system to enable remote locking of doors via SMS.
16	Optional Connection: This is a negative auxiliary trigger input, and should be connected to the alarm negative output circuit wire on the optional tilt sensor. When this wire changes state (has negative ground applied or removed), the system will send the SMS alarm message “Alarm Activated - Aux”.
21 & 22	The dash LED is pre-wired to these wires. 21 is the positive and 22 the negative side of the LED.
23	Negative Ground. Connect to the chassis of the vehicle.
24	Connect to constant +12 Volts via the fuse box at the point where the interior light circuit is powered. Current consumption when the system is the untriggered quiescent condition is typically less than 60mA.

2.3. Installing The Antenna

Installing the GSM Antenna



The phone antenna is connected to the main unit by plugging in the antenna into the back of the *TRANSFORMER SMS* unit as shown in Figure 4.

Figure 4

2.4. Accessibility Note

To prevent unauthorised access to the alarm, the user is required to **ALWAYS** put the 6 Digit PIN (consisting of 0-9, A-Z) (the Default Pin Number is – 000000) at the start of each SMS command to confirm the user has access to change the alarm condition i.e. Activating relays.

2.5. Alarm Messages

NOTE:

WHEN WRITING A SMS MESSAGE TO GO TO THE ALARM NO SPACES ARE TO BE USED IN COMMANDS
i.e. 000000COMMAND.

When your alarm is triggered / activated, a SMS Message will be sent to all the phone numbers programmed into the system, advising of the alarm.
i.e. *Alarm Activated.*

Also note that when a message is sent from your TRANSFORMER SMS, it has a customisable identification that is displayed at the start of each message. Refer to Section 2.6.8 To Change The ID Of The System.

2.6. SMS Command Messages

Refer to your mobile phones user manual on how to write SMS messages.

2.6.1. Car Battery Low Warning

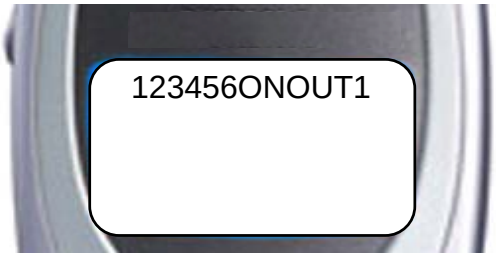
The system will send you an SMS when your car battery voltage reaches a critical level i.e. if you leave your lights on & drain your battery. The message sent is “Battery Low Warning”. The message will only be sent once in a low battery condition.

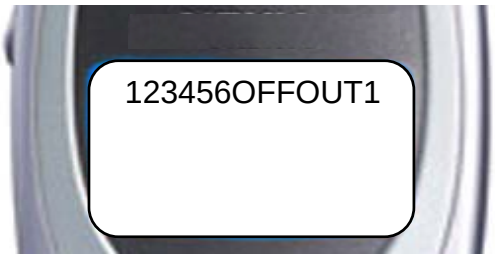
This message will be sent to all mobile phone numbers programmed into the *TRANSFORMER SMS*.

2.6.2. SMS Controlled Relay Output

The *TRANSFORMER SMS* incorporates 3 onboard SMS controlled relay outputs that can be switched on and off with a simple message.

ONOUT1/OFFOUT1: Type your **PIN** number and **ONOUT1** from a mobile phone, and send it to the alarm to activate the relay output. Once the message is sent the alarm will respond with “Output1 turned on.” To turn the relay output off send **OFFOUT1** and the alarm will respond the with “Output1 turned off.”





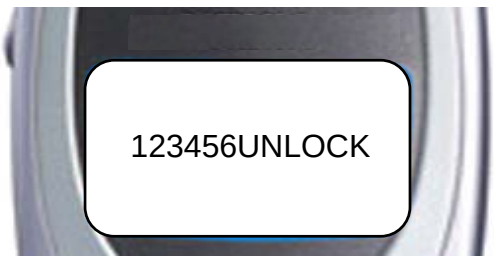
To activate outputs two and three simply substitute the number accordingly i.e. onout2, offout2, onout3 and offout3.

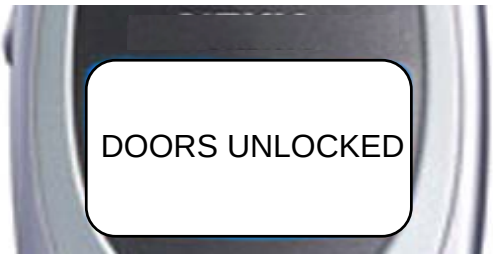
2.6.3. Remote Unlocking of Doors

The *TRANSFORMER SMS* incorporates negative pulse central locking output wires that can be activated with a simple SMS message. If these wires are connected to the vehicle’s central locking system, the car door’s can be unlocked in case the owner locks their keys inside the car, or locked in case the owner has forgotten to lock their car.

LOCK: Type your **PIN** number and **LOCK** from a mobile phone, and send it to the alarm to activate the output. Once the message is sent the alarm will respond with “Doors Locked.”

UNLOCK: Type your **PIN** number and **UNLOCK** from a mobile phone, and send it to the alarm to activate the output. Once the message is sent the alarm will respond with “Doors Unlocked.” eg





2.6.4. To Read Phone Numbers From The System

The Rhino TRANSFORMER SMS alarm is able to be programmed with up to 5 different mobile phones, so when the alarm is armed or put in to panic mode and activates it will send a SMS message to each of the phone numbers in the systems memory.

BY SMS ONLY

Type your **PIN** number and **READPHONE**, and send it to your alarm you can find out the different mobile numbers that are programmed into the system.

(WHERE 123456 = YOUR PIN NUMBER)

You will then receive a reply SMS message back stating all the phone numbers in the alarm systems memory.

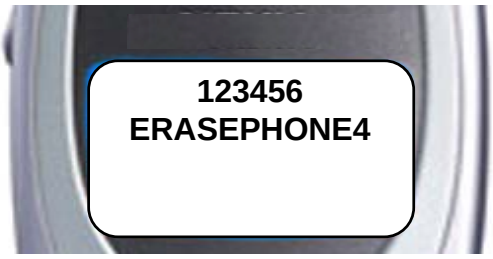
E.G.
Phone Numbers:
1: 0409986655, 2: 040411689, 3: Not Used, 4: Not Used, 5: 0414222345

2.6.5. To Erase Phone Numbers From The System

BY SMS ONLY

There are 5 memory locations for mobile phones. Type your **PIN** number and **ERASEPHONEX**, and send it to your alarm you can erase the mobile phone number that is stored in the location identified by 'X' in the alarm system.

EG: 123456ERASEPHONE3 – will erase the phone number stored in location 3 in the alarm memory.



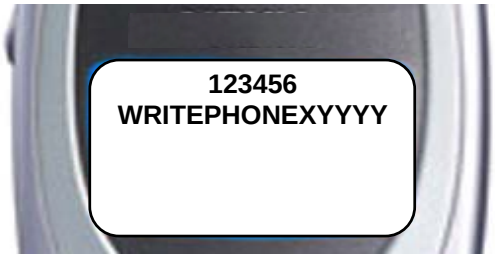
You will then receive a reply SMS message back stating all the phone numbers that are stored in the alarm systems.

E.G.
Phone Numbers: 1: 0409986655, 2: Not Used, 3: Not Used, 4: Not Used, 5: 0414222345

2.6.6. To Add Phone Numbers To The System

BY SMS ONLY

By typing your 6-digit **PIN** number and **WRITEPHONEXYYYY** from a mobile phone, you can add a mobile phone number to the alarm system. The mobile phone number 'YYYY' will go in location 'X'. (X must be between 1 – 5)



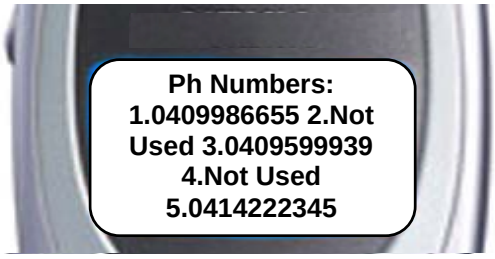
PIN NUMBER ⇓ LOCATION: 1 to 5 ⇓

EG: 123456 WRITEPHONE 3 0409986655

⇑ COMMAND ⇑ NEW PHONE NUMBER

will add the phone number 0409986655 to location 3 in the alarm.

You will then receive a reply SMS message back stating all the phone numbers in the alarm systems memory.



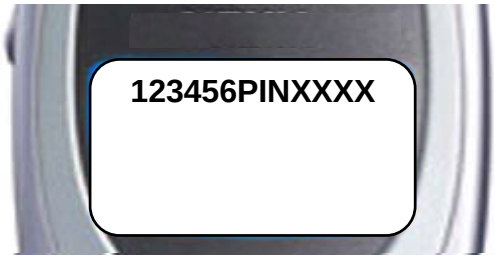
E.G.
Phone Numbers:
1: 0409986655, 2: Not Used, 3: 0409986655, 4: Not Used, 5: 0414222345

2.6.7. To Change Your Pin Number

BY SMS ONLY

Type your **PIN** number and **PINXXXXXX**, you can change the PIN number for accessing features of the alarm system. Where 'XXXX' is the new PIN number you want to have in the alarm system.

NOTE: the Pin number must be 6 digits in length, 0-9, a-Z**.**



EG: 123456PIN000000 – will change the current PIN number to 000000.

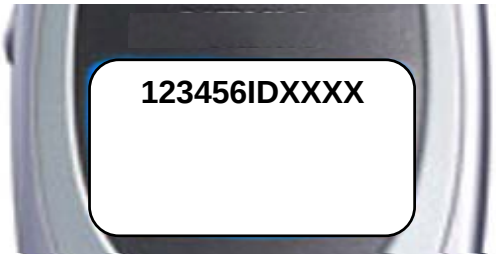
You will then receive a reply SMS message back stating NEWPIN: 000000.

****** <u>The DEFAULT PIN NUMBER is - 000000</u> ******

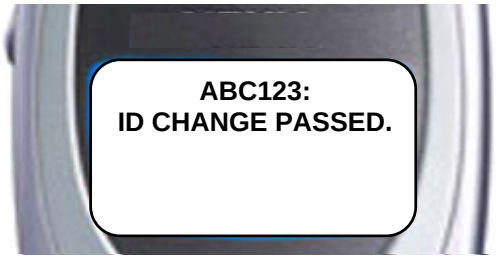
2.6.8. To Change The ID Of The System

BY SMS ONLY

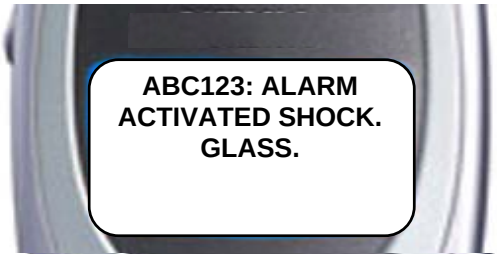
You can change the ID Message that is displayed at the start of the SMS messages you receive. Where XXXXXX is a code to distinguish the alarm from another system. i.e. The car's rego number. Up to 19 characters can be used for the ID.



You will then receive a reply SMS message back saying:
ABC123. ID change passed.



EG: 123456IDABC123 – will change the current ID to ABC123.



2.7 **Operating the System**

2.7.1 Arming the System

To arm the system, simply turn the vehicle's ignition off. This will automatically arm the system. The LED will flash when the system is armed. When armed the system will produce SMS messages on the change of state of the auxiliary input.

Low Coverage Warning
If the system has low GSM coverage then the LED will not flash for the first 10 seconds of arming the system.

2.7.2 Disarming the system

To disarm the system, simply turn the vehicle's ignition on. When disarmed the system will not produce SMS messages on the change of state of the inputs.

3. Warranty

3.1. Warning Limitations & Warranty

While this system is an advanced security system, it does not offer guaranteed protection against burglary or any other emergency. Any alarm system, whether commercial or residential, is subject to compromise or failure to warn for a variety of reasons. For example:

- Intruders may gain access through unprotected openings, or have the technical sophistication to bypass an alarm or disconnect an alarm-warning device.

- Intrusion detectors (e.g., microwave detectors), and many other sensing devices will not work without power. Battery operated devices will not work without batteries, with dead batteries or if the batteries are not put in properly. Devices powered solely by AC will not work if their AC power supply is cut off for any reason, however briefly.

- Signals sent by wireless transmitters may be blocked or reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a metal object is moved into the path.

- Microwave Detectors can only detect intrusion within the designed ranges as set out in their installation manual.

- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers who are located on the other side of closed or partly open doors. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliances, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people or waken deep sleepers.

- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 10 years, the electronic components could fail at any time.

- The most common cause of an alarm system not functioning when an intrusion occurs is inadequate maintenance. This alarm system should be tested weekly to make sure all devices are working properly.

- Installing an alarm system may make one eligible for lower insurance rates, but an alarm system is not a substitute for insurance. Owners should continue to act prudently in protecting themselves and continue to insure their property.

We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

LIMITED WARRANTY

Cornick Pty Ltd (ABN 74 001 621 610) (Seller), warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for twelve months from the date of original purchase. Sellers obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any part which is proved not in compliance with Sellers specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Seller. For warranty service, return transportation prepaid, to 9 Hannabus Place McGraths Hill NSW 2756. Seller has no obligation to attend the buyer's location to retrieve the goods or make repairs onsite.

There are no warranties, expressed or implied, of merchant ability, or fitness for a particular purpose or otherwise, which extend beyond the description on the face hereof. In no case shall seller be liable to anyone for any consequential or incidental damages for breach of this or any other warranty, express or implied, or upon any other basis of liability whatsoever, even the loss or damage is caused by its own negligence or fault.

Seller does not represent that the products it sells may not be compromised or circumvented; that the products will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the products will in all cases provide adequate warning or protection. Customer understands that a properly installed and maintained alarm system may only reduce the risk of a burglary, robbery, or fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result.

Consequently, seller shall have no liability for any personal injury; property damage or other loss based on a claim the product failed to give any warning. However, if seller is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regard less of cause or origin, seller's maximum liability shall not in any case exceed the purchase price of the product, which shall be the complete and exclusive remedy against seller.

This warranty replaces any previous warranties and is the only warranty made by Seller on this product. No increase or alteration, written or verbal, of the obligations of this Limited Warranty is authorized.

NOTE: *In addition to the warranty conditions, warranty will not be given where a product has been immersed in water under any circumstances, or where damage has been caused by hosing the unit, without all due care taken by the owner to protect the unit by covering with some sort of plastic sheeting.*

4. SMS Commands Reference

1. Not case sensitive i.e. 000000OnOuT1 (the software converts it all to uppercase internally)
2. Limit to SMS is 25 messages then 1 allowed every minute (the system automatically overrides the sending of to many messages)
3. Default pin code is 000000 (all zero's)
4. Messages that contain no valid PIN code that are sent to the TRANSFORMER SMS will not get responded to
5. Messages that contain a valid PIN with a command that is not recognised will have a list of messages that are available sent to them i.e.
< Unknown command. Commands are: UNLOCK LOCK ONOUT1 OFFOUT1 READPHONE WRITEPHONE ERASEPHONE ID PIN
6. Six digit PIN MUST be in front of all commands.
7. The ID (identification) is at the start of every SMS received from the TRANSFORMER SMS.

>Send this to TRANSFORMER SMS.
<Receive this from TRANSFORMER SMS.

>**UNLOCK**
<Doors Unlocked

>**LOCK**
<Doors Locked

>**ONOUT1** (these are the same for outputs 1, 2 and 3 just the number changes)
<Output1 turned on.

>**OFFOUT1**
<Output1 turned off.

> **READPHONE** (read phone memory)
<Phone numbers. 1:xxxx 2:xxxxx 3:xxxxx 4:xxxx 5:xxxxx

> **ERASEPHONEX** (x = 1 to 5 erase phone memory 3 and puts "3: Not used" in blank locations on reply)
<Phone numbers. 1:0407123001 2:0407123002 3:Not Used 4:0407123003 5:0407123006

>**WRITEPHONE**xyyyyyyy (phone memory location x = (1-5) with phone number = y)
>WRITEPHONE30414221331 (example)
<Phone numbers. 1:0407123001 2:0407123002 **3:0414221331** 4:0407123003 5:0407123006
<Failed to update phone number, memory location error (if location 0,6,7,8,9 was entered as the location.)

> **ID**xxxxx (write rego or other message to be at the start of every message received from TRANSFORMER SMS =< 19 characters)
< xxxxxx. ID change passed.
i.e. 123456IDXBU-458 replies with XBU-458. ID change passed.

To change the PIN if you know your PIN
>xxxxxx**PIN**xxxxxx (write new pin) i.e. 123456PIN345678
<New PIN number xxxxxxx (replies with new pin)
<PIN change fail. Valid characters are 0-9 a-Z