GSM MONITORING AND SWITCHING DEVICE

Company Profile

In-house R & D development team

Manufacture to international quality standard ISO 9001:2008

100% testing of products

Competent after-sales technical support

Sales and support throughout Southern Africa and over 50 countries worldwide

Contents

Icons used in this manual

This icon indicates tips and other information that could be useful during the installation.

This icon denotes variations and other aspects that should be considered during installation.

This icon indicates warning, caution or attention! Please take special note of critical aspects that MUST be adhered to in order to prevent injury.

Mechanical setup

These abbreviated instructions are for the experienced installer who needs a checklist to get a standard installation up and running in the minimum of time.

Detailed installation features and functions are referred to later in this manual.

step 1   Heed necessary site considerations   page 11

step 2   Gather required tools and equipment   page 11

step 3   Mount the unit housing   page 11

step 4   Insert the SIM card   page 12

step 5   Mount the antenna   page 14

step 6   Detect the GSM signal   page 15

step 7   Set up the **MyGSM** commands   page 21

Electrical setup

Commissioning and handover

IMPORTANT
Safety Instructions

ATTENTION

To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.

The installer, being either professional or DIY, is the last person on the site who can ensure that the operator is safely installed, and that the whole system can be operated safely.

Warnings for the installer

CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS before beginning to install the product.

- All installation, repair, and service work to this product must be carried out by a suitably qualified person
- Secure all easily-accessed controls in order to prevent unauthorised use of the the device
- Do not in any way modify the components of the **MyGSM** unit
- Do not install the **MyGSM** unit in an explosive atmosphere: the presence of flammable gasses or fumes is a serious danger to safety
- Before attempting to install the unit, cut electrical power to the control box where the **MyGSM** unit will be mounted
- Make sure that the earthing system is correctly constructed, and that all metal parts of the system are suitably earthed
- Explain these safety instructions to all persons authorised to use **MyGSM**, and be sure that they understand the hazards associated with **MyGSM** system
- Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger
- Dispose of all waste products like packaging materials, worn out batteries, etc. according to local regulations
- Centurion Systems does not accept any liability caused by improper use of the product, or for use other than that for which the automated system was intended
- This product was designed and built strictly for the use indicated in this documentation. Any other use, not

expressly indicated here, could compromise the service life/operation of the product and/or be a source of danger

Everything not expressly specified in these instructions is not permitted.

1. Declaration of conformity

Please note that this page has been left blank intentionally, and will be updated in the near future

2. General description

The **MyGSM** range of GSM (Global System for Mobile Communication) modules allows up to 5000 individual users to activate a maximum of eight outputs (depending on model) using their mobile phones or landlines. These outputs can be used to open a gate, activate an alarm system, turn on a borehole pump, etc. Activation can be either via a missed call (no charge), 'Please Call Me' (no charge) or a pre-specified text message (SMS)(Short Message Service). In addition, users can be notified by SMS, of the activation of any of the inputs on the module, in the event of an alarm activation, a power failure etc, with up to ten numbers per input that can receive notifications. The unit can also be configured to initiate missed calls or via 'Please Call Me' or missed call to users when the inputs are activated, a highly beneficial feature since the transaction carriers no cost.

Functionality may vary according to user profile

MyGSM offers an optional online interface through which an unlimited number of modules can be easily added and administered. The online portal, **www.MyGSM.co.za**, allows for the configuration of several advanced features such as access time management and activation programming. These and related features will be discussed in further detail in the section on the web portal.

The **MyGSM** range of GSM modules uses the GSM mobile phone network to enable remote control and monitoring between itself and up to 5000 users via their mobile phones. A valid, and activated, SIM(Subscriber Identity Module) card is required in order to use the module on the GSM network.

When programming the **MyGSM** device, each user's phone number can be set to:

- Activate a specified output/s with a missed call
- Activate any of the outputs via a unique, user-defined SMS
- Activate any of the outputs via a 'Please Call Me'
- Up to ten users per input can be notified by a unique, user-defined SMS, 'missed call' or 'Please Call Me' of any of the inputs being activated
  - Programming of the module is secure via a user-defined "master number"
  - All users calling or sending an SMS to the module need to ensure that their Caller Line Identification Presentation (CLIP) is activated on their phone to ensure that the module recognises the user's learned-in phone number
  - If a contract SIM card is being used in the module itself, CLIP must also be enabled on that SIM card. (This can be done by first inserting the SIM card into a mobile phone and enabling CLIP)
  - Ensure that the SIM card in the GSM module does not have "Call Forwarding" enabled
  - The SIM card in the GSM module must have the PIN (Personal Identification Number) code disabled
  - The **MyGSM 2I2O** model requires a power supply of 9V to 12V DC, and the **MyGSM 8I8O** model requires a power supply of 12V to 24V DC
  - The outputs are potential-free, and rated to 1A to 30V DC
  - Both normally-open and normally-closed contacts are provided
  - Inputs can be configured to either switch to positive or negative, or both

It is strongly advised that a pre-paid SIM card (with limited airtime) is used, and that it is also password-protected. These measures will give you peace of mind as they will ensure that your SIM card will have little or no value should it ever get stolen.
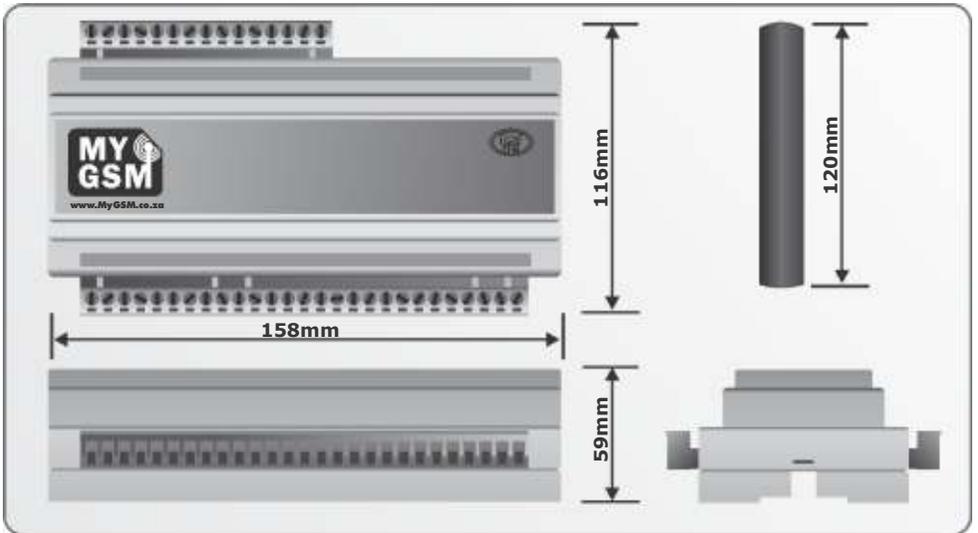
3. Specifications

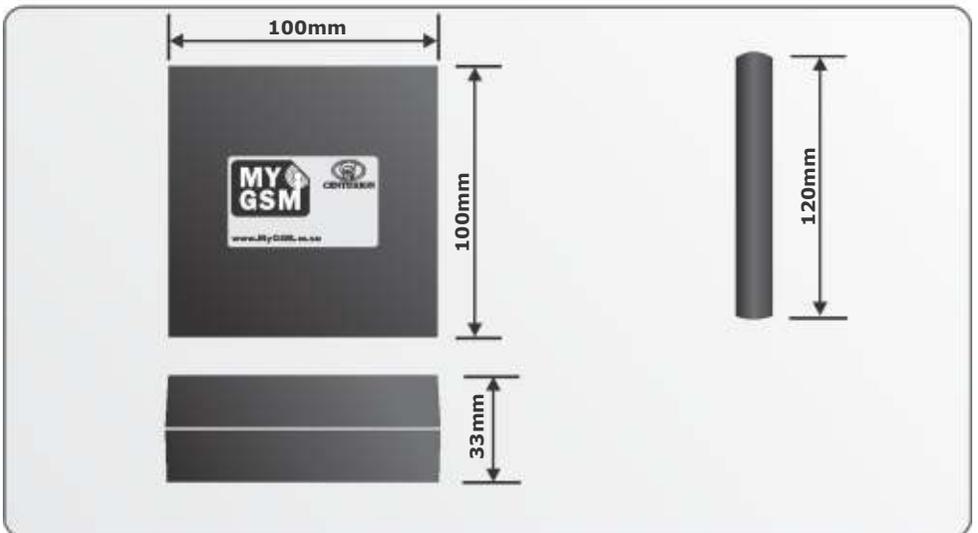## Physical dimensions

FIGURE 1. OVERALL DIMENSIONS OF MyGSM 8I8O

116mm
120mm
158mm
59mm

FIGURE 2. OVERALL DIMENSIONS OF MyGSM 2I2O

100mm
100mm
120mm
33mm

Technical specifications

| Physical	MyGSM 2I2O	MyGSM 8I8O
Supply voltage	9V - 12V DC only	12V - 24V DC only
Standby current	85mA	50mA @ 12V DC
Maximum current	500mA	500mA
Operating temperature	-20°C - +85°C	-20°C - +85°C
Output relay rating	1A @ 30V DC (outputs 1 and 2)	1A @ 30V DC (outputs 1 to 8)
Housing material	ABS	ABS (DIN rail mounting)
Degree of protection	IP54	IP54

Functional	MyGSM 2I2O	MyGSM 8I8O
Memory capacity	5000 individual numbers	5000 individual numbers
Memory retention	>200 years	>200 years
Output pulse time range	Two seconds or latch	Two seconds or latch
Network required	GSM 900/1800MHz	GSM 900/1800MHz
SIM card required	Yes (activated)	Yes (activated) Dual SIM card capacity
Outputs	Two (potential-free)	Eight (potential-free)
Inputs	Two (optically isolated) ten numbers per input can receive reports	Eight (optically isolated) ten numbers per input can receive reports

4. Product identification
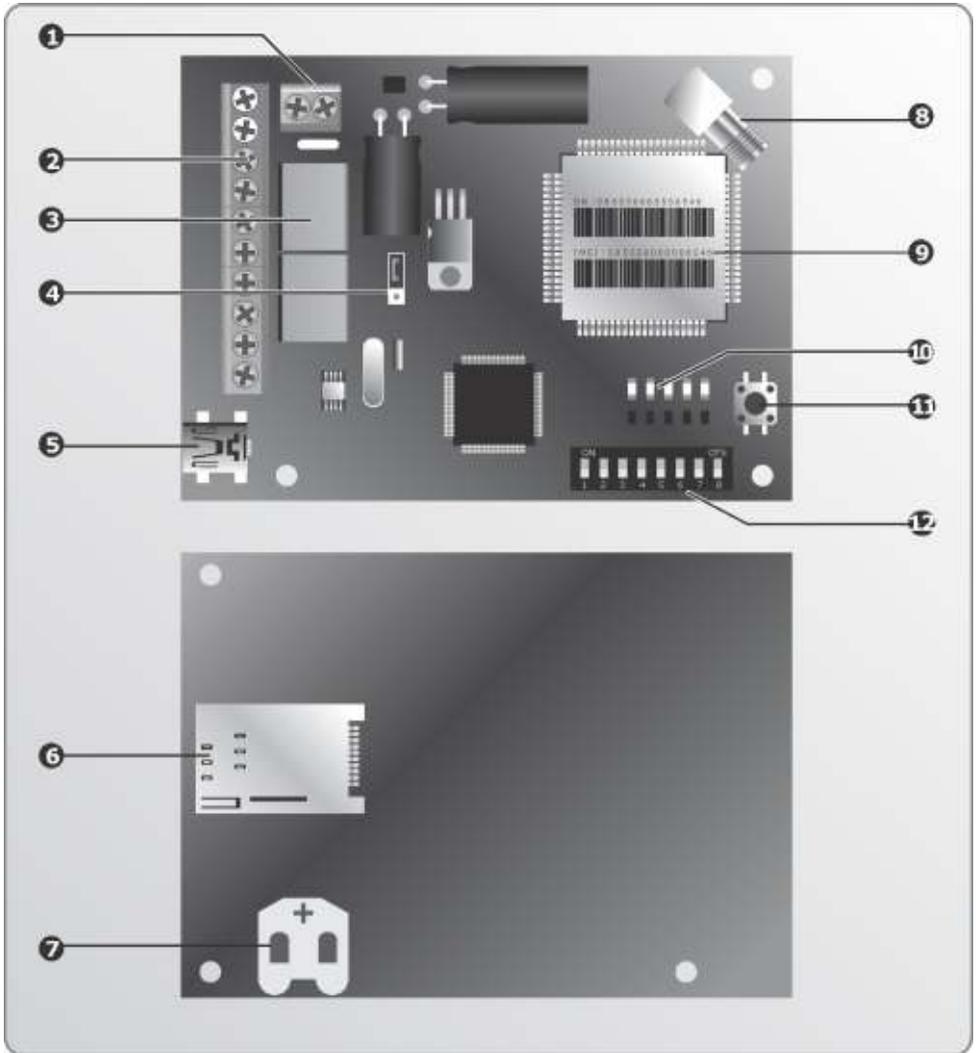
FIGURE 3. MyGSM 2I2O PRODUCT IDENTIFICATION

1. 12V DC input terminals
2. Terminals
3. Relays
4. Normal/USB programming jumper
5. USB programming port
6. SIM card inside SIM card holder
7. Coin cell battery
8. SMA Antenna connector
9. IMEI(International Mobile Station | Equipment Identity number
10. Signal strength indicator LEDs/status LEDs
11. Query signal strength button
12. Dipswitches (must all be in off position)
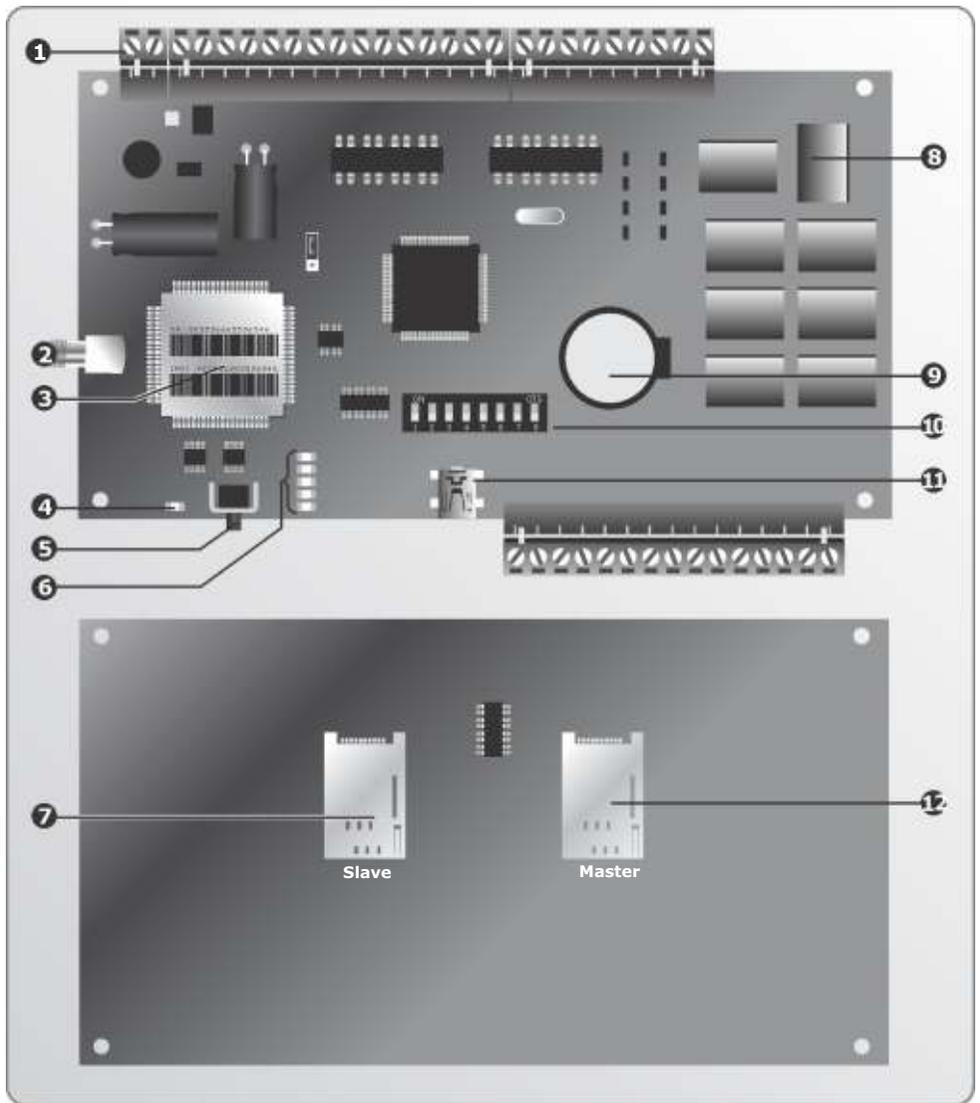
FIGURE 4. MyGSM 8I8O PRODUCT IDENTIFICATION

1. Terminals
2. SMA antenna connector
3. IMEI number
4. GSM network LED
5. Query signal strength button
6. Signal strength indicator LEDs/status LEDs
7. Slave SIM card holder

8. Relay
9. Coin cell Battery
10. Dipswitches
    (must all be in off position)
11. USB programming port
12. Master SIM card holder

5. Required tools and equipment

- Screwdriver - 3.5mm flat
- Side cutter
- Drill bits - 5mm masonry; 6mm drill bit
- Silicone sealant
- Fasteners and rawl plugs

6. Preparation of site

General considerations for the installation

- The housing of the **MyGSM** module is IP54 rated, which means that it is protected against water splashed from all sides and fine desert sand
- The unit can be mounted inside the housing of the device that it is operating, such as the gate motor if the GSM network signal is adequate
- If mounting the **MyGSM** externally, give consideration to its location as it should not be within reach of unauthorised persons

A weatherproof wall box made from durable ABS plastic is available from Centurion Systems and includes a mounting bracket suitable for both the **MyGSM 2I2O** and **MyGSM 8I8O** models, as well as mounting holes for fitting relay cards.

7. Mounting instructions

Mounting MyGSM 2I2O

The housing of the **MyGSM 2I2O** unit can either be mounted externally in order to pick up the maximum GSM network signal or it can be mounted inside the housing of the device that it is operating, such as the gate motor, if the GSM network signal is adequate.

1. Separate the two halves of the enclosure, remove the PC board and place the two halves together again before starting to drill the cable entry hole.

   The two halves of the enclosure must be pressed together firmly while drilling so as to avoid damaging it.

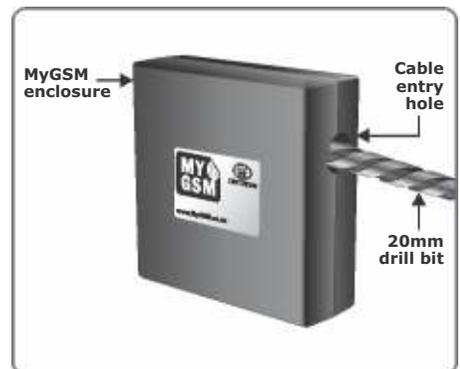2. Using a 20mm drill bit, drill a cable entry hole in the side of the enclosure as shown in Figure 5.

FIGURE 5.

3. Drill a mounting hole in the centre of the enclosure base and mark position of the unit against the mounting surface.

4. Using a 5mm masonry bit, drill a hole into mounting surface.

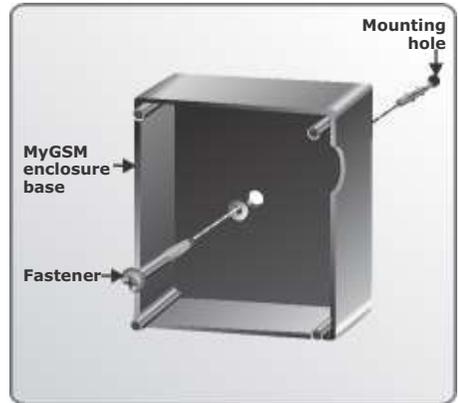5. Mount the unit using suitable fasteners as shown in Figure 6.

FIGURE 6.

If you are programming using the USB facility, the programming must be done before placing the PC board back in the enclosure.

6. Connect the USB cable to the USB port as shown in Figure 7 and follow the programming instructions in Section 12.

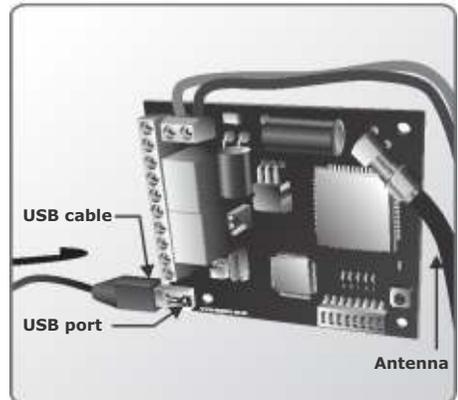7. Connect all the necessary wiring and the antenna.

FIGURE 7.

Insert an activated SIM card

Ensure that a SIM card going into the module for the first time is not PIN(Personal Identification Number)-protected. The SIM card holder is located on the underside of the module

8. To insert a new SIM card, flip the module over so that the electronic components are facing downwards.

9. Taking care to ensure that the SIM card's gold contact pads face the PC board, simply slot the card into the holder.

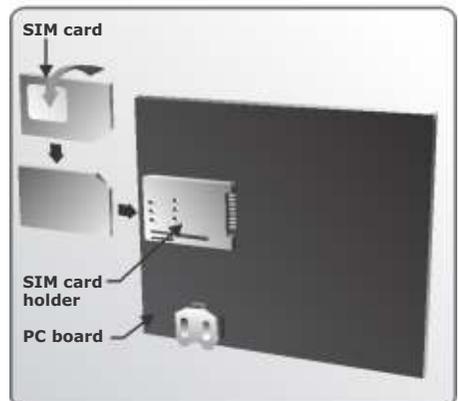10. Correct insertion of the SIM card will result in an audible 'click' being heard.

FIGURE 8.

11. Using the supplied adhesive standoffs, mount the PC board onto the enclosure base already mounted.

12. Fit a cable gland into the cable entry hole and run the cables through the gland as shown in Figure 9.

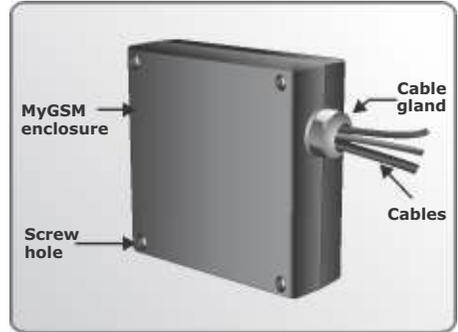13. Replace the cover of the enclosure and fasten using the screws supplied.

FIGURE 9.

Mounting MyGSM 8I8O

If you are programming using the USB facility, the programming must be done before placing the PC board back in the enclosure.

1. To remove the cover of the enclosure, insert screwdriver into slot and twist.

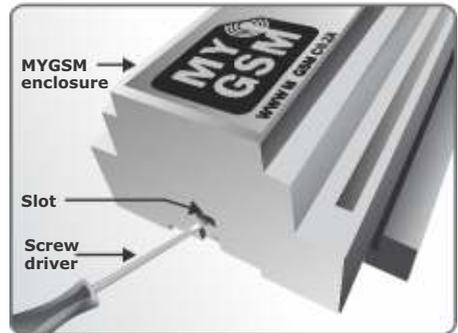2. Remove the PC board from the enclosure to access the SIM card holder located on the underside of the module.

FIGURE 10.

Insert an activated SIM card

The **MyGSM 8I8O** module offers two SIM card holders, providing a backup facility should the Master SIM card be unable to obtain a GSM signal. The unit will first attempt to use the Master SIM card and, should no signal be present, it will attempt to use the Slave SIM card. However, it is possible to use a single SIM card should you not wish to make use of the backup facility'.

When one SIM card is used, always use the Master SIM card slot. Ensure that a SIM card that goes into the module for the first time is not PIN protected. The SIM card holder is located on the underside of the module; to insert a new SIM card:

3. Flip the module over so that the electronic components are facing downwards.

4. Taking care to ensure that the SIM card's gold contact pads face the PC board, simply slot the card into the holder.

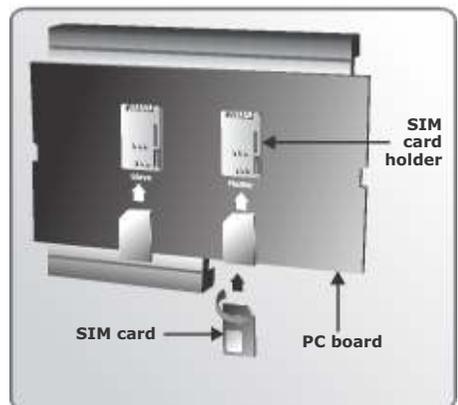5. Correct insertion of the SIM card will result in an audible 'click' being heard.

FIGURE 11.

6. Connect the USB cable onto the USB port as shown in Figure 12 and follow the programming instructions in Section 12.

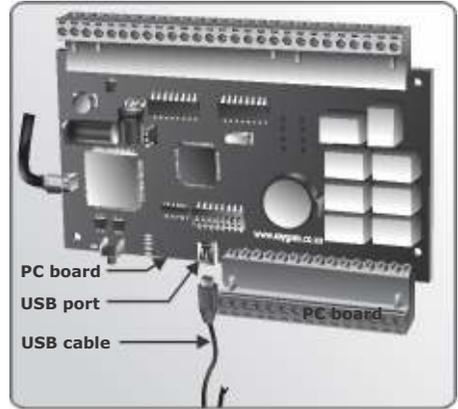7. Replace the module PC board in the enclosure base and replace the cover.

PC board
USB port
USB cable
PC board

FIGURE 12.

8. Slide the **MyGSM 8I8O** module onto the DIN-rail in the distribution box where the module will be housed as shown in Figure 13.

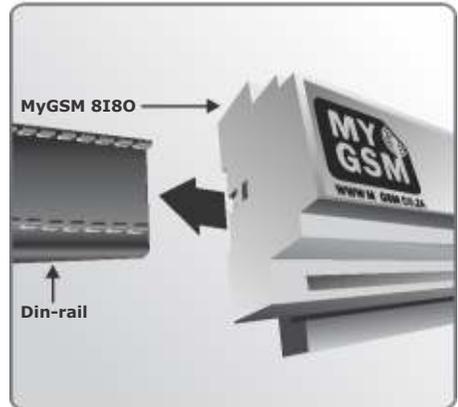9. Connect the antenna and all the necessary wiring.

MyGSM 8I8O

Din-rail

FIGURE 13.

The rear side of the antenna has a double-sided tape backing, which may be used to affix the antenna to a desirable location. Please ensure that the surface to which you affix the antenna is smooth, clean and dry, to ensure reliable adhesion

10. Power up the module, hold the antenna and locate a position where there is optimum GSM signal. Remove the adhesive cover at the back of the antenna and mount.
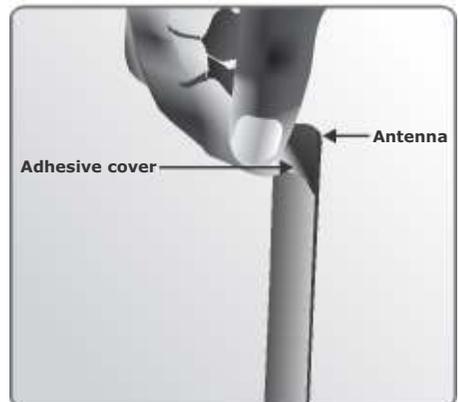

Antenna
Adhesive cover

FIGURE 14.

8. GSM network signal detection

With the GSM module powered up, press and hold the signal strength button in order to query the amount of network coverage currently detected by the module. The GSM signal strength can be determined based upon the number of LEDs that illuminate, with each LED representing 20% of total signal strength.
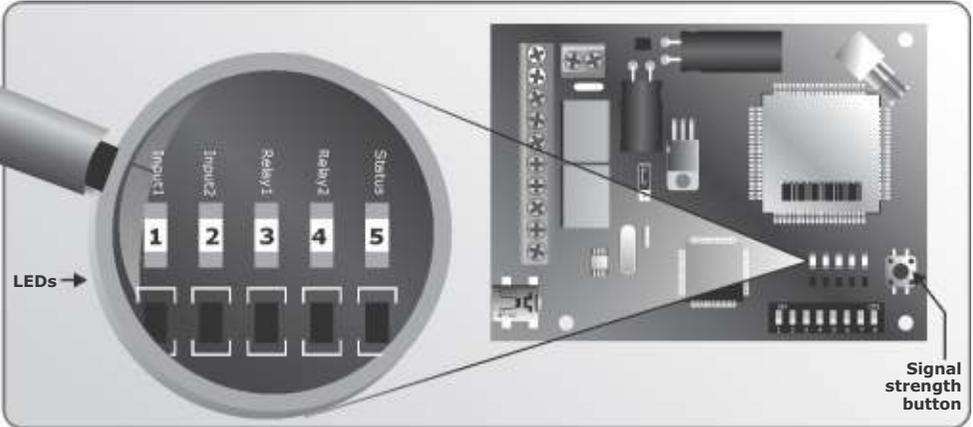

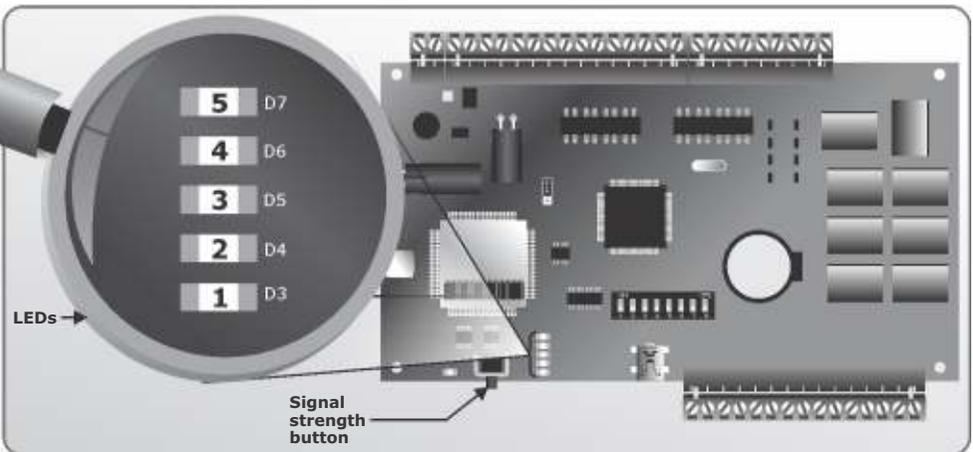**FIGURE 15a. MyGSM 2I2O**

FIGURE 15b. MyGSM 8I8O

The GSM signal strength may be enhanced by repositioning the antenna. Ideally the antenna should be mounted externally, and away from any sensitive electrical components.

Illuminated LEDs	Signal strength
1	20%
2	40%
3	60%
4	80%
5	100%

9. Wiring diagrams

MyGSM 2I2O

Power supply 12V DC only

Relay 1 output

Relay 2 output

+12V DC

GND(-)

+12V DC

FIGURE 16. MyGSM 2I2O

Power supply 12V DC only

+12V DC

N/O1

Cp108 CP106

COM1

N/O2

COM2

GND
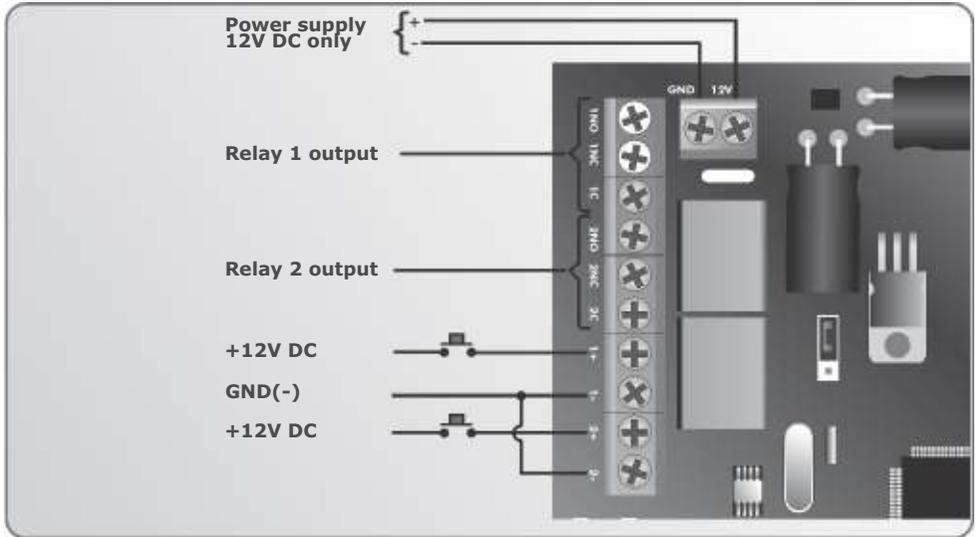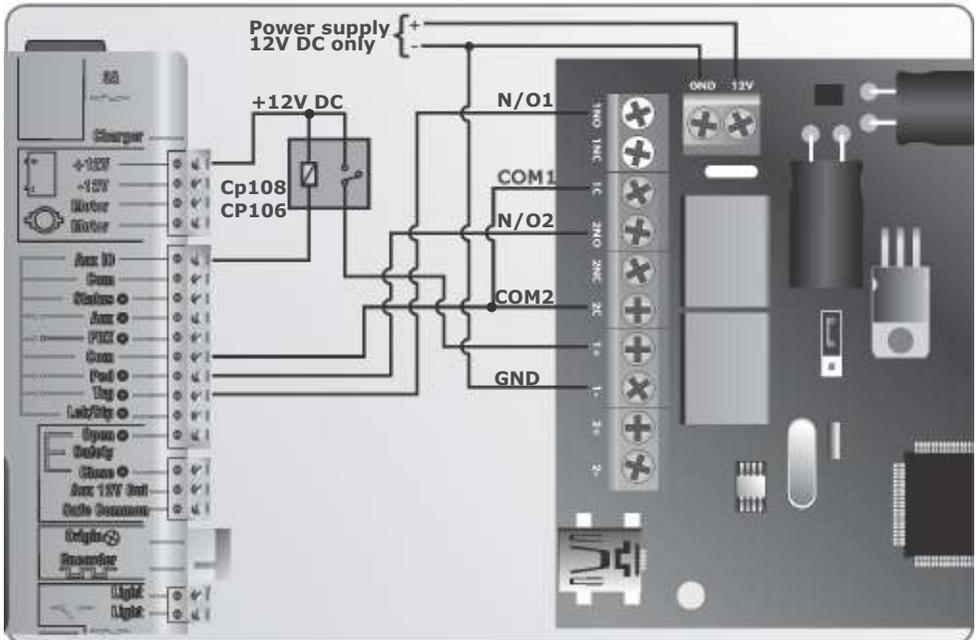
FIGURE 17. MyGSM 2I2O CONNECTION TO D5-EVO

N   **L**

2 pole geyser isolator

In4007 Diode

COM/DNG

220V 2 pole contactor

Power supply 12V DC only

Geyser on and off

N   **L**

Geyser

12V DC 2 pole relay
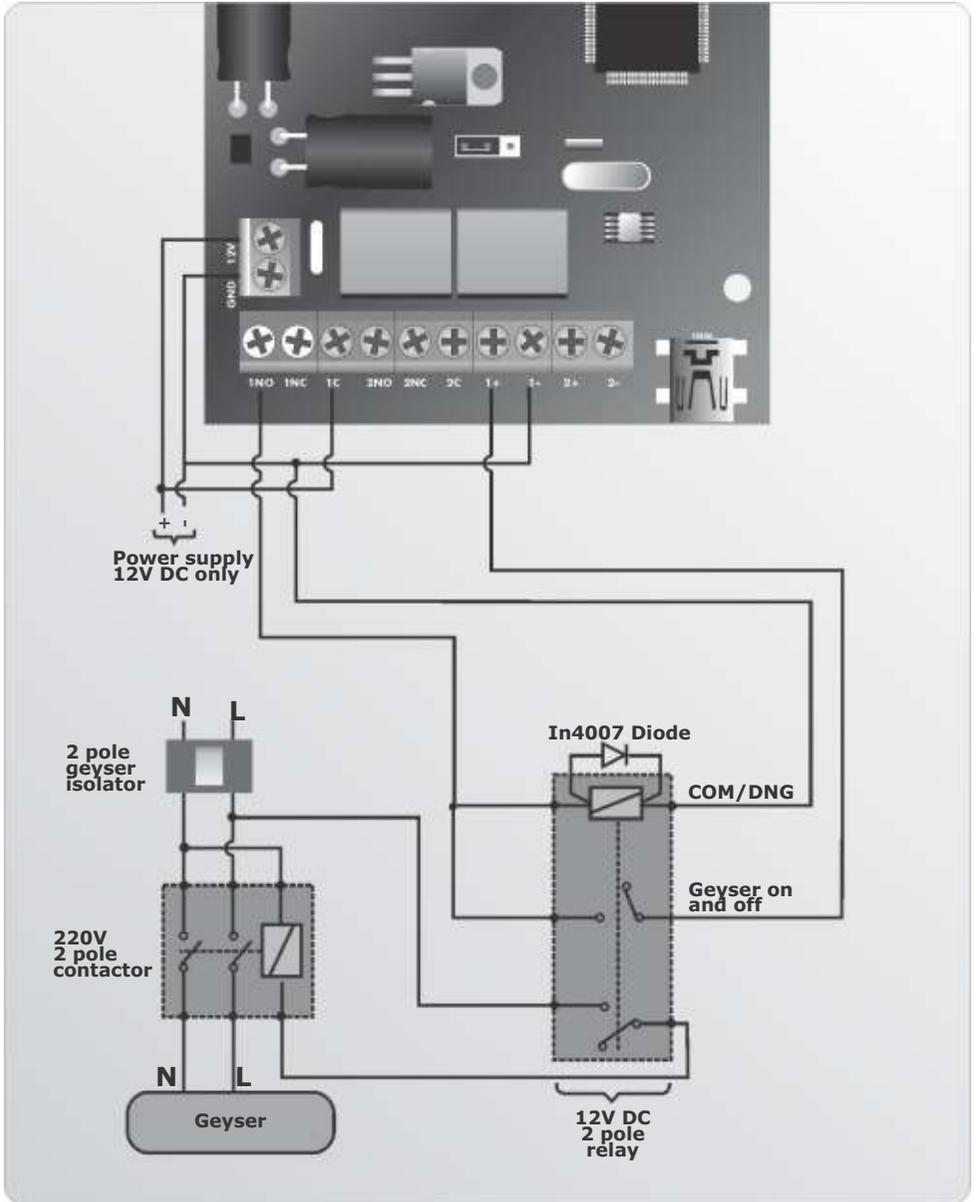
FIGURE 18. MyGSM 2I2O CONNECTION TO A GEYSER

MyGSM 8I8O
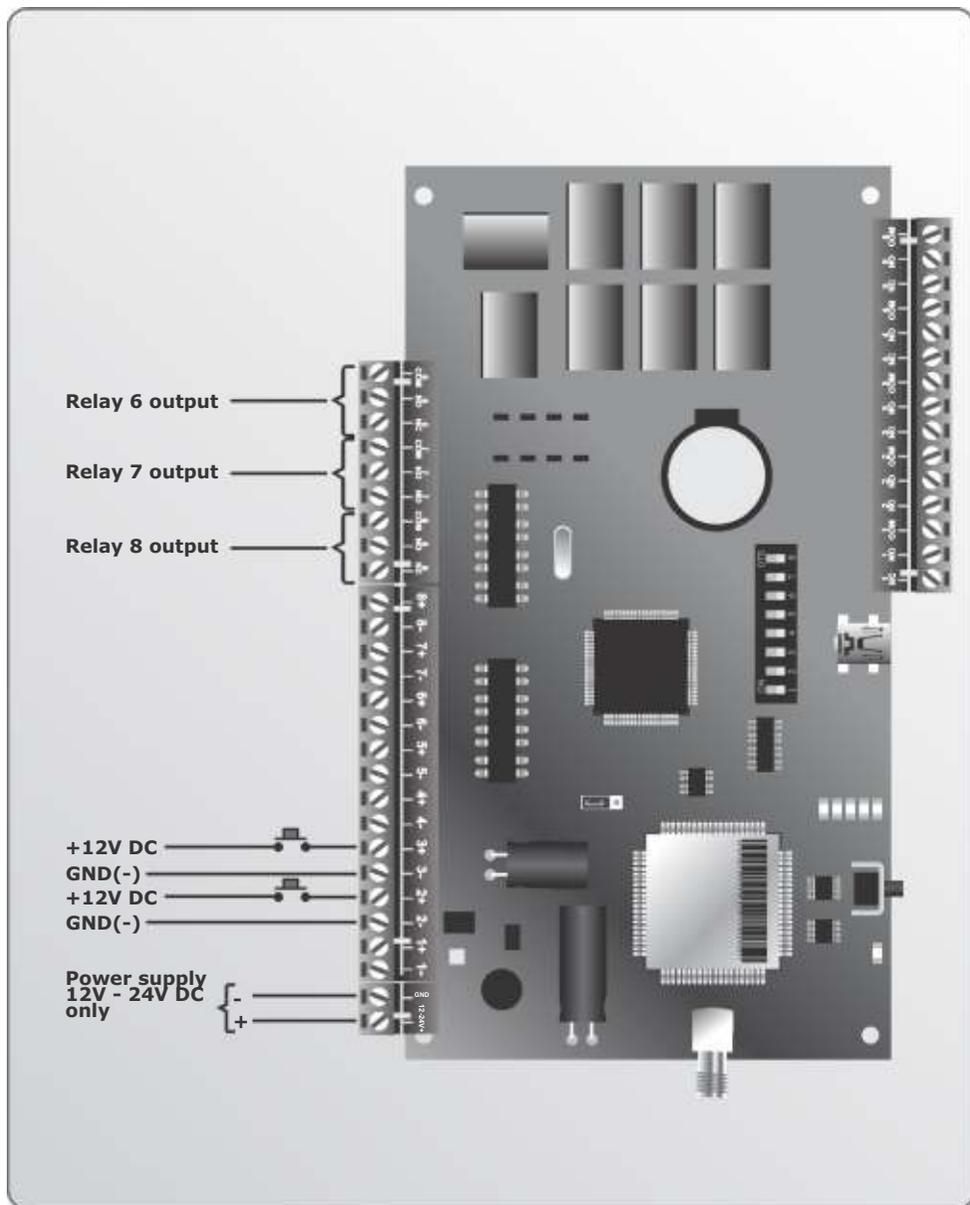
Relay 6 output

Relay 7 output

Relay 8 output

+12V DC
GND(-)
+12V DC
GND(-)

Power supply
12V - 24V DC
only

FIGURE 19. MyGSM 8I8O

MyGSM 8I8O

FIGURE 20. MyGSM 8I8O CONNECTION TO A PUMP

N L

In4007 Diode

2 pole pump Isolator

COM/DNG

+ -

Power supply 12V - 24V DC only

220V 2 pole contactor

N L

Pump

12V DC 2 pole relay
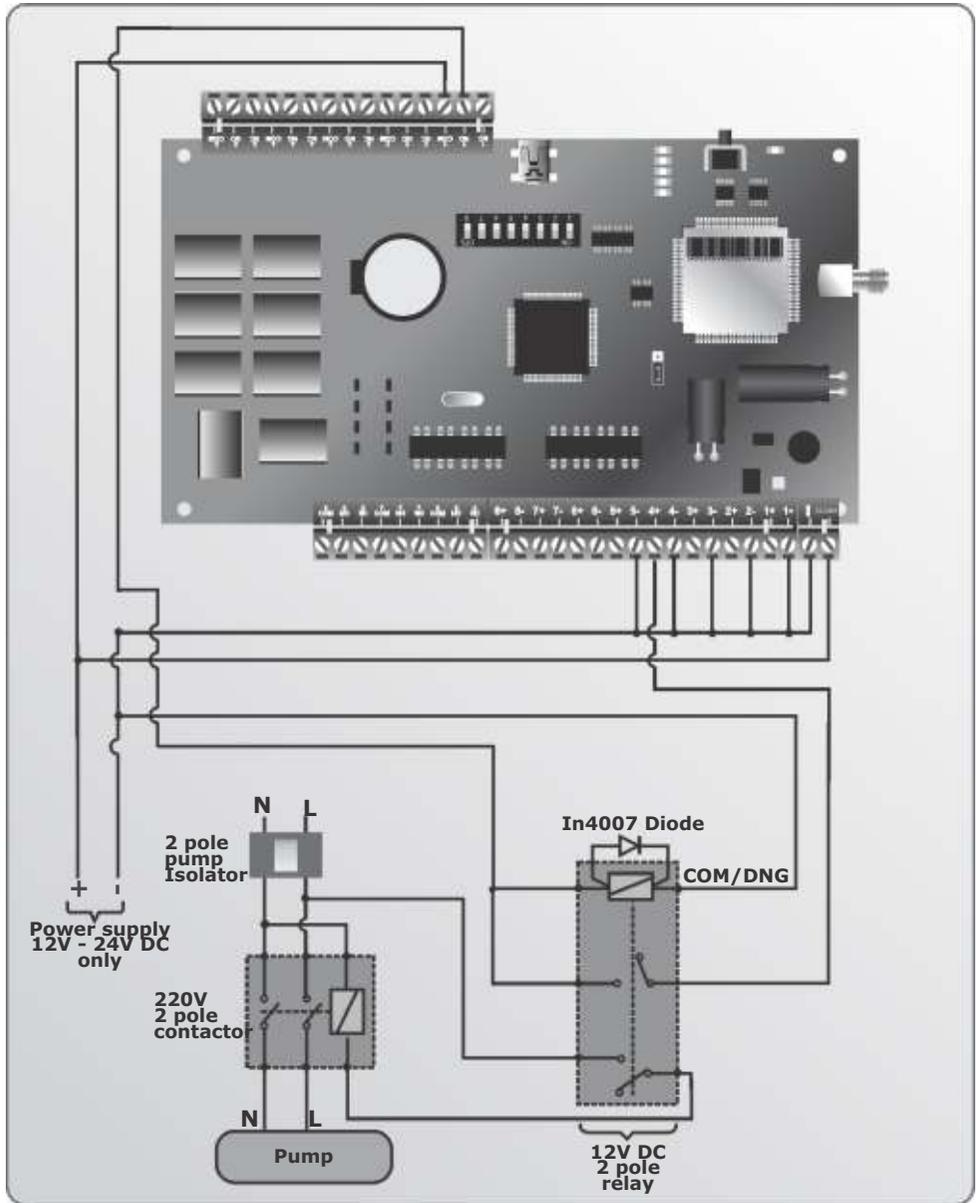
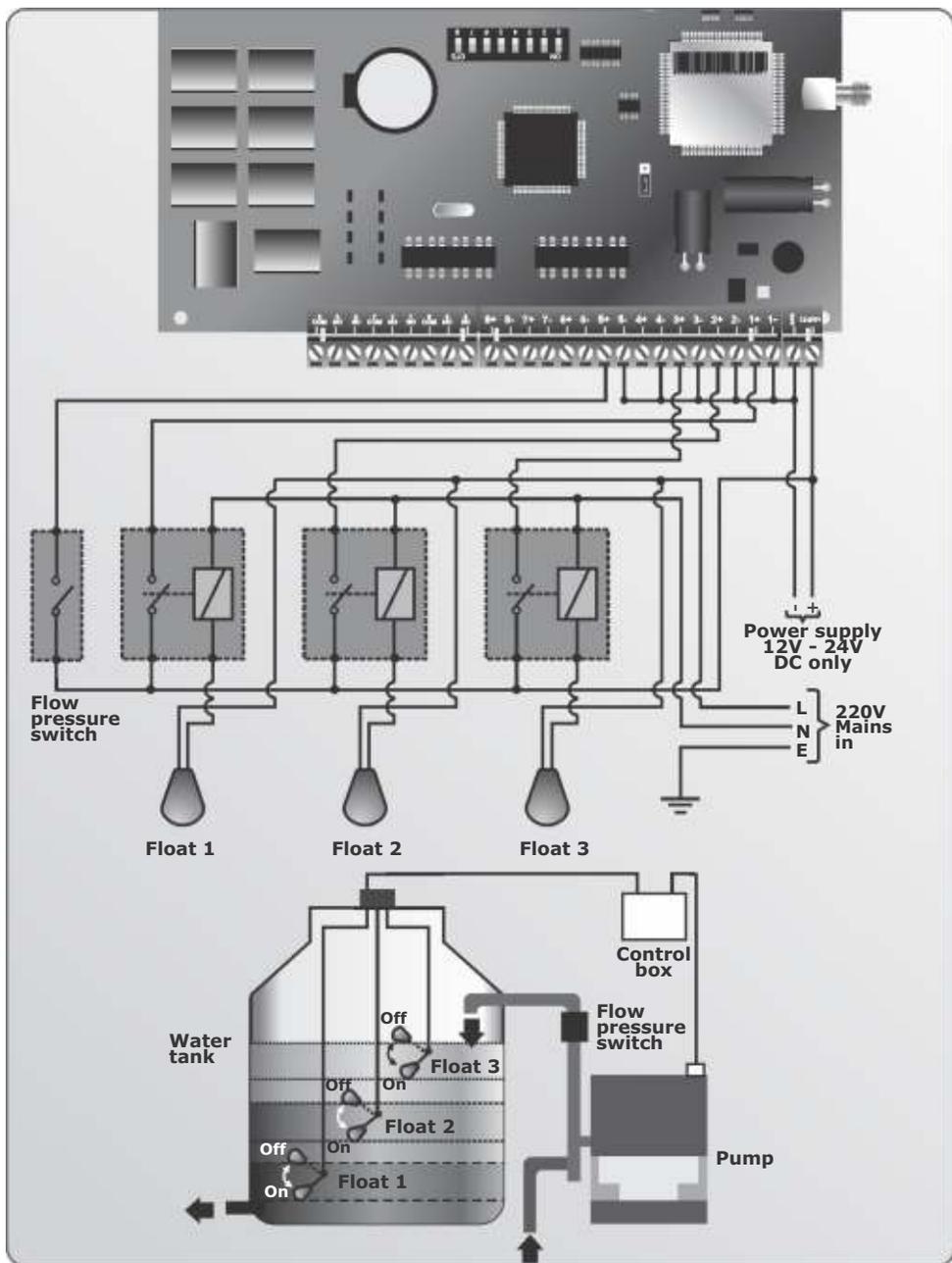**FIGURE 21. MyGSM 8I8O CONNECTION TO A WATER TANK WITH 3 FLOAT LEVELS**

10. MyGSM configuration using SMS

FIGURE 22

Multi-user Capability (5000 users)

It is important to note that the memory of the **MyGSM** GSM module (both models) is limited to 5000 mobile phone numbers. In other words a maximum of 5000 phone numbers can be registered on the system at any one time. Each phone number can be configured uniquely with respect to inputs and outputs, as well as activation and notification messages.

Each input can notify up to ten numbers either via **SMS**, **'missed call'** or **'Please Call Me'.**

Setting the Administrator Number

To maintain a high level of security, an 'Administrator Number' must be set, which will be the only number that can add and delete users, effect changes to the system's settings, etc. This command must be executed before the unit will accept any numbers.

This command does not add the number as an access number, but merely sets it as an Administrator capable of adding users and configuring the unit. To add it as an access number, refer to the next section, which provides an overview of the different commands.

- To set an 'Administrator Number', SMS the following command to the unit from the phone you wish to assign as an administrator: **SETADMIN**
- SMSing the command **CLRADMIN** to the unit deletes the current Administrator. The command must be sent from the current administrator's phone

Commands are **not** case sensitive

Command overview

Programming commands are sent to the module using a standard text message (SMS). The module can also be configured via the **www.MyGSM.co.za** web portal or via your computer's USB port and the **MyGSM** software, both of which will be discussed in the relevant sections.

All commands can only be sent from the administrator number.

	Description	Parameters
SETADMIN	Sets the 'Administrator Number' for the unit (must be done **before** any numbers can be added)	
CLRADMIN	Clears the current 'Administrator's Number' from the system memory. Must be sent from the current Administrator's phone	
ADD	Adds a new phone number to the system	Phone number(s) - up to 16 digits each
DELNUMBER	Deletes a number from the system's memory	Phone number - up to 16 digits
SETUNITNAME	Assigns a name to the GSM unit	Unit name - up to 15 characters
INPUTLIST	Requests a list of numbers assigned to a specific input	Input number (Either 1 - 2 or 1 - 8 depending on MyGSM model)
SETCLOCK	Sets the current date and time on the module	Date and time in format yyyy-mm-dd hh:mm:ss
SETRESPONSE	Configures the unit inputs to respond by either an SMS (default), 'missed call' or 'Please Call Me' when activated	1 - (SMS) 2 - (missed call) 3 - (Please Call Me)
ENABLE	Enables inputs/outputs This command does not activate the output/input when sent to the unit, but merely enables the output/input to respond to future activations.	OUTPUTS (enables all outputs), OUTPUTn (n = 1 to 8★); INPUTS (enables all inputs), INPUTn (n = 1 to 8★)

	Description	Parameters
DISABLE	Disables inputs/outputs	OUTPUTS (disables all outputs), OUTPUTn (n = 1 to 8★); INPUTS (disables all inputs), INPUTn (n = 1 to 8★)
SETINPUTNAME	Assigns a name to an input	1 to 8★; input name (maximum of 15 digits)
SETOUTPUTNAME	Assigns a name to an output	1 to 8★; output name (maximum of 15 digits)
SETINPUTMODE	Configures the input trigger mode as either rising or falling edge, or both	1 to 8★; rising (R), Falling (F), Both (B)
SETEVENTNAME	Specifies text for the SMS message to be sent upon activation of the rising and falling edges respectively	Event name, (maximum of 15 characters)
SETRELAYMODE	Sets the outputs relay(s) as either pulsed or latching	1 to 8★; pulsed (P), latched (L). By default, the relays are set for pulsed operation
RECHARGE	Loads an airtime voucher to the SIM card in the GSM module	Airtime voucher number
AIRTIME	Queries the amount of airtime currently on the SIM card in the GSM module	
STATUS	Queries the status of the unit	
IO	Queries both the input and output status or states	
SETSMSREPORTMODE	Enables or disables SMS confirmation report, but not SMS replies from web portal.	0 (off) or 1 (on)
RESET	Resets the GSM module. Once the reset operation has been completed, an SMS will be sent to the administrator number	
REPORTMODE	Enables or disables GPRS (General Packet Radio Service) reporting	0 (off) or 1 (on) The default setting is OFF
REPORTIP	Sets the IP(Internet Protocol) address to be used for GPRS	IP address
REPORTPORT	Sets the port for GPRS	Port number

★ Depends on model

Adding a phone

This command allows new phone numbers to be added to the system. When adding a new phone, it is possible to specify which outputs are to be activated by a missed call from the phone, and which inputs will cause a message to be sent to the phone. The amount of time for which the number will be valid can also be set using this command.

Up to ten numbers per input can receive alerts, and more than one input can be assigned, using a single command. For example, Inputs 1, 5 and 7 can all be configured to send notifications to the number "0823013325" by sending the command "ADD i157 27823013325" to the module.

	Description	Parameters
ADD	Adds a new phone number to the system	Phone number(s) (up to 25 digits each)

Examples (commands have been highlighted for clarity)

Command	Description
ADD 27731233455	Adds phone number 0731233455 to the system and, since no parameters are specified, by default assigns output 1 to be activated by a 'missed call' from this number. This allows easy addition of new phones to a basic system
ADD 27823013325 i12 o2	Adds phone number 0823013325 to the system, assigns output 2 to be activated by a 'missed call' from this number, and inputs 1 and 2 to send notifications to the number when triggered. The text to be included in the input notification (if set for SMS notification) can be specified using the 'SETINPUTNAME' command
ADD 27798549983 i12345678 o1 12	Adds phone number 0798549983 to the system, and assigns output 1 to be activated by a 'missed call' from this number. Inputs 1, 2, 3, 4, 5, 6, 7 and 8 will all send notifications to the number when triggered, and the number will remain in the system's memory for a period of 12 days

Deleting a number

This command allows a number to be deleted from the system.

	Description	Parameters
DELNUMBER	Deletes a number from the system's memory	Phone number - up to 16 digits

Examples (commands have been highlighted for clarity)

Command	Description
DELNUMBER 27837654321	Deletes phone number 0837654321 from the system.

Configuring the Module - First time user

These commands allow the functionality of the system to be configured. Outputs can be set up, states of inputs/outputs checked, reporting capabilities managed, etc.

	Description	Parameters
SETADMIN	Sets the administrator number for the unit	Phone number - up to 16 digits
ADD	Adds a new phone number to the system	Phone number(s) - up to 16 digits each
SETUNITNAME	Assigns a name to the GSM unit	Unit name - up to 15 characters
SETCLOCK	Sets the current date and time on the module	Date and time in format yyyy-mm-dd hh:mm:ss
SETINPUTNAME	Assigns a name to an input	1 to 8★; input name (maximum of 15 digits)
SETOUTPUTNAME	Assigns a name to an output	1 to 8★ ; output name (maximum of 15 digits)
SETINPUTMODE	Configures the input trigger mode as either rising or falling edge, or both	1 to 8★ ; rising (R), falling (F), both (B)
SETEVENTNAME	Specifies text for the SMS message to be sent upon activation of the rising and falling edges respectively	Event name (maximum of 15 digits)
SETRELAYMODE	Sets the outputs relay(s) as either pulsed or latching	Sets the outputs relay(s) as either pulsed or latching

★ Depends on model

Examples (commands have been highlighted for clarity)

Command	Description
SETUNITNAME Pump Station	Sets the name of the GSM module as 'Pump Station'. A maximum of 15 characters is allowed.
SETCLOCK 2012-07-31 21:34:55	Sets the date and time on the GSM module as 31 July 2012, 21:34:55
SETRESPONSE 2	Configures the module inputs to initiate a missed call when activated.

ENABLE OUTPUT 3	Enables Output 3 so that it will activate when subjected to a valid trigger (either a missed call, SMS or Please Call Me).
ENABLE OUTPUTS	Enables **all** outputs so that they will activate when subjected to a valid trigger (either a missed call, SMS or Please Call Me)
DISABLE INPUT 3	Disables Input 3 so that it will not respond to any trigger
SETINPUTNAME 3 Tank Full	Sets the name of Input 3 as 'Tank Full'. This means that should the input be activated (i.e. the tank full state reached), this text will appear in the notification sent to users. A maximum of 15 characters is allowed
SETOUTPUTNAME 1 Alarm	Sets the name of Output 1 as 'Alarm'. A maximum of 15 characters is allowed
SETINPUTMODE 1 B	Sets Input 1 to trigger on both rising and falling edges
SETEVENTNAME 1 R PUMP ON Before this can be set, the input trigger mode must first be configured using the **SETINPUTMODE** command.	This command will set a message containing the text 'Pump On' to be sent to users when the voltage on Input 1 rises from 0V to 12V. A maximum of 15 characters is allowed
SETEVENTNAME 1 F PUMP OFF (Will typically be used together with the above example) Before this can be set, the input trigger mode must first be configured using the **SETINPUTMODE** command.	This command will set a message containing the text 'Pump Off' to be sent to users when the voltage on Input 1 falls from 12V to 0V. A maximum of 15 characters is allowed
SETRELAYMODE 2 L	Sets Relay 2 as a latching output
SETSMSREPORTMODE 0	Turns off the SMS reporting feature

Querying the module

The command set below can be sent to the module in order to obtain information on the status of the module, as well as the states of the individual inputs and outputs. An SMS will be sent to the administrator containing this data.

	Description	Parameters
STATUS	Queries the status of the unit	
IO	Queries the input and output states	

Sending the **STATUS command** to the unit will reply with the following information
- The name of the module
- The firmware version
- The names of the inputs
- Whether the outputs are set for pulsed or latching operation
- The signal strength
- The unit's IMEI number

Sending the **IO command** to the unit will result in an SMS being sent to the administrator containing the following information:

Outputs
- The state of the relay
- Whether it is set for pulsed or latching operation
- Whether it is enabled or disabled

Inputs
- The input level, i.e. whether it is high or low
- Whether the input level is set for rising or falling edge
- Whether the input level is locked or unlocked

A typical IO report would look as follows

Relays	Explanation
LEVEL: 00001100	Relays 1 to 4 and 7 and 8 are **de-energised**; relays 5 and 6 are **energised**
MODE: LLLLPPPP	Relays 1 to 4 are set for **latching** operation; relays 5 to 8 are set for **pulsed** operation
LOCK: UUUULUUU	Relays 1 to 4 and 6 to 8 are **enabled** (unlocked); relay 5 is **disabled** (locked)

Inputs

LEVEL: 00001100	Inputs 1 to 4 and 7 and 8 are **low** and inputs 5 and 6 are **high**
MODE: FFFRFRFR	Inputs 1,2 ,3, 5 and 7 are set for **falling** edge; inputs 4, 6 and 8 are set for **rising** edge
LOCK: UUUULUUU	Inputs 1 to 4 and 6 to 8 are **enabled** (unlocked); input 5 is **disabled** (locked)

Airtime

The amount of airtime remaining on the unit can be queried, and airtime vouchers can be loaded, by making use of the following set of commands:

It is important for the SIM card to have at least some airtime available for communicating with the web portal, or if the unit is to send notifications to users (this will reduce the amount of available airtime by the cost of an SMS text message).

	Description	Parameters
RECHARGE	Loads an airtime voucher to the SIM card in the GSM module	Airtime voucher number
AIRTIME	Queries the amount of airtime currently on the SIM card in the GSM module	

Examples (commands have been highlighted for clarity)

Command	Description
RECHARGE 4568298754231	Loads airtime onto the GSM module using voucher number "4568298754231"

Alternative SMS activation/deactivation of outputs

The outputs on the module can be explicitly activated and deactivated by sending an SMS command to the module, from a valid phone (a valid phone is one for which a number exists in the system, and one for which outputs have been assigned) by sending the command string "ON" and the output's number or name (if one has been assigned) to the module. Similarly, outputs can be deactivated by sending the command string "OFF" and the output's number or name to the module.

For this command to work you must have set up the output name using the "SETOUTPUTNAME" command. If these commands are to be used, a name must first be assigned to the output(s) using the 'SETOUTPUTNAME' command.

Examples (commands have been highlighted for clarity)

Command	Description
ON ALARM	Activates the output that has been named 'Alarm'
OFF ALARM	Deactivates the output that has been named 'Alarm'

11. MyGSM configuration using the web portal

MyGSM offers an optional online interface through which an unlimited number of modules can be easily added and administered. The online portal, www.MyGSM.co.za, allows for the configuration of several advanced features such as access time management and activation programming. Functionality depends on user profile.

FIGURE 23.

Registration

Before **MyGSM** GSM units can be added and administered via the web portal, it is first necessary to register and create a user profile. To accomplish this:
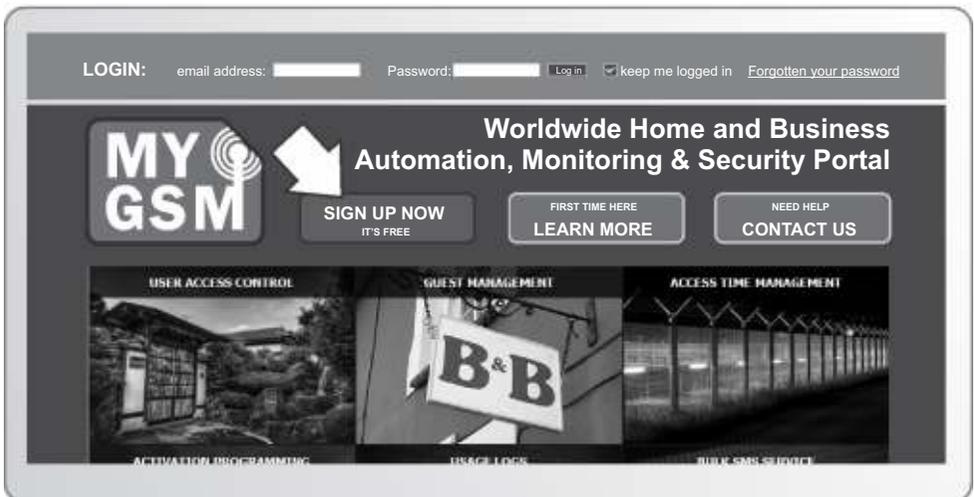
FIGURE 24.

1. Navigate your internet browser to **www.MyGSM.co.za** and click on the **"Sign Up Now"** button at the top of the screen as shown in Figure 25

2. This will take you to the "Pricing" and "Sign Up" page. Select either **"Free User"** or **"Full User"**, depending on your specific requirements

FIGURE 25

3a. The **"Free User"** registration option offers the following functionality:

- Add unlimited units
- Add up to 750 users per unit
- Send bulk SMSs to users and clients
- Ten free credits on Sign Up★

 This option is ideal for home-owners.

3b. The **"Full User"** registration option offers the following functionality:

- Add unlimited units
- Add up to 5000 users per unit
- Send bulk SMSs to users and clients
- Control unit enable/disable times
- Control unit on/off times
- Control unit user access times
- Guest addition functionality
- 10 free credits on Sign Up★

★ Credits are required to effect changes to the module settings. Each change made from the web portal uses one credit. Read more about credits on page 42.

4. Once you have selected your preferred registration option, you will be directed to the "sign-up" form. Complete the required fields and click on **"Sign Up"** at the bottom of the screen form as shown in Figure 26

FIGURE 26

5. Once you have completed and submitted the "Sign Up" form, an "activation link" will be sent to your email inbox.

 You must click on this "link in" order for your account to be activated.

6. Once your account has been activated, you can log in and start using the CENTURION **MyGSM** web portal. You should receive the activation link immediately after registering. However activation may take up to 24hrs

7. After your account has been activated, navigate your browser to **www.MyGSM.co.za**, enter the login fields at the top of the screen and click on Login.

Adding a new unit
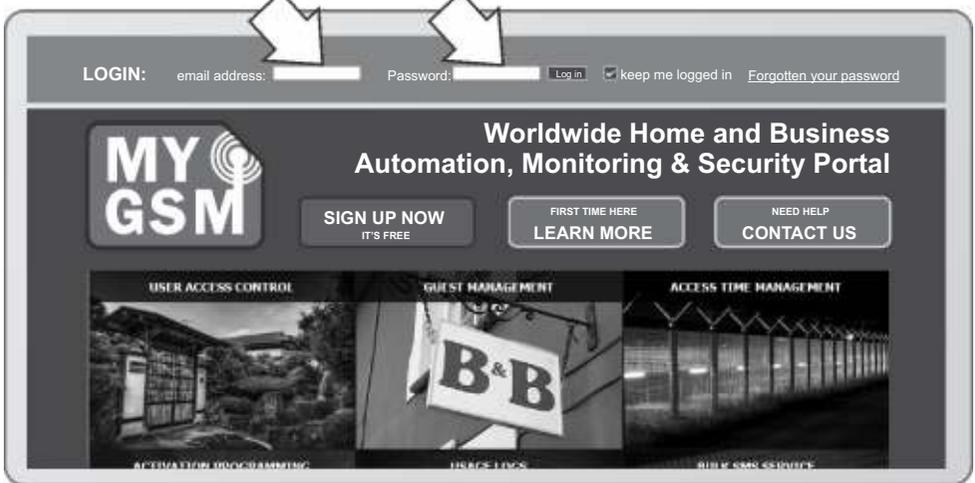
- Ensure that the SIM card to be used in your GSM module is active and has been registered in terms of the RICA act (Regulation of Interception of Communications)

- Ensure that the SIM card has been registered on the relevant network

- The SIM card's PIN code must be disabled

- Ensure that airtime has been loaded onto the SIM card

- The unit must be powered up

Assigning the unit

1. Move the cursor with your mouse over the **"Units"** button at the top of the screen. This will produce a drop-down menu with the names of all units already assigned (if any), as well as an option to add a new unit. Click on **"Add New Unit".**
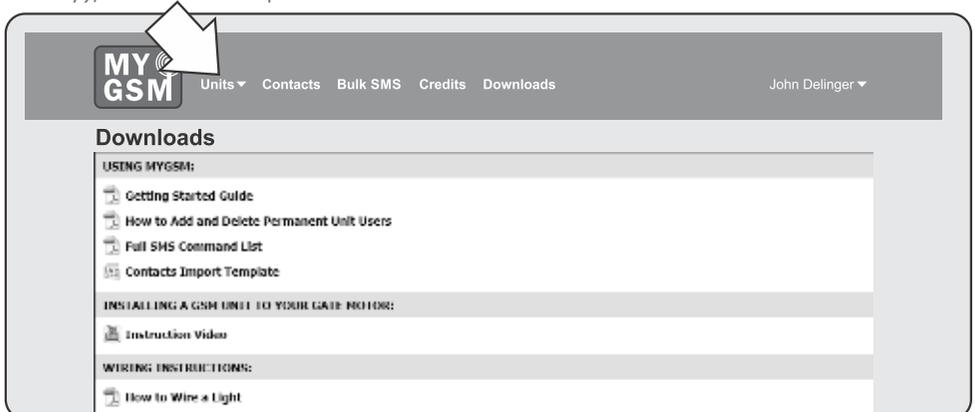
2. Enter the unit's 15-digit IMEI number and SIM card's mobile number. The IMEI number will be displayed on the product packaging as well as on the GSM module itself as indicated below in Figure 30.

15-digit
IMEI number
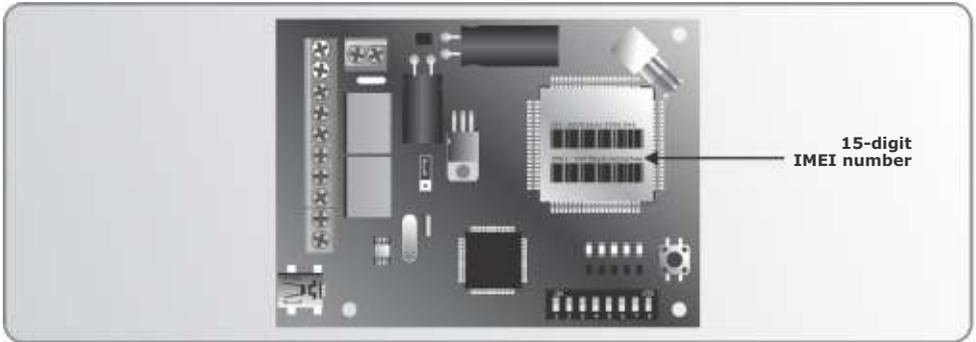
FIGURE 29.

3. After entering the IMEI and mobile numbers, click on the **"Continue"** button.
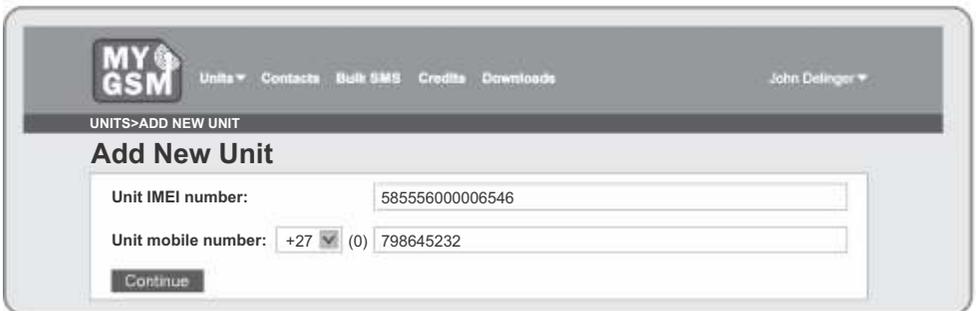
FIGURE 30.

4. This will take you to the "unit settings" screen. Here you can assign a name to the unit, as well as to the individual inputs and outputs.

FIGURE 31

Each change made will deduct one credit from your account.

5. Click on **Complete Unit Addition**. To add more units, repeat from Step 1.

Adding Contacts

1. To add contacts to a unit's memory, click on the **Contacts** button at the top of the screen.

Contacts will not yet be able to perform any activations or receive notifications. They must first be assigned **User** status, which will be discussed in the next section.

FIGURE 32

2. Click on **Add New Contact.**

3. Complete the applicable fields – at least one mobile number must be entered.

4. An entire household's numbers can all be stored under a single contact entry.

5. Click on the **Add Contact** button at the bottom left-hand side of the screen.

6. To add more contacts, repeat from Step 1 above.

Assigning users

Users are "contacts" that are able to exercise some sort of influence over the unit, such as activating a relay or receiving notifications when inputs are triggered.

To assign a "contact user" status:

1. Move your cursor over the **"Units"** button to produce the dropdown menu.
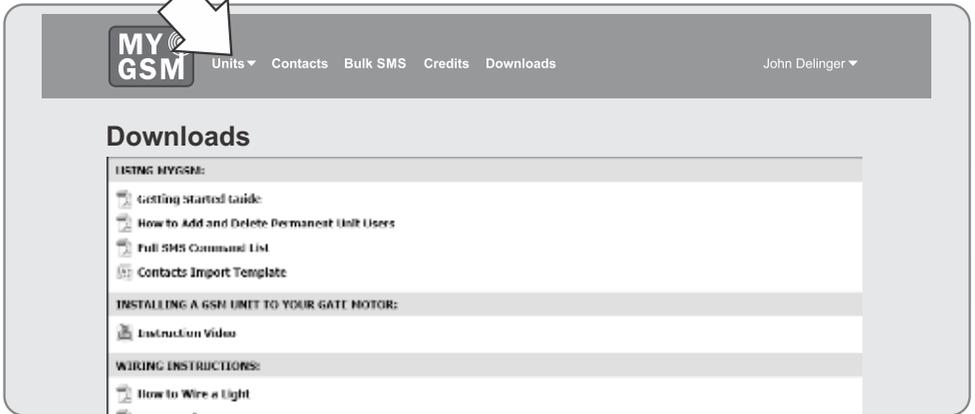
2. Move the cursor over the unit name to which you wish to add a user; another dropdown menu will appear.
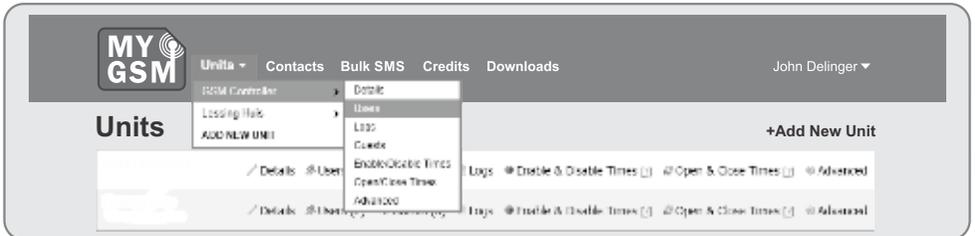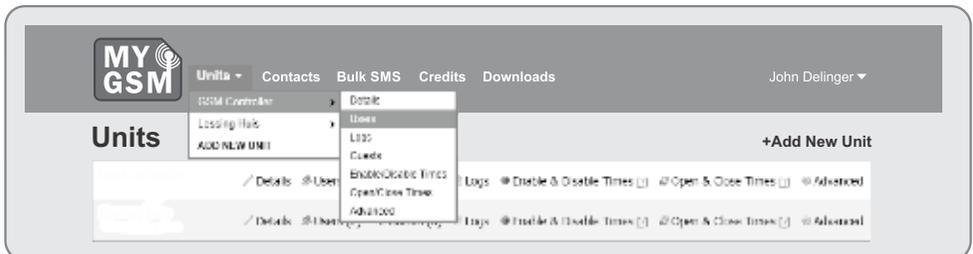
3. Click on **Users.**

4. Click on the **Add New User** button.
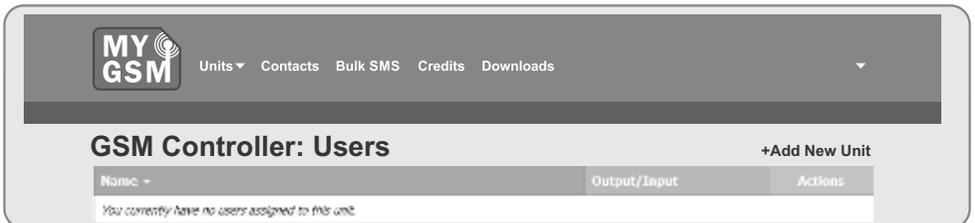
5. On the **Add New User** screen, tick whether you want to add a single user or multiple users.

6. Select the contact you want to assign "User status", to from the dropdown list. If the contact does not appear on the list, you are able to add them from this page by clicking on **Add New Contact** which appear at the top of the list.

7. Select a relay to be activated by a trigger signal from this user. On this screen, you are also able to assign inputs to send notifications to the user.
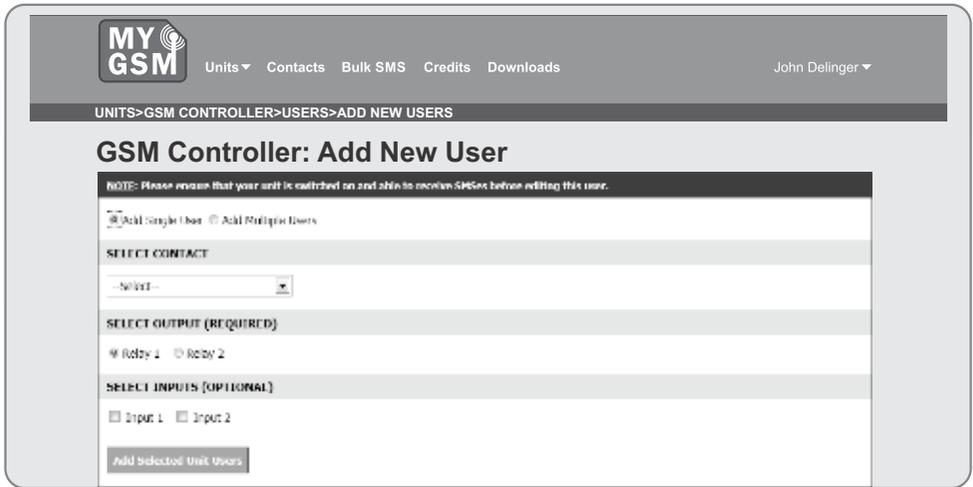
8. Click on the **Add Selected Unit Users** button at the bottom of the screen.

Deleting Users

Users can be selectively deleted from the user's memory. To delete a specific user:

1. Move your cursor over the **"Units"** button to produce a dropdown menu.

2. Move the cursor over the unit name from which you wish to remove a user; another dropdown menu will appear.

3. Click on **Users.**

4. All the users assigned to that specific module will be listed.

5. To delete a user, simply click on the **Delete** button as shown in the image below.

6. You will be asked to confirm this action.
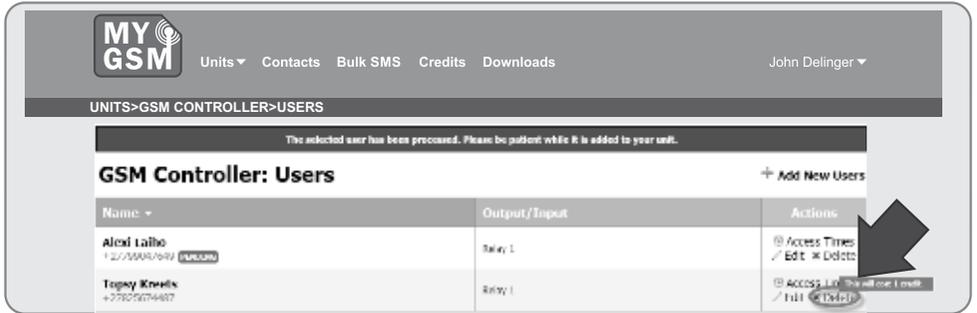
FIGURE 38

Setting access times

A unique and useful, high-security feature associated with the **mygsm.co.za** web portal is the ability to set access times. Both outputs and inputs can be configured individually to be enabled during certain times of the day, and disabled the rest of the time. A typical application would be where the **MyGSM** module is controlling the entrance gate to a business park, and access to employees should only be granted during office hours. The relay connected to the gate motor or traffic barrier can then be set up to only be enabled and respond to input signals between 8:00 and 17:00, and ignore input signals outside of these times.

To set access times:

1. Move your cursor over the **'Units'** button to produce the dropdown menu.

2. Move the cursor over the name of the module for which you wish to configure access times.

3. Click on **Enable/Disable Times.**
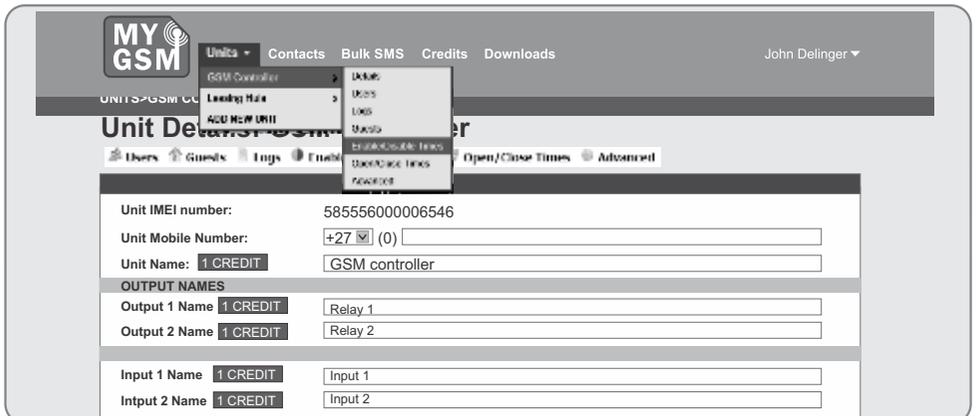
FIGURE 39.

4. 'Tick' the days for which you wish to set access times, and select the parameters between which the outputs/inputs should be enabled.
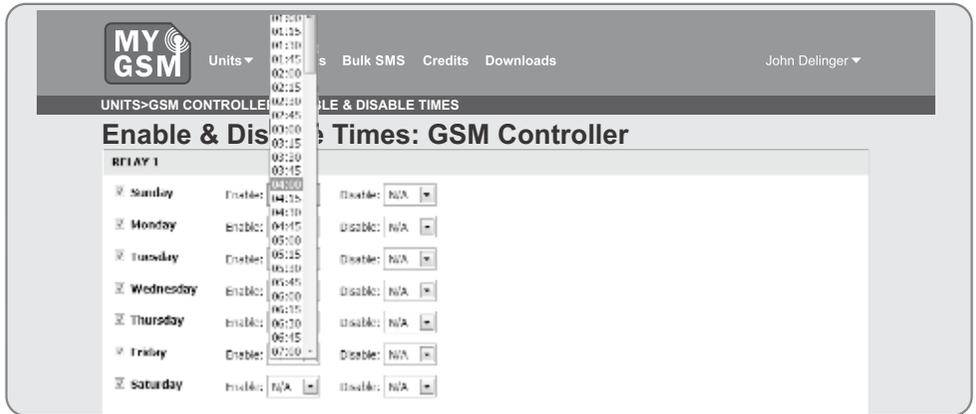

FIGURE 40.

5. Click on **Save Enable** and **Disable Times.**

Activation programming

The Activation Programming feature enables users to set Time-periods for the output relays to automatically activate and deactivate. Example The **MyGSM** module has been interfaced with an irrigation system on a farm, the unit could be configured via the website to open one or all of its relays at 16:00 which will in turn activate the irrigation equipment, and stay open for a period of one hour, after which it will automatically close the relay again.

To set activation times:

1. Move your cursor over the **Units** button to produce the drop-down menu.
2. Move the cursor over the name of the unit for which you wish to program activation times.
3. Click on **Open/Close Times.**
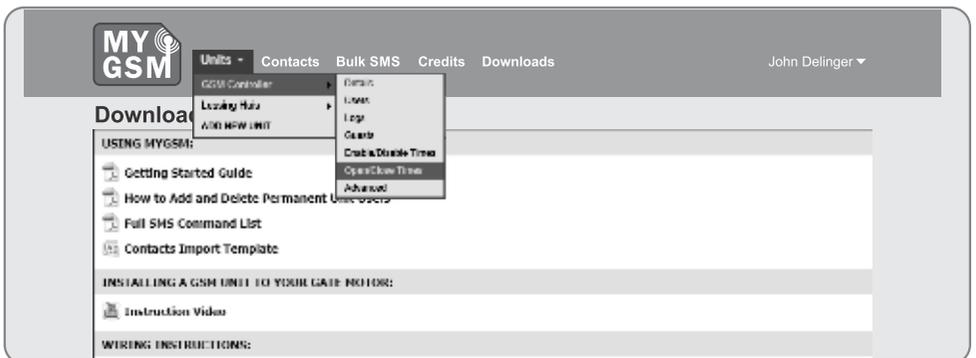
FIGURE 41.

4. 'Tick' the days for which you wish to program activation times, and select the parameters between which the output relay(s) should remain open.
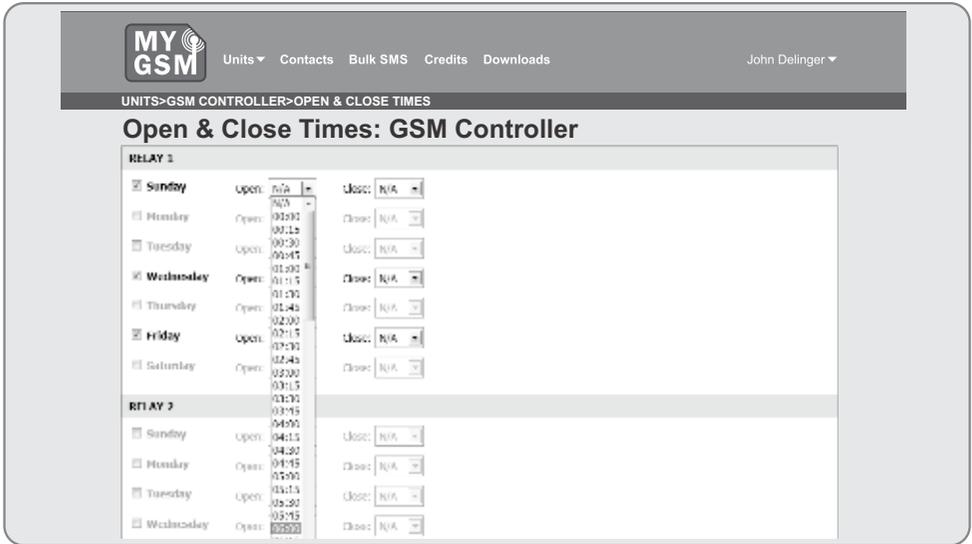
5. Click on **Save Open and Close Times.**

Logs

The system is capable of emailing detailed transaction logs to the administrator's email inbox on a daily, weekly or monthly basis. The logs will report on the transaction date and time, the name of the access holder and the name or number of the activated relay(s). This is a useful security and administration feature.

Each unit log request uses one credit.

To set activation times:

1. Move your cursor over the **Units** button to produce the dropdown menu.
2. Move the cursor over the name of the unit for which you wish to receive transaction logs.
3. Click on **Logs.**
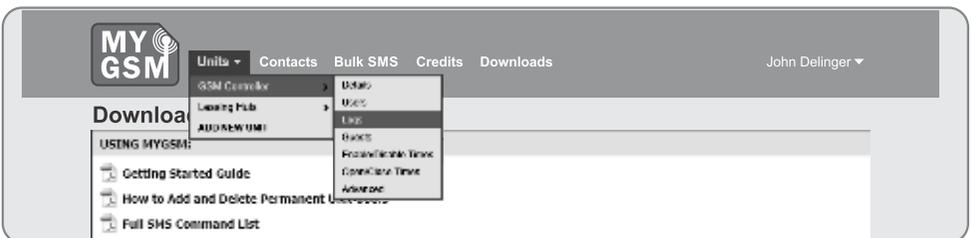
4. 'Tick' the box to enable log delivery and select at what intervals you would like to receive them.
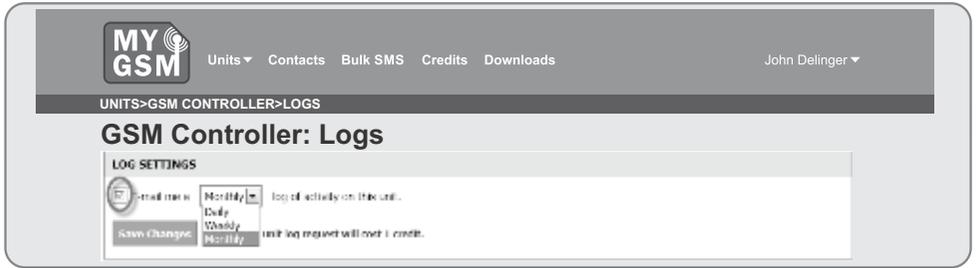
5. Click on **Save Changes.**

The transaction logs are also available for viewing on the mygsm.co.za web portal itself.

To view the logs online

1. Move your cursor over the Units button to produce the dropdown menu, and again move it over the name of the unit for which you wish to view logs.
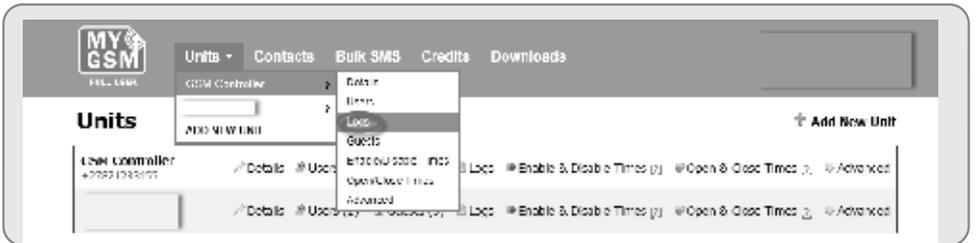
2. Click on logs
3. On the "Log Settings" screen, under "Log History", click on "Load Historical Log Data". If you have not previously made use of the log facility, you must first click on "Retrieve Logs".
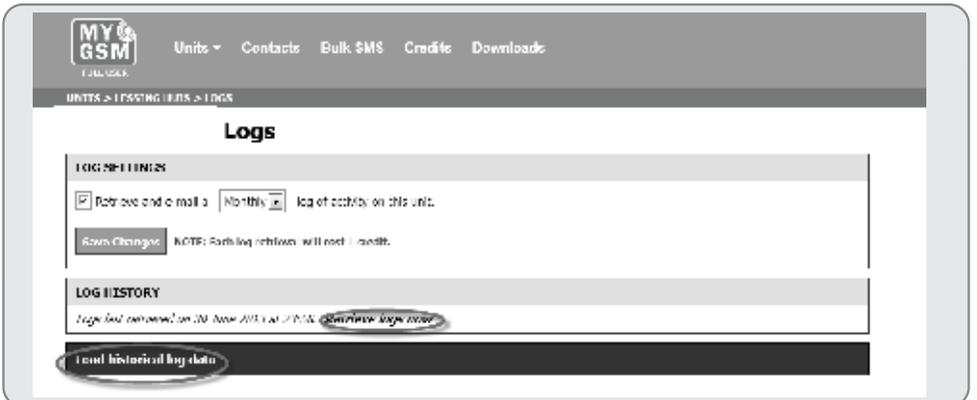
Credits

As noted previously, each change made to the settings of the **MyGSM** unit via the **www.MyGSM.co.za** web portal deducts one credit from the administrator's account. Ten free credits are given upon sign-up.

When these credits have been exhausted, more can be purchased in the following manner:

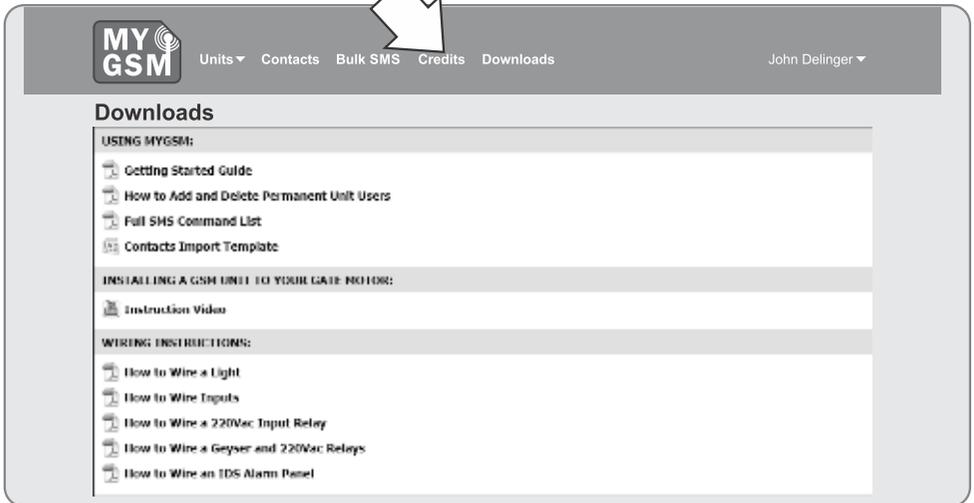1. Click on the **'Credits**' button at the top of the screen.

2. You will be directed to a screen displaying the amount of credits available in your account, as well as your credit purchase history. To purchase more credits, click on the **Buy Credits** button.
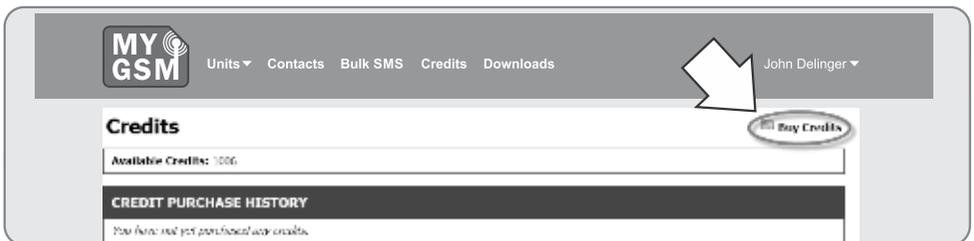
3. Select the credit amount that you would like to purchase from the list of available options.

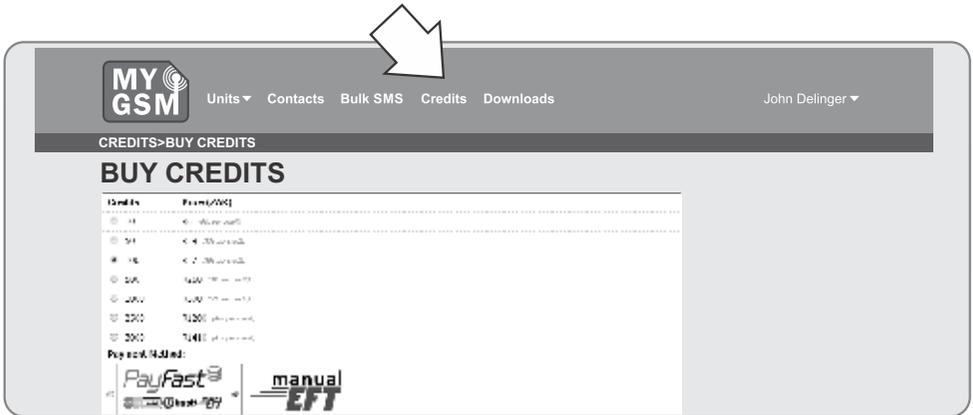Each change made will deduct one credit from your account.

FIGURE 49.

4. Select a payment method and click on **Purchase Credits.**

Bulk SMS feature

The Bulk SMS feature enables the administrator to compile a text message using the web portal and send it to one or more people on the contacts list. This is useful especially for Bed and Breakfast and guesthouse owners who wish to communicate with visitors, thanking them for their patronage or notifying them of upcoming specials. Landlords can also use the facility to alert tenants to the fact that their rent is overdue, their contract is up for renewal, etc.

To send a bulk SMS:

1. Click on the **Bulk SMS** button at the top of the screen.
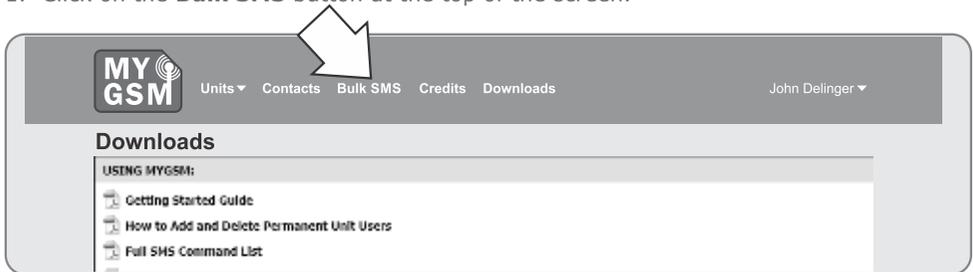
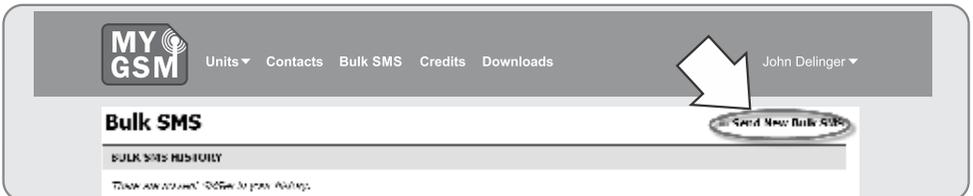**FIGURE 50.**

2. Click on **Send New Bulk SMS.**

FIGURE 51.

3. Compile the message in the text block provided.
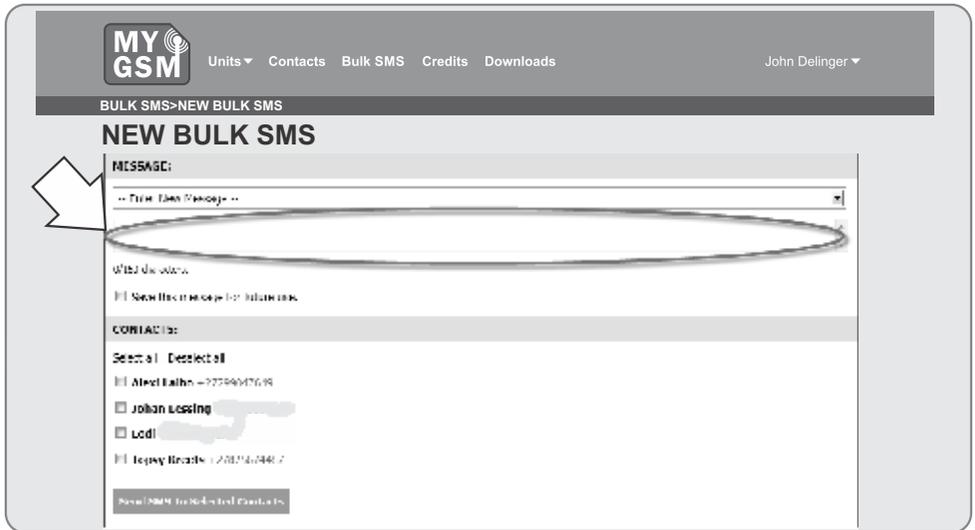
4. Select the individuals to whom the SMS should be sent from the contact list.

5. Click on **Send SMS to Selected Contacts.**

6. The Bulk SMS history will also appear on this screen, and it is possible to save the message for future use.

Adding guests

Guests are 'temporary' **Users** and will only have access to the unit's outputs for a finite amount of time before their access is revoked automatically by the system. An SMS text message can also be set to be sent automatically to guests upon arrival and departure, and the relay(s) which their numbers are able to activate can be set on this page.

To add a new guest:

1. Move your cursor over the **Units** button to produce the dropdown menu.

2. Move the cursor over the unit name to which you wish to add a guest.
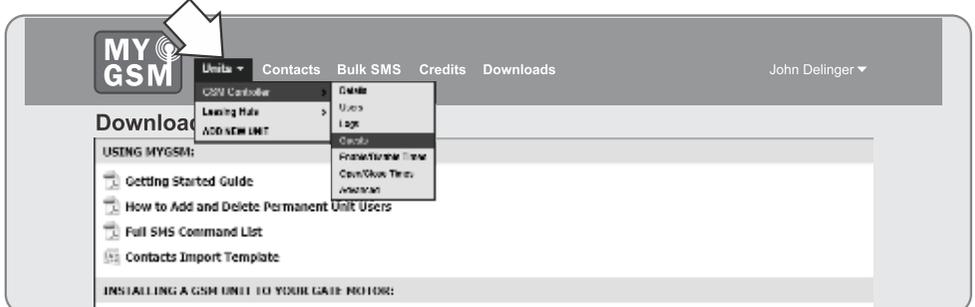
3. Click on **Guests.**
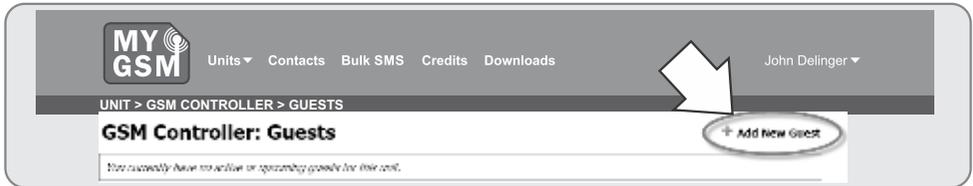
4. Click on **Add New Guest**

FIGURE 54.

5. Select the guest from the contact list (if the guest's name does not appear on the list, he/she must first be added as a contact).

6. Specify the guest's arrival and departure times (these are the parameters between which the guest will have access to the unit's outputs).

7. Specify which relay the guest must be able to activate.
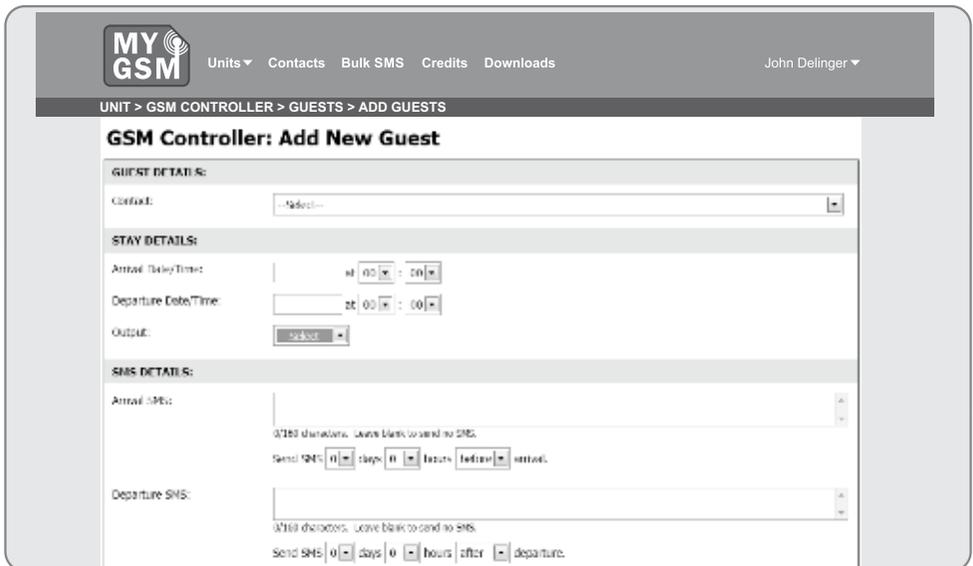
8. Arrival and departure SMSs can also be compiled.

FIGURE 55.

Advanced features

The unit's advanced settings can be edited under this menu. These are:

• Configuring the outputs as either pulsed(P) or latching(L)

• Configuring the input trigger modes as either rising edge, falling edge or both

To access the Advanced Features menu:

1. Move your cursor over the **Units** button.

2. Move the cursor over the name of the module that you wish to edit the settings of.
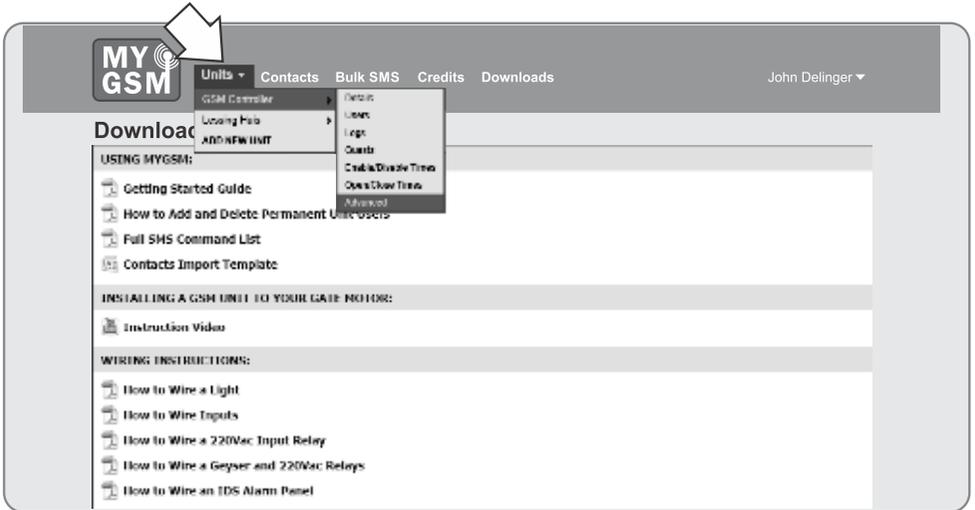
3. Click on **Advanced.**

<div align="right">FIGURE 56.</div>

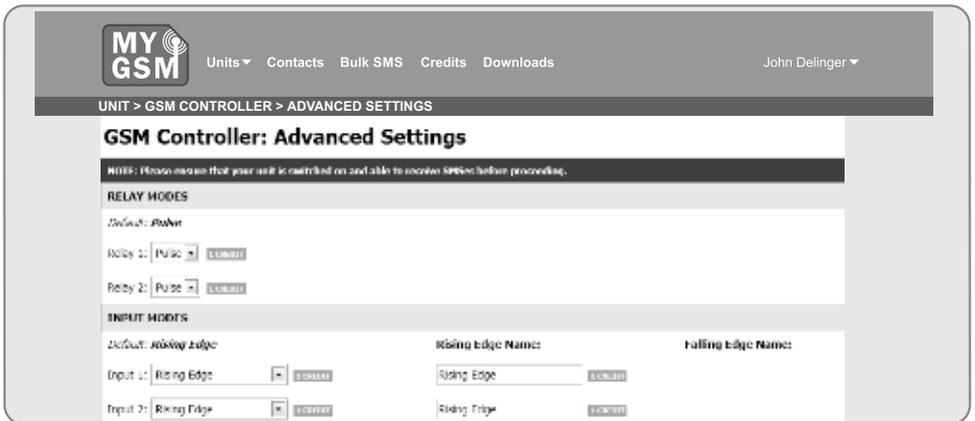4. Configure the relay and input modes as required, and click on **Save.**

<div align="right">FIGURE 57.</div>

12. MyGSM configuration using the USB facility

USB programming

In addition to being able to edit the unit settings via SMS commands and the online portal, it is also possible to configure the unit using your computer's USB port and the **MyGSM** PC application included with your purchase of the **MyGSM** device.

1. Simply insert the disc into your computer's CD-ROM drive, and follow the onscreen instructions.

2. Run the **GSMConfig.exe** file, which is to be found in the PC Application folder on the disc.

> The application can also be downloaded from the **www.MyGSM.co.za** website. To download the software from the website, you must first create a profile on the web interface. For instructions on how to do so, refer to the section (Using the **www.MyGSM.co.za** Web Portal)- Section 11 on page 29

3. Once you have created a profile and have logged in, on the home page, click on the **Downloads** button.
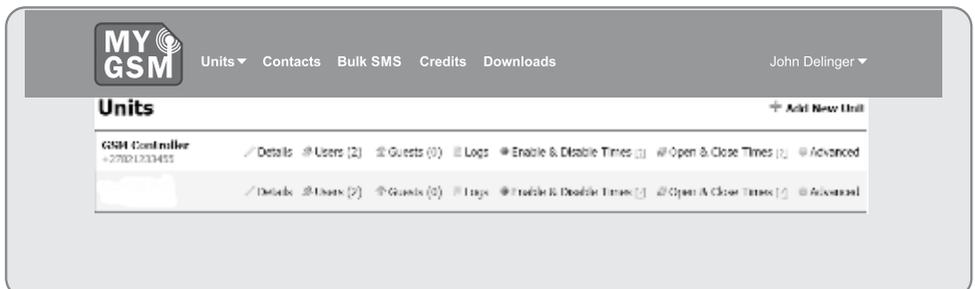
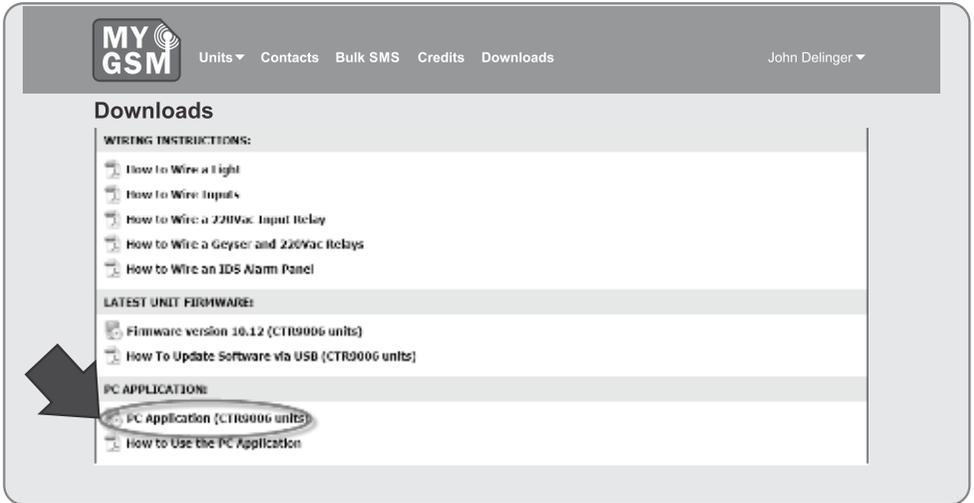3. This will take you to the Downloads page. Scroll to the bottom on the screen, and select the **PC Application.**

4. You will be prompted as to whether you wish to "Run" or "Save" the application, select **Save** and specify a location on your computer's hard drive for the application to be saved. Once the download has completed, click on **"Run"**. The application should start automatically.

Adding a New User

1. To add a new user to the module, enter the user's number (in the international format) in the field provided and click on Add Number.

2. To assign inputs to communicate with the number, click on Inputs and select the relevant input numbers from the list.

3. To assign outputs to be activated by the number, select the relevant relay numbers from the dropdown list.
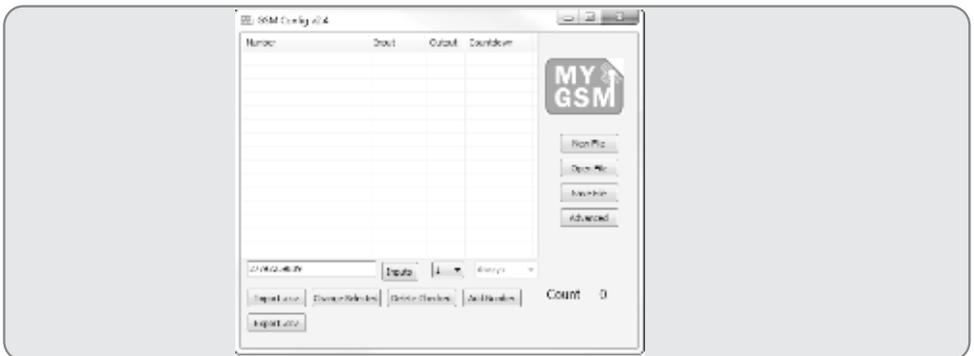
Adding multiple users

Multiple users can be added simultaneously by making use of the "Import CSV" feature. A free Contacts Import Template is available for download from the **www.MyGSM.co.za** website under the Downloads section. The template provides fields for the user's name and surname, unit number, street name and number, four different mobile numbers, inputs and outputs associated with the user, email address and additional information. (users must be logged in to have access to this area)
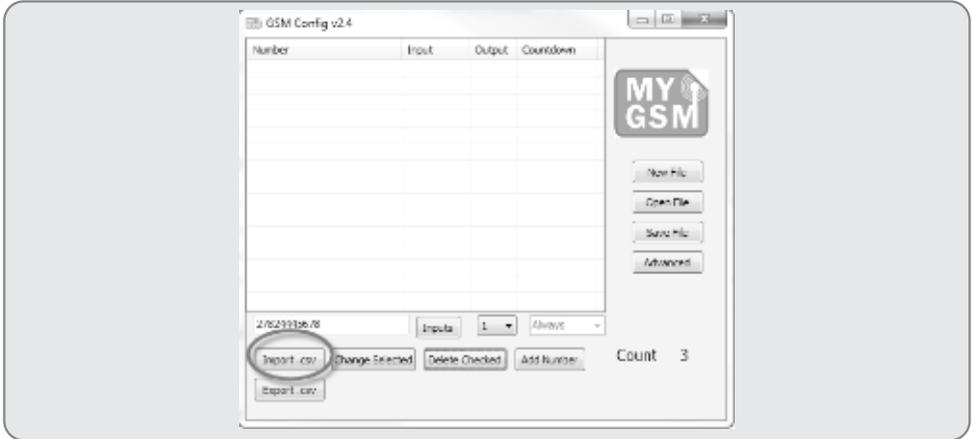
Deleting users

It is possible to remove one or more users from the module's memory in the following manner:

1. 'Tick' the numbers that you wish to delete.
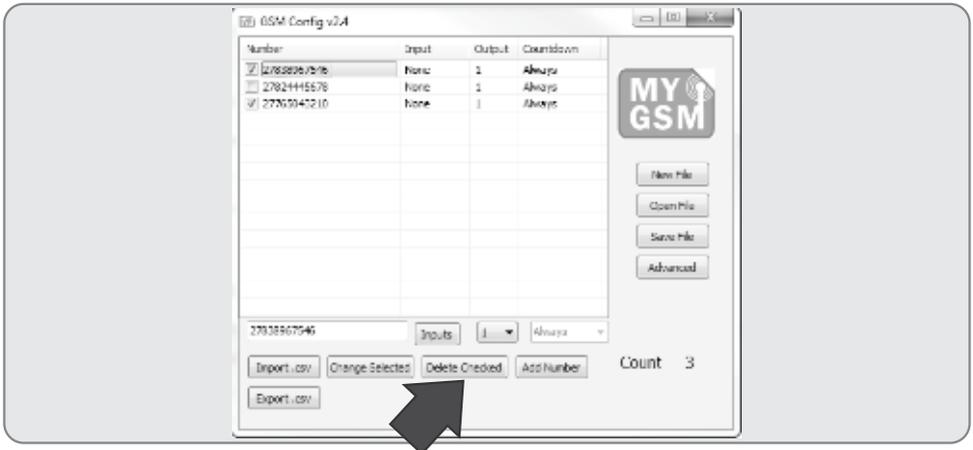
2. Click on the "Delete Checked" button.

Editing unit settings

To edit the unit settings, click on the **Advanced** button. On this screen, you will be able to edit the following settings:

- The unit name
- The administrator number
- Input and output names
- Relay operation (pulsed or latching)
- Event names for rising and falling input events
- Enable/disable inputs/outputs
- Enable/disable rising/falling edges

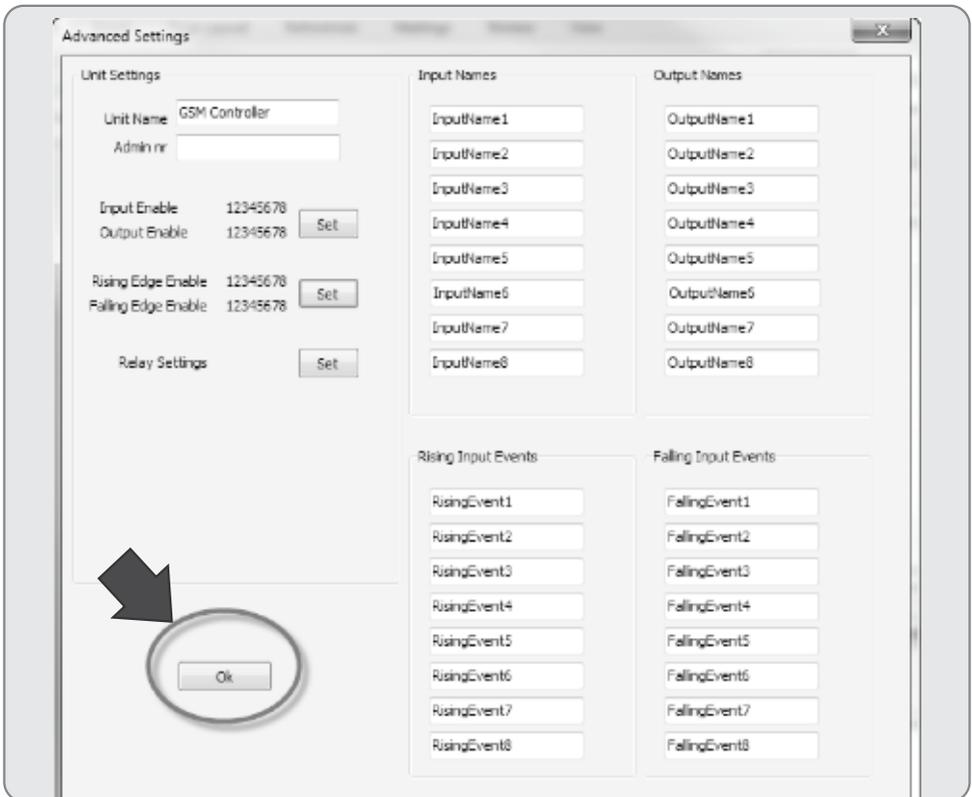Once the desired changes have been made, click on OK.

FIGURE 64

Saving unit settings

Whenever changes are made to the unit's settings, numbers added and deleted, etc., using the PC Application, the .BIN file must be saved. It is highly recommended that the file is first saved on your local computer; this ensures that a backup of your unit settings and access numbers exists should you ever need to restore them.

To save the file:

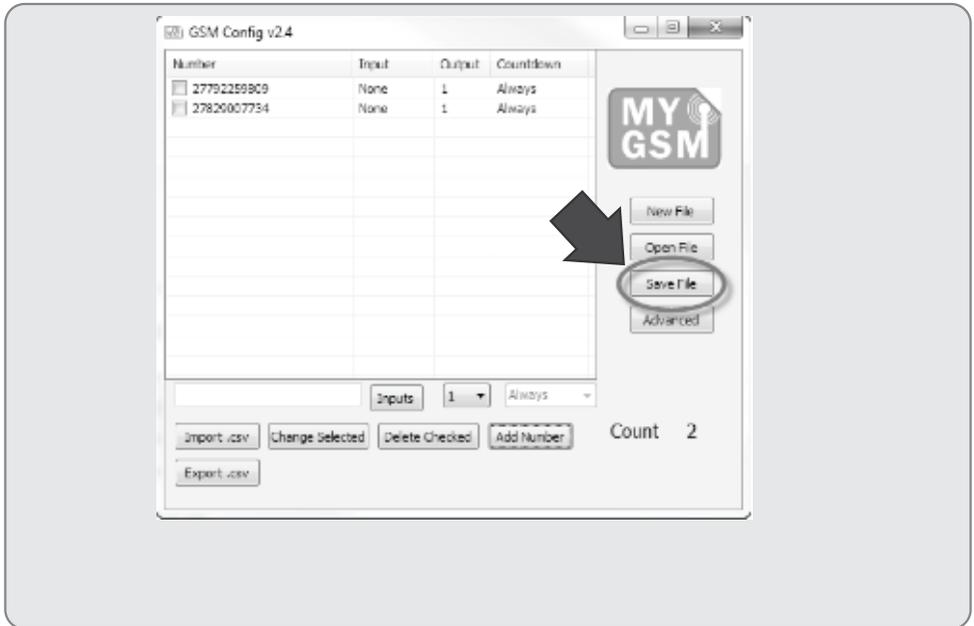1. Click on the **Save File** button.

FIGURE 65.

2   Specify a location on your computer's hard drive for the file to be saved.

> Do **NOT** rename the file! The file name must remain **newconf.bin**!

3. Click on **Save.**

4. The file must now be transferred to the GSM device to enable your device for USB programming, move the shunt provided so that it bridges 'USB' with the common pin, as shown in Figure 67.
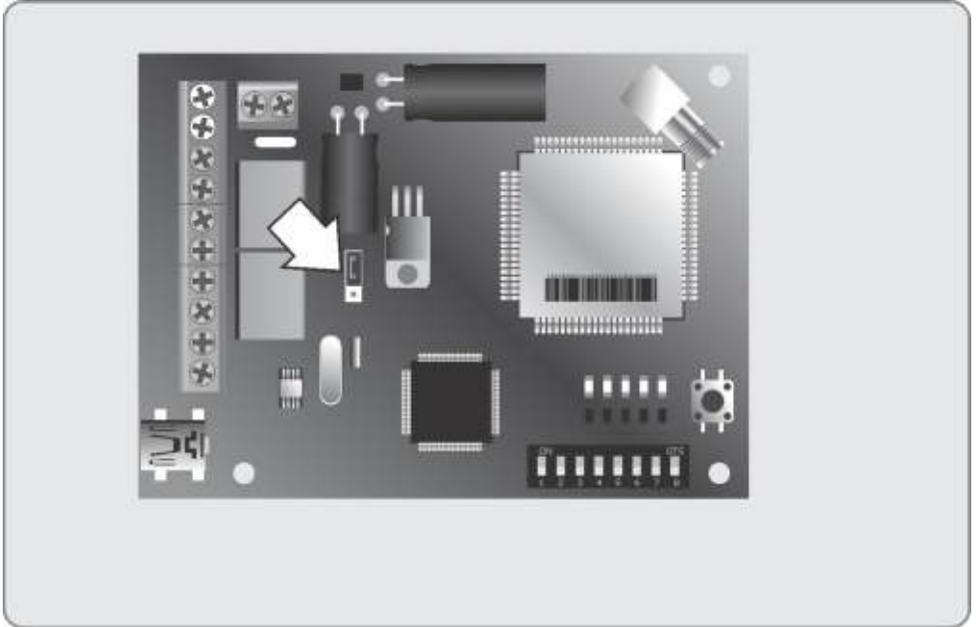
FIGURE 66.

5. Using the cable provided, connect the **MyGSM** module to your computer's USB port.

6. The device will automatically install drivers, and the following pop-up in Figure 68 should appear:
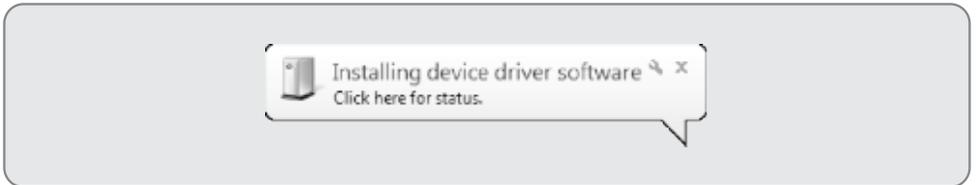

Installing device driver software
Click here for status.

FIGURE 67.

7. Once the drivers have been installed, the unit will be accessible as a removable disk in the left-hand pane of the My Computer screen.

8. Navigate to where you have saved the **newconf.bin** file on your hard drive, and save it to the removable disk (**MyGSM** device).

9. Press and hold the "signal strength" button for a period of two seconds; the module will reboot and reprogram itself.

10. The unit has now been correctly updated and is ready for use

13. Installation handover

Once the installation has been successfully completed and tested, it is important for the installer to explain the operation and safety requirements of the system.

Centurion Systems (Pty) Ltd does not accept any liability caused by improper use, of the product, or for use other than that for which the automated system was designed**.**

Notes

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