

# Operating Manual

## NEPTUNE

The Neptune 6×2 Communicator is a 6 Input 2 Output low-cost SMS / GPRS communicator specifically designed For monitoring and control.

### Features and Specifications

- 6 Digital input's and 2 relay output's
- SMS to up to 6 numbers.
- GPRS or SMS to Base Control Room number.
- Each Input can send two messages one for High and one for Low.
- Inputs can be configured normally High or Normally Low.
- Each input can have a debounce time from 1 second to 9999 seconds.
- Each Input can have a retrigger delay of from 1 Second to 9999 Seconds
- Inputs can be flagged to send to specific numbers. E.G Input 3 to only Cell Number 2.
- Each output can be programmed to switch On / Off or Pulse at various times of the day.
- Relay output pulse time can be set.
- All functions can be controlled by SMS as well as the timers.
- 10 to 16 VDC low current operation.
- Drop call relay operation from up to 400 numbers.
- Daily drop call log available via GPRS
- Google Earth Map position request available.



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# 1. Important Information

- The Neptune can operate on either a **prepaid** or **contract SIM card**.
- When using a **prepaid SIM card**, an SMS showing the remaining balance will be sent every **1 to 30 days** as set by you.
- When using a **contract SIM card** the Neptune will send a **SMS health test** every **1 to 30 days** as set by you.
- The Neptune can handle **input voltages** from **0 to 30 VDC**.
- The Neptune has **2 relay or transistor outputs** that can either be commanded to **change state, latching or pulse non-latching** by an SMS to the Neptune or by programming the internal timers.
- The **relay output** is a **dry contact** rated at **1 Amp**. It can also handle **220 VAC at 500 mA**.

# 2. Applications of Neptune



## 3. Inputs

### 3.1. Messaging Delay

- The **inputs** of the Neptune can be set to only **react after a pre-set delay time of between 1 and 9999 seconds**. This is useful for when a delay is needed between when the input is received and the message is sent.
- *For example, if the messaging time is set to 5 seconds, then a system will only send an SMS 5 seconds after the input has been received.*

### 3.2. Retrigger Delay

- The retrigger delay will **stop multiple messages from being sent** if the **input** should **constantly be changing state**. Once the input has changed and a message has been sent, then all further changes on this input will be **ignored** for the set period of time.
- The input retrigger delay can be set from **0001** (no retrigger delay) to **9999 seconds** delay.
- *For example, if you had a motion detector attached to the input and have set the retrigger delay to 0300 (5 minutes), the input will send a message when the detector is activated the first time, but should there be continuous movement and the detector is continuously activated, the input will ignore these changes for 5 minutes. Any changes in the input after 5 minutes will result in another message being sent.*

## Messages and Settings

- Each input can **send 2 messages**, one for when it goes **high** and one for **low**.
- If you need only **one message**, for example only send message when the input goes high, the set all the flags of the other to **00000000**.
- The **flags** can be used so that **inputs only send messages to specific numbers**. For example, input 3 will send messages only to cell phone number 2.



## 4. Outputs

### 4.1. Messages and Timers

- The Neptune **has 2 relay or transistor outputs** that can either be commanded to change state, **latching or pulse non-latching** by an **SMS** to the Neptune or by **programming** the internal timers.
- The open, closed or pulsed **messages can be programmed**.
- Each output has **2 closed, 2 open and 2 pulsed times** that can be programmed. Once programmed these times will operate the relays everyday including weekends and holidays.
- Relay output is a **dry contact change over** that is rated at **1 Amp**. This relay can also handle **220 VAC at 500 mA**.
- Also **available with hi-power transistor output** to drive large relays.

## 5. Battery Report

- The Neptune can send a message if the **battery or power goes below or above a set value**.
- The **default** is set to send a **low battery message at 10.8 VDC** and will send a **battery OK message if the voltage reaches above 12.5 VDC**.
- The **message can be changed** to anything you want.
- The **low and high voltage levels can be set to any value** required.
- The Neptune will operate from **9 VDC to 20 VDC** and must be supplied with at least **2 Amps** for the GSM peaks.
- A **power supply or charger with a battery** is needed.



## 6. Drop Call Operation

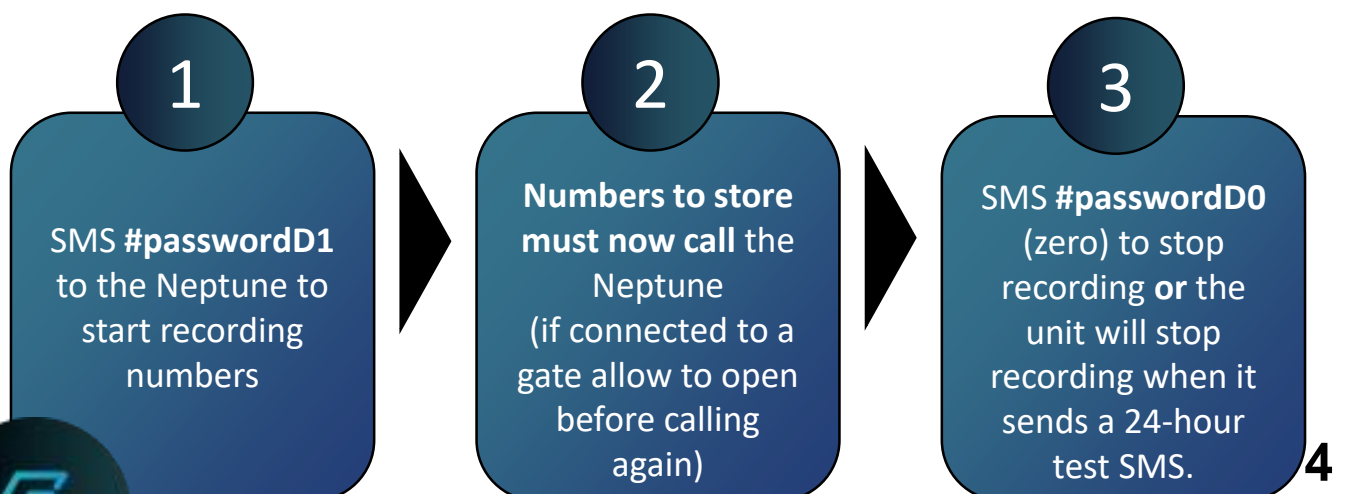
- The Neptune also has a **dial in drop call function** where up to **400 numbers** can be programmed into the unit. If any of those **recognized numbers** call the Neptune it will **activate relay one** to pulse.
- On a drop call the **Neptune will not SMS back to any number.**
- If a **GPRS number** is programmed into the Neptune it will **store all drop call numbers and times** and GPRS them back to the GPRS Server number at **11:00 PM each night** for record purposes. You can then email these records to whoever you need, whenever you like.

## 7. Programming

- There are **2 methods** of **programming** the drop call number into the Neptune if using for drop call gate operation.

### 7.1. Method One

- In this method the Neptune will **on receipt of an SMS Command, start to record all numbers calling it** and **if connected to a gate it will open the gate** on the drop call. All these numbers will then be stored in the Neptune.
- The **default password is 4321**. This can be changed if required.



## 7.2. Method Two

- Numbers can also be added to the Neptune through the use of an SMS. Please see below instructions to add and delete numbers.
- The **default password is 4321**. This can be changed if required.

### Add One Number

**#passaddnum"+27831234567"**

\*NOTE: Take note of the " at the beginning and end of the message and do not enter a ; at the end of the message

### Add More Than One Number (Up To Six)

**#passaddnum"+27831234567;+27831234567;+27821234567"**

\*NOTE: Take note of the " at the beginning and end of the message and do not enter a ; at the end of the message

### Delete One Number

**#passdelnum"+27831234567"**

\*NOTE: Take note of the " at the beginning and end of the message and do not enter a ; at the end of the message

### Add More Than One Number (Up To Six)

**#passdelnum"+27831234567;+27831234567;+27821234567"**

\*NOTE: Take note of the " at the beginning and end of the message and do not enter a ; at the end of the message



## 7.3. Programming Sheet

- Programming is done over the air (SMS) or via an EEPROM programmer and free software.
- Free programming is available for small quantity users from the manufacturer.
- Once installed with a working SIM card the Neptune will automatically communicate with the manufacturer's control Room.
- To Program the Neptune please call: 063 729 6838

### Neptune Commands. #4321 is the default password.

| Function Description   | Function Char |
|--|---------------|
| Request Gprs Base Sms Base and SMSC numbers                                      | #4321I        |
| Request Cell 1 Cell2 Cell3 Cell 4 cell 5 cell 6                                  | #4321J        |
| Request Passwords Units Own number   | #4321K        |
| Request GPRS settings  | #4321M        |
| Request Gprs Attach Status   | #4321G?       |
| Set Gprs as main method of comms with SMS fallback                               | #4321G1       |
| Set SMS as the only Method of Comms Default xxxxx                                | #4321G0       |
| Request Health Rep time / Batt volts   | #4321E        |
| Request The status of Inputs 1 thru 4  | #4321a        |
| Request The Status of inputs 5 and 6   | #4321b        |
| Request Status of the Outputs  | #4321R        |
| Report Timer Values of Outputs 1 and 2   | #4321*        |
| Request Signal strenth   | #4321T        |
| Request Product Id and Software Version  | #4321v        |
| Output 1 Closed  | #4321A1       |
| Output 1 Open  | #4321A0       |
| Output 1 Pulsed  | #4321A9       |
| Output 2 Closed  | #4321B1       |
| Output 2 Open  | #4321B0       |
| Output 2 Pulsed  | #4321B9       |
| Airtime Request  | #4321Z        |
| Erase All Dropped Caller Numbers   | #4321Y        |
| Request Date and Time  | #4321t        |
| Start to store drop calls  | #4321D1       |
| Stop Drop call Storage default xxxxx   | #4321D0       |
| Inputs ON default xxxxxx   | #4321O        |
| Inputs OFF   | #4321P        |
| Log On xxxxx   | #4321L1       |
| Log Off Default xxxxxx   | #4321L0       |
| Get Lat and Long xxxxxx as per format for internet only works when GPRS is Used. | #4321F        |

