

Nautilarm Xtreme Installation Instructions

1 - Mount unit

The Nautilarm Xtreme should be mounted with the glands at the bottom to ensure water resistance. These glands should be sealed when the unit has been cabled and tested. Ensure that enough space is left around the unit for cable routing.

When using wireless sensors, it is recommended that the unit is mounted within 12m of the alarm sensors being used and that there are no metal bulkheads between it and its sensors.

2 - Mount GSM / GPS Antenna

The Nautilarm Xtreme can be supplied with an external bulkhead mounting antenna or an internal antenna (as supplied in the standard fitting kit).

It is essential that the GPS antenna is mounted the right way up and with a clear view of the sky. The GPS signal will not penetrate metal.

If the system is being installed into a metal boat the external antenna must be used. The antenna can be painted. If the internal antenna is being used, ensure that the antenna is mounted away from large metal objects.

3 - Wiring

A full wiring diagram has been supplied with this manual. Please refer to it when wiring the Nautilarm Xtreme. The GSM and GPS antenna connectors on the Xtreme version are located inside the case. The connectors are polarised so they cannot be incorrectly fitted.

3.1 - Power Supply

The Nautilarm Xtreme is available in 12V (a 24V version is available at a supplement). Ensure that you are using the correct version for the supply voltage in use.

The supply should be fused at 2A. If a Nautilarm Xtreme kit has been purchased, a wiring loom with an inline fuse folder will have been supplied. The fuse should be mounted as near to the battery as possible so that the whole cable run is protected. **The power must not be switched on until installation is complete.**

Connect the 0V / GROUND / BLACK wire to terminal A (SUPPLY-).

Connect the +12V / +24V / RED wire to terminal B (SUPPLY+).

3.2 - Siren (optional)

The siren should draw no more than 1A and should be of the correct voltage for the power supply in use. The siren will sound for a configurable time (see section 6.5) when the alarm is triggered.

Connect the POSITIVE / RED wire to terminal H (SIREN+).

Connect the NEGATIVE / BLACK wire to terminal G (SIREN-).

3.3 - Strobe (optional)

The strobe should draw no more than 1A and should be of the correct voltage for the power supply in use. The strobe will flash when the unit is triggered and will keep flashing until the system is disarmed.

Connect the POSITIVE / RED wire to terminal F (STROBE+).

Connect the NEGATIVE / BLACK wire to terminal E (STROBE-).

3.4 - Beeper (optional)

An external beeper can be wired into the Nautilarm Xtreme for confirmation of arm / disarm and entry / exit tones. The beeper will also indicate blocked beam break path when setting. The beeper can be used to aid aligning of beam break sensors (see 5.1). The external beeper will operate in tandem with the internal beeper fitted inside the Nautilarm Xtreme.

The beeper should draw no more than 1A and should be of the correct voltage for the power supply in use.

Connect the POSITIVE / RED wire to terminal L (BEEPER+).

Connect the NEGATIVE / BLACK wire to terminal K (BEEPER-).

3.5 - External Switch

The Nautilarm Xtreme is able to control an external appliance such as a light or fridge. The device connected to the Nautilarm can be switched on and off by pressing button 3 on the RF keyfob or by sending the Nautilarm Xtreme a text message (see section 7.7). If using this feature an external relay must be used.

Connect the POSITIVE / RED wire of the relays coil to terminal J (SWITCH+).

Connect the NEGATIVE / BLACK wire of the relays coil to terminal I (SWITCH-).

Note: It is possible to switch further circuits via text messages. Please contact us at support@alarmmyboat.co.uk for details.

Note 2: Please contact us for a supplemental wiring diagram if you are remotely switching existing boat circuits.

3.6 - Status LED

An external LED can be connected to the Nautilarm to show its status (armed or disarmed) along with its current GPS and GSM signal strengths.

During the entry and exit time the LED will flash fast.

When the system is armed the LED will flash slowly.

When the system is triggered the LED will light constantly.

When the alarm is disarmed the LED will indicate the GSM signal strength and the number of GPS satellites in view. The LED will flash in the following pattern:

- Off for 4 seconds.
- Flashes 1-5 times to indicate GSM signal strength.
- Off for 1 second.
- Flashes 0-12 times to indicate the number of satellites in view.
- (See section 8 to find out what this means.)
- Connect the POSITIVE / RED wire to terminal N (LED+).
- Connect the NEGATIVE / BLACK wire to terminal M (LED-).

3.7 - Keyswitch (optional)

An external keyswitch or other latching switch can be connected to the Nautilarm to arm and disarm it. When the switch is opened the system will arm. When it is closed the system will disarm. If this feature is required it must be enabled (see section 6.9).

Connect the POSITIVE / RED wire to terminal U (KEY+).

Connect the NEGATIVE / BLACK wire to terminal V (KEY-).

3.8 – “Always active” Sensor (optional)

An “always on” sensor circuit is available. This can be used for bilge level, CO monitor, fire alarm and so on. If any of these are connected to the Nautilarm Xtreme then they will always be active whether the alarm is armed or not.

If this circuit is triggered, the Nautilarm Xtreme will send a text message but will not activate the siren or strobe.

If this feature is required it must be enabled (see section 6.10).

Connect the POSITIVE / RED wire to terminal S (TAMP+).

Connect the NEGATIVE / BLACK wire to terminal T (TAMP-).

3.9 - Wired alarm sensors, Zones 4-7 (optional)

The Nautilarm Xtreme has four zones for wired sensors. You can wire more than one sensor in **series** per zone as long as the sensor is of the NC (**normally closed**) type. Most alarm sensors are of this type. The exception is pressure mats which are **NO (normally open)**. These would need to be wired in parallel.

If 12V powered sensors (e.g. wired PIR sensors) are being used they may cause false alarms if the main battery supply fails. The 12V AUX terminal supplies 7.2V when running from internal backup batteries.

Zone4

Connect the POSITIVE / RED wire to terminal O (ZONE4+).

Connect the NEGATIVE / BLACK wire to terminal P (ZONE4-).

Zone5

Connect the POSITIVE / RED wire to terminal Q (ZONE5+).

Connect the NEGATIVE / BLACK wire to terminal R (ZONE5-).

Zone6

Connect the POSITIVE / RED wire to terminal S (ZONE6+).

Connect the NEGATIVE / BLACK wire to terminal T (ZONE6-).

If wired zone 6 is required the tamper feature must be disabled (see section 6.10).

Zone7

Connect the POSITIVE / RED wire to terminal U (ZONE7+).

Connect the NEGATIVE / BLACK wire to terminal V (ZONE7-).

If wired zone 7 is required the keyswitch feature must be disabled (see section 6.9).

4 - Install SIM Card

It is a good idea to first fit the SIM card into a mobile phone to ensure that it is registered and can successfully send text messages. Ensure that no PIN code is set on the SIM (the phone should not ask for a PIN after being turned on). Voice mail should also be disabled. After testing the SIM can be installed into the unit. If using a prepaid SIM card it is a good idea to use one whose balance can be checked and topped up without removing the SIM from the unit.

We recommend the use of Vodafone or O2 SIM cards as these provide the best coverage.

With the front panel of the Nautilarm removed, the SIM card should be installed into the holder. Ensure that the holder is fully closed after fitting the SIM.

IMPORTANT: If an internal backup battery pack is fitted, ensure that it is **disconnected before the SIM is fitted and reconnected** to the connector marked BATT afterwards.

5 - Install the Sensors

All of the wireless sensors, key fobs and the Nautilarm Xtreme main unit must have their boat codes set to be the same. The boat code of the Nautilarm Xtreme is set using the set of DIP switched marked **CODE** on the PCB.

The sensors and key fobs are supplied with their own instructions which should be followed.

The wireless sensors will trigger alarm zones 1-3. Zones 4-7 are wired zones.

5.1 - Beam Break Sensors

The Nautilarm Xtreme Beam Break Sensor is a waterproof optical beam break sensor. The sensor and reflector should be mounted no more than 2.5m apart and must be securely attached to stable surfaces.

The Brown and White wires of the sensor should be connected to +12V (e.g. 12V AUX terminal). The Blue wire should be connected to 0V (e.g. 0V AUX terminal). The Black wire should be connected to the **positive** terminal of the zone in use.

5.1.1 – Beam Break Test Mode

The beam break sensor must be aligned with the reflector before the adjustable mount in the case is tightened and the lid fitted.

Nautilarm Xtreme has a beam alignment mode to help with alignment. When the unit is in beam alignment mode the internal and external beepers of the control box will sound when the sensor is **not** aligned. To enter alignment mode on one of the input zones (4-7) send one of the following messages:

Secret, beam, test, 4

Secret, beam, test, 5

Secret, beam, test, 6

Secret, beam, test, 7

To disable beam test mode send the following:

Secret, beam, test, disable

When aligning the sensor it is easiest to adjust the sensor to point in the correct direction then move the reflector around to find the centre of the detection area. By mounting the reflector in the centre of the beam the probability of false alarms is minimized.

Before screwing the front of the sensor housing on, tighten the sensor mounting bracket and **place the silica gel bag in the bottom of the sensor housing**.

5.1.2 – Configuring Beam Break Channels

Once the beam break sensor is fitted, the zone it connected to should be configured as a beam break input. If this is done, the Nautilarm will **double beep during the exit time if the sensor is obstructed**. To configure a zone as a beam break sensor or a normal input send one of the following:

Secret, beam, 1, 0, 0, 0 (Zone 4 is a beam break)

Secret, beam, 0, 0, 0, 1 (Zone 7 is a beam break)

Secret, beam, 0, 1, 1, 0 (Zone 5 and 6 are beam breaks)

Secret, beam, 1, 1, 1, 1 (All zones are beam breaks)

Secret, beam, 0, 0, 0, 0 (All zones are normal inputs)

It is recommended to connect beam break sensors to **separate** wired circuits. This will make beam alignment easier and maximize the beam break coverage.

6 - Configure unit

There are various configuration options which can be set in the Nautilarm using SMS text messages.

All of the commands sent to the Nautilarm Xtreme **must** contain the correct password. Throughout this manual it is assumed that the default password has not been changed.

The Nautilarm Xtreme will reply to all messages sent to it with the correct password. Nothing sent to the unit (including the password) is case sensitive. The default password is **SECRET**, if you have changed it use your password instead.

6.1 - Initialise the Nautilarm Xtreme and set the master phone

The Nautilarm Xtreme sends all alarm notifications, low battery warnings and status messages to the master phone.

If you have the phone you are going to use as the master then send the following **from the master phone**:

Secret, master, set

If you wish to set the master phone to another phone (e.g. a customer) then send the following message:

Secret, master, new-number

new-number is the number of the phone you want to be the master.

To delete the master phone number, send the following:

Secret, master, delete

To view the master phone number, send the following:

Secret, master

The answering text message will of course go to the master phone.

Note: If you delete the master phone number and the extra phone numbers (see section 6.8) then the texting facility will be disabled and no texts or text charges will be made.

6.2 - Change the Password

The password is set to **SECRET** by default and should be changed. Send this message to change the password (for example to **BICYCLE**):

Secret, password, bicycle

See section 9 on support if you forget your password.

6.3 - Configure Automatic Status Reporting

The Nautilarm Xtreme can be configured to send status messages to the master phone at intervals you can define (set in minutes, maximum 60000). By default it will send a message every 14 days. It is important that this is enabled and configured to send messages at least once every 14 days in order to keep the SIM card registered (after long periods of inactivity SIM cards can be disabled by the network).

The unit will send a message to this number after power up, and then the counter begins. This is also a useful feature to receive notifications of power up.

To set the reporting interval to 14 days (14 x 24 x 60 = 20160 minutes, send this message:

Secret, auto, 20160

To disable automatic status reporting (**NOT RECOMMENDED**), send this message:

Secret, auto, disable

6.4 - Configure the Low Voltage Warning

If the power supply to the Nautilarm drops below a preset limit for more than 2 minutes a low voltage warning is sent to the master phone. By default the low voltage warning is set to 10.5V.

To set the limit to 10.5V, send this message:

Secret, voltage, 10.5

To disable the low voltage warning (**NOT RECOMMENDED**), send this message:

Secret, voltage, disable

6.5 - Configure the Entry, Exit and Alarm Times

After arming the unit, it must see all its inputs in a steady state for the **Exit time** before it will arm.

After the unit is triggered, it will wait the **Entry time** before sounding the alarm.

The siren will sound for the **Alarm time** when the alarm is triggered.

The unit will then wait the **Exit time** again before rearming itself.

To set the entry time to 20 seconds, the exit time to 30 seconds, and the Alarm time to 5 minutes (300 seconds) send this message:

Secret, Time, 20, 30, 300

6.6 - Name the alarm zones

The alarm zones can be named to make the messages the Nautilarm sends more informative. The name set for zone 6 will be used when an "always on" or tamper input (if enabled) is triggered. Zone names can be up to 16 characters long.

To change the zone 1 name, send this message:

Secret, name, 1, motion detector

To change the zone 6 / tamper name, send this message:

Secret, name, 6, flood sensor

6.7 - Name the output switch

The output switch can be named to suit its use.

To name the output switch as *lights*, send this message:

Secret, name, 8, lights

6.8 - Configure the Phone Numbers (optional)

The Nautilarm unit can send alarm messages to up to two phone numbers in addition to the master phone number. To set the new phone numbers send these messages:

Secret, phone, 1, phone_number_1

Secret, phone, 2, phone_number_2

phone_number_1 and *phone_number_2* are the real numbers of the phones you wish to be alerted.

To delete the phone numbers send:

Secret, phone, 1, delete

Secret, phone, 2, delete

Note: If these numbers and the master number are all deleted then the text messaging will be disabled. No text messages will go out and no text charges will be made.

6.9 - Configure the keyswitch

If a keyswitch or other latching switch is to be used to arm or disarm the system, zone 7 must be configured as a keyswitch input. To enable or disable this feature, send one of the following messages:

Secret, key, enable

Secret, key, disable

6.10 - Configure the "always on" or tamper zone

If an "always on" or tamper sensor is to be connected to the system, zone 6 must be configured as an "always on" input. To enable or disable this feature, send one of the following messages:

Secret, tamper, enable

Secret, tamper, disable

7 - Operation

This section describes the operation of the Nautilarm after it has been installed and configured.

7.1 - To query the status of the Nautilarm Xtreme

If *Secret, status* is sent to the unit it will reply with a message detailing its current supply voltage, along with the current status of the output switch and GSM signal strength. It also returns the boat's current position, heading and speed. If the unit is out of GPS coverage or the GPS is turned off the unit will also return the time of the last fix.

If you phone the unit from any of the registered phones then hang up within 3 rings it will send you a status text message.

To query the status of the unit, send this message:

Secret, status

7.2 - To Query the Credit of the SIM Card

If you decide to use a *pay as you go* SIM card then it is useful to be able to know how much credit you have available.

It is possible to do this remotely with Vodafone and O2.

The command used by the mobile operator is called the USSD.

The *credit* command is used to set the USSD string. This command is network specific.

For O2 in the UK set it to '*#10#'.

For Vodafone set it to *#1345#.

If the USSD number is omitted then the unit will return the credit remaining on the SIM.

To set the USSD string for Vodafone, send this message:

*Secret, credit, *#1345#*

To check the credit remaining on the SIM, send this message:

Secret, credit

7.3 - To Arm or Disarm the system

To arm or disarm the system, send one of these messages:

Secret, arm

Secret, disarm

To arm the system using the RF keyfob press button 1. To disarm it, press button 2. Alternatively the keyswitch (optional) can be used to arm and disarm the system.

The beeper will beep slowly during the exit time and quickly during the entry time. If a beam break sensor is blocked whilst arming the alarm, the beeper will double-beep during the exit time.

7.4 - To Reset the Nautilarm

To reset the system to factory settings, send the following message:

Secret, reset

7.5 - GPS Operation

The units position is requested using the Status command above. For power saving reasons, the GPS can be turned off and on. To turn the GPS off or on, send one of these messages:

Secret, gps, on

Secret, gps, off

The Nautilarm Xtreme can also report its current speed and direction of travel. To query this, send the following message:

Secret, gps

7.6 – Geofence Operation (Xtreme Geofence version only)

The Nautilarm Xtreme is equipped with a geofence alarm. This means that you are able to set a circle in which the boat must stay when the alarm is armed. If it leaves this area, the alarm will be triggered.

You can configure the radius of the circular area in **units of 10m** and also whether the alarm and siren will be triggered or just a message will be sent when the geofence area is left. The following messages can be used to configure the geofence:

Secret, fence, disable (Disables the geofence)

Secret, fence (Queries the fence settings)

Secret, fence, 3, alarm (Fence radius 30m, full alarm)

Secret, fence, 10, message (Fence radius 100m, message only)

The centre of the geofence area is set to the current position when the alarm is armed. The geofence may occasionally false alarm – this is a limitation of GPS. It is recommended that the geofence radius not be set below 50m – the larger the area the less likely it is to false alarm. If the geofence triggers, wait a few minutes then query the boats position. You can verify on a map that the boat really has moved a significant amount.

7.7 - Microphone (optional)

If the microphone option has been purchased it must be plugged into the connector marked MIC on the PCB. To listen in to the Nautilarm, phone the unit. It will answer after 8 rings and you can listen in to whatever the microphone picks up.

7.8 - Control the Output switch

The device connected to the output switch can be controlled by the keyfob or by text message.

To control the output from the keyfob, press button 3. Each time it is pressed the output will toggle on or off.

To control it by text message, send one of these messages:

Secret, switch, on

Secret, switch, off

If the output switch has been renamed to *lights*, it can be controlled by name:

Secret, lights, on

Secret, lights, off

8 - Internal LED Operation

This LED is not visible when the unit is assembled and has the cover on. Therefore it is for installation and test purposes only.

There is a red / green LED on the Nautilarm circuit board. The LED flashes red or green a number of times every few seconds.

The number of green flashes indicates the GSM signal strength (1 is little/no signal, 5 is maximum strength).

The number of red flashes indicates the number of GPS satellites in view. This will be from 0 to 12.

The GPS can get a reasonable fix on the boat location when there are 4 or more satellites in view.

You can also get this information on an installed system by using an external LED (see section 3.6) and/or using the status request (see section 7.1)

9 - Support

Should you have any problems installing or configuring the Nautilarm Xtreme, please contact Peak Maxim Marine on **01305 251 971** or email support@alarmmyboat.co.uk.

Should you forget your unit password, please contact Peak Maxim Marine on **01305 251 971** or email support@alarmmyboat.co.uk. We can then reset your password reset remotely.

10 - Default Settings

Unless otherwise stated, the Nautilarm Xtreme will be supplied with the following default settings:

Zone 1 Name: ZONE1

Zone 2 Name: ZONE2

Zone 3 Name: ZONE3

Zone 4 Name: ZONE4

Zone 5 Name: ZONE5

Zone 6 Name: ZONE6

Zone 7 Name: ZONE7

Output Switch Name: SWITCH

No phone numbers registered.

Password set to secret.

Disarmed.

Credit number set to *#10#.

Entry time set to 10s.

Exit time set to 10s.

Alarm time set to 5 minutes.

Low voltage warning set to 10.5V.

Automatic status messages sent every 14 days.

11 - Electrical Specifications

Operation of the Nautilarm outside of these specifications is not advised and may cause damage and unexpected operation.

Parameter	Min	Max	Typ	Unit
Supply Voltage	8	16	12	V
WITH GPS:				
Supply Current @ 12V	90	1000*	50	mA
WITHOUT GPS / GPS Off:				
Supply Current @ 12V	17	1000*	17	mA
Battery Charging:				
Supply Current @ 12V	230	1000*	230	mA

*These peak currents will only be drawn for a few mS during the transmit uplink burst.

12 - Wiring Diagram

