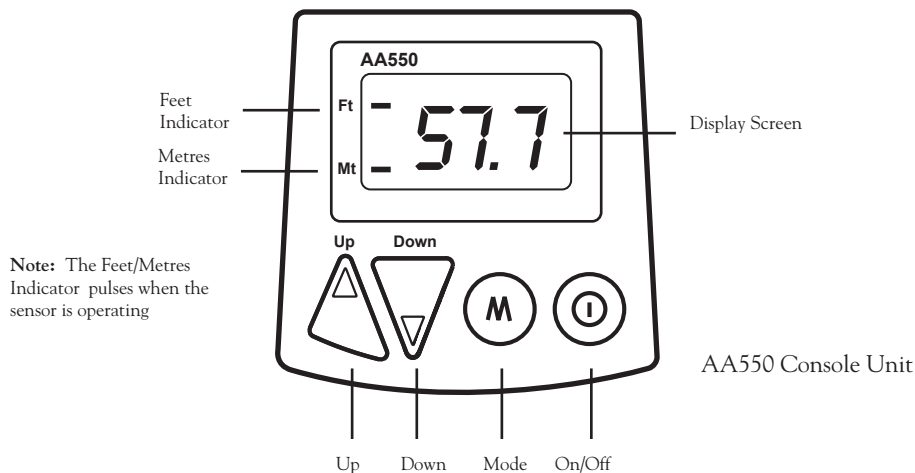


# AutoAnchor 550 (v1.7) Installation Instructions



## Check that the following parts are included in the kit (#9050):

- 1 x AA550 Console Unit
- 1 x Motor Load Sensor Terminator Pack containing 2 terminator connectors (1 x brown and 1 x white)
- 1 Console Fastening Kit (3 bolts, 3 nuts and 3 grommets) (#9017)
- Wiring Diagrams
- 1 x Operation Manual
- Templates for AA550 Console, Sensor and Magnet Fitting
- 1 Grey Sensor (# 9051)
- Magnets: 10mm x 8mm (# 9061), 8mm x 6mm (# 9052), 6mm x 4mm(#9009).

## READ THIS MANUAL COMPLETELY BEFORE STARTING INSTALLATION

- 1 The AA550 is both a chaincounter and a windlass control. It must be installed as an integral part of the windlass control system. It is not just an electronic monitoring instrument.
- 2 The AA550 should only be installed by a qualified marine electrician. Do not attempt to install the AA550 unless you are suitably qualified.
- 3 The AA550 can be fitted to most vertical windlasses. Fitting to a horizontal windlass is more difficult and in some cases is not possible. Check with your supplier or the AutoAnchor manufacturer. Your horizontal windlass may require a sensor holder or a custom designed sensor which is not included in the standard pack.
- 4 The AA550 must be fitted to a windlass with a dual direction control box or solenoid pack.
- 5 Information for installation and operation of the AA550 is supplied. The documentation includes: Installation instructions, windlass selection list, wiring diagrams, templates and the operation manual which contains the calibration and testing procedures. All instructions should be left on board for the owner.
- 6 Non compliance with the instructions in the documentation could impair the windlass and the AA550 operation, and could result in personal injury and/or damage to the boat.
- 7 Non compliance with the instructions will negate the manufacturer's warranty.
- 8 The AA550 manufacturer and supplier accept no liability for personal injury or property damage resulting from failure to follow the installation instructions or the use of the AA550 in a way that may cause accidents or damage or that may violate the law.
- 9 All the technical and cable specifications must be checked and adhered to.
- 10 Wiring diagrams must be followed without modification.
- 11 Installation is not complete until the AA550 has been calibrated to comply with the boat's windlass and rode and then tested in a safe environment. Refer to the Operation Manual Part 2 for calibration and testing instructions.
- 12 All installations must be carried out in accordance with USCG, ABYC, NMMA and BMEA requirements.

## Important Note Re Sensor

The AA550 is a unique windlass controller and rode counter. It provides an accurate count even when using a rope/chain rode. When fitted to a rope/chain windlass, using the custom designed AA electronic sensor, the AA550:

- registers when the rode changes from chain to rope and
- allows for stretch in the rope when measuring the length of rode deployed

**The AA550 will only work using the custom designed, grey, AA solid state, hall effect sensor (#9051) supplied in the kit.**

## TECHNICAL SPECIFICATIONS AA550

Power Supply: 12V or 24V DC

Current Consumption AA550: 50 mA

Temperature Range: 23°F to 140°F ( -5°C to 60°C)

Solenoids: Maximum 4 Amp draw

Maximum Voltage: 30V DC

EMC: CE 60945

### Cable Specifications

**Cable from AA550 console to the sensor:** Belden 9501 (AWG24) or equivalent, 2 core, tinned, copper, screened.

**Cable from AA550 console to the motor terminals (Load Sensor Wires):** 1.0mm<sup>2</sup> (AWG18).

**Note:** Short circuit protection is required on these cables. The load sensor terminators supplied have motor terminal connectors and a 1000 Ohm resistor prefitted. If these terminators are not used a 100mA fuse must be fitted.

### Cable from AA550 console to the batteries and solenoids:

**Note:** All battery cables must be ring type.

*This specification is based on the total cable length measured from the battery to the console plus from the console to the solenoids.*

Where the total length is less than 33 ft (10 m) - 1.5mm<sup>2</sup> (AWG16)

Where the total length is between 33 ft (10 m) and 66 ft (20 m) - 2.0mm<sup>2</sup> (AWG14)

Where the total length is between 66 ft (20 m) and 132 ft (40 m) - 3.0mm<sup>2</sup> (AWG12)

For lengths greater than this refer to your supplier for specifications.

### Anchor Rode Specifications

**Rope/Chain Anchor rodes** must have a minimum of 10 ft (3 metres) of chain. The chain must be galvanised steel, not stainless steel.

**All Chain Anchor rodes** can be either galvanised steel or stainless steel.

### Windlass & Anchor Specifications

The AA550 is designed for use with the rope/chain windlasses listed on the pre-programmed list enclosed with the Operation Manual. It can be used with all-chain windlasses using the custom setting. The windlass must be installed according to the windlass manufacturer's instructions with the correct size rope and chain for the windlass chainwheel. The AA550 will not count correctly if the windlass is not standard (eg it is installed with a different chainwheel or motor). For smooth operation the windlass requires a good quality, properly fitted bow roller and a swivel should be connected to the anchor where it joins the chain.



## ELECTROMAGNETIC COMPATABILITY (EMC)

The AA550 meets and exceeds the CE standard for EMC (EN60945). These standards are intended to provide reasonable protection against interference by other emission generating products on the boat. However, compliance with these standards is no guarantee that interference will not occur in a particular installation. The installation instructions must be followed to minimise the potential for interference. AA550 equipment must be installed to maintain the following distances away from any equipment transmitting or cables carrying radio signals eg VHF or SSB radios, cables and antennas or radar antennas:

- the console at least 1m (3 ft), except for SSB equipment where it must be 2m (6ft) away
- the cables at least 500 mm (1.5 ft)

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## MAGNET & SENSOR INSTALLATION

The magnet and sensor must be installed correctly or the AA550 will not work. If it is not possible to comply with these instructions please check with the AutoAnchor manufacturer or your supplier as special fitting instructions may be available to assist for non-standard fittings. Some windlasses are predrilled for sensor and magnet fitting.

**If fitting the AA550 to a horizontal windlass, check with your supplier or the AutoAnchor manufacturer, (contact details on PAGE 9) to confirm the AutoAnchor can be fitted to your windlass.**

### VERTICAL WINDLASSES

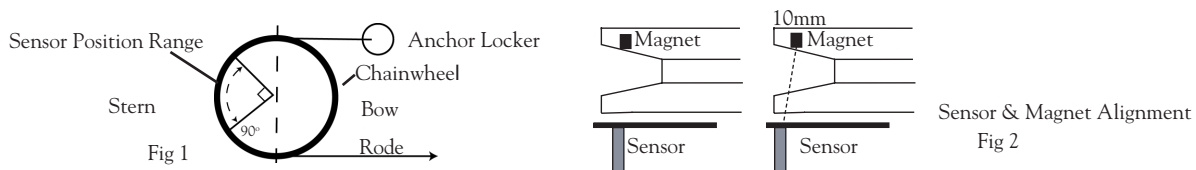
#### FITTING THE AA550 TO A VERTICAL WINDLASS WITH A ROPE/CHAIN RODE

*If counting rope/chain, you must have a minimum of 10ft of galvanised steel chain on your rode.*

#### Sensor Installation for Vertical Windlasses Using Rope/Chain Rode

The AA550 must be fitted using the custom designed electronic sensor supplied in the kit. It will not work with any other sensor. The sensor is fitted into the windlass deckplate.

**Drilling the Deckplate:** If the windlass is not factory drilled or you do not have a template you will need to drill a hole 13/32" (10.3mm) diameter through the windlass deckplate. The hole must be within the sensor position range at the stern end of the windlass (See Fig 1 on PAGE 3). The sensor must also be aligned with the magnet so that the rode passes between them. The centre of the magnet and the centre of the sensor may be up to 10mm out of direct alignment. (See Fig 2 on PAGE 3)



**Gap Between the Sensor and Magnet:** The gap between the sensor and magnet is critical for proper operation of the AA550. See below for the gap when the rode runs between the sensor and the magnet:

Magnet #9052 (8mm x6mm)	Minimum Gap 30mm	Maximum Gap 44mm
Magnet #9061 (10mm x 8mm)	Minimum Gap 35mm	Maximum Gap 50mm

**Drilling the Deck:** Drill a hole 13/32" (10.3mm) diameter through the deck. Ensure this hole is directly in line with the sensor hole in the deckplate. The sensor wire must be fed through the deck. Before drilling into the deck, ensure there is nothing below the deck that could be damaged. Also ensure any hole you drill will not weaken the boat's structure.

**Ensure the sensor head is positioned so that it will not be hit by the chainwheel during windlass operation and that it is at least 1ft (300mm) away from the battery and motor cables, then secure the sensor into the deckplate with silicone.**

**Sensor Wiring:** Refer to the wiring diagrams for instructions to connect the sensor wires to the AA550 console. Sensor cable joins must be soldered and sealed in adhesive heat shrink tubing. Do not leave the cables hanging loose, they must be tied in place with cable ties.

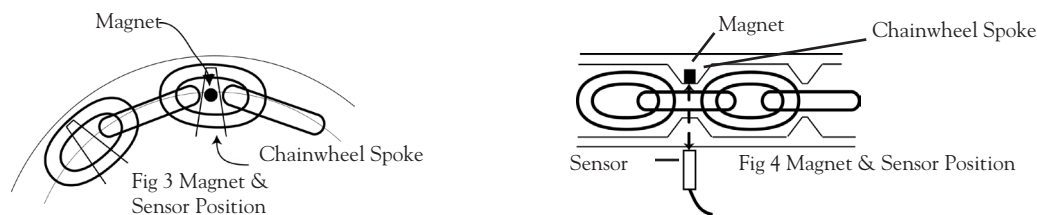
### Magnet Installation for Vertical Windlasses Using Rope/Chain Rode

Some windlasses are supplied prefitted with magnets in the bottom of the chainwheel. This will work if you are using an all-chain rode but, if you want an accurate count of your rope/chain rode you need to remove the prefitted magnet and fit a new magnet in the top of the chainwheel so that the rode will run between the sensor and the magnet.

The 10mm x 8mm magnet (#9061) is used for most windlasses. Some smaller windlasses require the 8mm x 6mm magnet (#9052) eg the Muir Atlantic 600. Check with your supplier or the AutoAnchor manufacturer if you are not sure which magnet to use.

The magnet and sensor must be aligned so that the anchor rode passes between them. The centre of the magnet and the centre of the sensor may be up to 10mm out of direct alignment. (See Fig 2 above). Templates and drilling instructions are supplied for some windlasses. Note: The Lofrans Project 1000 and 1500 windlasses are predrilled for magnet installation in the bottom of the chainwheel. Invert the chainwheel so that the magnet hole is in the top of the chainwheel.

If the windlass is not pre-drilled and you do not have a template, drill a hole for the magnet into the top of the chainwheel to the depth required. Ensure the gap between the sensor and magnet will be correct as per the table above. **Ensure the hole is into a chainwheel spoke and that the magnet will be aligned over the sensor and the rode as it moves around the chainwheel.** Refer Figs 1, 2 above and Figs 3, 4 below. Insert the magnet into the hole. (Magnet polarity is not relevant). Cover the magnet with a minimum of 1mm of epoxy to seal it from salt water. Failure to do this will impair the magnet's durability.



### FITTING THE AA550 TO A VERTICAL WINDLASS WITH AN ALL-CHAIN RODE

The fit described above for rope/chain rode can also be used for all-chain rode, but it may be easier to fit the magnet in the bottom of the chainwheel as set out below.

### Sensor Installation for Vertical Windlasses Using All-Chain Rode

If the windlass is not factory drilled, or prefitted with a sensor, you will need to drill a hole 13/32" (10.3mm) diameter through the windlass deckplate. The sensor position range (described above for rope/chain windlasses) is not relevant if the magnet is fitted in the bottom of the chainwheel. The sensor hole can be drilled anywhere on the deckplate provided it is in alignment with the magnet in the chainwheel.

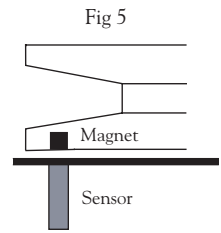
**Gap Between the Sensor and Magnet:** The gap between the sensor and magnet is critical for the AutoAnchor operation. See below for the gap required where the rode does not run between the sensor and the magnet.

Magnet #9009 (6mm x 4mm)	Minimum Gap 3mm	Maximum Gap 30mm
Magnet #9052 (8mm x 6mm)	Minimum Gap 3mm	Maximum Gap 44mm
Magnet #9061 (10mm x 8mm)	Minimum Gap 3mm	Maximum Gap 50mm

**Drilling the Deck:** - Refer to instructions for rope/chain windlasses on PAGE 3.

### Magnet Installation for Vertical Windlasses Using All-Chain Rode

**To Fit the Magnet:** If your chainwheel is not predrilled, drill a hole in the underside of a spoke in the bottom of the chainwheel. Ensure the gap between the sensor and the magnet will be correct. Insert the magnet and cover it with a minimum of 1mm of epoxy to seal it from salt water. Failure to do this will impair the magnet's strength and durability.



## HORIZONTAL WINDLASSES

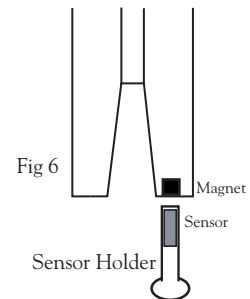
Every horizontal windlass is different and you may need to check with the AutoAnchor manufacturer, or supplier, to see if you can fit the AA550 to your windlass. There are several options for windlasses using all-chain rode but if your windlass uses rope/chain rode it may not be possible to fit the sensor to achieve an accurate rope count. It may be possible to count the revolutions of the chainwheel as for all-chain windlasses. See PAGE 5

### FITTING THE AA550 TO A HORIZONTAL WINDLASS WITH AN ALL-CHAIN RODE

#### Sensor Installation For Horizontal Windlasses Using All-chain Rode

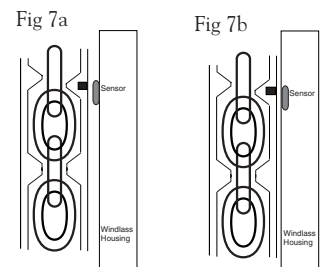
##### Standard Sensor

The standard sensor (#9051) is cylindrical 30mm long and 10mm in diameter. This sensor can be fitted using a sensor holder fixed to the deck to sit under the chainwheel (See Fig 6). The AutoAnchor sensor holder (#9070) is not included in the standard kit. Check with your supplier.



##### Flat Sensor

AutoAnchor also makes a flat sensor (#9045) that can be fixed to the exterior housing of the windlass (See Fig 7a) or inside the windlass housing (See Fig 7b). Secure the sensor using a good quality neutral cure silicone or a strong adhesive eg. Sikaflex 291 or 3M 5200. The magnet is aligned with the cross on the sensor.



**Gap Between the Sensor and Magnet:** The gap between the sensor and magnet is critical for proper operation of the AA550. See below for the gap required where the rode does not run between the sensor and the magnet.

Magnet 6mm x 4mm #9009	Minimum 3mm	Maximum 30mm
Magnet 8mm x 6mm #9052	Minimum 3mm	Maximum 44mm
Magnet 10mm x 8mm #9061	Minimum 3mm	Maximum 50mm

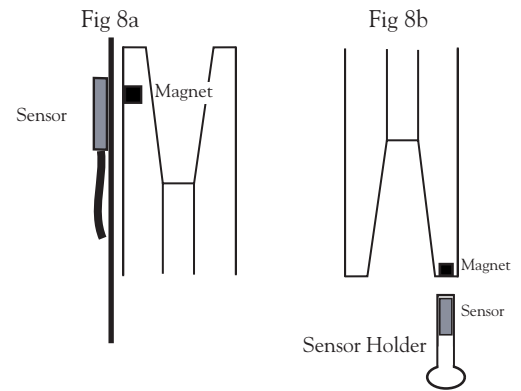
**Drilling the Deck:** Drill a hole 13/32" (10.3mm) diameter through the deck. The sensor wire must be fed through the deck. Ensure the wire is protected against any moving parts in the windlass. Before drilling into the deck, ensure there is nothing below the deck that could be damaged. Also ensure any hole you drill will not weaken the boat's structure. **Ensure the sensor head is positioned so that it will not be hit by the chainwheel during windlass operation and that it is at least 1ft (300mm) away from the battery and motor cables, then secure the sensor into the deckplate with silicone.**

**Sensor Wiring:** Refer to the wiring diagrams for instructions to connect the sensor wires to the AA550 console. Sensor cable joins must be soldered and sealed in adhesive heat shrink tubing. Do not leave the cables hanging loose, they must be tied in place with cable ties.

## Magnet Installation for Horizontal Windlasses Using All-Chain Rode

The magnet is fitted either in the base or in the edge of the chainwheel.

**To Fit the Magnet:** If your chainwheel is not predrilled, drill a hole in the underside of a spoke (see Fig 8a) or in the edge of the chainwheel (See Fig 8b). Ensure the gap between the sensor and the magnet will be correct. Insert the magnet and cover it with a minimum of 1mm of epoxy to seal it from salt water. Failure to do this will impair the magnet's strength and durability.

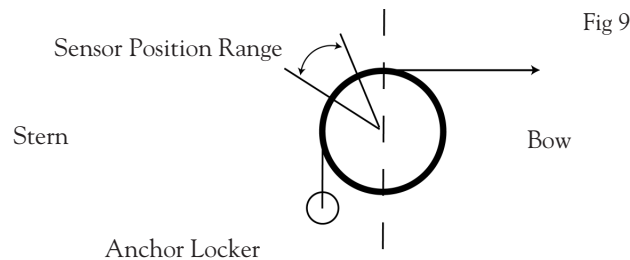


## FITTING THE AA550 TO HORIZONTAL WINDLASSES USING ROPE/CHAIN RODE

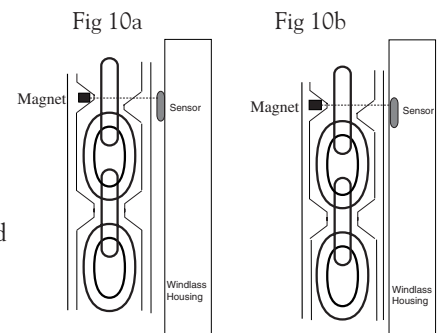
*If counting rope/chain, you must have a minimum of 10ft of galvanised steel chain on your rode.*  
This fit can also be used for windlasses with all-chain rode.

### Sensor Installation for Horizontal Windlasses Using Rope/Chain Rode

For an accurate rope/chain count the rode must run between the sensor and magnet. On a horizontal windlass this area is limited to the top of the stern quadrant. (See Fig 9 below). To count rope/chain the sensor must be fitted within this quadrant. Every horizontal windlass is different and it may not be possible to fit the sensor to achieve an accurate rope/chain count. Please check with the AutoAnchor manufacturer, or supplier, to see if you can fit the AA550 to your windlass.



Some windlasses are designed with a space to fit the sensor internally (eg Maxwell HRC models). For other windlasses it may be possible to use the AutoAnchor flat sensor and fix it inside the windlass housing (See Fig 10b) or, on the exterior of the windlass housing behind the chainwheel. (See Fig 10a). The magnet must be aligned with the cross on the flat sensor.



**Gap Between the Sensor and Magnet:** The gap between the sensor and magnet is critical for proper operation of the AA550. See below for the gap required where the rode runs between the sensor and the magnet:

Magnet 8mm x 6mm #9052	Minimum 30mm	Maximum 44mm
Magnet 10mm x 8mm #9061	Minimum 35mm	Maximum 50mm

**Drilling the Deck:** - Refer to instructions for all-chain windlasses on PAGE 4.

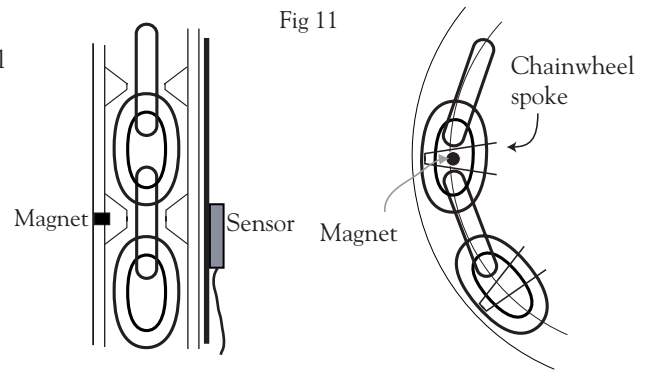
### SEALED WINDLASSES

Some rope/chain horizontal windlasses are sealed so it is not possible to fit the sensor inside the windlass housing. If there is sufficient space between the chainwheel and the windlass housing, the sensor can be fitted externally (See Fig 10a). The only other option is to fit the sensor using a sensor holder as for an all-chain system (see the warning below).

**WARNING:** If you use rope/chain and the sensor is fitted for an all-chain system ie the rode does not run between the sensor and magnet, the count on retrieval may not be accurate because the AA550 will not be able to register the change from rope to chain. The display may read zero when there is still rode deployed.

## Magnet Installation for Horizontal Windlasses Using Rope/Chain Rode

The magnet must be fitted into a tooth in the top of the chainwheel so that the anchor rode passes between the magnet and the sensor. See Fig 11.



Magnet size for any installation depends on the gap that can be achieved. (Refer to Table of Gaps on PAGE 5). Some windlasses will be pre-drilled for the magnet.

## CONSOLE UNIT INSTALLATION

Choose a position where the operator will be able to see the anchor and windlass when using the AA550. The console should be mounted on a flat surface at least 3 ft (1m) away from any equipment transmitting or cables carrying radio signals eg VHF radios, cables and antennas or radar antenna and at least 6 ft (2m) away from any SSB equipment. The front of the console is waterproof but the cable boot on the back is designed to breathe. The console should be mounted so that the back is protected from moisture. There are 4 holes required to mount the console. Refer to the drilling template supplied for the hole sizes and positions. Do not use sealer or glue. The rubber grommets will seal the unit. Do not use metal studs, nylon bolts are supplied. These should be hand tightened only.

### Multiple Console Unit Installation

Two AA550 consoles can be installed to provide multiple control stations. The AA550 can also be installed with other windlass control stations eg deck switches or plug in hand controls and other AutoAnchor products the AA150 and the AA601. Refer to the wiring diagrams and/or your supplier for details.



## POWER SUPPLY

### Power Supply & Wiring Connections

- 12V or 24V DC power supply is required to the AA550 console.
- Power to the AA550 and all windlass controls eg. toggle switch, remote switches, deck switches must be supplied from one point or the AutoAnchor will be damaged. See the diagrams below.
- The power must be disconnected when installing and connecting the wiring.
- Check battery polarity before connecting power and ensure output terminals will not short.
- A 5 Amp resettable isolating/breaker switch to shut off power to the AA550 and the windlass must be installed in a position easily accessed by the AA550 operator.
- Multiple battery bank negative terminals must be permanently connected together to become the common negative return (ground).

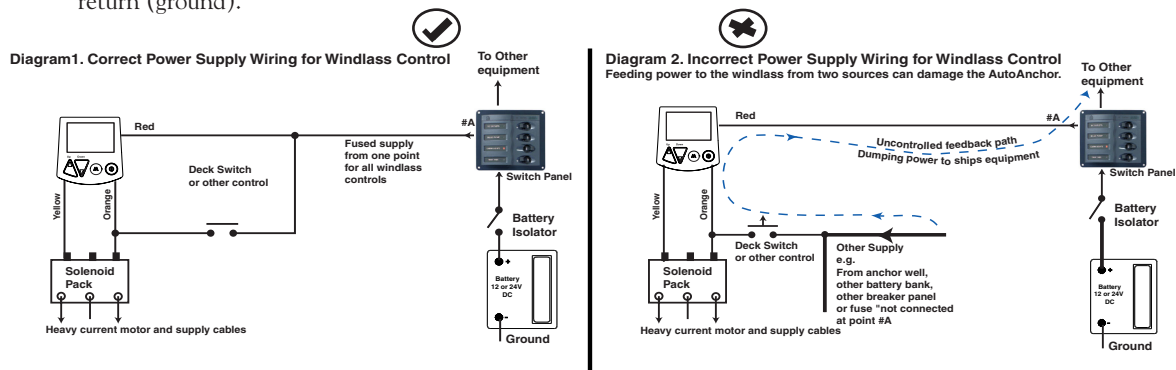


Fig 12

Refer to the Wiring Diagrams for wiring installation detail. The cable specifications on page 2 of these instructions must be followed. Interlock protection is included in the system. Do not fit diodes or interlock devices as these will prevent the system from operating correctly. All battery and motor cables must be ring type, insulated to prevent short circuits and installed no closer than 1 ft (300mm) away from the sensor head. To reduce the potential for interference all cables must be located at least 1.5ft (500mm) away from any equipment transmitting or cables carrying radio signals eg VHF or SSB radios, cables and antennas or radar antennas. Insulation must be used to protect all terminals. Do not leave cables hanging loose, they must be tied in place with cable ties.



## CONNECTIONS TO THE WINDLASS MOTOR

**Windlasses Using Rope/Chain Rode:** Short Circuit Protection is required on the load sensor wires (1 x brown/1 x white) that connect direct to the motor terminals. The connectors supplied have a 1000 Ohm resistor prefitted. If you do not use these connectors a 100mA fuse must be fitted. The joins should be soldered or crimped, and sealed. If the load sensor wires are not connected properly the AA550 will not count rope/chain accurately and the automatic function will not work. A LoAd warning message will display on the LCD. **Note: The brown wire must connect to the UP terminal. Check the windlass rotation before connecting this wire.**

**Windlasses Using All-Chain Rode:** The load sensor wires are not required for windlasses using all-chain rode. They can be left unconnected. If you choose to connect these wires then the instructions for windlasses using rope/chain rode must be followed.

All main power conductors and terminations are to be installed according to the windlass manufacturer's specifications. Seal terminals against moisture by spraying with CRC [3013] Soft Seal or CRC [2043] Plasticoat 70.

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## VOLTAGE LEVELS

Neither the windlass nor the AA550 will operate with insufficient power. (See below). Batteries must be properly maintained and charged and all connections and wires must be of good quality and the correct gauge to prevent voltage drop. To check the voltage to the console unit: Turn the AA550 off and then press and hold the Down button. The voltage will display on the LCD. During operation, if the voltage drops below the minimum the AA550 will show "Lo Pr" and the voltage

### Minimum Voltage Required

Minimum voltage required to start windlass operation.	12V system	10 Volts
	24V system	20 Volts
If the windlass is already operating, this is the minimum voltage required to continue operating.	12V system	7 Volts
	24V system	14 Volts

## CALIBRATION & TESTING:

Refer to the Operation Manual Part 2.

**Windlasses Using Rope/Chain Rode** - Select the windlass from the Preprogrammed Windlass List and enter this at Calibration Item 5.

**Windlasses Using All-Chain Rode** - Use the Custom Setting at Calibration Item 5 and enter the chainwheel circumference at Item 6. The circumferences for many windlasses are set out on the Preprogrammed Windlass List.

Before installation can be considered complete, the AA550 must be calibrated to comply with the boat's windlass and rode and then tested to ensure it is working correctly.

### RESET DISPLAY TO ZERO

Turn the AA550 on. Clear the safety lock if necessary. Press and hold the ON/OFF button. A rapid beeping will be heard. Release the ON/OFF button when the display shows 0.0.

### RESET FACTORY DEFAULT SETTINGS



This setting should only be used if the AA550 settings have been corrupted. Using this setting will remove all your calibration settings.

To apply the factory reset: Turn the AA550 off. Hold down the MODE and UP buttons together. While holding these buttons press and release the ON/OFF button. When the LCD display reads LoAd release the MODE and UP buttons. The unit will turn itself off and the factory default settings will be reset.

Now re-enter the calibration settings for your unit. Refer Part 2 of the Operation Manual.

## PART 4 - TROUBLESHOOTING & MAINTENANCE

### ELECTRONIC DIAGNOSTICS

Definitions SoL = Solenoid, SEN = Sensor, Lo Pr = Low Power

The AA550 is not faulty if these messages are displayed. The diagnostics help identify problems with installation, the battery, the solenoid and the sensor and windlass rotation. Some of the messages appear when you try to operate the AA550 but others only appear briefly when the AA550 is turned on. Always check for the diagnostic messages by switching the AA550 off and then on again. Use the table below to help identify a problem and provide a possible solution. If you cannot resolve the problem, contact your supplier for further information.

**SEN and LoAd messages:** When these messages are displayed the AA550 will operate the windlass up and down manually but the Auto function will not work and the count will not be accurate.

Message/Problem	Possible Solution
1. <b>LoAd</b> Displayed briefly when the AA550 is turned on and when it is operated manually. The Auto function does not work.	The load sensor wires are not connected to the motor. Use the AA550 manually and check the load wire connections. If using an all-chain rode check that the AA550 is calibrated correctly for all-chain. When fixed reset the AA550 to zero. The anchor must be docked. To reset to zero - press and hold the ON/OFF button. Release when the display shows 0.0. The count will not be correct until the problem is fixed.
2. <b>LoC</b> Displayed when a button is pressed. The AA550 will not operate.	The safety lock is on. Hold down the Mode button to release the safety lock and then operate as normal.
3. <b>Lo Pr + a number</b> Displayed when the Up or Down button is pressed. The AA550 will not operate the windlass.	Low power to the AA550. To check the voltage received by the AA550, turn the AA550 off, and press and hold the Down button. The voltage will display on the LCD. Check the battery voltage output. Check wiring for loose connections. Check the cable size. If the cable is the wrong size there may be voltage drop between the battery and the AA550. See the cable specifications on page 2 and the minimum voltages on page 7.
4. <b>OFF</b> Displayed when attempting to use the Auto function.	No setting has been entered for the rode to be released so the Auto function cannot operate. Enter a length of rode for release and the system will operate normally. (Refer page 10 Operation Manual).
5. <b>SEN</b> Displayed when attempting to use the Auto function.	Use the AA550 up and down manually and check for the specific sensor error. SEN1 - SEN5. Refer to the notes 6-10 below.
6. <b>SEN 1</b> Displayed briefly when the AA550 is turned on and when it is operated manually. Auto does not work. No sensor pulse.	The sensor wires are disconnected or the red and black sensor wires are shorted together. AA550 will operate the windlass up and down but there will be no count displayed on the LCD. Check sensor wiring and installation. When fixed reset the AA550 to zero twice. The anchor must be docked. To reset to zero - press and hold the ON/OFF button. Release when the display shows 0.0.
7. <b>SEN 2</b> Displayed briefly when the AA550 is turned on and when it is operated manually. Auto does not work. No sensor pulse.	The black sensor wire is shorted to ground. AA550 will operate the windlass up and down but there will be no count displayed on the LCD. Check sensor wiring and installation. When fixed reset the AA550 to zero twice. The anchor must be docked. To reset to zero - press and hold the ON/OFF button. Release when the display shows 0.0.
8. <b>SEN 3</b> Displayed when the AA550 is operated manually. Auto does not work. No sensor pulse.	No signal from the sensor to the AA550. Either there is no magnet, the gap between the magnet and sensor is too big or the sensor signal is out of tune because of testing during installation. AA550 will operate the windlass up and down but there will be no count displayed on the LCD. Try resetting the AA550 by running the windlass up and down for 10-15 seconds. If the message still appears check the magnet and the gap and alignment between the magnet and sensor. Check sensor wiring and installation and check for damage to the sensor and magnet. When fixed reset the AA550 as above. To reset manually the anchor must be docked and the AA550 reset to zero twice. To reset to zero - press and hold the ON/OFF button. Release when the display shows 0.0.



<p>9. <b>SEN 4</b> Displayed when the AA550 is operated manually. The sensor indicator does pulse. Auto does not work.</p>	<p>The sensor is too close if running rope/chain or the windlass has been run without rode. AA550 will operate the windlass up and down but the count will not be accurate. Try resetting the AA550 by running the windlass up and down for 10-15 seconds. If the message still appears make sure you have the correct calibration setting for the windlass and rode. Check the magnet and sensor are aligned, the sensor is in the correct quartile and the gap between the sensor and magnet is correct. Check for loose wiring from the sensor to the AA550. When fixed reset the AA550 as above. To reset manually, the anchor must be docked and the AA550 reset to zero twice. To reset to zero - press and hold the ON/OFF button. Release when the display shows 0.0. the display shows 0.0.</p>
<p>10. <b>SEN 5</b> Displayed during retrieval. The sensor indicator does pulse. Auto does not work.</p>	<p>The AA550 has not detected the change from rope to chain. Use Manual Up to complete retrieval. The count displayed will not be accurate. Check for rope slippage and that the rope and chain are the correct size for the chainwheel. Check that the sensor is in the correct quartile. When fixed reset the AA550 to zero. The anchor must be docked. To reset to zero - press and hold the ON/OFF button. Release when the display shows 0.0.</p>
<p>11. <b>SoL oL</b> Displayed when the Up or Down button is pressed. The windlass may operate for a short period and then stop.</p>	<p>The solenoids could be exceeding the maximum 4 Amps or a solenoid wire is shorted to ground. The AA550 is designed to turn the solenoids off if these events occur. Check the solenoids and the wiring and fix as necessary.</p>
<p>12. <b>SoL uP</b> or <b>SoL dn</b> Displayed briefly when the AA550 is turned on. The AA550 will not operate the windlass.</p>	<p><b>SoL uP</b> - The Up (orange) wire is not connected to the solenoid. <b>SoL dn</b> - The Down (yellow) wire is not connected to the solenoid. These messages also appear if the up or down button is pressed on the AA550 when the windlass is already in operation using a deck switch. Diodes or interlock devices between the AA550 and the solenoid will also cause these messages. The AA550 has internal diode protection. External diodes will cause the system to fail.</p>
<p>13. AA550 will not turn on or turns off.</p>	<p>Check battery connections, polarity and voltage. The voltage to the AA550 can be checked by turning it off and holding the Down button. The voltage is displayed on the LCD. See page 7 for minimum voltages. Check fuses and wiring and for the <b>Lo Pr</b> diagnostic message. Refer note 3 above.</p>
<p>14. AA550 will not operate the windlass.</p>	<p>Check if the safety lock is on - the LCD will display <b>LoC</b>. Refer note 2 above. Check voltages at the battery and the AA550. The LCD will display <b>Lo Pr</b>. Refer note 3 above. Check wiring for loose connections to the solenoids. The LCD will display <b>SoL Up</b> or <b>SoL dn</b> if the wires are disconnected. Refer note 12 above. Check that the windlass is not already in operation using the deck switch or remote control. Check the total rode on board (Calibration 3 - Operation Manual Pg 4) is not set to OFF.</p>
<p>15. AA550 will operate the windlass manually but Auto function does not work</p>	<p>Check the rode to be released is not set to zero. The LCD will display <b>OFF</b>. See note 4 above. Use the AA550 manually and check for specific diagnostic messages <b>SEN</b> or <b>LoAd</b> (See notes 1 and 5-10 above).</p>
<p>16. Windlass rotates down when the Up button is pressed and up when the Down button is pressed.</p>	<p>The motor or solenoid wiring is reversed. Change the wiring and check the direction of the windlass rotation.</p>
<p>17. The windlass does not stop exactly at the preset point.</p>	<p>This is not a fault. Stopping is accurate to +1 chainwheel revolution. The chainwheel may run on slightly with momentum.</p>
<p>18. AA550 counts when the windlass is not turning or counts erratically displaying a large number eg 8888.</p>	<p>The sensor could be damaged, incorrect cable may be fitted, or the AA550 may have been subject to external interference - RF or electrical. Check that the sensor cable is not damaged and that the cable fitted is Beldon 9501 or equivalent, 2 core, tinned, copper, screened, as specified in the instructions. Check for external interference on the boat eg damaged or loose RF cables or aerials or other instruments that may not be working correctly or have been damaged by electrical interference including lightning.</p>
<p>19. AA550 beeps when it is turned off or locked.</p>	<p>Anchor rode is running through the windlass. Check if the windlass is being operated using the deck switches or a remote control. If not, check the windlass and anchor is secured.</p>
<p>20. The count pauses during retrieval.</p>	<p>If the sensor indicator is pulsing this is not a fault. The rode is changing from rope to chain.</p>

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