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SLEIPNER
Ocean born. Tech bred.

User Manual

Including Installation For Voltage Conversion Unit

SE120, SE130, SE150, SE170



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Warnings and Safety

MC_0800

It is essential to follow all instructions within this document to avoid potential personal injury, death, or damage to existing products in the vessel, the vessel's hull integrity, and including this product during installation or operation. Failure to follow instructions within this document will render all warranties given by Sleipner Motor as VOID.

Warnings and situations requiring extra caution are outlined in the documentation. Take extra consideration when warnings are outlined.

WARNING
Indicate a potentially hazardous situation that, if not avoided, could result in death or severe injury.

CAUTION
Indicates a potentially hazardous situation that could result in minor or moderate injury or critical damage to vessel integrity if not avoided.

Introduction and planning for the installation

IMPORTANT NOTICE!
This manual is to be used in addition to the regular installation manual for the Sleipner thruster.
This manual is intended for professionals only that can read and understand a wiring diagram and does not contain all detailed work instructions for what must be done to ensure correct and safe installation.

NOTE! To achieve maximum effect, reliability and durability from your Sleipner thruster, a correct installation as per the instructions are very important. Please follow the instructions carefully, and make sure that all checkpoints are carefully controlled.

Introduction and planning for the installation of the Sleipner series / parallel switch box.

The Sleipner series/parallel switch box have been designed to provide a safe and reliable 24V power for a 24V thruster in a 12V boat.

It has been specially designed and built to accommodate for the high current demands of an electric thruster and are available in two versions, one for the SE170TC and one for the SP240TC.

It is also designed so that there is no need for additional charging devices and connections, the extra battery will be automatically charged by the "original" charge feed in the boat for the standard battery (battery bank) that are being used as "Batt.1".

There is no need to install 2 special battery banks as one of the boats "standard" banks can be used as Batt.1, preferably the start battery bank as this is "always" full. The start battery bank is also preferred as there are normally no electronics that can be knocked out by a voltage drop or peak caused by all heavy electromotors such as a thruster.

NOTE! If you have electronically controlled engines (MMC / Volvo EDC / Morse etc.) the power to these must not be taken from the same battery as you power a thruster (or any other high power electric item). The best and most easy way to solve the power feed to such sensitive and critical items is a small extra battery for this. It is less expensive to provide a separate power feed to the electronic engine controls instead of a separate battery system for the heavy users, as the electronics have a very small power demand in comparison with a thruster, windlass and the engines starter motor.

Without exceptions, Batt.2 can have no other connections other than those described in these instructions.

We advise to install the extra battery (Batt.2) and the series / parallel switch box as close to the battery (bank) used as Batt.1 as possible.

Make sure to use heavy duty power cables for all battery and thruster connections including the ones between the batteries and the series/parallel box. The minimum cable size to use is 70mm2 / OOO or more if required by the length. See list in manual for the thruster you are installing.

The series/parallel switch box is splash proof but must be installed in a dry position so that it cannot become submerged in water.

Observe and follow the minimum battery capacity ratings described here. The smallest rating is for the SE170TC and the largest for the SE210TC & SP240TC. Remember, these are minimum ratings, bigger is better.

Always install main power switches in the main positive cables from each battery bank so that in case of a failure or emergency, the power can be switched off. The boat owner / operator must be informed of the location of these switches and instructed to shut them off when leaving the boat.

We also advice to install fuses at each battery as described in the wiring diagrams.

When the thruster is not running: (see FIG.1)

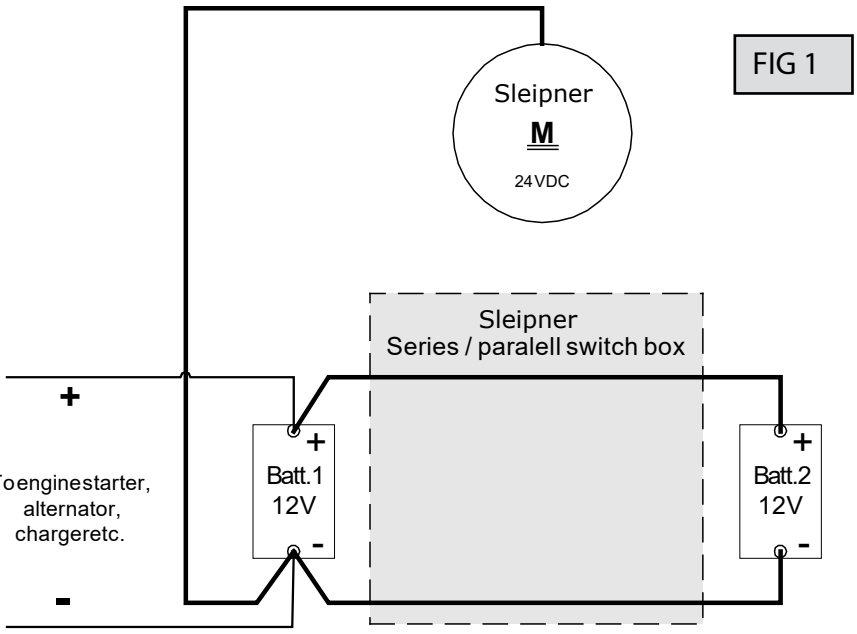
The two batteries (battery banks) are connected in parallel so that the extra battery is being charged by the boats normal 12V charge system, the same charge system that is charging the standard Batt.1.

By this, the extra battery (Batt.2) becomes a full part of the Batt.1 bank and thereby also increase the capacity of this.

The box is built so that you can draw the same amount current from the extra Batt.2 as the thruster draws as the solenoids have the same capacity in their inactive position as in the active position. (And basically, nothing on a boat draws as much as a thruster). There is no power on the main positive lead to the thruster until the thruster is activated by the control panel.

The power to the thrusters control system and panel is supplied by the series/parallel switch box, via the grey and black leads to the control side of the thruster's solenoid only.

Both batteries are now at 0V - 12V.



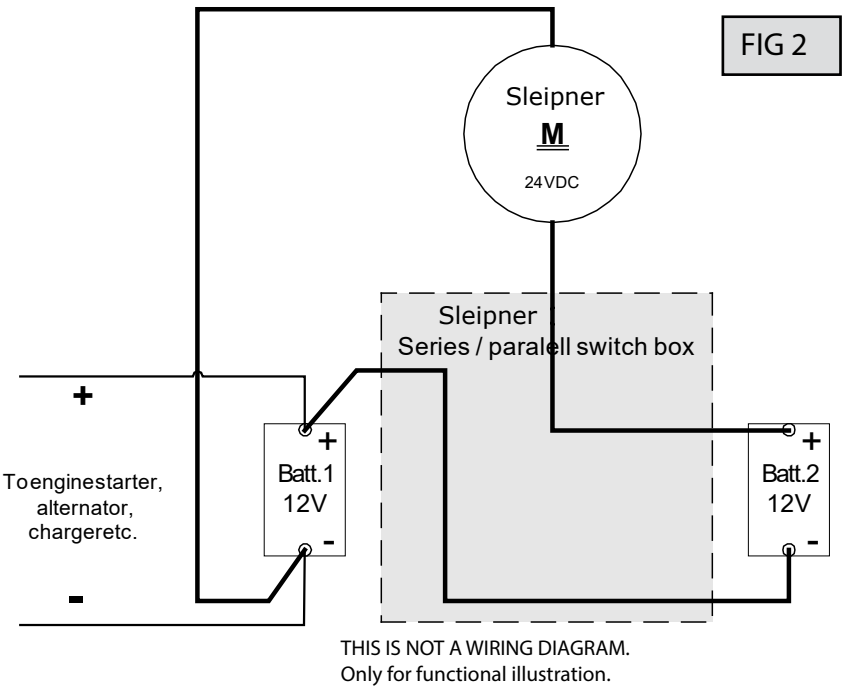
When you run the thruster: (see FIG.2)

When a run signal is sent to the thruster from the panel, the solenoids in the series/parallel box reacts first so that Batt.2 is moved into a series connection with Batt.1. so that there is 24V on the main power supply cable to the thruster.

The main contactors on the thruster does not engage until this have been done so that you have 24V at the thruster to control the 24V main solenoid contactors on the thruster.

Now, only Batt.1 is being charged while Batt.2 can only draw from its own capacity.
In this position, Batt.1 is 0 - 12V and Batt.2 becomes the 12V - 24V portion of the 24V feed to the thruster.

Batt.2 can only be connected to the series/parallel switch box as described in the manual.



THIS IS NOT A WIRING DIAGRAM.
Only for functional illustration.

Installation

1. Install the thruster as per the installation instructions following it but disregard the wiring diagram which are being replaced by the diagrams in this manual. Make sure to use the correct main cable size according to the length to thruster as listed in the thruster's manual. NOTE! The length measurements in this list is the total of the + and - cable.

2. Bolt the box to a bulkhead in an accessible location as close to the two battery banks as possible. It should be positioned so that the cable openings face down.

3. Connect the heavy main cables, main battery switches and fuses as described in the "visual" wiring diagram to the thruster, series/parallel switch box and batteries. Make sure to label all cables in both ends to ensure correct connection points. Remember to fit the rubber seals around the cables and in the box. (See FIG.3 and FIG.4)

4. Check again that the main cable wiring in the system is correct!

5. Extend the included 2-lead wire coming out of the series/parallel switch box (grey and black) and connect these to the lower connectors on the thruster's main solenoid contactor. (See FIG.3 + FIG.5)

6. Install the control panel(s) as per the instructions. The panels should be connected directly to the thruster as in a "normal" installation without a series/parallel switch box.

7. If you are installing a stern thruster, make sure to follow the instructions in the stern thruster installation manual to move the electronic control box away from the thruster and seal the thruster compartment from general bilge water. The electric installation of bow and stern thrusters must be treated as separate thrusters in terms of electric wiring so that each thruster must have its own series parallel box with all the connections and a separate Batt.2 and the 2-lead control cable between the series parallel box and the thruster. There is an example diagram (FIG.6) on page 7. You can also use separate battery bank 1 for each thruster, remember the 12V charge feed as described.

NB! If you are installing both a bow and a stern thruster with series/parallel switch boxes, the Batt.1 bank can be common for both thrusters providing it has the necessary capacity (minimum x 2,5) but there must be an individual Batt.2 for each thruster. (See FIG. 6)

Minimum battery capacities

	Batt.1	Batt.2	Slow fuse / main switch rating
SE170TC	600CCA din	600CCA din	400A for 10 minutes
SE210TC	750CCA din	750CCA din	550A for 10 minutes
SP240TC	800CCA din	800CCA din	600A for 10 minutes

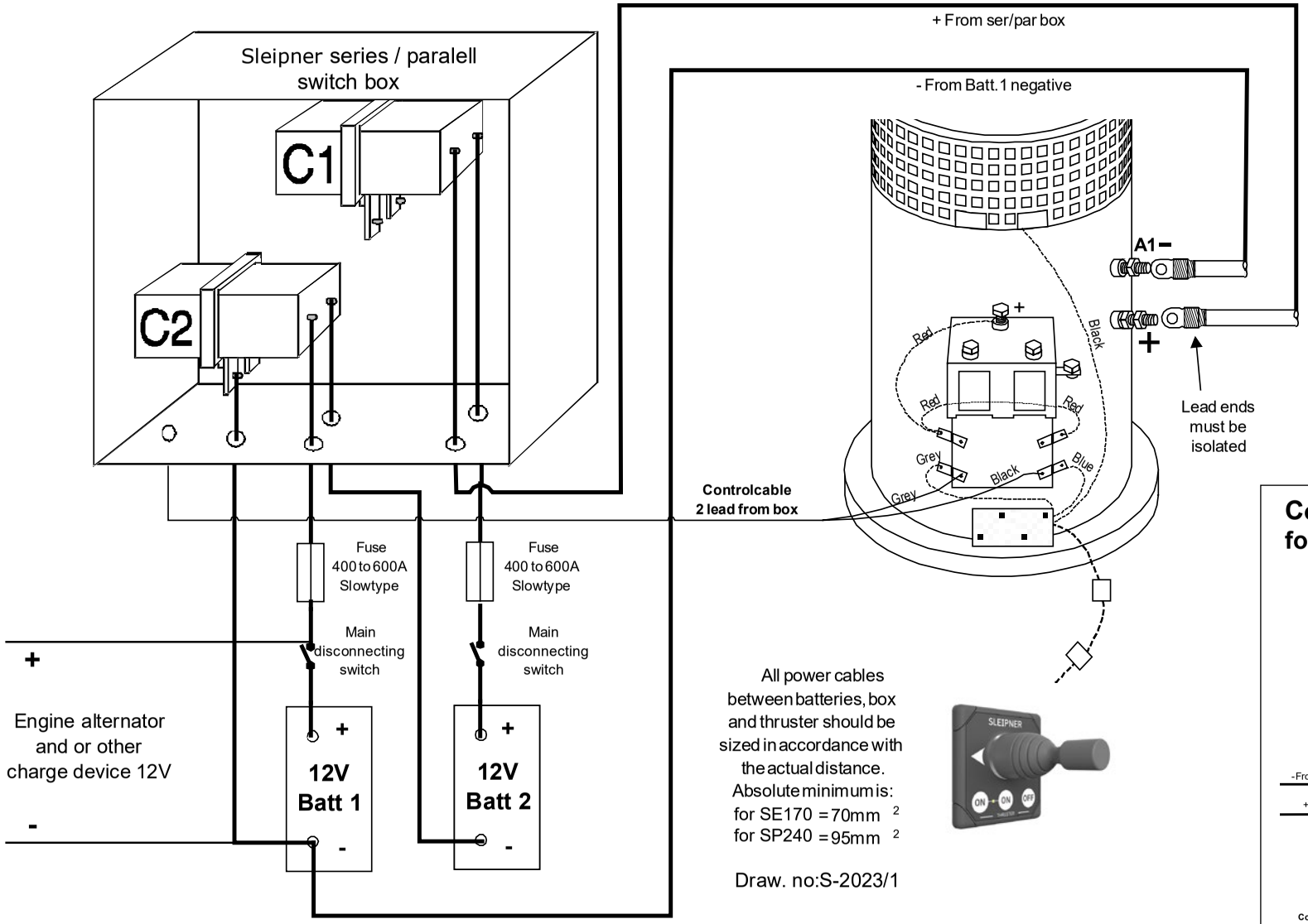
- CCA din is the Cold Cranking Amps rating by the DIN standard.
  If your battery is rated by other standards, you should use the following factors:

  DIN = SAE & BCA / 1,9 (Example: rating is 800 CCA BCA = 421 CCA DIN) DIN = IEC / 1,3

REMEMBER!

Bigger and more powerful batteries and cables will increase the thrusters performance as there will be less voltage drop to the thruster. The sizes mentioned in the manuals are the minimum sizes and the larger, the better.

FIG 3



Connections on motor for SP240TC and older SE170TC

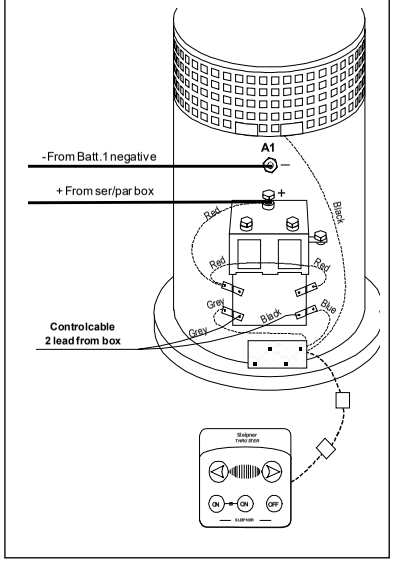
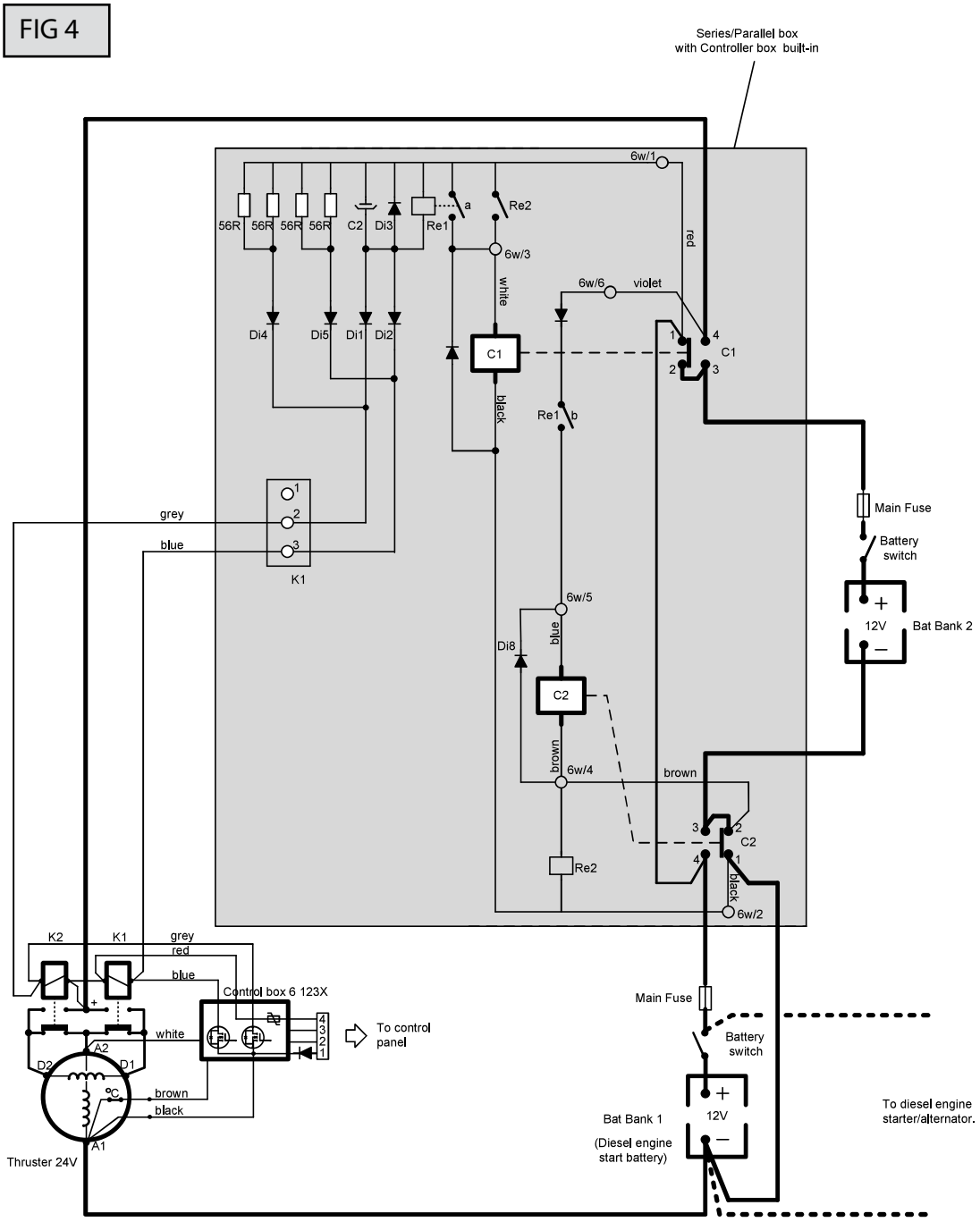


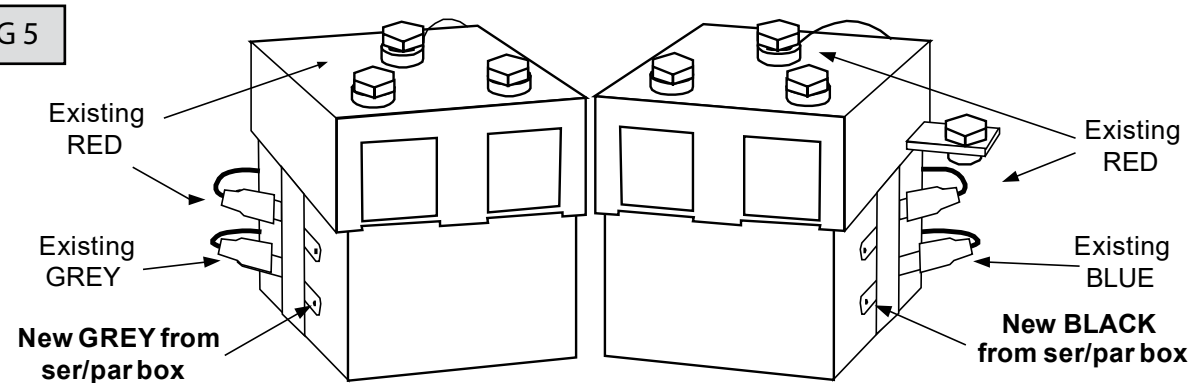
FIG 4



	Thruster w/Serial / Parallel box 10112A and 15112A (12 to 24V) Schematic diagram	**Sleipner Motor AS** P.O. Box 519 N-1612 Fredrikstad Norway Tel: +47 69 30 00 60	Drawn: L.G. 2.2012 Draw no: EFG-000-813-01

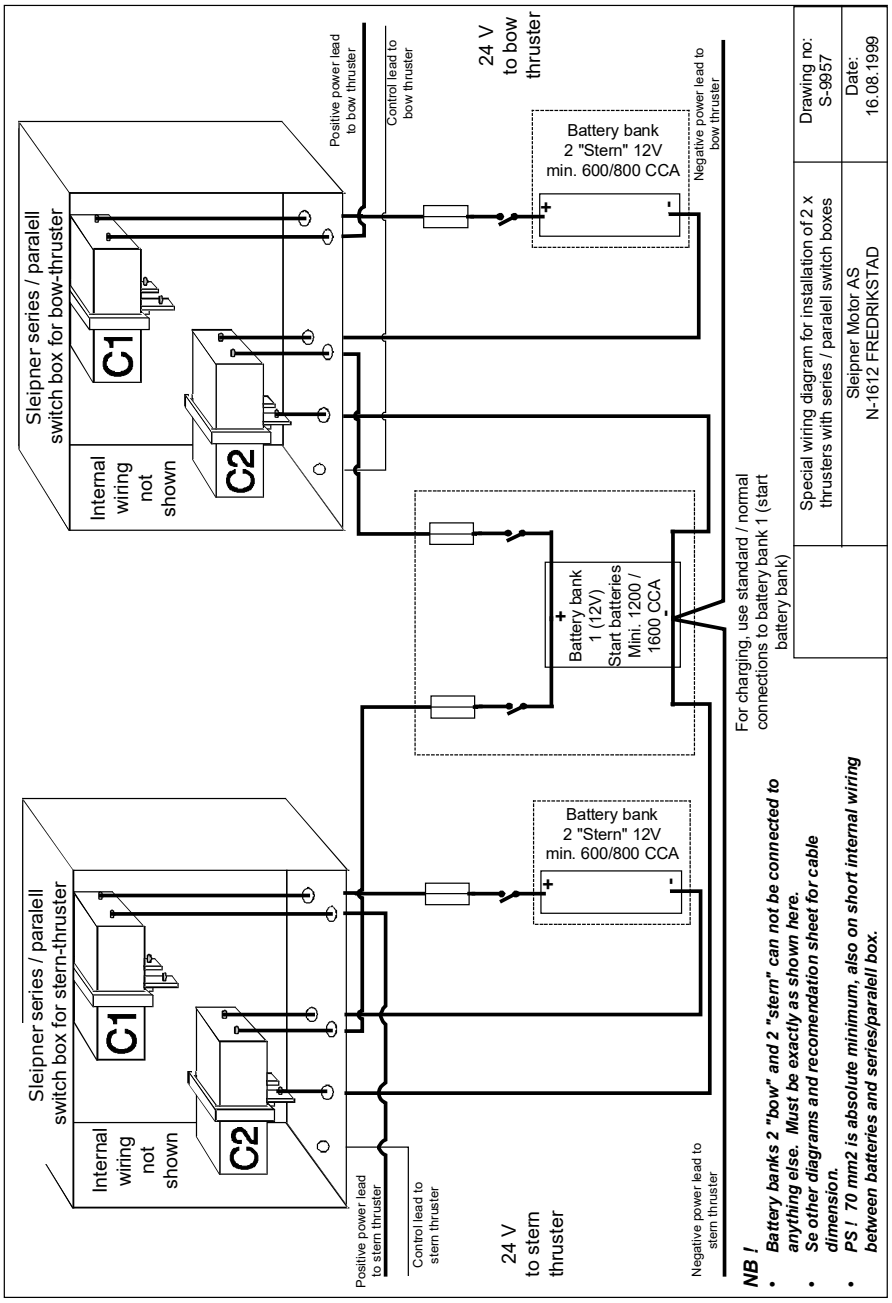
Connection on the thrusters solenoids

FIG 5



Example diagram if bow + stern thruster

FIG 6



Sleipner Group Waste Disposal and Recycling Guide

MC_0848

Introduction:
At Sleipner Group, we prioritize sustainability and encourage the repair and re-manufacturing of products to extend their life cycles. If disposal is necessary, please follow these guidelines to recycle and manage waste responsibly, ensuring our efforts align with environmental protection efforts.

Electric Motors and Electronics:
- Disconnect from any power sources and dismantle them carefully.
- Recycle components through certified e-waste recycling centers that can adequately handle and recover electronic materials.
- Dispose of any non-recyclable electronic parts according to local environmental regulations.

Metals:
- Collect and sort metal parts for recycling as scrap metal.
- To increase recycling efficiency, ensure that metals are clean and free from non-metal attachments.

Plastics:
- Identify recyclable plastics based on local recycling guidelines.
- Remove any non-plastic components and clean them before recycling to improve the quality of the recycled material.

Hazardous Materials:
- Correctly identify any hazardous substances within components, such as batteries or capacitors etc.
- Follow local regulations for the safe disposal of hazardous materials to prevent pollution and protect environmental health.

General Disposal Instructions:
- Consult local recycling programs to determine the acceptability of various materials.
- Use authorized disposal services to ensure compliance with environmental standards.

Safe Disposal Practices:
- Adhere to local laws and regulations for waste management to minimize environmental impact and ensure community safety.

This guide is designed to help reduce our products' environmental footprint through responsible end-of-life management. Please contact your local waste management supplier or our support team for more specific disposal information or further assistance.

Service and support

MC_0024

Find your local professional dealer from our certified worldwide network for expert service and support. visit our website www.sleipnergroup.com/support

Product spare parts and additional resources

MC_0024

For additional supporting documentation, we advise you to visit our website www.sleipnergroup.com and find your Sleipner product.

Warranty statement

MC_0024

1. Sleipner Motor AS (The “Warrantor”) warrants that the equipment (parts, materials, and embedded software of products) manufactured by the Warrantor is free from defects in workmanship and materials for purpose for which the equipment is intended and under normal use and maintenance service (the “Warranty”).
2. This Warranty is in effect for two years (Leisure Use) or one year (Commercial and other Non-leisure Use) from the date of delivery/purchase by the end user, with the following exceptions;
   (a) For demonstration vessels, or vessels kept on the water, the dealer is considered as the end user from 6 months after their launch of the vessel;
   (b) The warranty period starts no later than 18 months after the first launch of the vessel.
   Please note that the boat manufacturer and dealer must pay particular attention to correct maintenance and service both by the products manuals as well as general good practice for the location the boat is kept in the period the boat is in their care. In cases where the 6 and 18 months grace periods for boat builders and dealers are passed, it is possible to obtain a full warranty upon inspection and approval of the warrantor or such representative.
3. Certain parts, classified as wearable or service parts, are not covered by the warranty. A failure to follow the required maintenance and service work as described in the product manual render all warranty on parts or components directly or indirectly affected by this void. Please also note that for some parts, time is also a factor separately from actual operational hours.
4. This Warranty is transferable and covers the equipment for the specified warranty period.
5. The warranty does not apply to defects or damages caused by faulty installation or hook-up, abuse or misuse of the equipment including exposure to excessive heat, salt or fresh water spray, or water immersion except for equipment specifically designed as waterproof.
6. In case the equipment seems to be defective, the warranty holder (the “Claimant”) must do the following to make a claim:
   (a) Contact the dealer or service centre where the equipment was purchased and make the claim. Alternatively, the Claimant can make the claim to a dealer or service centre found at www.sleipnergroup.com. The Claimant must present a detailed written statement of the nature and circumstances of the defect, to the best of the Claimant’s knowledge, including product identification and serial nbr., the date and place of purchase and the name and address of the installer. Proof of purchase date should be included with the claim, to verify that the warranty period has not expired;
   (b) Make the equipment available for troubleshooting and repair, with direct and workable access, including dismantling of furnishings or similar, if any, either at the premises of the Warrantor or an authorised service representative approved by the Warrantor. Equipment can only be returned to the Warrantor or an authorised service representative for repair following a pre-approval by the Warrantor’s Help Desk and if so, with the Return Authorisation Number visible postage/shipping prepaid and at the expense of the Claimant.
7. Examination and handling of the warranty claim:
   (a) If upon the Warrantor’s or authorised service Representative’s examination, the defect is determined to result from defective material or workmanship in the warranty period, the equipment will be repaired or replaced at the Warrantor’s option without charge, and returned to the Purchaser at the Warrantor’s expense. If, on the other hand, the claim is determined to result from circumstances such as described in section 4 above or a result of wear and tear exceeding that for which the equipment is intended (e.g. commercial use of equipment intended for leisure use), the costs for the troubleshooting and repair shall be borne by the Claimant;
   (b) No refund of the purchase price will be granted to the Claimant, unless the Warrantor is unable to remedy the defect after having a reasonable number of opportunities to do so. In the event that attempts to remedy the defect have failed, the Claimant may claim a refund of the purchase price, provided that the Claimant submits a statement in writing from a professional boating equipment supplier that the installation instructions of the Installation and Operation Manual have been complied with and that the defect remains.
8. Warranty service shall be performed only by the Warrantor, or an authorised service representative, and any attempt to remedy the defect by anyone else shall render this warranty void.
9. No other warranty is given beyond those described above, implied or otherwise, including any implied warranty of merchantability, fitness for a particular purpose other than the purpose for which the equipment is intended, and any other obligations on the part of the Warrantor or its employees and representatives.
10. There shall be no responsibility or liability whatsoever on the part of the Warrantor or its employees and representatives based on this Warranty for injury to any person or persons, or damage to property, loss of income or profit, or any other incidental, consequential or resulting damage or cost claimed to have been incurred through the use or sale of the equipment, including any possible failure or malfunction of the equipment or damages arising from collision with other vessels or objects.
11. This warranty gives you specific legal rights, and you may also have other rights which vary from country to country.

Patents

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At Sleipner we continually reinvest to develop and offer the latest technology in marine advancements. To see the many unique designs we have patented, visit our website www.sleipnergroup.com/patents

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