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SLEIPNER
Ocean born. Tech bred.

User Manual

Including Installation For Control Panels
8700



8700

SLEIPNER GROUP

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Contents

User Manual

| | |
|--|---|
| Responsibility of the User Operating Thrusters | 3 |
| User Operation | 4 |
| Panel Layout & Functions..... | 6 |
| Troubleshooting Alarm Codes | 8 |

Installation Manual

| | |
|--------------------------------------|----|
| Responsibility of the Installer..... | 9 |
| Measurements | 10 |
| Control Panel Installation..... | 11 |
| S-Link System Description | 12 |
| S-Link System Setup | 15 |
| S-Link Overview Wiring Diagram..... | 16 |

| | |
|---|-----------|
| Service and Support | 18 |
| Product Spare Parts and Additional Resources | 18 |
| Warranty statement | 18 |



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Failure to follow the Considerations and precautions can cause serious injury / damage and will render all warranty given by Sleipner Motor AS VOID.

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Responsibility of the User Operating Thrusters

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Never use thrusters when close to objects, persons or animals in the water. The thruster will draw objects into the tunnel and the rotating propellers. This will cause serious injuries and damage the thruster.

Always turn the main power switch off before touching any part of the thruster. An incidental start while touching moving parts can cause serious injuries.

**It is the owner, captains or other responsible parties full responsibility to assess the risk of any unexpected incidents on the vessel.
If the thruster stops giving thrust for some reason while manoeuvring you must have considered a plan on how to avoid damage to persons or other objects.**

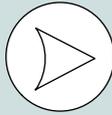
- Always turn the control device off when the thruster is not in use or when leaving the boat.
- When leaving the boat always turn off the main power switch for the thruster.
- Never use thrusters out of water.
- If the thruster stops giving thrust while running, there is possibly a problem in the drive system. You must immediately stop running the thruster and turn it off. Running the thruster for more than a few seconds without resistance from the propeller can cause serious damage to the thruster.
- If two panels are operated with conflicting directions at the same time the thruster will not run. If both are operated in the same direction, the thruster will run in this direction.
- If you notice any faults with the thruster switch it off to avoid further damage.
- The primary purpose of the thruster is to manoeuvre or dock the vessel. Forward or reverse speed must not exceed 4 knots when operated.

The following is an operation guide to ALL Sleipner control products. Ensure to familiarise yourself with the functionality and operation of your specific control device.

Take time to practice operation in open water to become familiar with the thruster and to avoid damages to your boat or people.

General operation

1. Turn on the main power switch for the bow thruster. **(NB: Always turn off the main power switch when not on-board.)**
2. Turn on the control panel by pushing the/ both “ON” button(s) on the original Sleipner panel simultaneously. ***Turn off the control panel by pushing the “OFF” button**
3. To Turn the bow/ stern in the desired direction:



Button control panels

For button control, push the button in the corresponding direction you wish the bow/ stern to move.



Joystick control panels

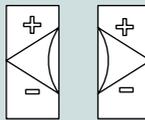
For joystick control, move the joystick in the direction you wish the bow/ stern to move.

(NB: If equipped for proportional control move the joystick equivalent to the amount of thrust you intend to receive.)

* For other controls like foot switches or toggle-switches please refer to that products user manual for detailed operational use.

Hold functionality

If equipped with 'hold' functionality push the button in the corresponding direction you wish the thrusters to engage a holding pattern:



Hold Button

+ OR -

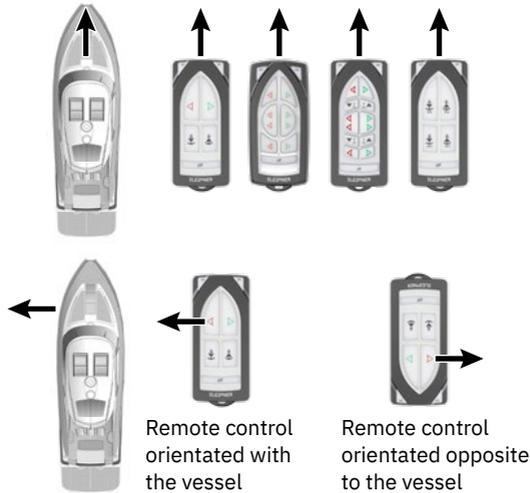
Will increase or decrease the holding force output of the thrusters

Operating a combined bow and stern thruster

The combination of a bow and stern thruster offers total manoeuvrability to move the bow and the stern separately from each other or in unison. This enables the boat to move sideways in both directions or turn the boat around a 360° axis while staying stationary.

Remote controls

The remote control design reflects the vessel for orientation guidance. Be aware of the remote control orientation during operation.



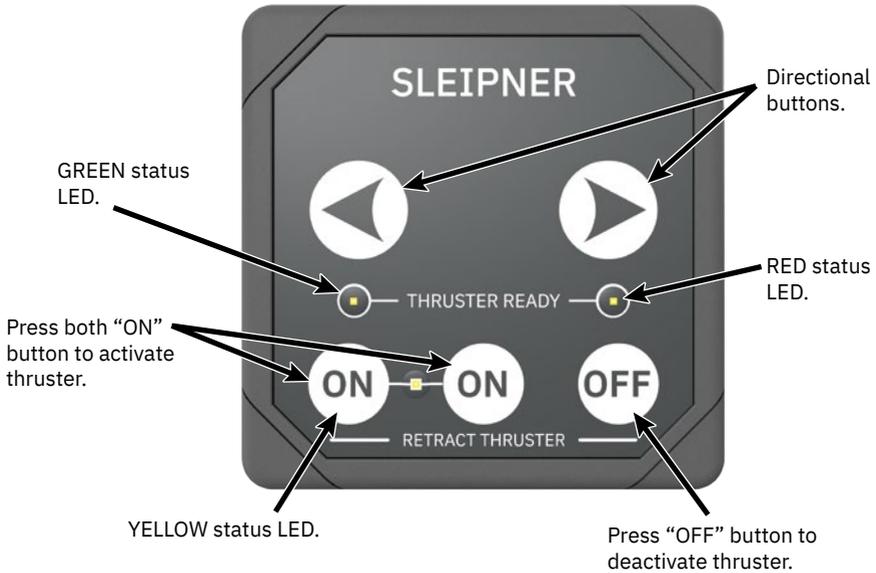
Drift

Depending on the sideways speed of the bow/ stern, you must disengage the control device shortly before the vessel is in the desired position.

(NB: Be aware the boat will continue to move after disengaging the thruster control.)

At any significant cruising speed (+1-2 kn) the side thruster will have little effect to steer the vessel.

Panel Layout & Functions



STATUS/ALARM LEDS:

- Solid YELLOW LED light = the panel is on.
- Flashing GREEN LED light = thruster is deploying.
- Solid GREEN LED light = thruster is deployed and ready to operate.
- Flashing RED LED light flashes = thruster retract phase,
- All LEDs out when panel/thruster is shut down.

(NB: If something unexpected happens while deploying/retracting thruster, the LEDs will flash alarm codes according to fault codes in the 8700 control panel manual.)

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Panel Layout & Functions

Activating the bow thruster



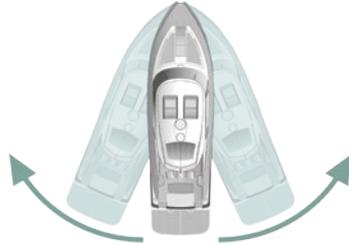
*Control panel example



Activating the stern thruster



*Control panel example



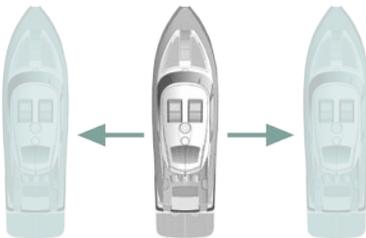
Activating both bow and stern thruster to push the boat sideways



*Control panel example



*Additional stern control panel example



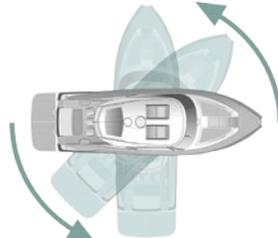
Activating both bow and stern thruster to rotate the boat on axis



*Control panel example



*Additional stern control panel example



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| LED | Panel alarm indication | Failure | Thruster reaction | User action |
|-----|---------------------------------------|--|--|---|
| 1 | 1 flash YELLOW & GREEN - Pause | Thruster, overtemp | Retracts | Turn off panel, wait for 20 mins. |
| 2 | 2 flashes YELLOW & GREEN - Pause | Thruster, low power | Retracts | Turn off panel, charge batteries. |
| 3 | 3 flashes YELLOW & GREEN - Pause | Deploy operation obstructed | Retracts | Turn off panel. Go for lower speed/deeper water. Retry. |
| 4 | 4 flashes YELLOW & GREEN - Pause | SR150000 position sensor fail | Retracts | Position sensor short or open circuit. Check wiring and connection. |
| 5 | 5 flashes YELLOW & GREEN - Pause | SR150000 solenoid output short circuit, port or starboard. | Retracts | Check solenoid wiring and connection, and check if solenoid is shorted. |
| 6 | 6 flashes YELLOW & GREEN - Pause | SR150000 motor temp sensor fail | Retracts | Check motor temp sensor, wiring and connection. |
| 1 | 1 flash YELLOW & RED - Pause | Power failure, Actuator | System shuts down | Turn off panel. Check actuator connections. Retry. |
| 2 | 2 flashes YELLOW & RED - Pause | Thruster IPC error | Retracts | Turn off panel - thruster must be serviced by authorized personnel. |
| 3 | 3 flashes YELLOW & RED - Pause | Retract operation obstructed | Aborts retract, deploys and retries to retract 3 times. If operation still is obstructed, retract stops on obstruction | Press both ON-buttons to deploy thruster. Turn Main-Switch off. Remove obstruction. |
| 1 | 1 flashes YELLOW, GREEN & RED - Pause | Automatic Main Switch Power failure | None | Check power to Automatic Main Switch |
| 2 | 2 flashes YELLOW, GREEN & RED - Pause | Automatic Main Switch fuse blown | None | Replace fuse on Automatic Main Switch. If new installation, check if input and output is correct connected. |
| 3 | 3 flashes YELLOW, GREEN & RED - Pause | Automatic Main Switch manual override | None | Pull up Automatic Main Switch |
| 4 | 4 flashes YELLOW, GREEN & RED - Pause | Panel has no contact with thruster. | None | Turn off panel. Check main switch, fuse, cable connections, cables. Retry. |

(NB: THE MAIN SWITCH MUST BE TURNED OFF IMMEDIATELY WHEN AN IPC-ERROR OCCURS, TO PREVENT OVERHEATING OF THE THRUSTER MAIN RELAYS.)

THRUSTER WILL NOT RETRACT WHILE REVERSING AT “HIGH” SPEED. THIS WILL TRIGGER THE “Retract operation obstructed” ALARM.

IF ALARM IS TRIGGERED, REDUCE SPEED AND PRESS BOTH “ON” BUTTONS BEFORE RETRYING “OFF” BUTTON

Responsibility of the Installer

MC_0038a5

The installer must read this document to ensure necessary familiarity with the product before installation.

Instructions in this document cannot be guaranteed to comply with all international and national regulations. It is the responsibility of the installer to follow all applicable international and national regulations when installing Sleipner products.

The recommendations given in this document are guidelines ONLY, and Sleipner strongly recommends that advice is obtained from a person familiar with the particular vessel and applicable regulations.

This document contains general installation instructions intended to support experienced installers. If you are not skilled in this type of work, please contact a professional installer for assistance.

If required by local regulation, electrical work must be done by a licensed professional.

Health and safety procedures must be followed during installation.

Faulty installation of Sleipner products will render all warranties given by Sleipner Motor AS as VOID.

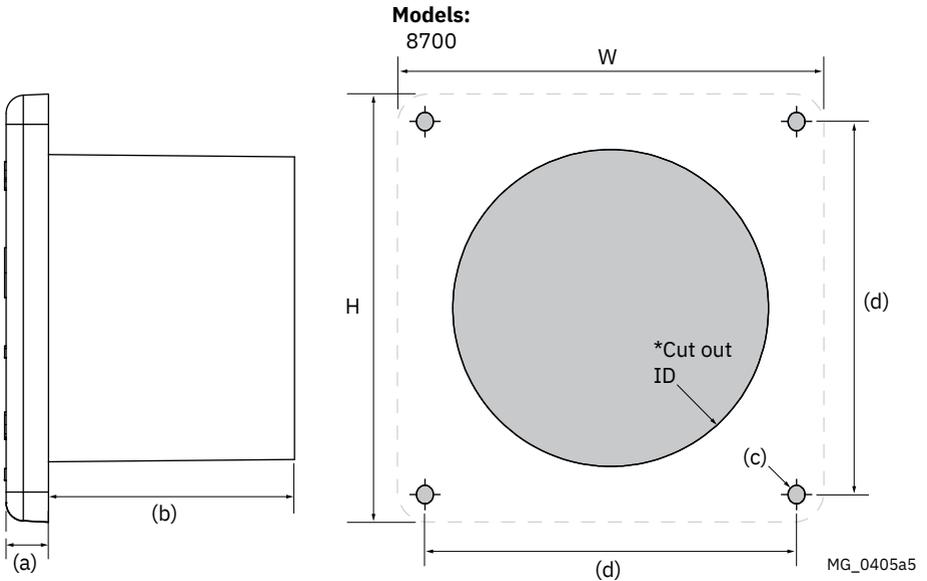
When installing an S-Link™ system DO NOT connect any other control equipment directly to the S-Link™ bus except original Sleipner S-Link™ products. In case of connecting third-party equipment, it must always be connected through a Sleipner-supplied interface product.

Any attempt to directly control or connect into the S-Link™ control system without a designated and approved interface will render all warranties and responsibilities of all of the connected Sleipner products.

If you are interfacing the S-Link™ bus by agreement with Sleipner through a designated Sleipner supplied interface, you are still required to install at least one original Sleipner control panel to enable efficient troubleshooting if necessary.

MC_0105

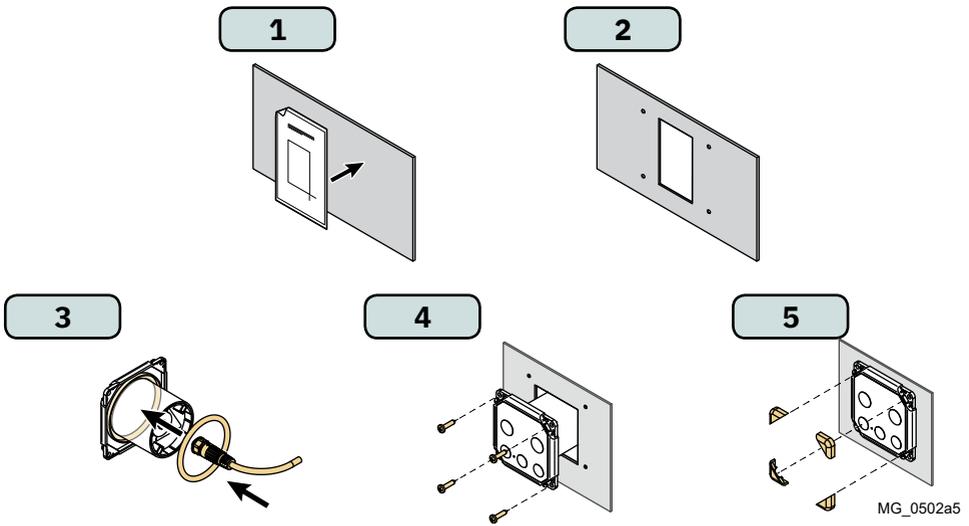
| Measurement code | Measurement description | *86-08950 | | *86-08955 | |
|------------------|--|-----------|------|-----------|------|
| | | mm | inch | mm | inch |
| ID | Internal panel diameter cut out | 51.8 | 2 | 51.8 | 2 |
| D | panel diameter | - | - | 86 | 3.39 |
| H | Panel Height | 71 | 2.8 | - | - |
| W | Panel width | 71 | 2.8 | - | - |
| (a) | Raised height above the dashboard | 7 | 0.26 | 10.7 | 0.42 |
| (b) | Depth behind the dashboard (not inc. cables) | 41 | 1.61 | 39 | 1.5 |
| (c) | Panel screw hole diameter | 3 | 0.12 | 2.5 | 0.10 |
| (d) | Distance between panel screw holes | 61 | 2.4 | 53 | 2.09 |



! Please refer to the graphic for special considerations relating to your model !

Find a suitable location for the control panel where it does not obstruct or is obstructed by other devices. Install the control panel on a flat surface where it is easy to use.

1. Use the supplied cut-out template to mark the area to remove on your control dash.
2. Cut out the area per template for the control panel. (**NB: If the front surface around your cut out is jagged or chipped, use a sealant to assist the gasket.**)
3. Place the gasket to the back face of the panel and plug cables into the connectors at the rear of the control panel.
4. Insert the control panel in place and fasten screws.
5. Insert the control panels covering caps.



S-Link is a CAN-based control system used for communication between Sleipner products installed on a vessel. The system uses BACKBONE Cables as a common power and communication bus with separate SPUR Cables to each connected unit. Units with low power consumption are powered directly from the S-Link bus therefore one power cable must be connected to the BACKBONE Cable through a T-Connector. The S-Link cables should be installed such that sharp bend radius is avoided. Locking mechanism of connectors must be fully closed. Cables, T-Connectors and Extenders should not be located such that they are permanently immersed in water or other fluids.

Main advantages of S-Link system:

- Compact and waterproof plugs.
- BACKBONE and SPUR Cables have different colour coding and keying to ensure correct and easy installation. BACKBONE Cables have blue connectors and SPUR Cables have green connectors.
- Different cable lengths and BACKBONE Extenders makes the system scalable and flexible to install.

Installation of S-Link cables:

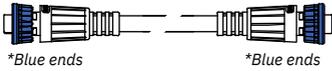
Select appropriate cables to keep the length of BACKBONE- and SPUR Cables to a minimum. The S-Link cables should be installed to ensure sharp bend radius's is avoided. The locking mechanism on connectors must be fully closed. Cables, T-Connectors and Extenders should not be located so that they are permanently immersed in water or other fluids.

The POWER Cable should ideally be connected around the middle of the BACKBONE Cable to ensure an equal voltage drop at each end of the BACKBONE Cable. The yellow and black wire in the POWER Cable shall be connected to GND and the red wire connected to +12VDC or +24VDC.

To reduce the risk of interference, avoid routing the S-Link cables close to equipment such as radio transmitters, antennas or high voltage cables. The backbone must be terminated at each end with the END Terminator.

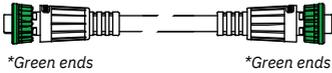
Spur cables can be left unterminated to prepare for the installation of future additional equipment. In such cases, ensure to protect open connectors from water and moisture to avoid corrosion in the connectors.

S-Link System Description



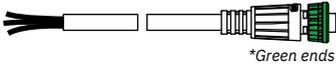
BACKBONE Cable

Forms the communication and power bus throughout a vessel. Available in different standard lengths.



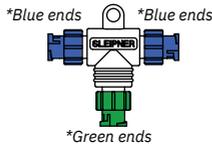
SPUR Cable

Used to connect S-Link compliant products to the backbone cable. One SPUR Cable must be used for each connected component, with no exceptions. Recommended to be as short as practically possible. Available in different standard lengths.



POWER Cable

Must be one in each system. Connects BACKBONE Cable to the power supply.



T-Connector

Used for connection of SPUR or POWER Cable to the BACKBONE Cable. One T-Connector for each connected cable.



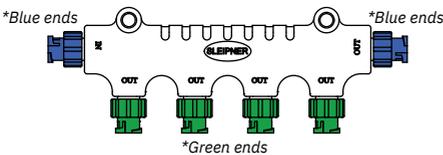
BACKBONE Extender

Connects two BACKBONE Cables to extend the length.



END Terminator

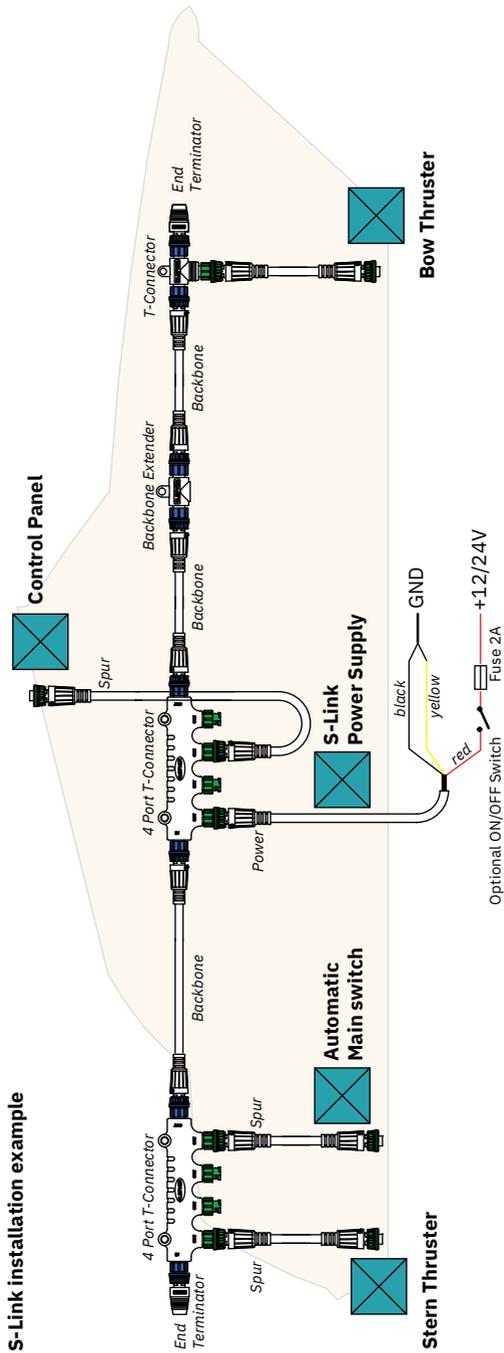
Must be one at each end of the BACKBONE bus.



4-Port T-Connector

The 4-PORT T-connector allows multiple SPUR Cables to be connected. The 4-PORT T-connector comes with two sealing caps to protect unused ports.

S-Link System Description



S-Link installation example

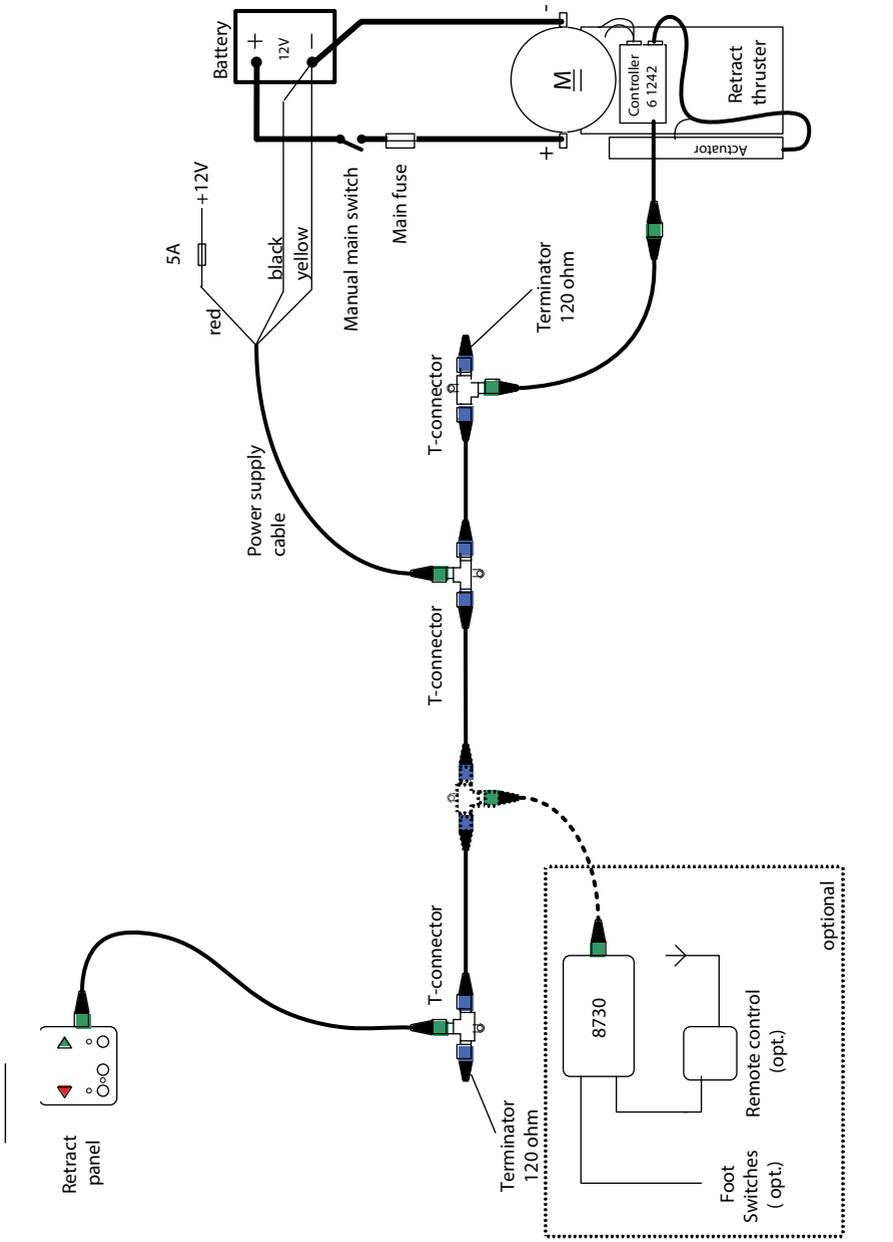
To control a dual thruster setup on one S-link bus, the panels must be set up to control one thruster each. As factory default, the panel is setup to control the bow thruster. The panel controlling the stern thruster must be set up following the procedure described:

1. Disconnect all S-link equipment concerning the bow thruster (Panel, AMS, Thruster Control Box, Interface etc.) from the S-link bus, and keep all equipment concerning the stern thruster connected.
2. Make sure panel is turned OFF.
3. Press and hold ON button 2 and PORT button at the same time for approx. 3 seconds. The yellow status LED will blink and the red OR green LED turns on (factory default: GREEN - controlling bow thruster).
4. Press STARBOARD button to assign this panel and all connected devices as STERN. RED status LED will light up to confirm setup as stern thruster.
5. Turn off panel, and reconnect all S-link equipment.

The same procedure can be used to match all devices for a single thruster system bow or stern. Just follow steps 2,3,4 and 5. At step 4 press PORT button to assign all the devices connected as BOW. GREEN status LED will light up to confirm setup as bow thruster.

S-Link Overview Wiring Diagram

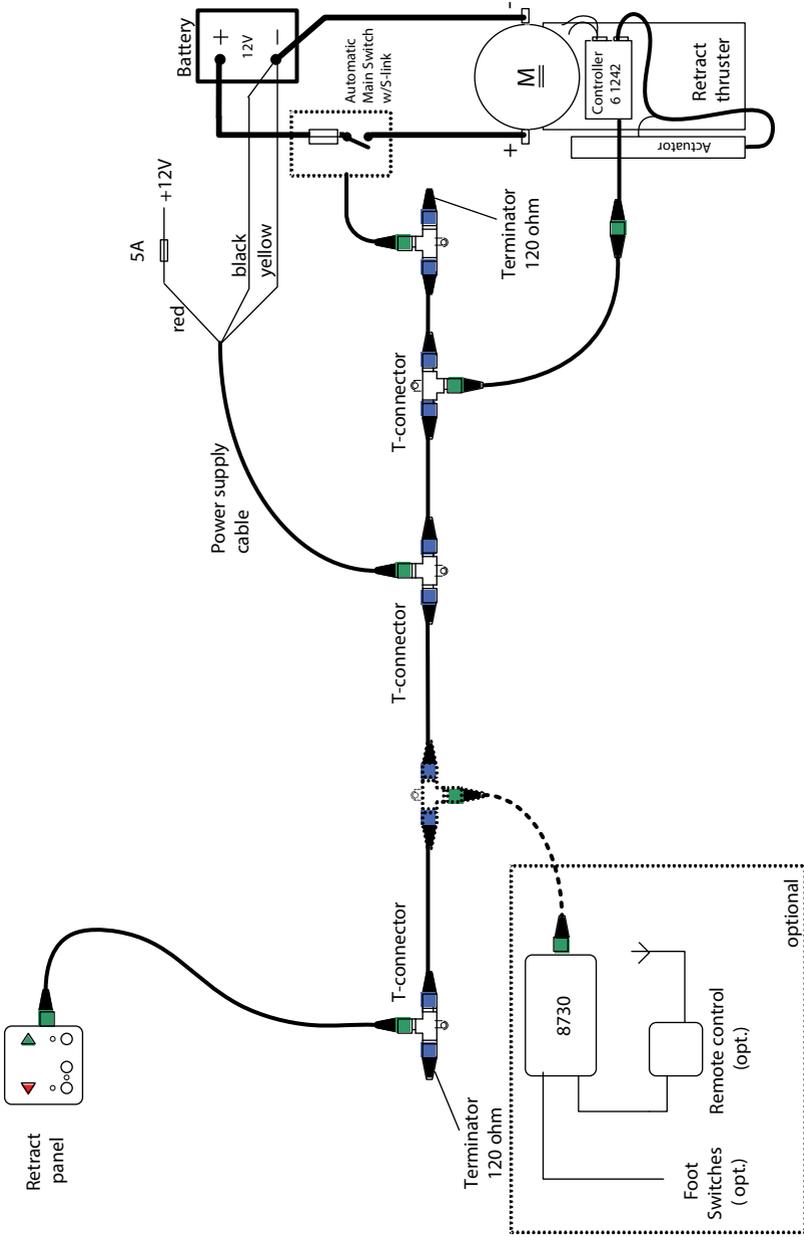
Setup with manual main switch



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Setup with automatic main switch

S-Link Overview Wiring Diagram



MG_0501a5

Service and Support

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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_0024a5

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

Warranty statement

MC_0024a5

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 the purpose for which the equipment is intended and under normal use and 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 purchase by the end user (for demonstration vessels, the dealer is deemed as end user).
3. This Warranty is transferable and covers the equipment for the specified warranty period.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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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