



Installation Guide

For S-Link Automatic Main Switch
AMS-2



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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.

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General:

- The installer must read this document to ensure necessary familiarity with the product before installation.
- Directions outlined in this document cannot be guaranteed to comply with all international and national regulations, including but not limited to health and safety procedures. It is the installers responsibility to adhere to all applicable international and national regulations when installing Sleipner products.
- This document contains general installation guidelines intended to support experienced installers. Contact professional installers familiar with the vessel, Sleipner products and applicable regulations if assistance is required.
- If local regulation requires any electrical work to be performed by a licensed professional, seek a licensed professional.
- When planning the installation of Sleipner products, ensure easy access to the products for future service and inspection requirements.

For Sleipner automatic main switch

MC_0273

- Install the automatic main switch as close to the battery bank as possible.
- Only connect the Sleipner automatic main switch to compatible original Sleipner control panels or other Sleipner control devices. Do not use it with any other products.
- The automatic main switch must be installed in a location that ensures it remains dry at all times.
- The automatic main switch must NOT be fitted in spaces requiring Ignition protected equipment.
- Make sure to use the correct fuse for the main switch, based on the installed thruster model.

**CAUTION**

This manual is to be used in addition to the installation manual for the Sleipner thruster. This manual is intended for professionals only.

For Sleipner S-Link™ systems:

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- When installing an S-Link™ system, connect ONLY original Sleipner S-Link™ products or other authorized control equipment directly to the S-Link™ bus. When connecting non-authorized third-party equipment, it must always be connected through a Sleipner-supplied interface product.
- Any attempt to directly control or connect to the S-Link™ control system without a designated and approved interface from Sleipner will void all warranties and responsibilities of the connected Sleipner products. If you interface 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.

Manual Override:

- The user can disable the remote control functionality and force the contactor to remain open by pressing the red mushroom button down.
- The user will be informed via the S-Link connected control panel that the AMS-2 is in Manual Override mode.

Remote Control:

- The AMS-2 can be remote controlled from anywhere on the boat using S-Link communication with Sleipner compatible products.

Overcurrent Protection:

- The AMS-2 is protected from severe overcurrent by the Fuse placed in the fuse holder in the AMS-2.
- The AMS-2 will automatically detect if the fuse is blown when the system starts up and the user will be informed via the S-Link connected control panel.

Temperature supervision:

- The temperature inside the AMS is measured and the AMS will communicate with the connected load (i.e normally a thruster) to gradually reduce power if temperature is rising above the warning threshold. (This function is only valid for eVision thrusters and other ELS components).
- The AMS will eventually automatically open the contactor, and thus disconnect the connected load, if the detected internal temperature rises above the critical warning level.
- A message will be displayed on the S-Link connected control panel informing the user about the temperature warnings.

Flexible input voltage range:

- The AMS-2 can handle a B+/Thruster voltage of 0-64 VDC.
- The AMS-2 can handle a AMS SUPPLY (Coil Feed) supply of 12/24/48 V (absolute max. 64 VDC). The AMS-2 will automatically adjust for the varying Coil Feed voltage.

Product description

Product Description:

The Automatic Main Switch (AMS) with S-Link is a remotely operated contactor that enables/disables the power supply to the connected load (i.e., normally a thruster). The AMS can be remotely controlled from another compatible Sleipner S-Link connected product, such as a joystick panel.

The main parts of the AMS are:

Contactor:

- This is the high-current-capable relay that connects the battery pole to the load. Often referred to as the contactor but can also be referred to as the switch.

Contactor Coil:

- This is the coil of the solenoid that enables the closing/opening of the contactor. This coil is powered by a low-current power supply connected to the AMS via an external 5A fuse.
- The contactor coil is controlled by the software and the circuit board inside the AMS.

Red Mushroom Button:

- This is the manual override button that can be in either remote-control mode (pulled out) or manual override mode (pushed in).
- When the mushroom button is in remote-control mode (pulled out), the contactor opening/closing will be controlled remotely via S-Link communication.
- When the mushroom button is in manual override mode (pressed in), the contactor remains open regardless of any S-Link commands.

Fuse:

- The ANL fuse must be selected based on the maximum current of the load (thruster) connected and the wire gauge used. This is further detailed in the thruster manual.

S-Link Connector:

- A short S-Link spur cable comes from the AMS that must be connected to the existing S-Link network.
- This cable ensures communication between Sleipner S-Link devices and is needed for the remote operation of the contactor.

AMS Supply connector:

- This power supply is also referred to as the Coil feed.
- This is the power supply that enables the AMS to close the contactor via the contactor coil.
- A red and black cable comes out of the AMS, and the red wire must be connected to an external fuse (not included).

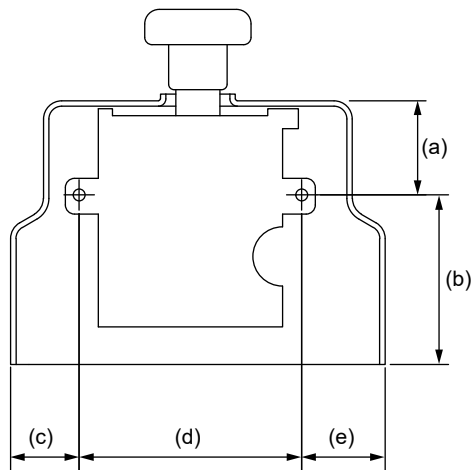
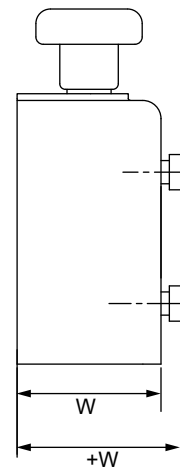
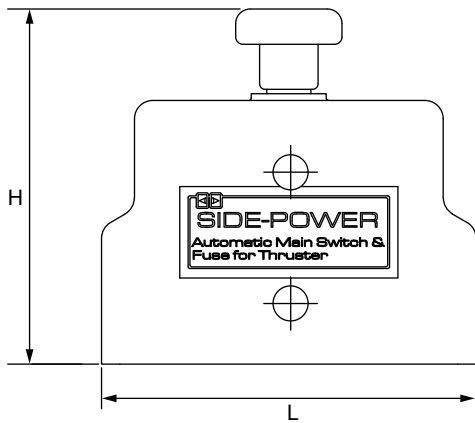
B+ stud:

- This is where you connect the Battery that will power the thruster.

THRUSTER+ stud:

- This is where you connect the load (i.e typically the thruster). This THRUSTER+ stud and the B+ Connector stud are connected or disconnected to each other when the contactor closes or opens.

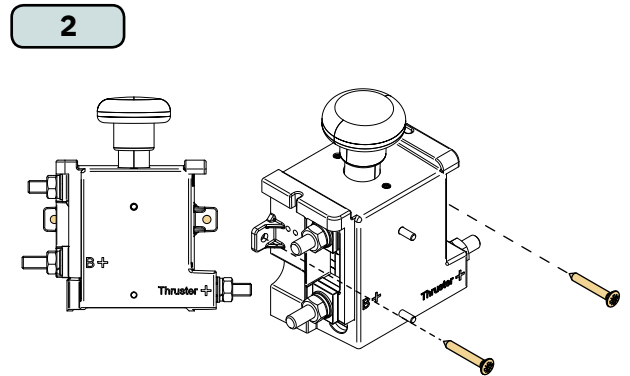
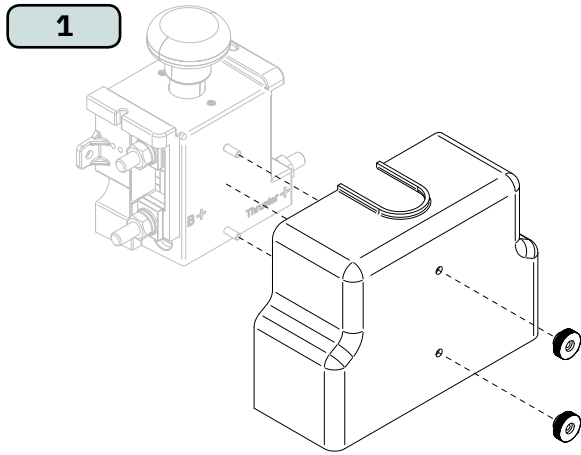
Measurement code	Measurement description	AMS	
		mm	inch
H	Height	194.3	7.6
L	Length	205	8.1
W	Width	79	3.11
+ W	Width including fasteners	90	3.54
(a)	Attachment hole from the top	51.5	2.03
(b)	Attachment hole from the bottom	92.8	3.65
(c)	Attachment hole from the side	37.5	1.5
(d)	Distance between attachment hole	121.8	4.8
(e)	Attachment hole from the side	45.7	1.8



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Installing the Automatic Main Switch (AMS).

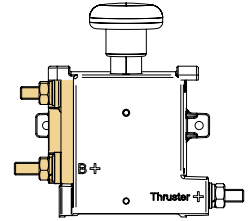
1. Remove the cover screws and cover from the Automatic Main Switch.
2. Choose an appropriate location (close to the battery) for installing the AMS that provides quick and easy access to the shut-off button while minimizing the length of power cables. Secure the AMS using the two mounting holes on each side



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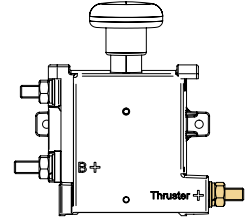
Installing the fuse and battery cable(s).

1. Remove the nuts and the washers.
2. Install the fuse. Select the fuse type and rating according to recommendations in the thruster installation manual.
3. Assemble the washers, battery cable(s) and end washer and nuts.
4. Tighten the nuts to the recommended torque. The bolts are made of brass, and excessive torque may damage the threads



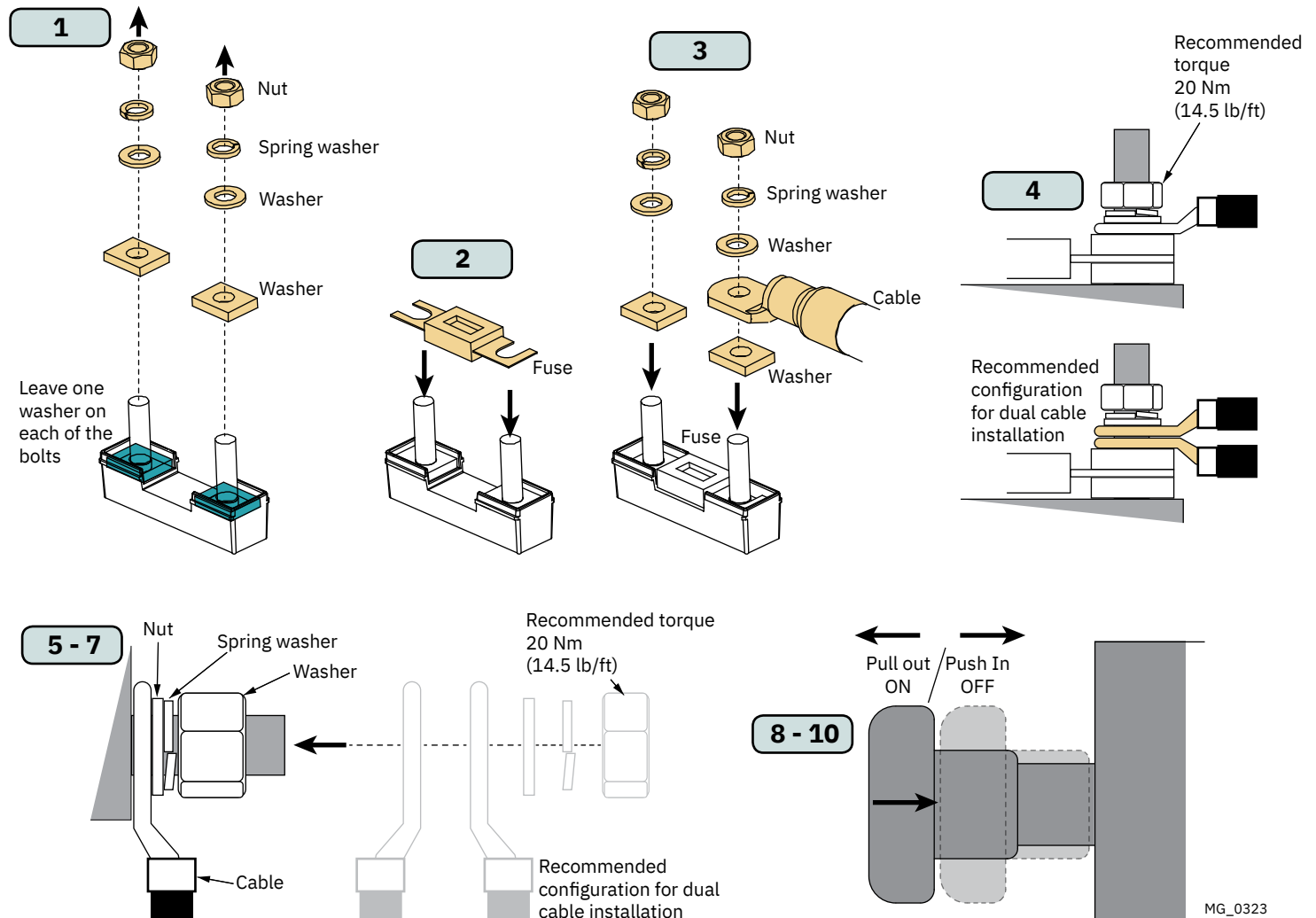
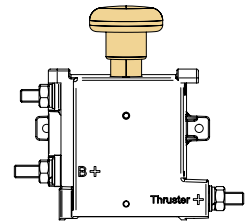
Fitting the thruster cable(s).

5. Remove the nuts and washers.
6. Fit the cable(s) to the bolt and assemble washers and nut.
7. Tighten the nut with the recommended torque.



Manual override button.

8. Remote Controlled ON/OFF (Default Position)
9. OFF (Manual override).
10. Ensure the switch is in the OFF position when leaving the boat for long periods or when installing or servicing the thruster system.



MG_0323

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. Only one S-Link POWER cable shall be connected to the BACKBONE Cable. Units with low power consumption are powered directly from the S-Link bus.

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 make the system scalable and flexible to install.

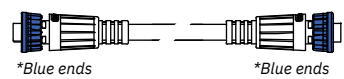
Installation of S-Link cables:

Select appropriate cables to keep the length of BACKBONE- and SPUR Cables to a minimum. In case of planned installation with total BACKBONE Cable length exceeding 100 meters please consult your local distributor. The S-Link cables should be properly fastened when installed to avoid sharp bend radius, cable chafing and undesired strain on connectors. Locking mechanism on connectors must be fully closed. To ensure long lifetime, cables, T-Connectors and Extenders should not be located so that they are permanently immersed in water or other fluids. It is recommended to install cables in such a way that water and condensation do not flow along the cables into the connectors. This can be done for example by introducing a u-shape bend before the cable enters the product connector.

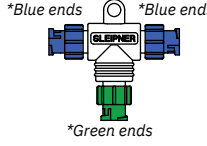
Ideally, the POWER Cable should be connected to the middle of the BACKBONE bus to ensure an equal voltage drop at both ends of the BACKBONE Cable. The yellow and black wire in the POWER Cable shall be connected to GND and the red wire connected to +12VDC or +24VDC.

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.

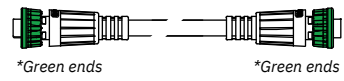
SPUR cables can be left unterminated to prepare for the installation of future additional equipment. In such cases, ensure to protect open connectors from water and moisture to avoid corrosion in the connectors.




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




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



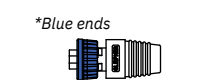
SPUR Cable
Used to connect S-Link compliant products to the backbone cable. One SPUR Cable must be used for each connected component, with no exceptions. Recommended to be as short as practically possible. Available in different standard lengths.



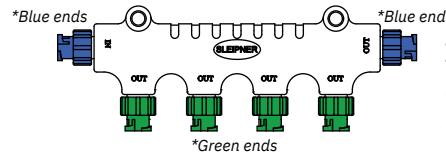
BACKBONE Extender
Connects two BACKBONE Cables to extend the length.



POWER Cable
Required in all installations for connection of BACKBONE Cable to a power supply and should be protected with a 2A fuse.

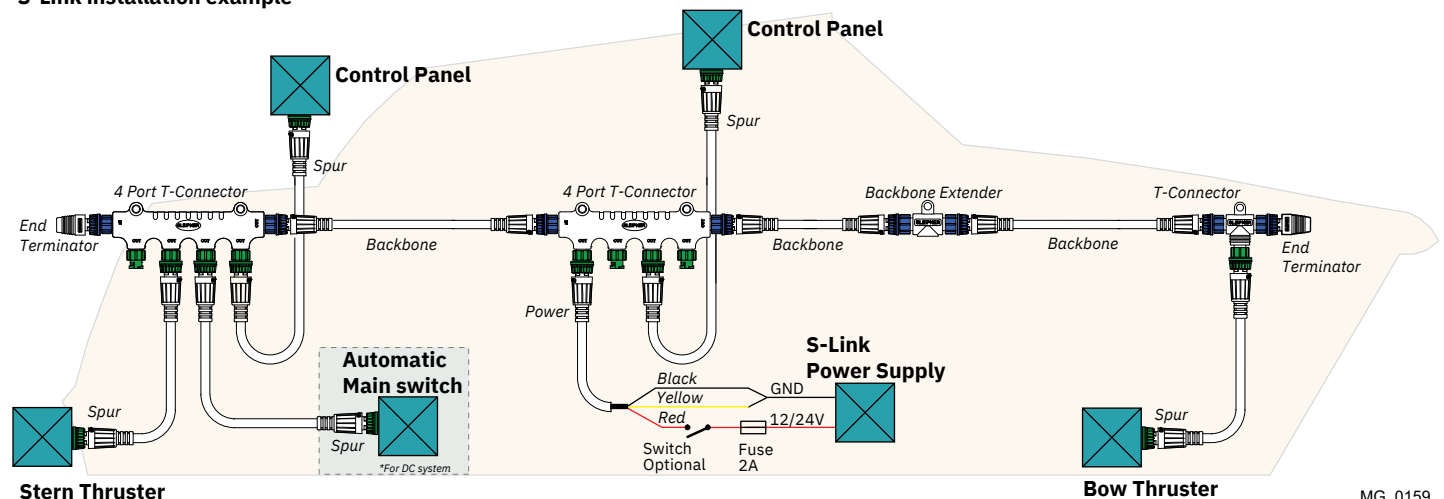


END Terminator
Must be one at each end of the BACKBONE bus.



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.

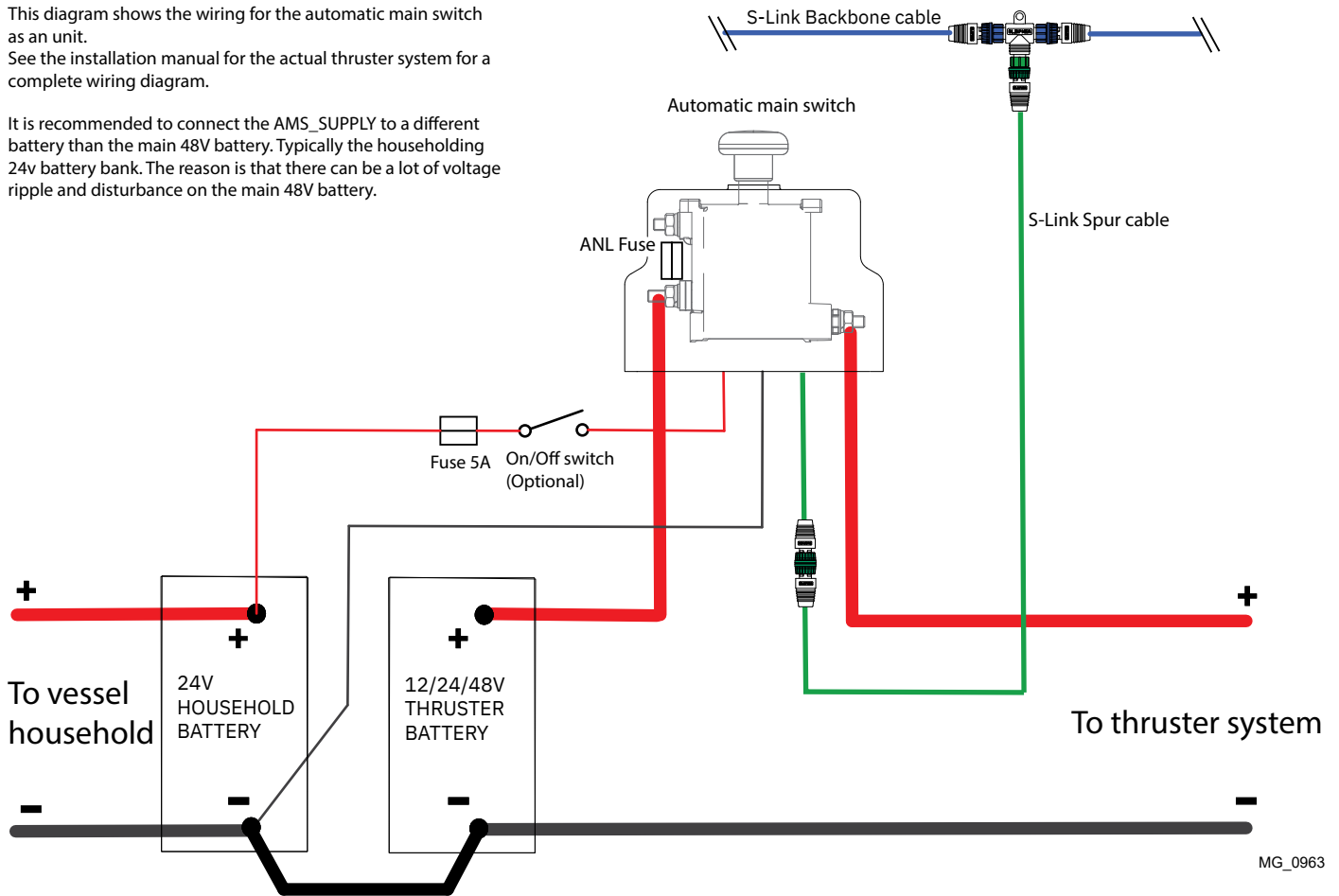
S-Link installation example



Wiring diagram

This diagram shows the wiring for the automatic main switch as an unit. See the installation manual for the actual thruster system for a complete wiring diagram.

It is recommended to connect the AMS_SUPPLY to a different battery than the main 48V battery. Typically the householding 24v battery bank. The reason is that there can be a lot of voltage ripple and disturbance on the main 48V battery.



MG_0963

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

Service/ maintenance

On all-electric equipment, regularly ensure:

- That the equipment is clean and dry.
- That all cable and other connections are tight and without signs of excessive heat or corrosion.

Troubleshooting

Fault message on control panel:

- **Manual override:**
If the manual override button has been pushed, pull the manual override button to activate.
- **Fuse is blown:**
Replace the fuse or check the main cables to the battery and thruster.
- **Communication fail:**
The panel has lost communication with the automatic main switch. Check the S-Link and/or the power connections.
- **Power failure:**
The main switch has no power, Check 5A fuse, power connection and if the main switch has power on the red and black wire.
- **Overtemperature:**
The main switch has detected a high internal temperature due to excessive external current load. Contactor has therefore opened and cannot be commanded closed until temperature has fallen below threshold. Wait for AMS to cool down.

Read the troubleshooting guide in the thrusters manual.

If you are unable to identify and resolve the problem, contact the nearest Sleipner service point for assistance. Have the notes from your troubleshooting handy to inform the service person of what you have already checked and observed.

Sleipner Group Waste Disposal and Recycling Guide

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.

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

Product spare parts and additional resources

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

Warranty statement

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.sleipnergrou.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

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.sleipnergrou.com/patents

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Learn more about our products at
www.sleipnergroun.com



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