



SIDE-POWER
Thruster Systems

SR SERIES

THRUSTER USER MANUAL

Keep this
manual onboard!



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SLEIPNER MOTOR AS

P.O. Box 519
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DECLARATION OF CONFORMITY MC_0020

 Sleipner Motor AS
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Declare that this product with accompanying standard control systems complies with the essential health and safety requirements according to:

DIRECTIVE 2013/53/EU
DIRECTIVE 2014/30/EU
DIRECTIVE 2014/35/EU

IMPORTANT

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

Never use thrusters when close to objects/ persons or pets 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.

Never store items (e.g. equipment, sails, ropes etc.) in the same compartment as the thruster. When the thruster runs for an extended period, it can reach 150°C and will cause damage to nearby items or cause a fire. The electromotor will generate some carbon dust so any storage compartment must be separated from the thruster to prevent nearby items from becoming dusty/ dirty.

Any loose items near the thruster motor can cause problems with electrical wiring coming loose and short-circuiting.

- Ensure you know the location of the main battery switch that disconnects the thruster from all power sources (batteries) so the thruster can be turned off in case of serious malfunction.
- 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.
- The maximum continuous run time of the electrical thruster is approximately 3 minutes. The motor is equipped with a built-in thermal cut-off switch that will shut the motor off when overheating. Consider this when planning your manoeuvring.
- 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.
- We advise keeping the main engine(s) running while using the thruster. This will keep the batteries in a good charge condition. It will also give better performance to the thruster, a higher voltage at the thruster results in a higher torque (power) in the electromotor.
- If the performance of the thruster is reduced check the battery system.
- 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 electromotor, its components, contacts/ plugs or other joints in the control cables must be mounted so they will remain dry at all times.
- It is the owner/ captain/ 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.
- The primary purpose of the thruster is to manoeuvre/ dock the vessel. Forward/ reverse speed must not exceed 4 knots when operated.

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

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

How to use a Bow Thruster

1. Turn on the main power switch for the bow thruster. (NB: Always turn off the main power switch when not onboard.)
2. Turn on the control panel by pushing both "ON" buttons on the original Side-Power panel simultaneously. **(NB: If another type of control is installed, push the On/Off switch for the bow thruster.)**
*Turn off the control panel by pushing both "OFF" button
4. To Turn the bow in the desired direction push the red button for port movement or the green button for starboard.
- For joystick control, move the joystick in the direction you wish the bow to move.
-Other controls like footswitches or toggle-switches on the throttle can be used. Engage the port control, the bow will turn to port etc.
5. Depending on the sideways speed of the bow, you must disengage the control device shortly before the bow is in the desired position. **(NB: The boat will continue to move after disengaging the thruster control.)**

How to use a single stern thruster

Due to space limitations, a vessel may only have a stern thruster. In this case, the stern thruster is used in the same way as a single bow thruster for moving the boat's stern. Follow the above instruction for operation use.

How to use a combined bow and stern thruster

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

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

ON/ OFF CONTROL PANEL



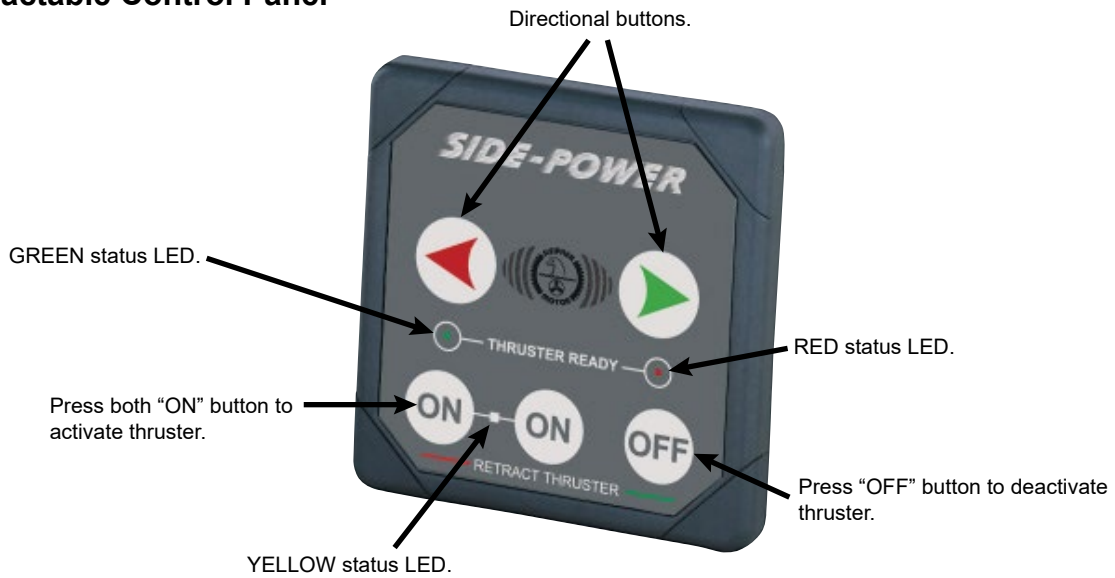
8700

STATUS/ALARM LEDES:

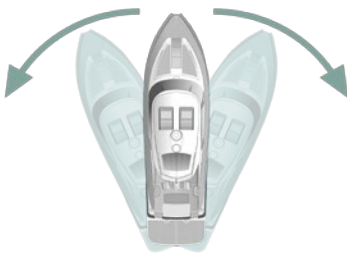
- Solid YELLOW LED light = the panel is on.
- ⚡ Flashing GREEN LED light = thruster is deploying.
- Solid GREEN LED light = thruster is deployed and ready to operate.
- ⚡ Flashing RED LED light flashes = thruster retract phase,
- All LEDs out when panel/thruster is shut down.

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

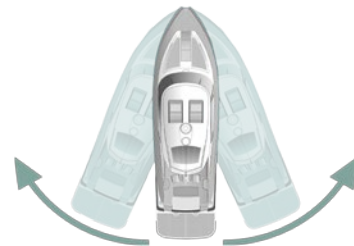
Retractable Control Panel



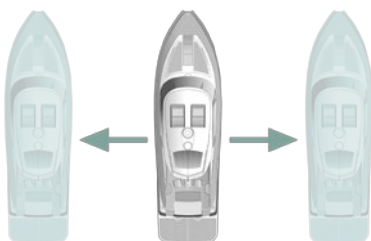
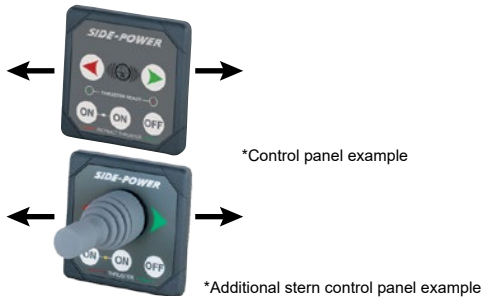
Activating the bow thruster



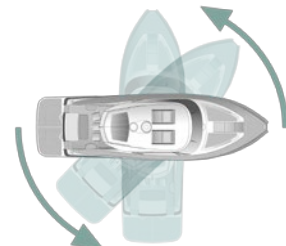
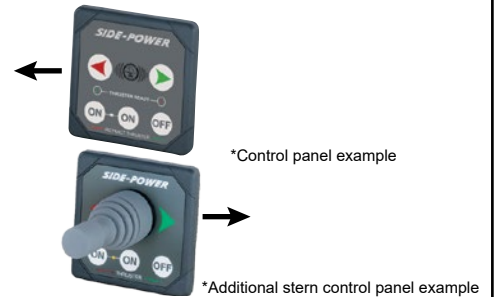
Activating the stern thruster



Activating both bow and stern thruster to push the boat sideways



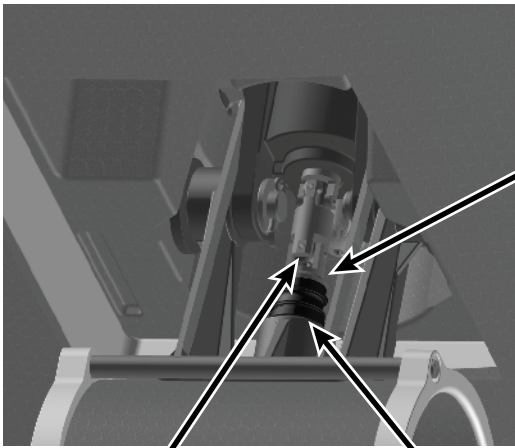
Activating both bow and stern thruster to rotate the boat on axis



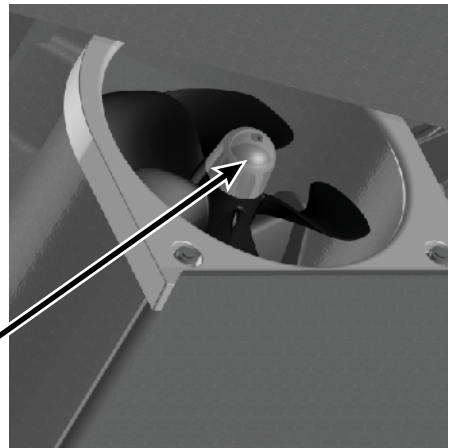
! Please refer to the graphic for special considerations relating to your model !

As a part of the seasonal service of your Thruster before every season, always check that:

- There must always be oil in the oil reservoir. Refill if necessary with gear oil EP90. Change the gear oil a minimum of every second year. Check the gear oil quality in the gear house every time the boat is out of the water. **(NB: When changing gear oil, refill and drain gear leg simultaneously to secure that the system will not be emptied.)**
- The propeller is fastened securely to the gear leg.
- Bolts holding the thruster components together are fastened securely.
- The area around the thruster is clean and dry. Ensure there are no signs of water.
- Paint the propeller and gear leg with antifouling before every season to keep it clean from sea growth. **(NB: Never paint the anode, sealings or propeller shaft. Ensure paint does not enter the space between the propeller and the gear leg.)**
- All electrical connections are clean and fastened firmly.
- Ensure that your batteries are in a good condition.
*While running the thruster measure volt output is greater than
(10.5v) for 12v motors
(21v) for 24v motors
- Change the zinc anode before every season, or when half the anode has eroded. Always use a sealant or thread glue on the holding screw to ensure that it does not fall off. **(NB: In some water conditions, it may be necessary to install an extra zinc anode to ensure that it lasts for the whole period between regular service lifts of the boat. Consult your dealer for information on how to do this.)**
- Check the drive shaft in the retract mechanism is lubricated.
- Check for excess movement in the break-away rings securing the actuator. If the actuator can be moved more than 3 mm via manual force, replace the break-away rings. **(NB: Spare rings are included from the factory.)**
- Check Rubber element for leakages every year and change every 3rd year.



DO NOT apply antifouling
DO NOT clean with chemicals,
 hot water or high-pressure water
 jet in this area.

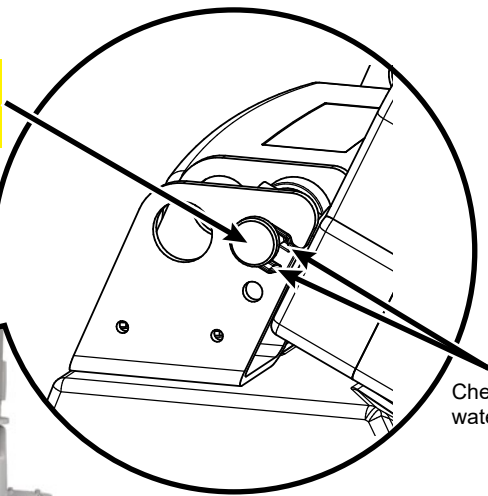


Anode Gearleg

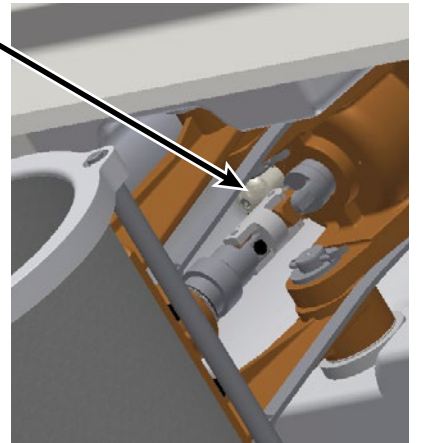
Check and relubricate with
 waterproof grease if necessary

Check annually rubber element.

IF over 3 mm movement,
 Break-away rings must be
 replaced

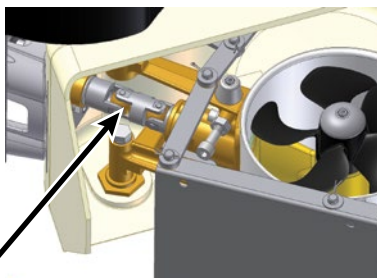


Check and relubricate with
 waterproof grease if necessary

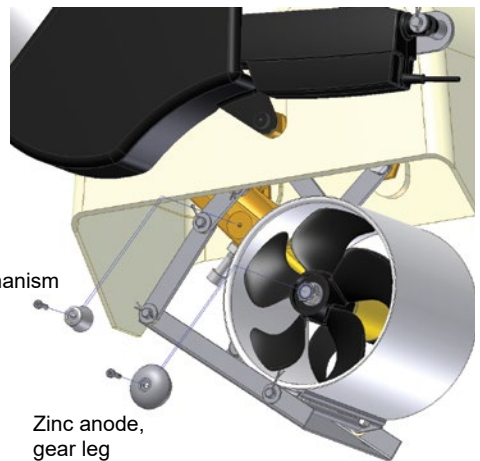


Anode Retract

* For SR80 & SR100



Check and relubricate with
 waterproof grease if necessary



Zinc anode,
 retract mechanism

Zinc anode,
 gear leg

Before seeking assistance from the website help desk from your Side-Power dealer/ distributor, please perform these tests.

(NB: If you are unable to understand what to check, you must consult a Side Power distributor.)

CHECK	SOLUTION
The motor runs, but there is no thrust	
Check propellers are fitted, fastened correctly and not damaged on the prop shaft	Re-fasten or replace if necessary
* Remove the motor and check the flexible coupling between the motor and driveshaft is fitted correctly and not damaged.	Replace if necessary
* With the motor removed turn the driveshaft to ensure gears are turning the prop shaft to identify if failure is inside the gear house.	In case of failure inside the gear house, you must replace the gear house instead of attempting to repair the internal gear and bearing system.
The thrusters performance is reduced	
Check the propeller, gear house and tunnel are free from growth/ barnacles or debris	If there is growth in the tunnel, this will disturb/ block the water flow and significantly reduce performance
<u>While in use</u> , check the voltage of the motor is not lower than the specified amount. The voltage when in use should be: = 10,5V system = 21V system - If running at below voltage:	(NB: Keep the main engine(s) running in use to have a continuous charge to the batteries) <ul style="list-style-type: none"> • Check batteries are worn out or in a bad charged condition • Check electrical connections/ wiring for damage or wear (corrosion) • Check cables are the correct size per the product manual • Tighten/ re-adjust connections
The thruster does not start/ works in only one direction	
Check the voltage of the electromotor is correct for your installation and model.	If wrong, contact your dealer or distributor to obtain parts with the correct voltage.
<u>When not in use</u> , check the voltage at the thruster. The voltage when not in use should be: = 12V system @ 12,7 V (not below 12,3V) = 24V system @ 25,4 V (not below 24,6V) - If running at below voltage: (NB: if less than 8V the thruster will not operate)	<ul style="list-style-type: none"> • Check batteries • Check electrical connections/ wiring for damage or wear (corrosion) • Tighten/ re-adjust and clean connections
<u>If</u> the main solenoids in the thruster are not trying to engage (clicking) the thruster might not be receiving a "run" signal from the control panel. Try to run the thruster without the control panel by directly connecting the red and blue or red and grey wires in the control cable contact end coming from the thruster.	<ul style="list-style-type: none"> • <u>If</u> the thruster runs in both directions, repeat the same process at the connector going into the back of the control panel. ~ If it also works in this position, check the contact and wiring on the back of the panel and engage the thruster again by pushing both ON buttons simultaneously • <u>If</u> the panel does not turn on (see control light), measure the voltage between the Red and the Black cable at the contact point going into the thruster. ~ If the voltage is good, the chances are that the panel is not working. ~ If it works by the thruster, not by the panel, there is a bad contact or broken cables between these two test points. • Measure that you have the correct voltage between the Red (+) and all the other colours in the contact.
<u>If</u> The thruster does not run at all, or only in one direction from the above tests, check the internal wiring on the thruster motor, solenoids and electronic motor interface box in accordance with the wiring diagram in the installation manual and ensure that all connections are clean and tight.	<ul style="list-style-type: none"> • Between the main negative (A1 on motor) and the blue and the grey wires connected to the sides of the main solenoids, the voltage should be the same as between the main battery cables on the thruster. ~ If not, check that the internal wiring on the solenoid and measure that there is contact through the magnetising spools of each side of the solenoid (NB: test between the red and blue on one side, and the red and grey on the other side with an Ohm meter.) ~ If there is no contact between these, the solenoid is broken and needs replacing.
The thruster is not shutting off after the Joy Stick/ panel is disengaged.	Contact and consult a Side Power distributor.
The thruster runs for approximately 0,5 seconds every 4 seconds	
This is a build-in error response. -Solenids failure	Contact and consult a Side Power distributor.
The thruster runs for approximately 0,5 seconds every 10 seconds	
The solenoid might be in a lock-in/ auto stop position.	<ul style="list-style-type: none"> • Shut off thrusters main switch, tap slightly on the motor to release the solenoid pin. Turn on the main thruster switch and test again, If the solenoid is still in a lock-in position, contact your dealer.

*Not applicable to SX thrusters.

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 personel.
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 instalation, 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

CHECK TO PERFORM	DATE											
The propeller is fastened securely to the gear leg.												
Bolts holding the thruster components together are fastened securely.												
The area around the thruster is clean and dry. If there are signs of water, try to find the source and eliminate it.												
Paint the propeller and gear leg with antifouling.												
batteries are in good condition.												
All electrical connections are clean and fastened firmly.												
Check the drive shaft in the retract mechanism is lubricated.												
Check for excess movement in the break-away rings securing the actuator.												
Change the zinc anode.												
Check Rubber element for leakages. *REPLACE EVERY 3 YEARS												
Check oil in the oil reservoir. *REPLACE EVERY 2 YEARS												

For the most up to date documentation, we advise you to visit our website www.side-power.com for the spare parts list.

1. The equipment manufactured by Sleipner Motor AS (The "Warrantor") is warranted to be free from defects in workmanship and materials under normal use and service.
2. This Warranty is in effect for of two years (Leisure Use) or one year (Commercial use) from the date of purchase by the user. Proof of purchase must be included, to establish that it is inside the warranty period.
3. This Warranty is transferable and covers the product for the specified time period.
4. In case any part of the equipment proves to be defective, other than those parts excluded in paragraph 5 below, the owner should do the following:
 - (a) Prepare a detailed written statement of the nature and circumstances of the defect, to the best of the Owner's knowledge, including the date of purchase, the place of purchase, the name and address of the installer, and the Purchaser's name, address and telephone number;
 - (b) The Owner should return the defective part or unit along with the statement referenced in the preceding paragraph to the warrantor, Sleipner Motor AS or an authorized Service Centre, postage/shipping prepaid and at the expense of the Purchaser;
 - (c) If upon the Warrantor's or Authorized Service Centre's examination, the defect is determined to result from defective material or workmanship, the equipment will be repaired or replaced at the Warrantor's option without charge, and returned to the Purchaser at the Warrantor's expense;
 - (d) no refund of the purchase price will be granted to the Purchaser, unless the Warrantor is unable to remedy the defect after having a reasonable number of opportunities to do so. Prior to refund of the purchase price, Purchaser must submit 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;
 - (e) warranty service shall be performed only by the Warrantor, or an authorized Service Centre, and any attempt to remedy the defect by anyone else shall render this warranty void.
5. There shall be no warranty for 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. No other express warranty is hereby given and there are no warranties which extend beyond those described in section 4 above. This Warranty is expressly in lieu of any other expressed or implied warranties, including any implied warranty of merchantability, fitness for the ordinary purposes for which such goods are used, or fitness for a particular purpose, and any other obligations on the part of the Warrantor or its employees and representatives.
7. There shall be no responsibility or liability whatsoever on the part of the Warrantor or its employees and representatives for injury to any person or persons, or damage to property, loss of income or profit, or any other consequential or resulting damage or cost which may be claimed to have been incurred through the use or sale of the equipment, including any possible failure or malfunction of the equipment, or part thereof.
8. The Warrantor assumes no liability for incidental or consequential damages of any kind including damages arising from collision with other vessels or objects.
9. This warranty gives you specific legal rights, and you may also have other rights which vary from country to country.

Worldwide sales and service



www.side-power.com



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