



PRODUCT MANUAL

16.4V, 15A Voltage Regulator

Read and understand this manual before the use or installation of your Norsk Lithium® battery, charger, or accessory. Refer to the **Safety Information** section for additional information. Save these instructions for future reference.

WARNING: The use of electricity and the installation of batteries and/or electrical equipment or electrical systems present several hazards including electrocution, injury, and death. Norsk Lithium® is not liable for injury or death resulting from using or installing a Norsk Lithium battery or the actions recommended in this document.

IF YOU DO NOT FEEL SAFE, OR COMFORTABLE, OR ARE NOT QUALIFIED TO PERFORM A BATTERY INSTALLATION OR OTHER ACTION OUTLINED IN THIS MANUAL, CONSULT A QUALIFIED PROFESSIONAL ELECTRICIAN.

THANKS FOR YOUR PURCHASE!

Welcome to the Norsk Lithium family and thank you for purchasing a 16.4V Voltage Regulator. This user guide will provide you with essential information on how to install and use the 16.4V VoltageRegulator to ensure optimal performance. Please read this user guide in full before installation.

CUSTOMER SERVICE

We stand behind the quality of our batteries and are committed to providing excellent customer service. If you purchased your product from a retail location or Amazon and have any questions or concerns please **DO NOT return it to the store**. Instead, please contact us at support@norsklithium.com and we would be happy to help you resolve any issues you may be experiencing.

HELP CENTER

If you have any questions or concerns about your purchase, you can also visit our Help Center on our website. There you will find FAQs, How-to-Videos and Warranty Information:

www.norsklithium.com/help-center

You can also contact our customer support team via email or phone, and we will be happy to assist you.

WARRANTY

Norsk Lithium offers a limited one-year warranty on all wiring and battery installation accessories, including 16.4V regulators. The warranty coverage starts on the date of purchase as shown on the original purchase receipt.

This warranty covers manufacturing defects and does not cover damage caused by improper wiring, connection to a battery with an incompatible operating voltage range, misuse, abuse, or neglect. Please visit the warranty page on our website at <https://norsklithium.com/warranty/> for more information on our warranty terms and conditions.

WARRANTY REGISTRATION

Owners of a Norsk Lithium product are encouraged to register their product for warranty coverage:

- Owners are invited to register their Norsk Lithium product for warranty coverage online at norsklithium.com by creating an account and filling out a Product Registration form found at <https://norsklithium.com/product-registration/>.
- Owners who have registered their products online can check the status of their warranty registration at <https://norsklithium.com/product-registration/>.
- Owners that choose not to register their Norsk Lithium products online are required to save their receipt showing the place of purchase, product name, and purchase date, for submission to Norsk Lithium Customer Service in the event warranty coverage is needed.

INCLUDED EQUIPMENT

The Norsk Lithium 16.4V Regulator includes the following:

- Fully-potted regulator in cast aluminum body with (4) mounting holes
- (2) 12 AWG Input, and (2) 12 AWG Output wires, approximately 5.5" / 140mm in length
- User manual with installation instructions

SPECIFICATIONS

Norsk Lithium 16.4V Regulators meet the following specifications:

- IP67 Rating: dustproof and waterproof up to a depth of 4.5' / 1.5m for up to 30 minutes
- Voltage Input Range: 9-32V (**NOT** for use with 24V or 36V batteries)
- Output: 16.4V +/- 0.3V @ 15A / 246W

INTENDED USE

The Norsk Lithium 16.4V Regulator is designed to provide steady, clean power from 16V batteries with a voltage output range of 12.5 - 18V, to sonar units with a voltage operating range limited to 17V. This allows you to install an EVO-TEC® DC-to-DC charger to keep your 16V battery topped off during the longest day on the water and never have to worry about 17V-limited electronics shutting down due to an over-voltage situation.

INSTRUCTIONS FOR USE

WARNING: Before installation and use, users **MUST VERIFY** and understand the operating voltage ranges and compatibility of all connected devices including batteries, chargers, and accessories. Failure to **VERIFY** may result in injury to persons and property including connected devices. Risks include but are not limited to, fire, personal injury or death, and substantial and non-repairable damage to the electrical equipment being installed and surroundings may result.

A single 16.4V regulator can provide up to 15 amps of power output that can support up to three sonar units requiring regulated power. To provide regulated power to more than three sonar units, please install an additional 16.4V regulator.

Mount the regulator as close as possible to the battery connected to the input side of the regulator.

NOTE: The 16.4V regulator connected to a battery consumes $\leq 70\text{mA}$ of power when **NOT** powering an attached device. For this reason, if the regulator is connected to a battery **NOT** equipped with Norsk Lithium Deep Sleep technology, the user should install a manual cut-off switch between the battery and the regulator on the positive (+) wire coming from the Input side of the regulator body to eliminate passive energy consumption by the regulator when it is not providing power to attached devices for an extended time.

If the regulator is connected to a Norsk Lithium Marine Battery equipped with Deep Sleep technology, a cut-off switch is not needed as the user can eliminate the passive energy consumption of the regulator by activating Deep Sleep when the regulator is not providing power to attached devices for an extended time.

This unit is intended for use with 16V batteries with an output voltage that does not exceed 18.25V. This means the 16.4V regulator is **NOT** compatible with 24V or 36V batteries. Use of this regulator with 24V or 36V batteries will void the warranty.

When connecting the regulator to power, pay close attention to the polarity of the connections. Reverse polarity connections, connecting the positive + input of the regulator to the negative - terminal of the battery and the negative - input of the regulator to the positive + terminal of the battery, will result in immediate and permanent damage to the regulator. This type of damage to the regulator is **NOT** covered by the provided warranty.

INSTALLATION INSTRUCTIONS

Select a mounting location for the regulator that is as close as possible to the battery to be connected on the input side of the regulator.

Ensure the mounting location will position the regulator above the waterline in the event the bilge or under-deck area fills with water for an extended time due to leaky plumbing or rough conditions.

When extending wires on the input or output side of the regulator, use quality 12 AWG wire rated for marine installation and heat shrink butt connectors that provide a marine-grade electrical connection.

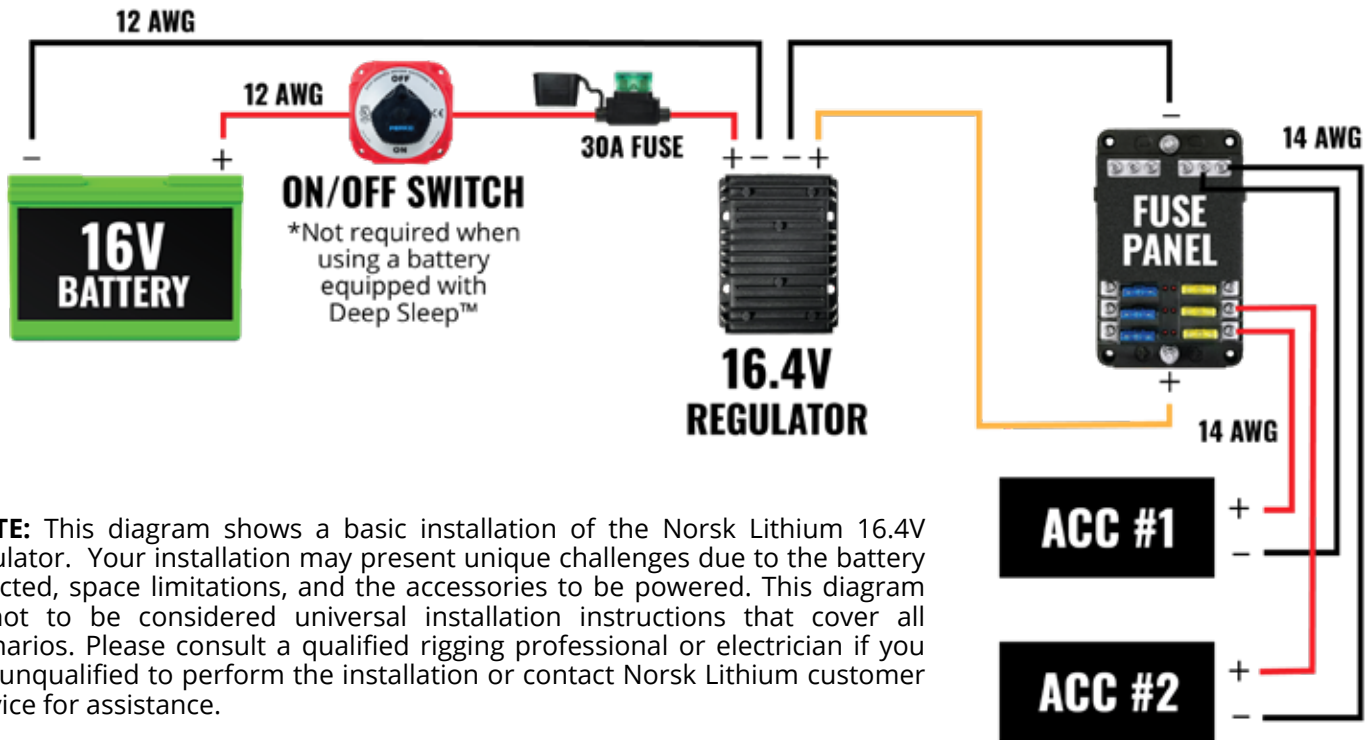
Use stainless steel hardware to attach the regulator at the selected mounting location.

INSTALLATION DIAGRAM

The wiring diagram below illustrates a basic installation of (1) Norsk Lithium 16.4V regulator powering (2) two attached devices.

Recommended: Install the fuse panel in a storage compartment or under the console near the devices to be powered.

Consult the owner's manual provided by the manufacturer of the devices to be powered for the proper fuse size to be used for each attached device.



NOTE: This diagram shows a basic installation of the Norsk Lithium 16.4V regulator. Your installation may present unique challenges due to the battery selected, space limitations, and the accessories to be powered. This diagram is not to be considered universal installation instructions that cover all scenarios. Please consult a qualified rigging professional or electrician if you are unqualified to perform the installation or contact Norsk Lithium customer service for assistance.

NOTICE SAFETY INFORMATION

Lithium batteries and accessories can present a fire and explosion hazard. To minimize these hazards use and install Norsk Lithium products only as directed and, where appropriate, seek qualified, professional assistance. During installation and use:

- Consider all battery terminals and connections live
- **DO NOT** place items on the battery, charger, or accessory
- Inspect the battery and connections before installation and before each use. Do not use or install if the battery or connections are faulty or damaged.
- **DO NOT** short-circuit the device
- Use insulated tools
- Avoid wearing metal, metallic, or other conductive jewelry or watches when working with the battery, charger, or accessory
- Verify the wire gauge and length are correct for the application
- Verify terminal bolts or spade-type connectors are tight and that wiring has an adequate surface connection on the terminals

IN THE EVENT OF A LITHIUM BATTERY FIRE YOU MUST USE A TYPE D, FOAM, OR CO2 FIRE EXTINGUISHER. DO NOT ATTEMPT TO EXTINGUISH A LITHIUM BATTERY FIRE WITH WATER. Norsk Lithium recommends keeping a suitable fire extinguisher on hand during installation and use.

Precautions: Norsk Lithium can't list every possible scenario or safety precaution. Use common sense. Follow manufacturer recommendations. If you are unqualified or do not feel comfortable, seek qualified professional help.

Below is a non-exhaustive list of precautions to take during the use and installation of your Norsk Lithium product. Failure to follow these precautions may result in fire, property damage, personal injury, and/or death.

Use **ONLY** Norsk Lithium EVO-TEC® Chargers and charging components. **DO NOT** overcharge a battery. The Battery Management System (BMS) will turn the battery off in case of overcharging, but repeated overcharging may damage the battery.

DO NOT charge a battery unattended. See the Charging Procedure section in your Norsk marine battery user manual for more information.

DO NOT charge or operate a battery or accessory that is visibly damaged, dented, bulging, punctured, or otherwise in an inoperable condition.

DO NOT short-circuit lithium batteries or accessories. Doing so can damage your device, and may cause high temperatures or currents which can cause fire, personal injury, or death.

DO NOT heat over 140°F (60°C). Doing so may cause damage to the battery, housing, device, or charger.

DO NOT exceed max discharge specifications for the battery or accessory.

DO NOT submerge the battery, charger, or accessory in water. Keep batteries, chargers, and regulators in a dry environment. Norsk recommends the use of a battery box for use in marine applications or environments where the battery or its accessories may get wet.

DO NOT store batteries, chargers, or accessories near heat sources, in direct sunlight, or near high-temperature sources or gas emitters such as fire, heaters, propane tanks, generators, fuel storage, etc.... Follow all other charging and storage guidance.

DO NOT store batteries, chargers, or accessories with other metal or metallic objects, batteries, or electronic devices. Failure to follow this precaution could result in inadvertent terminal connection, fire, and/or explosion.

DO NOT dispose of lithium batteries or accessories in the trash. **DO NOT** dispose of the product by crushing, cutting, or exposing it to fire, or high temperatures, as an explosion can result. Follow all local, state, and/or Federal laws and regulations related to the disposal and recycling of batteries. Seek assistance if necessary.

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada Statement: CAN RSS-GEN/CNR-GEN

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science, and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions: (1) this device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device.



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CUSTOMER SERVICE HOURS

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