



Auxiliary Battery Box



OWNERS MANUAL

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Introduction

The **National Luna Auxiliary Battery Box** is an ideal battery storage solution that offers convenient plugs and sockets to power your 12V accessories. It is best combined with external charge controllers such as solenoid systems, DC-DC systems and solar regulators to form a complete system.

The **Auxiliary Battery Box** uses standard 29mm modules which allows the user to build their ideal solution. Common modules include volt-meters, USB charge modules, indicators, current sensors and a variety of DC sockets.

There are 8 module positions in total with 4 standard modules already fitted. All module positions are pre-wired and fused.

The **Auxiliary Battery Box** is compatible with most 12V battery types and can be combined with many battery systems. (*compatibility is determined by external charge systems*).

The **Auxiliary Battery Box** is available in standard height (Black box) or extended height (Blue box) to suit standard or high-capacity batteries.

NOTE

The Auxiliary Battery Box is not a battery charging system or isolator. Charging must be managed by an external battery charging system.

Supported battery types

- Dependent on external charging systems used.
- External charging systems must support battery type installed.

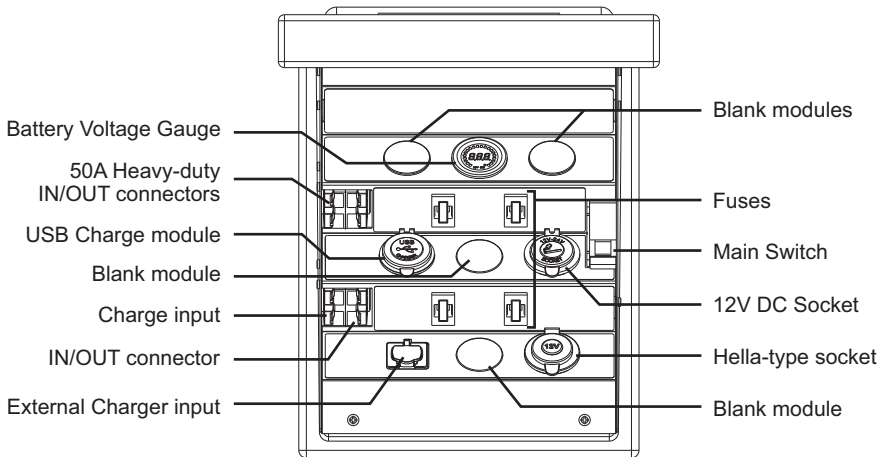
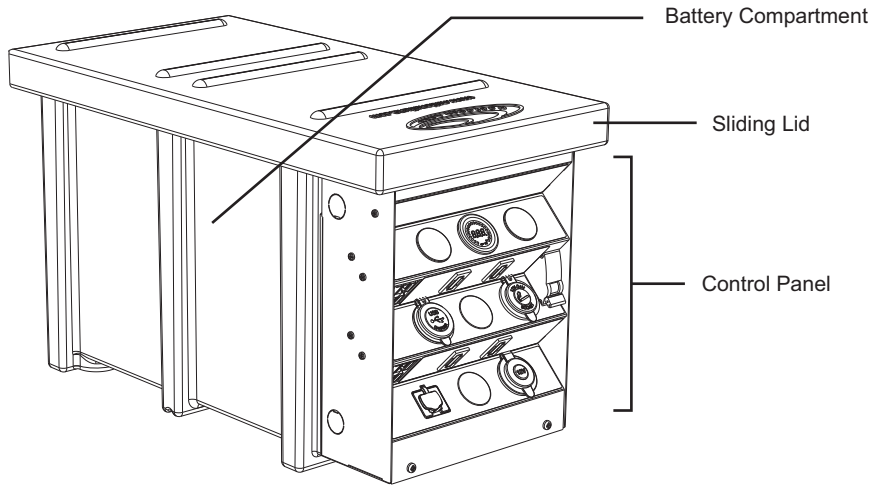
Maximum battery size :

- *Black Box : 350mm x 180mm x 268mm (L x W x H)*
- *Blue Box : 350mm x 180mm x 288mm (L x W x H)*

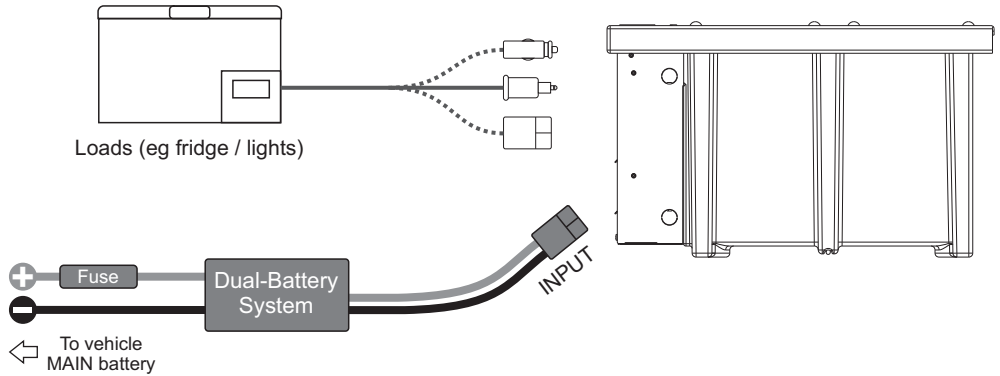
SAFETY INFORMATION :

- Before installation, read the instructions carefully.
- Disconnect any existing batteries.
- Follow guidelines of the battery manufacturer.
- Follow instructions for any externally-connected devices.
- Do not use for any purpose other than indicated in this manual.
- Do not attempt to charge a non-rechargeable or battery other than 12V.
- Never attempt to charge a damaged or leaking battery.
- Avoid open flames in the vicinity of the battery.
- Do not alter or modify the Auxiliary Battery Box.
- Unauthorized disassembly, repairs or modifications will void any warranty.
- Attempts to use the Auxiliary Battery Box for purposes other than indicated in this manual will void the warranty.
- Ensure all connections are secure and cables are installed in a safe manner.
- Use the correct cabling size and fuses in accordance with the installation instructions.
- Use fuses appropriate to the battery system or charger being used.

Features



Wiring diagram - Typical Installation



Preparing for Installation

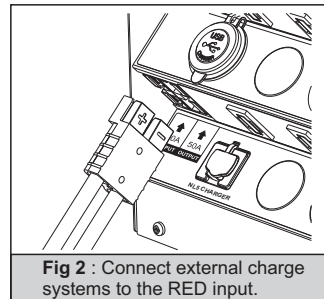
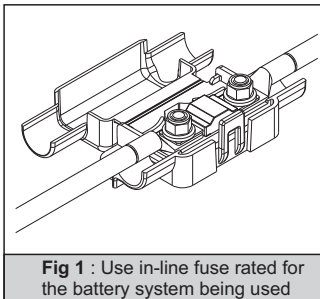
The **Auxiliary Battery Box** should be positioned such that any cables are not under strain or in a position that they can be damaged. If the **Auxiliary Battery Box** is used in a mobile application, ensure it is secured to prevent movement.

It is recommended to use 16mm² cables for most battery systems. Refer to guidelines of any external charging system used. Follow all safety guidelines with respect to cable size and type. It is recommended to fit an appropriate power fuse in-line with any battery system (Fig 1).

The output from a battery management system (such as DC-DC system) should be connected to the RED input on the Auxiliary Battery Box with a matching 50A coupler (Fig 2).

Take care to ensure the choice of battery is supported by any external charge systems.

Any additional batteries added to a system must be of the same type.

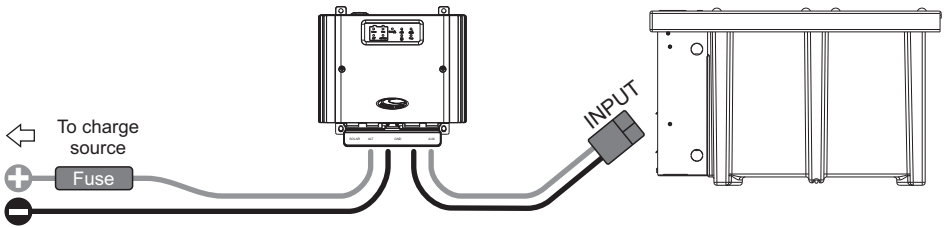


External battery management systems

The Auxiliary Battery Box is typically used in combination with an external battery management system such as DC-DC charger or solenoid-based isolator.

The output from the chosen battery system can be connected to the RED input on the Auxiliary Battery Box or directly to the battery terminals inside the box.

Follow installation guidelines for the external system used.



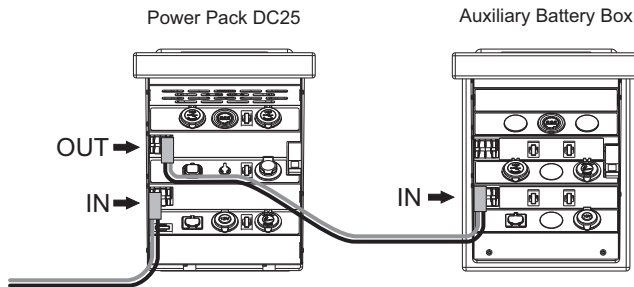
Example : National Luna NLDC-25 as charge controller.

Extending an existing system

The Auxiliary Battery Box can be used to extend an existing dual-battery system by housing an additional battery or by providing extra plugs and sockets.

The RED input on the Auxiliary Battery Box can be connected to the Output from the first system or directly to the battery terminals.

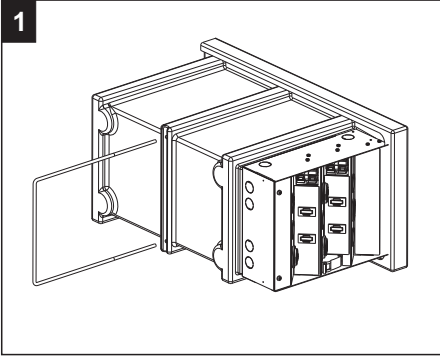
Make sure the additional battery used is of the same type as those in the existing system.



Example : Auxiliary Battery Box combined with Power Pack DC25

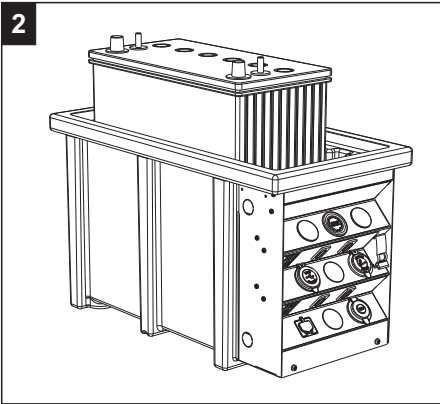
Installing Battery

To hold a battery securely in the Auxiliary Battery Box, install the U-bolt and hold-down bracket provided. It is best to lay the box on its side or end to do this.

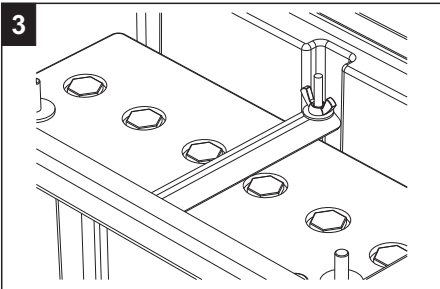


1
Insert the U-bolt through the pre-drilled holes in the bottom channel.

Return the Power Pack to the upright position.



2
Remove the sliding lid and insert the auxiliary battery into the battery compartment.

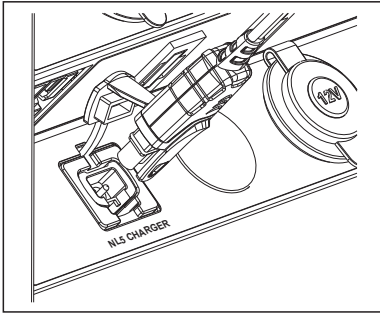


3
Attach the hold-down bracket, washers and wing-nuts.

Take care not to over-tighten the screws.

Connect the positive (RED) and negative (BLACK) cables to the battery terminals. Make sure the connections are clean and tight

Dedicated Charger Port



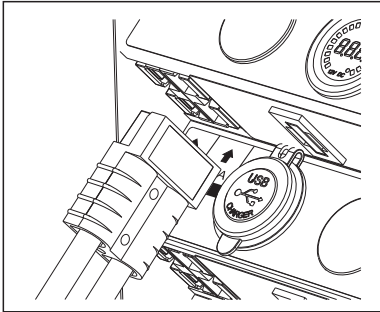
The Auxiliary Battery Box has a charge port specifically for use with National Luna Intelligent Battery Chargers.

Insert the charger quick-connector into the charge port labeled "NL5 CHARGER" until it clicks securely.

In order to connect other brands of chargers to this input, a quick-connector cable is available separately. This port can support up to 10A charge current.

Make sure the main breaker switch is in the ON position during charge.

High-current Chargers and Inverters

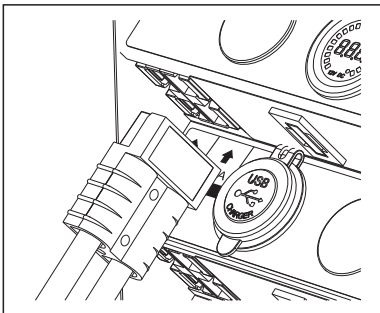


In order to use higher-power battery chargers with currents greater than 10A or other brands of chargers, it is recommended to connect to one of the AUXILIARY IN/OUT plugs. These plugs have a 50A continuous rating.

AC Inverters can be connected to the AUXILIARY IN/OUT plugs for powers up to 600W. Larger-power inverters should be connected directly to the battery terminals.

When using chargers or inverters connected to the AUXILIARY IN/OUT plugs, the main switch must be ON.

Connecting External Solar Regulators



When using solar panels, an external solar regulator / controller is required.

Connect the output from the solar regulator to one of the IN/OUT plugs or directly to the battery terminals.

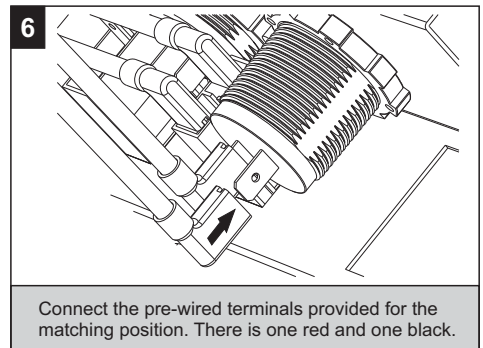
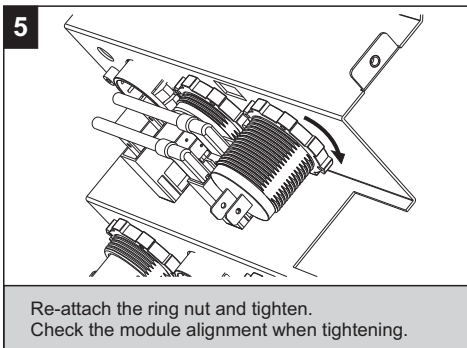
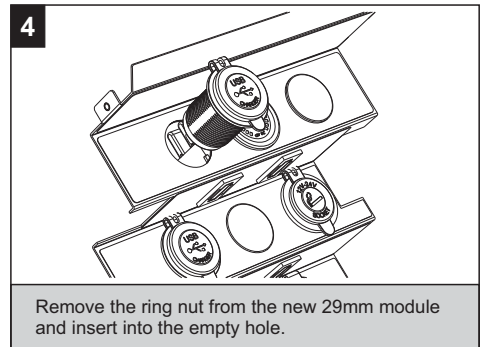
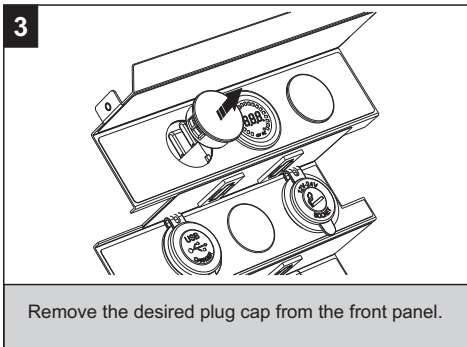
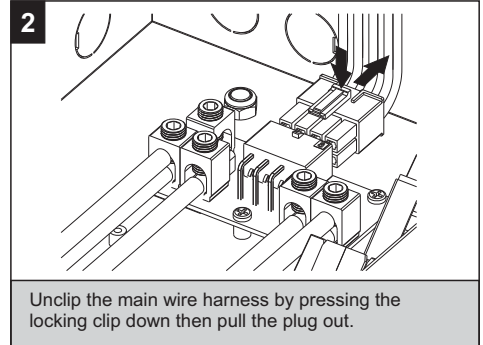
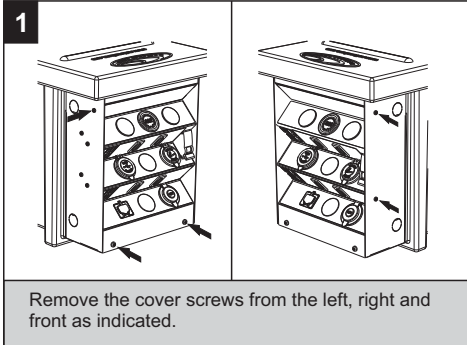
Some solar panels have a regulator built-in and can be connected directly to one of the IN/OUT plugs. Ensure the solar panel and regulator support the battery type installed in the Auxiliary Battery Box.

Do not connect solar panels directly without a regulator.

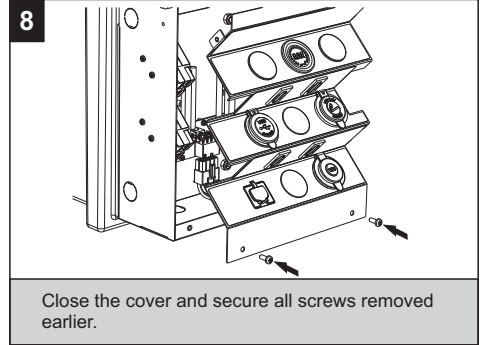
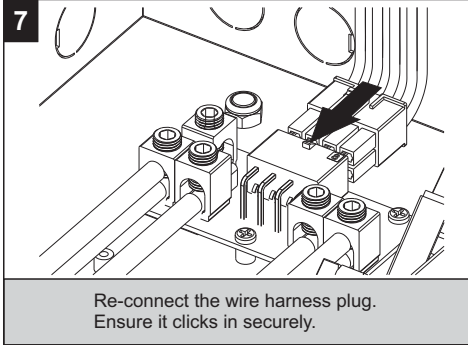
Adding additional modules

The Auxiliary Battery Box offers 4 blank locations for additional 29mm modules. Each location is provided with a pair of pre-terminated wires for a positive and negative connection.

The pre-terminated wires are suitable for most volt-meter, socket and indicator modules. If current-sensing modules are installed, additional wiring is required (see page 10).



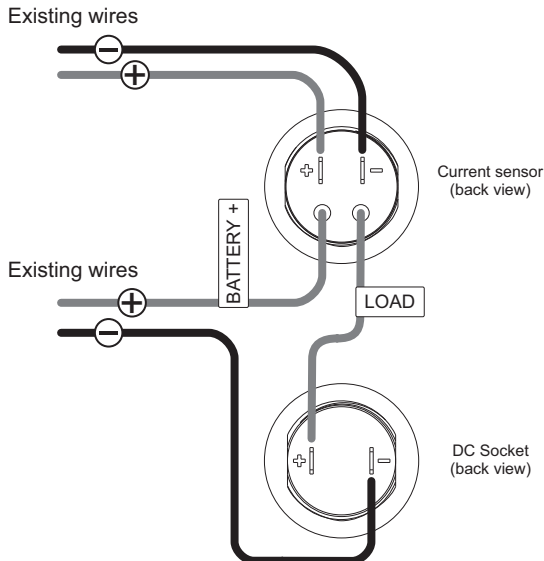
Adding additional modules - cont.



Current sensor modules

Current sensor modules have two sets of connections. One set is used to supply the module with power and is often used to measure voltage, the other is used to measure current and must be installed in-line with the load to be measured.

The example below shows a current sensor module in-line with a DC socket. In this configuration, the current supplied through the socket can be measured.



NOTE:

The module in this example senses current on the positive wire, some current sensor modules are installed on the negative wire.

Follow connection guidelines supplied with the module.

NOTE:

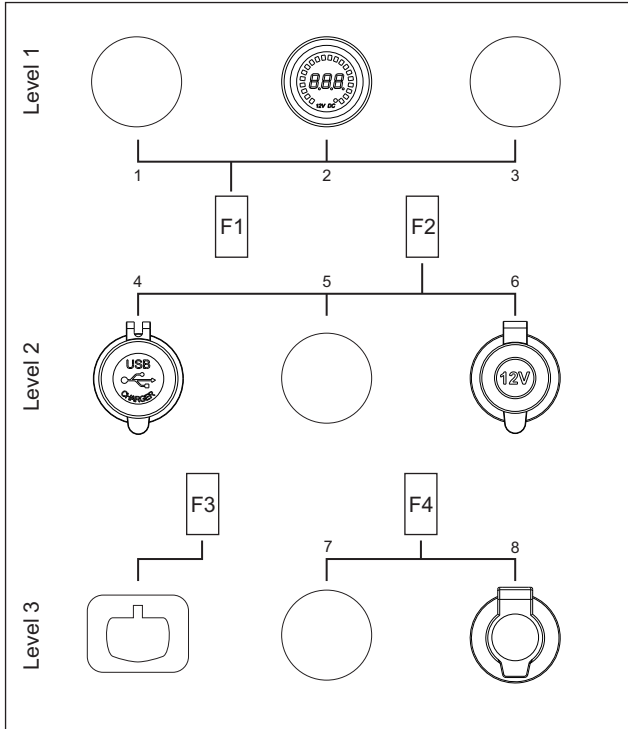
Current sensor modules have a limited current rating. They are not suitable for installation in the main battery cables.

Take note of the current rating of the sensor used.

Fuses are shared between module locations. There is one fuse for each level on the control panel. Modules on the top level use F1, second level use F2 and the last level uses F4.

If power to any module is interrupted, check the fuse associated with the module.

There is a dedicated fuse for the NL5 charge port (F3).



NOTE:

The Auxiliary Battery Box is designed to use standard automotive blade fuses not exceeding 15A. Do not replace fuses (F1, F2, F4) with a value greater than 15A.

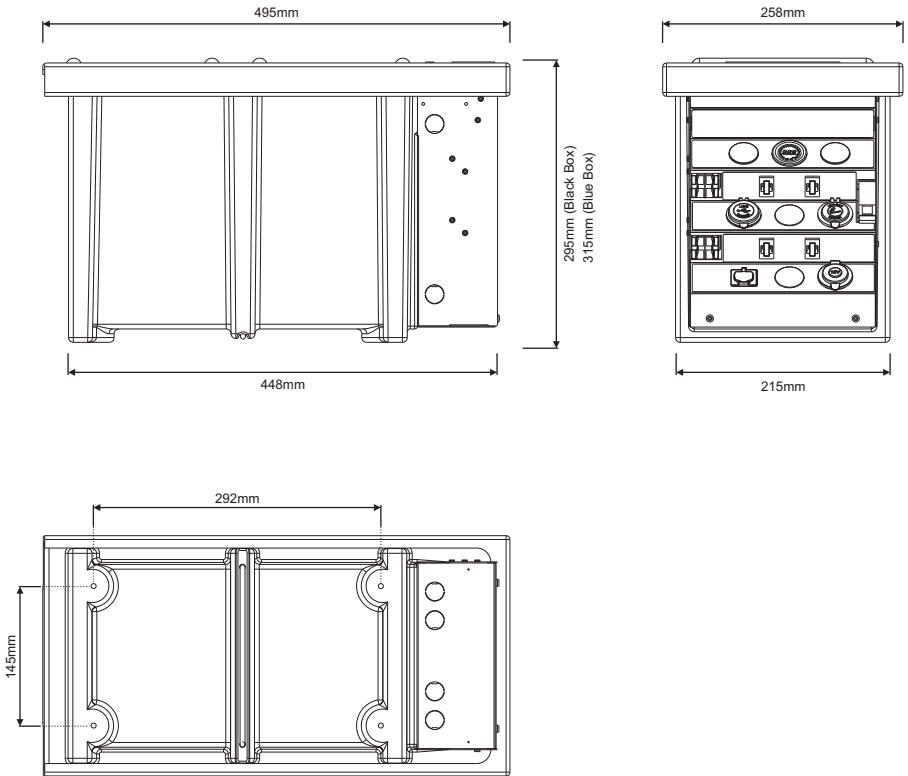
The external charger input fuse (F3) should not exceed 10A.

Specifications

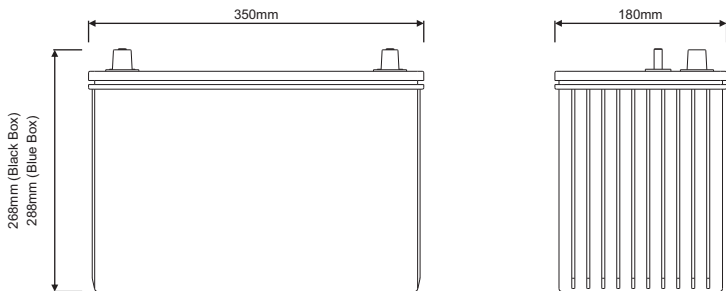
Inputs	
INPUT (RED) *	10V - 15V 50A max
NL5 Charge port	5V - 15V 10A fused
Outputs <i>(standard modules supplied)</i>	
IN / OUT (Grey) x3	50A
CIGAR x1	10A (15A fused)
HELLA / DIN Type x1	10A (15A fused)
USB x2	18W (QuickCharge)
USB charge output (each port)	5V-3A, 9V-2A, 12V-1.5A
Other	
Operating temperature	-10°C to 70°C
Standby current **	< 5mA
Battery gauge display range	10.7V - 14.7V
Outer dimensions	495mm x 258mm x 295mm (Black box) 495mm x 258mm x 315mm (Blue box)
Max battery size	350mm x 180mm x 268mm (Black box) 350mm x 180mm x 288mm (Blue box)
Supported battery types	
12V nominal - dependent on battery charge system used	

* Input voltage range may be limited by external charge systems used.
Refer to charge system documentation to determine compatibility.

** Standby current is measured with standard modules as supplied.
Adding or removing models may affect the total stand by current.



Maximum Battery Size



National Luna Limited Warranty - South Africa Only

This National Luna Warranty supersedes any other advertised Guarantee or Warranty provided with this appliance by any wholesaler or retailer.

National Luna warrants this product to be free from defects in materials and / or workmanship under normal use and service to the original purchaser subject to the following :

1. At any time within THREE YEARS from the date of purchase by the original purchaser, National Luna will at its discretion replace or repair without cost to the owner, through an authorised service agent, any part found to be defective by National Luna.
2. Where parts are replaced by an authorised service agent, the labour costs for the work done will be for the owner's account.
3. This warranty does not apply to accessories or items where the length of life depends on the amount of use and care given.
4. This warranty is valid in South Africa only.
5. National Luna may consider a warranty void if modifications have been made to this product which may cause undesirable or hazardous operation or may be the cause of the malfunction of this product.
6. National Luna shall not be responsible for any damages of any kind resulting from incorrect voltages or faults with regards to power supply which fall outside of the appliance operating specifications.
7. National Luna shall not be responsible for damage to the product caused by negligent use, storage of hazardous chemicals, use of corrosive substances, fire, flood, civil-disturbances, lightning or any other natural phenomenon.
8. Warranty returns to the factory for repairs - in the event where the unit has been shipped to the factory for repairs, transport costs will be for the owners account.
9. National Luna will not accept any responsibility for the consequential loss or damage caused by, or due to the malfunctioning of this appliance.
10. National Luna shall not be held responsible for any injuries to persons caused by the incorrect or negligent usage of this appliance.
11. Repair work to be done in terms of this warranty must be referred to National Luna for written authorisation before any work is performed.
12. National Luna reserves the right to refuse repair or service under warranty if the original proof of purchase cannot be produced.
13. Removal of serial numbers may render the warranty void.

National Luna Limited Warranty - International

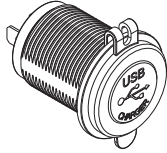
The standard National Luna Warranty in South Africa cannot be applied outside the South African borders for practical reasons.

1. National Luna has a world wide distributor network. These distributors import products and carry the warranty (at their cost) in line with the various countries' conditions of sale.
2. Cross-border customs and duties apply. A National Luna manufactured product that is returned to the factory in South Africa will have the South African warranty applied. However, all transport costs incurred will be for the purchaser's account.
3. It is important to note that a private purchase of this product in South Africa and exported will not carry a warranty. Any labour and parts required for repairs would incur costs in foreign currency and be for the owner's account.
4. In the event of a National Luna product being fitted as standard equipment in caravans and trailers and subsequently being exported from South Africa, the warranty must be carried by the persons responsible for the importing into a country other than South Africa.
5. It is recommended that National Luna products be purchased from the authorised importer in a particular country who carries the applicable warranty and back-up service.

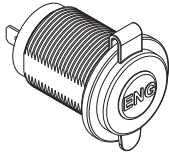
29mm Modules

The Auxiliary Battery Box is designed to work with standard 12V 29mm modules. These modules can be combined to suit the application.

Standard modules include :



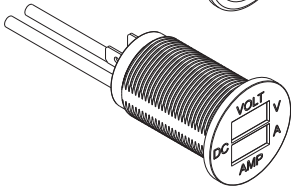
Dual USB charger



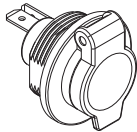
Screw-in DC socket
(Engel plug compatible)



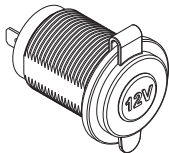
Voltmeter gauge



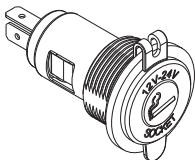
Volt and Current meter



Hella-type socket



12V DC socket



Cigarette-lighter socket

National Luna sales and support :
www.nationalluna.com



Patents & Design registrations

South Africa : 2018/06290 ; F2017/01515 ; F2017/01516
Australia : 2018232986 ; 201811491 ; 201811492

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