

GENERAL SAFETY INSTRUCTIONS

This manual contains vital and essential information to avoid electric shock, overload or irreversible damage to the equipment. The owner must read and understand this document before using the booster.

This appliance is not intended for use by persons (including children) with physical, sensory or mental disabilities, or by persons without experience or knowledge, unless they have received adequate supervision or preliminary instructions on how to use it from a person responsible for their safety.


If you have any questions, contact your dealer.

Safety Instructions

These symbols indicate a risk, the varying degrees of which are described below:

 ATTENTION
Indicates a risk that could damage or destroy the product.
 PRECAUTION
Indicates a risk that could result in minor or moderate injury.
 WARNING
Indicates a risk that could result in minor or moderate injury.
 DANGER
Indicates a risk that results in immediate death or serious injury.

Installation

 ATTENTION
<ul style="list-style-type: none"> • Do not expose the DC/DC booster to rain or snow. • Do not use the DC/DC booster if it has received a sharp blow, been dropped, has cracks or openings in the case, or is damaged in any other way. • Do not install the booster near a heat source. • This booster should not be installed in an airtight or poorly ventilated area.



PRÉCAUTION

- Do not attempt to open the DC/DC booster. There are no user serviceable parts except for user replaceable fuses.
- Do not use the DC/DC booster with damaged cables.
- It is strictly forbidden to disassemble the booster and/or modify the housing in any way.

This booster is suitable for use in recreational and commercial vehicles.

Leave a free space of at least 5 cm / 2 inches around the booster for good ventilation.

Install the booster in a vertical position to create optimal ventilation. Note that the wiring is located at the bottom of the booster.

All electrical connections to and from the booster must remain accessible at all times.

The booster must be properly and securely fastened.

This appliance is not a toy and must be kept out of the reach of children.

Connections



ATTENTION

- To prevent overheating, make sure the connections are properly tightened.

The installation to which the booster is connected must comply with the standards in force in the country of use.

The output batteries must be connected to the booster before switching on the power.

This equipment complies with the standards in force concerning interference emitted and interference from external sources.

With regard to electromagnetic interference, make sure that other equipment used is compatible with this device to avoid irreversible damage.

Serial number (S/N)

The serial number is available on the grey label stuck on the top of the booster.

Choose the load curve



WARNING

- It is important to choose the correct charging curve, adapted to the battery technology. A wrong choice can cause irreversible damage. In particular, there is a risk of overheating and harmful gases in the event of overvoltage on the battery.

The LITHIUM charging cycle is only compatible with LiFePo4 batteries with integrated BMS (Battery Management System).

Maintenance

If necessary, the fuses must be replaced by identical products.

This booster cannot be disassembled and the electronic board is inaccessible.

Therefore, with the exception of the fuses, all on-site maintenance is prohibited.

Battery precautions



DANGER

- Disconnect the DC power supply before servicing, cleaning or working on circuits connected to the DC/DC booster.
- Once disconnected, isolate the battery connection terminals.

Chemical and gas risks



ATTENTION

- It is important to ensure that the area around the batteries is well ventilated. The gas produced by the batteries can be explosive. Protect the eyes of all persons in the vicinity of the batteries. Ensure adequate ventilation to avoid accumulation of harmful and/or dangerous gases. Do not smoke, use open flames or cause sparks near the batteries at any time.
- It is important to make sure that the battery voltage matches the output voltage of the DC/DC booster.
- It is important to make sure that no corrosive products come into contact with the eyes or skin when working on the batteries.
- Always remove metal objects from hands, wrists and neck, such as rings, bracelets, watches or necklaces.
- Always work with ungrounded battery. If necessary, the battery ground connections should be made last.

PRODUCT PRESENTATION

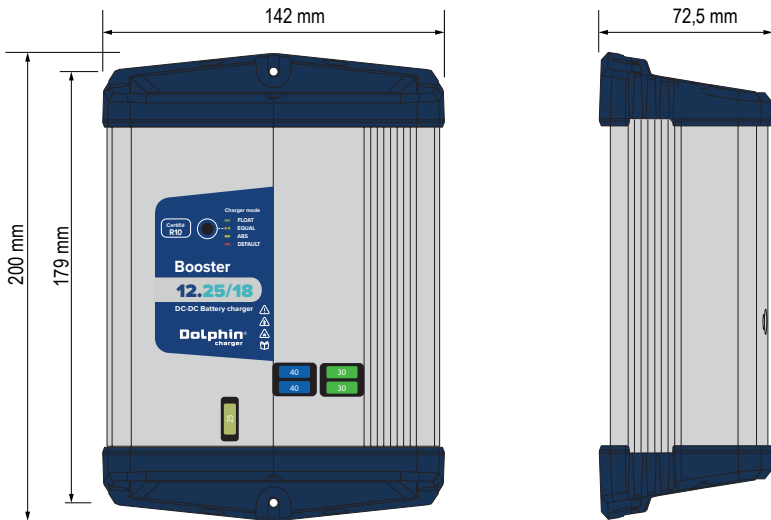


Rep	Designation
①	DC/DC Booster
②	LED display
③	Output fuse B2
④	Output fuse FRIDGE
⑤	Fuse input B1
⑥	Setting switch
⑦	D+ signal connector
⑧	Power connector

PACKAGE CONTENTS

Designation	Quantity
Booster 12/25-18 or 12/40-18	1
Input/output connector	1
D+ signal connector	1
Manual	1

DIMENSIONS



Installation

BOOSTER ATTACHMENT

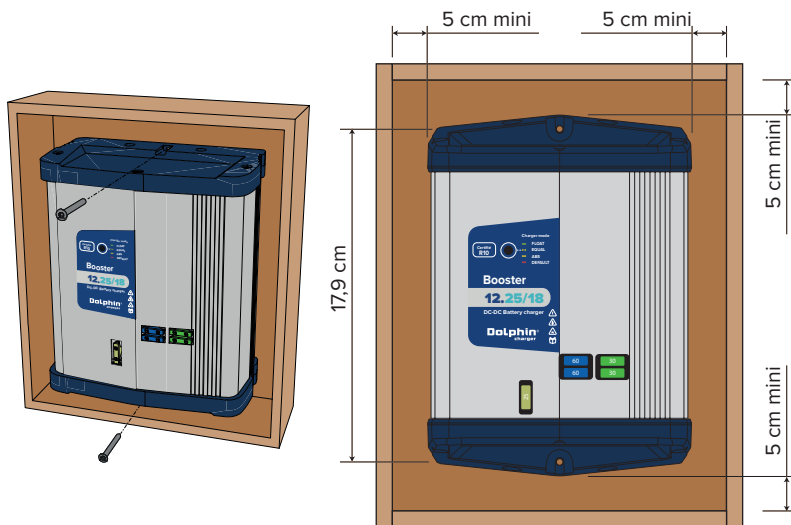
The DC/DC booster is designed to be permanently installed with the cable outlet at the bottom.



ATTENTION

Use screws adapted to the support.

To allow a good cooling of the DC/DC booster, it is necessary to leave a 5 centimeters space all around the product.



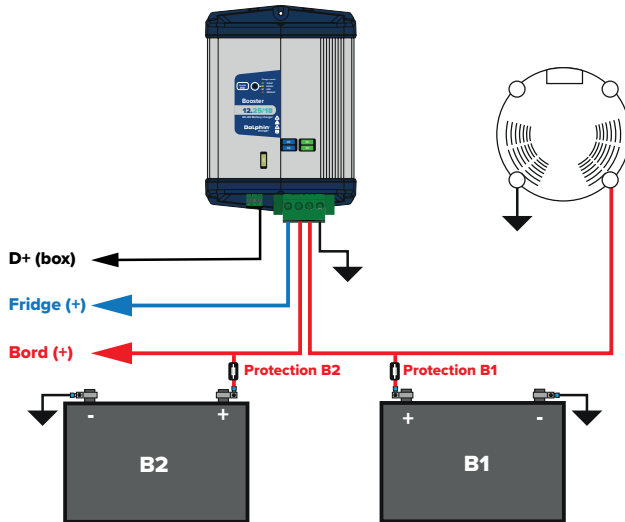
CONNECTIONS

The DC/DC booster is designed to power a refrigerator and to recharge a cell up to 25 A or 40 A, depending on the model used, regardless of the battery technology.

Overview of the booster

DANGER

- Before connecting a battery, it is necessary to switch off the power supply.

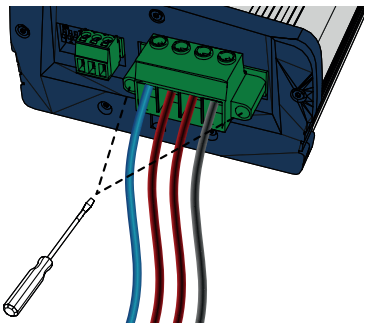


Connectors

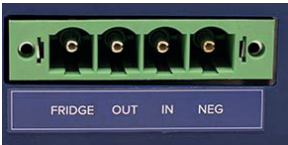
The DC/DC booster is supplied with removable connectors for easy wiring.

ATTENTION

After plugging in the power connector, it must be locked to the DC/DC booster by tightening its fastening screws completely.



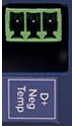
Power connector

	Rep.	Designation
	FRIDGE	Fridge output
	OUT	Auxiliary battery output B2
	IN	Battery input motor B1
	NEG	(-)

The cable cross section to be used depends on the distance between the DC/DC booster and the equipment:

Equipment	Cable cross-section with booster 12.25/18	Cable cross-section with booster 12.40/18
B1 and B2 if $L_g < 3m$	6 mm ²	10 mm ²
B1 and B2 if $L_g > 3m$	10 mm ²	16 mm ²
FRIDGE if $L_g < 3m$	6 mm ²	6 mm ²
FRIDGE if $L_g > 3m$	10 mm ²	10 mm ²

D+ connector

	Rep.	Designation
	D +	Alternator signal
	Neg	Not connected
	Temp	

Cable cross-section: max. 1.5 mm².

The D+ signal allows the DC/DC booster to operate at the same time as the vehicle engine :

- Booster ON as soon as D+ = 12V
- Booster OFF as soon as D+ = NC or 0V

Adjusting the selectors



- Selectors 1 and 2 are used to choose the type of charge in relation to the type of battery.
- Selector 3 is used to choose the type of refrigerator.
- Selector 4 allows autonomous operation without a D+ signal.

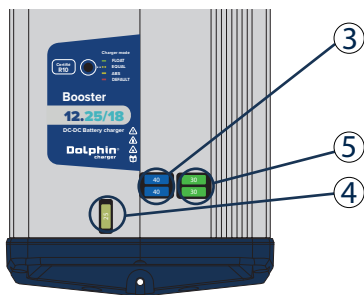


ATTENTION

The «ON» position of the dipswitch is towards the rear side of the DC/DC booster housing.

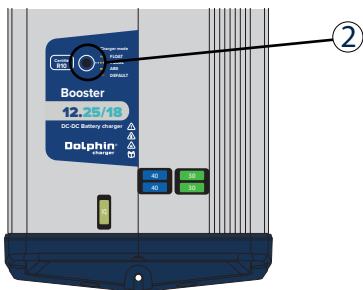
Position	Designation	Comment
	Open Lead	14,4 V - 13,2 V
	AGM	14,5 V - 13,6 V
	Gel	14,2 V - 13,6 V
	Lithium	14,2 V
	FRIDGE «absorption» type	
	FRIDGE «compression» type	
	Autonomous operation without D+	
	WORKS only with D+	

FUSES



Rep.	Fuses	Booster 12.25/18	Booster 12.40/18
③	output B2	2 x 30 A	3 x 30 A
④	output FRIDGE	30 A	2 x 25 A
⑤	input B1	25 A	25 A

LED DISPLAY



LED		Meaning
ABS	Fixed yellow	Current load (ABSORPTION mode)
EQUAL	Alternating yellow	Load in progress (EQUALIZE mode)
FLOAT	Fixed green	Load in progress (FLOATING mode)
	Alternating green	Load stopped (STAND-BY mode)
DEFAULT	Fixed red	Temperature default
	Alternating Red	Under or overvoltage default
	Off	Booster OFF

Using



WARNING

Caution, important risks of overheating of the batteries, and gaseous emissions harmful to health, in case of charging cycle not suitable for battery technology. In case of uncertainty, contact the battery manufacturer.

Operation with D+

If the D+ signal is used, the DC/DC booster operates automatically when the vehicle engine is running.

The auxiliary battery is then recharged when the main battery is full and the fridge is powered to produce cold.

Operation without D+ signal

The DC/DC booster works when the B1 battery is properly charged.

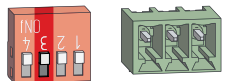
The auxiliary battery is then recharged when the main battery is full and the fridge is powered to produce cold.

Operation of the Fridge output

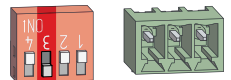
When the motor is running and/or the motor battery B1 is relatively charged, the Fridge output is directly powered by B1.

When the motor is stopped and/or the motor battery B1 relatively little charged, the fridge output is switched off or supplied by B2 according to the setting of Dipswitch N°3 :

- fridge output cut off in absorption position



- fridge output powered by B2 in compression position



TECHNICAL SPECIFICATIONS

	12V25/18A	12V25/18A smart	12V40/18A smart
Input			
Voltage tolerance	12-16V		
Performance	90%		
Max. consumption	40 A	40 A	60 A
Outputs			
Number of outputs	2		
Voltage programming	13V à 15V +/-1%		
Max. power	375 W	375 W	600 W
Charging programs	4 cycles : Lead, AGM, Gel, Lithium		
Max. current	25A +/-5%	25A +/-5%	40A +/-5%
Type of cycle	Multi-state, type IUoU		
Aux. output. Dipswitch Fridge position without D+ / with D+			
Max. current	18 A		
Control	Automatique via le signal ON/OFF (D+)	Manual or Automatic control via ON/OFF signal (D+)	
Protections			
Input B1	Under and overvoltage, polarity reversal		
Output B2	Overvoltage, short circuit, excessive t°, polarity reversal		
Fridge output	Fuse		
General			
Display	Multi-function LED		
t° of operation	-10°C to +50°C		
Humidity	90% max (non-condensing)		
Convection	Natural	Natural	Forced and thermostatically controlled
Weight	< 1,1 Kg		
Dimensions	200 x 142 x 72.5 mm		
Connections	Plug&play terminal block, 16mm ² max.		
Standards	Marking E2 according to regulation R10 19034		
External Interfaces			
Signal On/Off (D+)	Consumption < 0,25mA in Off mode		
Load selector	Dipswitch		
Reference	399230	399233	399235

TROUBLESHOOTING

Changing a fuse



ATTENTION

Before replacing a fuse, it is important to investigate the cause of the fuse blowout beforehand.

To check a fuse, the following procedure must be followed:

- Switch off the power supply.
- Disconnect the power connector
- Remove the fuse by gently pulling on it.
- Test the fuse with a multimeter.
- If necessary, replace the fuse with a new fuse of the same amperage.
- Insert the new fuse.
- Reconnect the power connector.
- Reconnect the power supply.
- Check that the system is working properly.

Other possible problems

Check the type of fault (see chapter «Front panel LED») and if necessary, contact the dealer to activate the service procedure.

WARRANTY

In order to avoid any risk due to misuse of the device, please read carefully the list of possible situations or defects not covered by the warranty :

- Disassembly and/or modification of the housing.
- Dismantling and/or modification of the power electronic board resulting in malfunction or damage to the booster.
- Mechanical shocks on the case.
- Overvoltages and/or abnormally high voltages on the power accesses.
- Obvious connection errors leading to malfunction and/or damage to the booster.
- Fuses removed or replaced by unsuitable products.
- Presence of water inside the appliance causing malfunction and/or damage to the booster.
- Charging cycle not suitable for battery technology, especially when the charging voltage is too high, risk of overheating and harmful gases.
- Charging of LITHIUM batteries without integrated BMS.

End of product life



This unit contains electronic and mechanical components that must be recycled once the unit is obsolete.



All electronic devices should be returned to a local distributor or specialized company for environmentally friendly disposal.

CE conformity



This product complies with current European standards and bears the CE mark. Please contact us for the certificate of conformity.