DC-DC CHARGERS

WHAT IS A DC-DC CHARGER?

A DC-DC charger is a device that takes power from a vehicle's alternator to charge an auxiliary battery.

A good DC-DC charger will:

- ensure a battery receives the correct level of charge
- ensure the battery reaches its maximum charge capacity
- be safe and fast.

HOW DOES IT WORK?

A DC-DC chargers takes power from the vehicle alternator while the vehicle is running and optimises the charging to get the best capacity of charge into the battery.

A good DC-DC charger will charge a battery using a 3-step multistage charging algorithm:

- **Bulk**: the primary charging stage where 80% of charging occurs using the maximum current.
- **Absorption**: the stage ensuring the battery voltage is kept at a pre-set level, reducing current to allow the battery to absorb power.
- **Float**: keeps the battery at an optimum level without overcharge or damage, so the battery can remain connected to the charger.

BMPRO's DC-DC chargers use the above multistage charging algorithm.

WHAT ABOUT SOLAR?

Some DC-DC chargers include a solar regulator. This means:

- solar can be connected directly to the charger to keep charging a battery even when the engine is off
- a customer doesn't have to buy individual solar regulators to add solar charging to their battery.

MINIBOOST

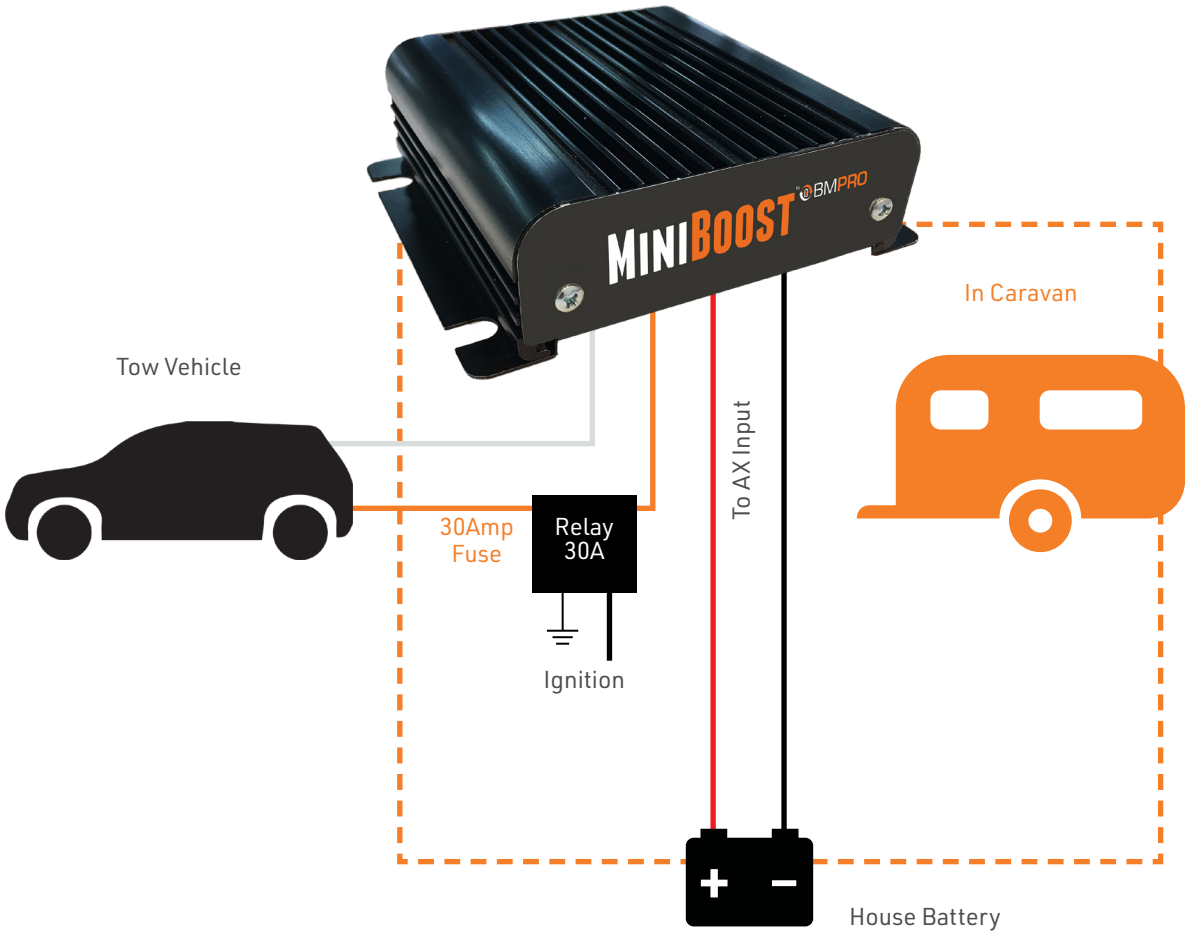
MINIBOOST OVERVIEW

- 20A output
- Compatible with lead acid batteries
- Specifically designed to work with BMPRO's J35 and BatteryPlus35
- Designed to work with smart alternators, if a smart alternator lowers the voltage the MiniBoost boosts it back up using a multistage charging algorithm
- Simple to install
- Will ensure battery is fully charged at the end of a long drive
- Cannot take advantage of solar charge
- Not designed to work with lithium batteries

MiniBoost DC-to-DC charger specially designed for RV market

MiniBoost product overview

MINIBOOST DIAGRAM



MINIBOOST FAQS

Can I connect the MiniBoost directly to the battery?

The MiniBoost can be connected directly to the battery, but all loads must be fused.

Can I use the MiniBoost with my solar panels?

The MiniBoost will not connect directly to a solar panel. If you want to use a solar input, you can use the MiniBoostPRO.

Will the MiniBoost still work if I don't have a J35 or a BP35?

The MiniBoost can serve on the auxiliary input to other battery management systems or can be directly connected to a battery. The MiniBoost will also work with a Genius and ST series, and may also work with with other charging systems.

I want to install the MiniBoost in the back of my four-wheel drive, not under the bonnet, is this okay?

This may be possible but you must protect the unit from dust and water ingress. The MiniBoost is not waterproof and has a thermal cut-out at 50°C.

Can I use the MiniBoost with several batteries installed in parallel?

The MiniBoost is capable of charging multiple batteries installed in parallel.

How do I connect the MiniBoost to a 12V lead acid battery?

The MiniBoost has four connections. Connect the orange wire to the BATT+ input, connect the white wire to BATT- input, connect the red wire to the BATT+ on the battery to be charged, and the black wire to the BATT-.

What are the main benefits of the MiniBoost's reverse voltage, short-circuit and reverse connection protection?

The protection is designed to protect the wiring.

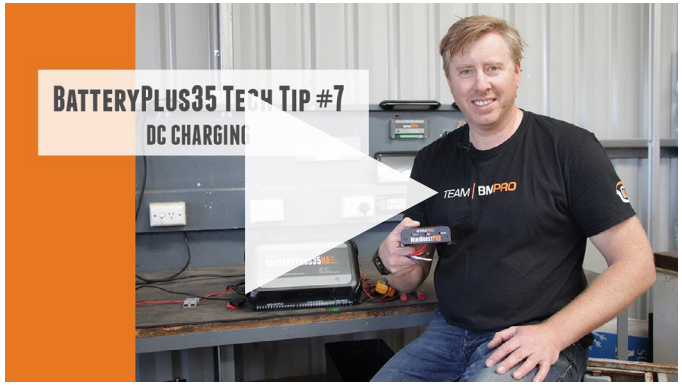
Can I use the MiniBoost with lithium batteries?

The MiniBoost is not designed to be used with lithium batteries. If you have lithium batteries, you can use the MiniBoostPRO.

MINIBOOSTPRO

MINIBOOSTPRO OVERVIEW

- Up to 30A output - 22A from auxiliary, or 30A from solar
- Can be used with auxiliary and solar together, blended up to 30A
- Compatible with lead acid and lithium batteries
- Supports solar up to 360W at 25V
- Specifically designed to work with BMPRO's J35 and BatteryPlus35
- Designed to work with smart alternators, if a smart alternator lowers the voltage and the MiniBoostPRO boosts it back up using a multistage charging algorithm
- Compatible with lithium batteries, contains a lithium charging profile allowing it to fully charge a lithium battery
- Features status indicator LEDs
- Simple to install
- Will ensure battery is fully charged at the end of a long drive



BatteryPlus35 TechTip 7 - DC Charging

MiniBoostPRO product overview

MINIBOOSTPRO DIAGRAM

MINIBOOSTPRO FAQS

Can I use the MiniBoostPRO inside my engine bay?

The MiniBoostPRO cannot be used inside an engine bay as it is rated to IP20.

Does the MiniBoostPRO connect to home solar panels?

The MiniBoostPRO will not connect if the voltage rating of your home solar panels is over 25V.

Can I run my appliances directly from MiniBoostPRO without any battery being connected to it?

The MiniBoostPRO works only when the battery is connected to the output. You can connect your appliances to a battery, but the MiniBoostPRO output will have to be connected at the same time.

Can I cut MiniBoostPRO leads shorter for practical wiring?

This is not recommended as this could degrade the MiniBoostPRO's functionality. Refer to the recommendation of a service centre.

MiniBoostPRO tech tips

MiniBoostPRO selling

MINIBOOSTPRO FAQS

Is the MiniBoostPRO's housing electrically isolated?

No, as this is due to the MiniBoostPro's housing being physically and electrically connected to the negative terminal. Always be cautious of accidental connections from the housing to the battery positive terminal.

Can I use the MiniBoostPRO with several batteries installed in parallel?

The MiniBoostPRO is capable of charging multiple batteries installed in parallel.

Do I need to connect the blue wire?

The blue wire is the ignition wire that detects if the ignition is on. This allows the MiniBoostPRO to only charge from auxiliary when the ignition is, preventing the MiniBoostPRO from draining your engine battery when the ignition is off.

What are the main benefits of the MiniBoostPRO's reverse voltage, short-circuit and reverse connection protection?

The protection is designed to protect the wiring.

The MiniBoostPRO is not showing any LED indicator, or is showing a flashing red fault indicator. What is wrong?

Follow the troubleshooting tips **on our website.**

Charging on the road: Why you need a DC-DC charger