

Motormate®

DC-DC Isolated Power Booster



PB-1108 / 1120 / 1130 / 1140

PB-2205 / 2210 / 2215 / 2220

INSTRUCTION MANUAL

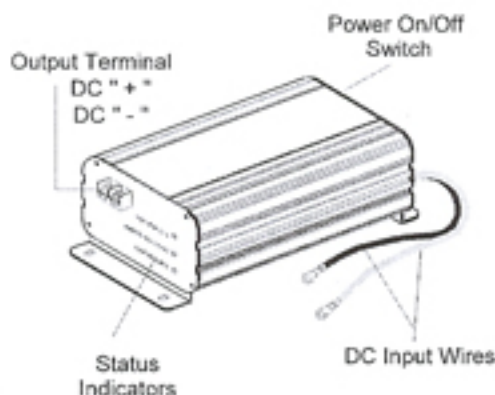
IMPORTANT INFORMATION

Thank you for purchase the DC-DC Power Booster. Please read this instruction manual carefully before using the device. Keep this manual in a safe place for future reference. This instruction manual is part of the product, it must be handed over along with the device if it is passing to the third parties.

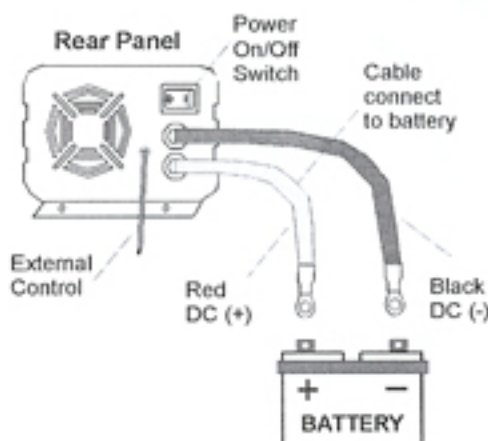
 Warranty will not apply where the device has been misused, altered, neglected, improperly installed, or physically damaged, either internally or externally or damaged from improper use or use in an unsuitable environment. We shall not be liable for damages, whether direct, incidental, special, or consequential, or economic loss even though caused by negligence or other fault.

If the device requires warranty service, please return it to the place of purchase along with a copy of the receipt with purchasing date.

Front View



BATTERY CONNECTION



CAUTION 
Ensure you connect up the battery with the correct polarity.

INTRODUCTION

This series of MOTORMATE compact DC - DC Isolated Power Booster using latest switch-mode technology are developed to meet the modern automobile applications. Galvanic isolated means you can connect to any loading without worrying about the interruption from input to the output. You can use this isolated power booster to charging batteries to extend the batteries life cycle. Single or Parallel operation gives you the great flexibility to expand the power whenever is needed.

Modern mobile electronic and computer base device are required a stable and clean voltage supply in order to keep the device working in its best performance. However, the 12VDC charger supply of the generator is unstable and will shorten the lifetime of the electronic device. This DC-DC isolated power booster is ideally to use on application where a stable and clean DC voltage is necessary. For example: Radios, CD system, Wireless Telephones system, Refrigeration systems, Lighting systems, Mobile computer and more....

The power booster is designed with overload and short circuit protection. It will automatically switches off the unit and re-start to operate if the overload or short circuit problem is removed.

For optimum performance, the power booster should be used in location that provides good ventilation. Keeps at least 5 CM of clearance around the converter for air flow.



CAUTIONS

- 1) Do not use the Power Booster near flammable material or in any location where may accumulate flammable fumes.
- 2) Do not allow water to drip or splash on the Booster.
- 3) Surface of the Booster is hot when in operating.

INDICATIONS & SWITCH CONTROLS

POWER ON	- Green LED, Booster Power ON
BATTERY LOW	- Yellow LED, Input Battery Low
OVERLOAD	- Red LED, Output Overload
SWITCH	- Power On / Off controls

INSTRUCTIONS AND NORMAL RESPONSE

1. Battery cables, Red (+) and Black (-) are provided for connecting to the battery. Be sure connect to battery with the correct polarity or the converter will be damaged.
2. Turn on the power on/off switch at the rear panel. The "Power On" LED will light up, indicates the input DC voltage is present and the regulated DC voltage is present at the output terminal. The Booster is in working condition and loads can be connected to the output terminal.
3. The yellow LED will light up if the input battery volt is low. The Booster will not operate if input DC voltage is too low.
4. The red LED will light up indicates the Booster is overloaded or the output is short circuit. The Booster will stop operate and will automatic re-start if excessive load is reduced and short circuit problem is removed.
5. The cooling fan is thermal controlled. It will auto start if the Booster inside temperature is high. It will then auto switch OFF if the temperature is down to normal.
6. The external control lead wire is used to connection for switching on with on-board voltage (e.g. ignition from the vehicle engine or external switch). Note: the booster power on/off switch must be switched Off when connecting the external control lead wire.



If you do not use the connection lead wire, insulate it to prevent malfunctions.

Technical Specifications

MODELS	PB-1108	PB-1120	PB-1130	PB-1140	PB-2205	PB-2210	PB-2215	PB-2220
INPUT AND OUTPUT								
Continuous Output Current	8A	20A	30A	40A	5A	10A	15A	20A
Input Voltage	10 ~ 16VDC				20 ~ 32VDC			
Output Voltage	13.8VDC				27.6VDC			
Line Regulation	20mV				40mV			
Efficiency	87%				87%			
Ripple & Noise	25mV RMS				25mV RMS			
Load regulation	30mV from no load to full load				30mV from no load to full load			
PROTECTIONS								
Ignition Protected	Yes				Yes			
Short Circuit Protected	Yes				Yes			
Overload Protected	Yes				Yes			
Overheat Protected	Yes				Yes			
FEATURES								
Allow parallel operation	Yes				Yes			
Suitable for battery charging	Yes				Yes			
Galvanic isolated	Yes, input is isolated from output				Yes, input is isolated from output			
Non-interference on TV	Yes				Yes			
PHYSICAL								
Input connection	Cable with terminal rings				Cable with terminal rings			
Output connection	Terminal block				Terminal block			
Display	Green - Power On, Yellow - Input Low, Red - Output Overload							
Cooling	Natural	Thermally control cooling fan			Natural	Thermally control cooling fan		
Operation temperature	-20°C to 50°C				-20°C to 50°C			
Case	Anodized aluminum case with mounting cover				Anodized aluminum case with mounting cover			
Weight (kg)	0.75	1.2	1.7	2.1	0.75	1.0	1.7	2.1
Size (mm) L x W x H	10 x 11.5 x 7	16 x 11.5 x 7	25 x 11.5 x 7	27 x 11.5 x 7	10 x 11.5 x 7	14 x 11.5 x 7	25 x 11.5 x 7	27 x 11.5 x 7

The operating instructions reflect the current technical specifications at the time of printing. We reserve the right to change the technical or physical specifications.