



CONVERTS 24 VOLT DC INTO 12 VOLT DC POWER

DC TO DC CONVERTER

SWITCHMODE



INSTRUCTION MANUAL

Please read user manual before use.



THIS PRODUCT IS SUITABLE FOR USING DC ELECTRICAL APPLIANCES.

1. DESCRIPTION

FIG 1

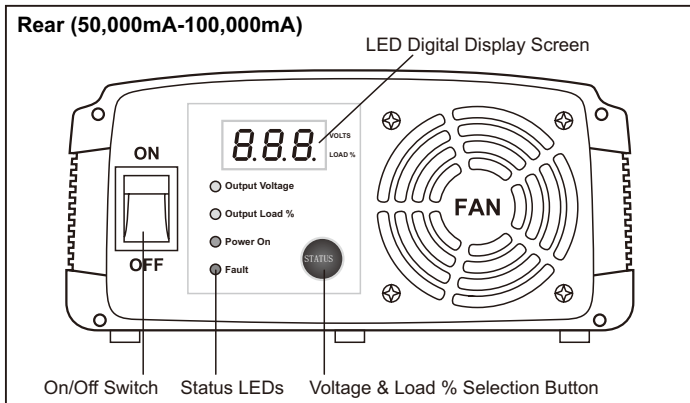
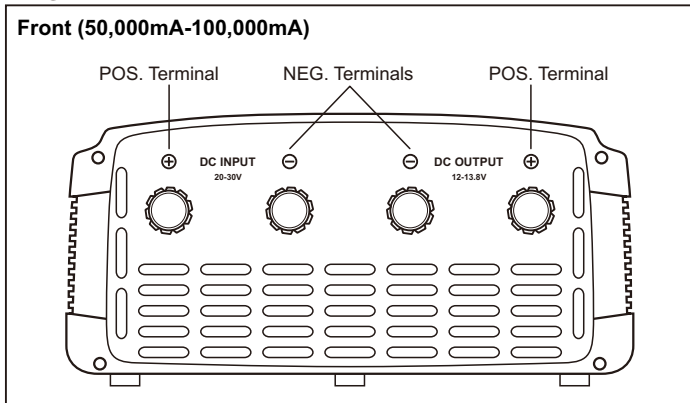


FIG 2



2. INDICATING SIGN

Model: PV2412-50 PV2412-60 PV2412-100

Green illuminated led: Power switch "on" converter standby.

Green unlighted: Power switch "off".

When red illuminated on: converter is at fault..

When the yellow lights on: indicating the converter's output voltage situation or output load in percentage.

Note:

When the converters turn on or turn off in each time, indicating acquiesce in a output voltage situation .

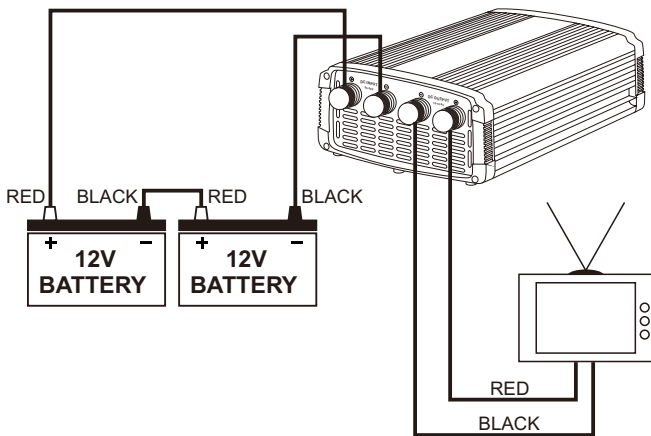
Led Digital Indicator Illustration

CONDITION	OUTPUT VOLTAGE LED	OUTPUT LOAD LED	POWER ON LED	FAULT LED	LED DIGITAL DISPLAY
Power Off	—	—	—	—	—
Power On	⊙	—	⊙	—	⊙
Input high voltage protection	—	—	—	☆	" HHH "
Input low voltage protection	—	—	—	☆	" LLL "
Output Polarity Reverse	—	—	—	⊙	" LOH "
Output Short Protection	—	—	—	⊙	" LOH "
Overload Protection	—	—	—	⊙	" LOH "
High Temperature Protection	—	—	—	☆	" FOH "

Note: ⊙: SOLID ☆: FLASH —: EXTINGUISH

3. CONNECTION

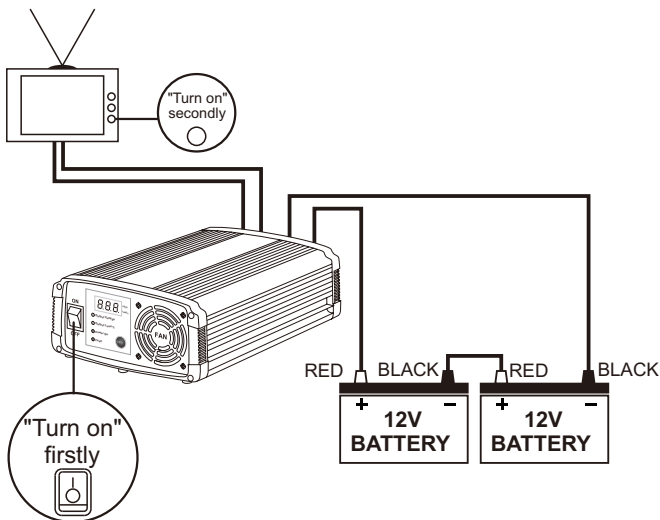
- Please verify if you have chosen the right operating voltage for both input and output.
- Connect the red cable from the "+" terminal (red terminal) of the battery to the + binding post (red connection) of the converter and the black cable from the "-" terminal (black terminal) of the battery to the "-" binding post (black connection) of the converter.
- Be sure to tighten the screws in order to avoid loose connection.
- **WARNING: DO NOT REVERSE INPUT AND OUTPUT**



4. OPERATION

- When connected to an appliance, remember to turn on the converter before turning on the appliance. If the buzzer sounds during operation, this indicates that the battery voltage is very low and the converter will be disconnected in 5 minutes.

Model: PV2412-50 PV2412-60 PV2412-100



- When connecting an electrical appliance to the converter, please make sure that the rating power of the appliance does not exceed the rating power of the converter.

5. OUTPUT CAPACITY

The converter will switch off automatically if the total wattage of the electrical appliances exceed the converter's output capacity. This will also happen if the temperature of the converter exceeds 65°C +/-10% due to prolonged use.

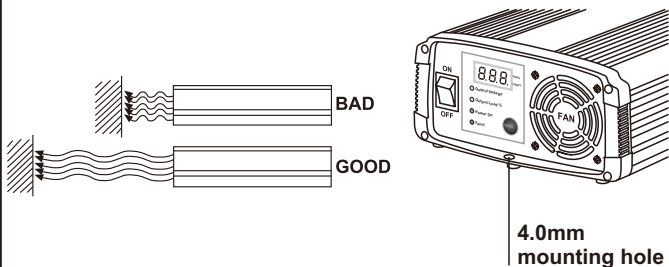
6. ADDING EXTENSION CORD

We recommend that the buyer refrain from using an extension cord between the DC power source and the converter's DC input. Connecting an extension cord to the DC input will create a voltage drop, entailing reduced efficiency and output.

7. MOUNTING INSTRUCTIONS

Converters are designed for indoor, out of weather use only. Ensure that both converter and battery are in a well-ventilated space during charging.

The converter end plates include a mounting flange for easy mounting. If permanently fixed, the converter should be mounted to a suitable horizontal or vertical panel, with at least 10cm clearance from the end plates to provide adequate ventilation for the cooling fan.



8. CAUTION

In case of trouble with the DC output, e.g. short-circuit, overload, etc... the protection circuit will automatically cut off the output.

In such cases, please

- (A) switch off the power at once
- (B) disconnect all units
- (C) check the connected devices
- (D) use the units again unless the problems concerning the connected devices have been solved

When in use for a prolonged period of time, the DC output may suddenly be cut off although the battery voltage is still very strong. This may be caused by excessive temperature.

If this happens. Please proceed as follows:

- (A) Switch off the converter at once
- (B) Disconnect some of the appliances or wait until the converter cools off
- (C) Switch the inverter back on

Always keep the converter in an environment which is:

- (A) Well-ventilated
- (B) Not exposed to direct sunlight or any other heat source
- (C) Inaccessible to children
- (D) Safe from water/moisture, oil or grease
- (E) Safe from any flammable substance

9. MAINTENANCE

Very little maintenance is required to keep your converter operating properly.

You should clean the exterior of the unit periodically with a damp cloth to prevent accumulation of dust and dirt. At the same time, tighten the screws on the DC input and DC output terminals.

10. NOTE

All specifications are typical at nominal line, half load, and 25°C unless otherwise noted. Specifications are subject to change without notice.

WARNING:

DO NOT DISASSEMBLE THE UNIT. HAZARDOUS VOLTAGE! DANGER!
PLEASE RETURN TO THE DEALER IF YOU FIND ANY PROBLEM WITH THE UNIT.

11. SUITABLE POWER SOURCE

- In order to operate the converter and supply power to an appliance, a suitable 24V DC power supply is required. This can be a vehicle or caravan battery, portable power pack or an independent 24V lead acid battery, For most applications, a deep cycle battery is recommended for best performance..
- The size of the battery used will determine how long the converter will supply power to an appliance and how well the converter will perform. Most batteries are marked with their size in Amp hours (AH) or Cold Cranking Amps.
- Because converter are capable of drawing high current, the converter should only be connected to a suitable size battery. Connection to an undersized battery could damage the battery and will result in the converter shutting down within a short period due to low battery voltage.
- The amount of power drawn from the battery is proportional to the converter load.

12. SPECIFICATION

P/No.	PV2412-50	PV2412-60	PV2412-100
Input Voltage	20-30V $\overline{=}$		
Output Voltage	12-13.8V $\overline{=}$		
Output Power Continuous	50Amp	60Amp	100Amp
Output Power Max	70Amp	80Amp	130Amp
Standby Current	$\leq 90\text{mA}$	$\leq 90\text{mA}$	$\leq 110\text{mA}$
Input Fuse	2x30A	2x40A	4x30A
Efficiency	85~90%		
Thermal Protection	65 C +/-5 C		
Connection Cable	10mm ² / 900mm	12mm ² / 900mm	20mm ² / 900mm
Fuse Location Input	Internal		
Cooling Fan	Automatic temperature controlled		
Input Polarity Reverse	Diode Protection		
Output Polarity Reverse	Circuit Protection		
Output Short	Circuit Protection		
Over Heating	Circuit Protection		
Over Load	Circuit Protection		
Dimension (L x W x H)	275x165x79mm	275x165x79mm	365x165x79mm
Weight	1.9Kg	1.9Kg	3.1Kg

* Specifications are subjected to change without prior notice.

WARNING:

To prevent fire shock hazard, do not expose this appliance to rain or moisture.

CAUTION:

ALWAYS PLACE THE CONVERTER IN AN ENVIRONMENT WHICH IS:

- (A) WELL VENTILATED.
- (B) NOT EXPOSED TO DIRECT SUNLIGHT OR HEAT SOURCE.
- (C) OUT OF REACH FROM CHILDREN.
- (D) AWAY FROM WATER/MOISTURE, OIL OR GREASE.
- (E) AWAY FROM ANY FLAMMABLE SUBSTANCE
- (F) SECURE AND NO RISK OF FALLING.

