

CIRCUIT-TEST

DC - DC Converter

PDC-6205

13.8VDC @ 5A

PDC-6207

13.8VDC @ 7A

PDC-6212

13.8VDC @ 12A

OPERATION MANUAL

Keep this manual in a safe place for quick reference at all times.

This manual contains important safety and operation instructions for correct use of the DC Converter. Read through the manual and pay special attention to the markings and labels of this unit and equipment to be connected.

Pay special attention to these two types of notices used in this manual

WARNING: Failure to observe this warning may cause injury to persons and damage to the DC converter or connected equipment.

CAUTION: Failure to observe this warning may result in damage to equipment and improper functioning of the DC Converter.

Caution

1. Do not use the unit for equipment which requires current input higher than the maximum specified value.
2. Do not use the unit for lamps or motorized equipment that requires high starting surge current.
3. Before replacing the internal input fuse, find out and clear the cause first. Only replace with fuse of the same type and rating.
4. Do not connect input voltage outside the specified input voltage range of 18 to 38VDC.
5. Never turn ON the unit when the load is set at full load even if the load current is within the range.
6. Always place the unit in well ventilated area as high heat is generated.
7. Never install the unit near heat sensitive material as the casing of unit can get as high as 60°C (140°F).
8. Never apply a voltage source higher than 13.8V without a proper diode to the output, otherwise unit may be damaged.
9. Although the unit has very low standby current, it is advisable to disconnect the DC input if the unit is not to be used.

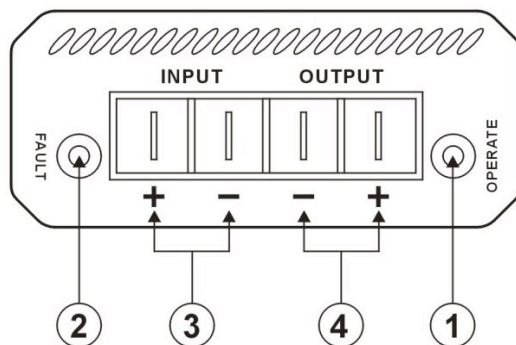
Introduction

PDC series DC converters offer regulated 13.8V DC power from 20-30VDC sources. It implements switching mode technology to generate less heat yet higher efficiency. Its advanced design and sturdy construction assures continue stability and reliability.

Features

1. **Overload Protection:** When the output current reaches the maximum limit, the overload circuitry is activated and the output voltage and current are reduced to protect the unit.
2. **Over Voltage Protection:** When the output voltage reaches the maximum limit, the over voltage protection is activated and the output voltage shuts down. For PDC-6205, internal input fuse will blow and all indicators will turn off. For PDC-6207 & 6212, protection is maintained even though output load is removed. The unit can be reset by disconnecting input for about 5-10 seconds.
3. **High RFI Stability:** The unit is designed with high protection circuitry against Radio Frequency interference.
4. **Operation and Fault status LED indicators.**
5. **Versatile clip-on mounting bracket for quick installation.**

Control Panel and Indicators



- 1 STATUS INDICATOR: GREEN LED indicates unit in Operation.
- 2 FAULT INDICATOR: RED LED lights indicating overload or short circuit.
- 3 INPUT TERMINALS
- 4 OUTPUT TERMINALS

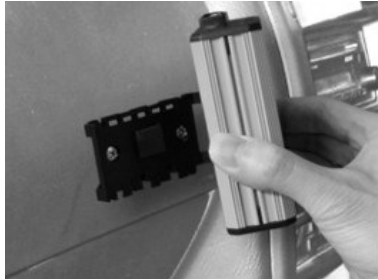
Specifications

Models	PDC-6205	PDC-6207	PDC-6212
Input Voltage Range	18VDC to 38VDC		
Output Voltage	13.8VDC		
Continuous Output Current	5A	7A	12A
Maximum Output Current at 30% Duty Cycle	7A	12A	16A
No Load Current	<20mA	<30mA	<50mA
Ripple & Noise (P-P)	<100mV		
Ripple & Noise (RMS)	<10mV		
Load Regulation	<50mV		
Line Regulation	<50mV		
Efficiency	>89%	>90%	>90%
Protections	OVP (Output Over Voltage Protection), Reverse Polarity, Overload, Short Circuit, Overvoltage Protection		
Indicators	Green LED-OPERATE and Red LED-FAULT		
Input and Output Connection type	Quick-Connect Terminals		
Cooling System	Natural Convection		
Max. Operating Temperature	50°C		
Internal Input Fuse (glass type)	8A	12A	20A
Dimension (WxHxD) mm	77x75x32	96x75x32	142x75x32
Weight	190g	230g	380g
Accessory	Mounting Bracket, Quick-connect crimp connectors, Screws		

Installation and Operation

1. Mount the clip-on mounting bracket with included machine screws and clip the unit onto the mounting bracket. Make sure it is pushed all the way in to the bracket.

Note: It is recommended to mount the unit horizontally.



2. Crimp the input and output cables with the included quick-connect crimp connectors. Use different colored cables for clear identification of the inputs, outputs & polarities.

Note: Recommended wire gauge sizes are at least 18 AWG for PDC-6205, 16 AWG for PDC-6207 and 14 AWG for PDC-6212.

3. Connect the input cable to input terminals watching the polarity carefully. The green LED should light up.
4. Turn OFF the output equipment and then make the connection to the output terminals making sure of the correct polarity.
5. Turn ON the equipment to be powered.

Trouble Shooting

1. None of the indicator LED is ON.
Check input source for open circuit and loss of earth. Remove the load to check if green LED is ON. If green LED is still not ON, check if input voltage level is within the range, check if polarity is correct, and check if battery level is normal. Unit will return to working condition once the fault has been corrected or removed.
2. Red LED is ON.
Remove the load to check if green LED is ON. If green LED is ON, the unit may be in overload or short circuit protection. Check the power requirement and the condition of the connected equipment which triggers the red LED. Loads like high power halogen/quartz lamps, motorized equipment that requires high surge starting current (which is many times over its rated current) will trigger the protection of the unit. They are not suitable for use with the unit.

CIRCUIT-TEST
ELECTRONICS

A Division of R.P. Electronic Components Ltd.

BURNABY, BC CANADA

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