

# **SWITCHING MODE DC-DC POWER CONVERTER**

**SDC-8170/8270**

## **USER'S MANUAL**

### **INTRODUCTION**

This series of DC-DC converters is designed to provide a regulated fixed output voltage from un-regulated, fluctuating DC input source.

It provides instantaneous step up and step down voltage conversion to keep the output at a stable, constant output voltage.

Input and output isolation.

Typical applications : DC power conditioning for control and instrumentation, telecommunication and other voltage sensitive electronic equipments, electronic devices such as TFT screens, audio and video equipments.

The high efficiency advanced switching mode circuit design makes convection cooling possible in a compact aluminum extruded casing.

The totally enclosed plastic end caps and sealed construction make this robust converter moisture, and dust proof. It can withstand the harsh and humid working environment.

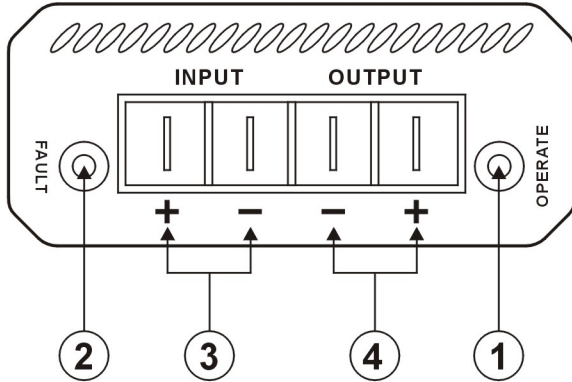
The plastic clip-on mounting system makes the installation easy even in a hard to reach tight spot.

### **FEATURES**

1. Step-up and Step-down DC voltage conversion
2. High efficiency switching mode design,
3. Input under & over voltage protection
4. Overload Protection: When the output current is being over the limitation, the overload circuitry is activated. The output voltage is reduced and current is kept in one constant value to protect the unit.
5. Over Voltage Protection: When the output terminal is over the set voltage output limit, the OVP is activated and the output voltage is shut down to protect the unit and your equipment.

6. High RFI Stability: The unit is designed for high protection circuitry against RFI (Radio Frequency Interference) provides a stable operation without affected by RFI.
7. Separate LED indicators for operation and fault status.

**FRONT PANEL AND REAR PANEL**



1. OPERATE INDICATOR (GREEN LED): Lights up when the unit is on.
2. FAULT INDICATOR: (RED LED)  
Lights up when fault occurs ,the unit may be under protected condition of overload or short circuit.
3. INPUT TERMINAL: 250 type Slip-On Tab
4. OUTPUT TERMINAL: 250 type Slip-On Tab

**CAUTION**

1. **DO NOT** use the unit for equipment which requires current input higher than the rated value regularly, otherwise unit may be damaged..
2. **DO NOT** use the unit for lamps or motorized equipment that require high starting surge current otherwise the unit may be damaged.
3. When the internal fuse (Input) is broken, check and sort out cause of fault before fuse replacement.  
Only replace with fuse of the same type and rating.
4. **DO NOT** connect input voltage outside the specified input voltage range of :  
10-16V(SDC-8170) /20-35V(SDC-8270) DC, otherwise the unit may be damaged.

5. Place the unit in a place of well air ventilation, heat is generated during operation.
6. **DO NOT** install unit near heat sensitive material as the casing of unit can get as high as 60°C.
7. Although the unit has very low standby current, it is advisable to disconnect the DC input if unit is not used for long time.

## **CONNECTION and OPERATION**

1. Mount the unit in a ventilated spot and horizontally whenever possible.
2. Crimp the input and output cables with 250 type slip-on receptacles .  
Use different colored cable to separate the input from output & polarity.  
Use gauge sizes are at least AWG#18 for SDC-8170/8270.
3. Connect the (+) Input Cable to positive terminal (+) and the (-) Input Cable to negative terminal (-) of the DC source firmly.  
The green LED should light up.
4. Turn OFF the output equipment and then make the connection to the output terminal making sure of the correct polarity.
5. Turn ON the equipment to be powered.

### **Trouble Shooting:**

- A.** 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 input voltage level is within range, check polarity is correct, and check battery level is normal or not.  
Unit will return to working condition once the fault has been corrected or removed.
- B.** Red LED is on  
Remove the load to check if green LED is on, if green LED is on, the unit may be in over- load, 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 on 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.

## SPECIFICATIONS

<b>Models</b>	<b>SDC-8170</b>	<b>SDC-8270</b>
<b>Input Voltage Range</b>	10Vdc to 16Vdc	20Vdc to 35Vdc
<b>Output Voltage</b>	13.5Vdc	27Vdc
<b>Continuous Output Current</b>	4.5A	3A
<b>Maximum Output Current (30 Min.)</b>	6A	4A
<b>No Load Current</b>	<120mA	
<b>Ripple &amp; Noise ( p-p )</b>	<50mV	
<b>Ripple &amp; Noise ( r.m.s.)</b>	10mV	
<b>Load Regulation</b>	10mV	
<b>Line Regulation</b>	10mV	
<b>Efficiency</b>	86% (90% typ.)	
<b>Protections</b>	Reverse Polarity, Overload, Short Circuit, Input under and Over voltage, Output Over Voltage and Over temperature	
<b>Indications</b>	Green LED-OPERATE and Red LED-FAULT	
<b>Input &amp; Output Connection type</b>	Push in Slip on Connectors	
<b>Cooling Method</b>	Natural Convection	
<b>Max. Operating Temperature</b>	40°C	
<b>Input Fuse ( glass type )</b>	10A	
<b>Approval Type</b>	E8	
<b>Dimension ( WxHxD ) mm</b>	77x75x32	
<b>Weight</b>	250g	
<b>Standard Accessory</b>	Clip on Mounting bracket set and screws, Slip on push in type receptacles.	

**7673-8170-0000**  
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