

3.2 Temperature Compensated Current Limit

As the temperature of the main switching MOSFET increases, the value of the current limit decreases.

3.3 Over Voltage on the Output Side

If the output voltage increases beyond 16.5 V \pm 0.5 V, a crowbar circuit will activate and blow the internal input side fuse (5, Fig 1.1) / external input side fuse F1 (Fig 4.1) will blow.

3.4 Over Voltage / Transients on the Input Side

The input side is protected against over voltage and transients through a Transient Voltage Suppressor. In case the input voltage exceeds 37 VDC, the internal input side fuse (5, Fig 1.1) / external input side fuse F1 (Fig 4.1) will blow.

3.5 Reversal of Polarity on the Input Side

In case the input side polarity is reversed, the internal input side fuse (5, Fig 1.1) / external input side fuse F1 (Fig 4.1) will blow.

4 INSTALLATION & OPERATION

4.1 General Installation Requirements

- This unit is cooled by convection. Install the unit in a cool, dry & well ventilated space. The ambient temperature should not exceed 40°C.
- Do not install the unit inside the engine compartment
- Do not connect / disconnect input and output connections when live voltages are present

4.2 Installation Diagram

Installation information is given at Fig 4.1 below:

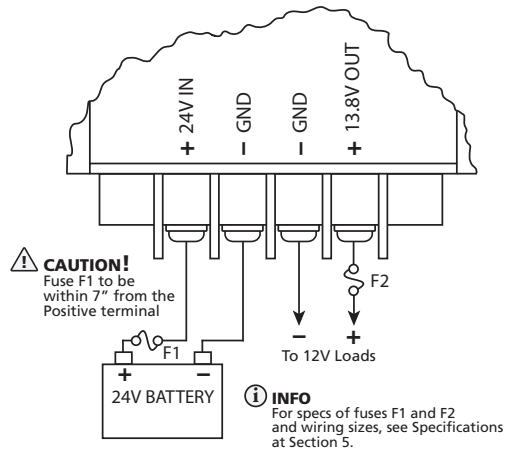


Fig 4.1 Installation Diagram

4.3 Making Input & Output Connections & Operation



CAUTION!

1. Please ensure that the polarity of the input connection is not reversed. Connect the Positive of the battery to the Positive terminal and the Negative of the battery to the Negative. In case the input polarity is reversed, internal input side fuse (5, Fig 1.1) / external input side fuse F1 (Fig 4.1) will blow.
2. Input and output connections should not be made when live voltages are present.

- Switch off the load that is required to be powered from the converter
- Connect the output wires to the load and then to the output side of the unit through the external fuse F2 (Fig 4.1). Observe correct polarity.

- Remove the external input side fuse F1 (Fig 4.1) in the Positive input wire.
- Connect the input side wires to the converter's input side first. **OBSERVE CORRECT POLARITY.**
- Connect the input wires to the battery.
- Insert the external input side fuse F1 (Fig 4.1) in the Positive input wire. **NOTE:** A spark may be observed when inserting the fuse due to the initial inrush current to charge the input side capacitors inside the converter.
- Output voltage will now be available on the output side of the unit.
- Switch on the load.

5. SPECIFICATIONS

MODEL NO.	SDC-15	SDC-23
⚠ CAUTION! There is no isolation between the input and the output sides. Input and output have common Negative.		
OUTPUT		
OUTPUT VOLTAGE	13.8 VDC \pm 0.1V @ 12A	13.8 VDC \pm 0.1V @ 20A
CONTINUOUS OUTPUT CURRENT	12A	20A
PEAK OUTPUT CURRENT	15A	23A
CURRENT LIMIT	16 \pm 0.5A	24 \pm 0.5A
LOAD REGULATION	> 0.5%	< 0.5
INPUT		
INPUT VOLTAGE	20 - 35 VDC	20 - 35 VDC
INPUT CURRENT AT NO LOAD	< 150mA	< 150mA
LINE REGULATION	< 0.5%	< 0.5%
EFFICIENCY (At maximum output)	> 88%	> 88%
RIPPLE	< 10 mV P-P @ 12A	< 50 mV P-P @ 20A
NOISE	< 40 mV P-P @ 12A	< 120 mV P-P @ 20A
FUSES		
INTERNAL INPUT FUSE (inside the fuse holder)	10A, 250V (Bussmann AGC-10 or equivalent)	15A, 250V (Bussmann AGC-15 or equivalent)
EXTERNAL INPUT FUSE (At the battery end - Not supplied)	10A, 32V (Automotive blade type: ATO/ATC)	15A, 32V (Automotive blade type: ATO/ATC)
EXTERNAL OUTPUT FUSE (not supplied)	15A, 32V (Automotive blade type: ATO/ATC)	20A, 32V (Automotive blade type: ATO/ATC)
PROTECTIONS		
OUTPUT OVERLOAD / SHORT CIRCUIT	<ul style="list-style-type: none"> • Output current will be limited to 16 \pm 0.5A • Output voltage will drop 	<ul style="list-style-type: none"> • Output current will be limited to 24 \pm 0.5A • Output voltage will drop
INPUT OVER VOLTAGE	Input side fuse(s) will blow at > 37 VDC	Input side fuse(s) will blow at > 37 VDC
OUTPUT OVER VOLTAGE	Input side fuse(s) will blow at > 16.5 \pm 0.5 VDC	Input side fuse(s) will blow at > 16.5 \pm 0.5 VDC
REVERSE POLARITY ON INPUT SIDE	Input side fuse(s) will blow	Input side fuse(s) will blow
WIRES		
INPUT WIRE SIZE	#12 AWG	#10 AWG
OUTPUT WIRE SIZE	#10 AWG	#8 AWG
ENVIRONMENT		
OPERATING ENVIRONMENT	Indoor use	Indoor use
OPERATING TEMPERATURE RANGE	0 - 40°C / 32 - 104°F	0 - 40°C / 32 - 104°F
DIMENSIONS		
(W X D X H), MM	198 x 122 x 60	198 x 122 x 60
(W X D X H), INCHES	7.8 x 4.8 x 2.4	7.8 x 4.8 x 2.4
WEIGHT		
KG	0.9	1.0
LBS	2.0	2.2

NOTES:

1. All power ratings are specified for resistive load at Power Factor = 1.
2. All specifications given above are at ambient temperature of 25°C / 77°F.
3. Specifications are subject to change without notice