



A Benny Lee Company

# PRODUCT USER GUIDE

## DCDC-500-48-12

### Rack Mount DCDC Converter

### Owners Guide

*(These instructions are intended for use by a technician familiar with electronic products)*

- 2000VAC I/O isolation
- DC input active surge current limiting
- Thermostat control forced air cooling
- Short circuit / over load / over temperature protection
- 3 year warranty



### DESCRIPTION

The DCDC-500-48-12 is a DC-to-DC converter that is capable for 500 watts of power. It has isolated inputs and outputs, so it can be used in positive ground installations. The fan is thermostat controlled to protect against heat damage. The input voltage range has a minimum of 19 VDC and a max VDC of 72. All of the DCDC-500 models come equipped with three layers of protection short circuit, over load, and over temperature protection.

### SPECIFICATIONS

Input Voltage Range .....	19-72 VDC
Input Current .....	24.0 Amps
Output Voltage to Load .....	12.0 VDC
Output Current .....	40 Amps Max
Line Regulation .....	+/- 0.5%
Max inrush current, single cycle .....	60 Amps
Efficiency .....	89%
Working Temperature range .....	-20 C to +60 C
Storage Temperature .....	-40 - 185 F (-40 - +85 C)
Size .....	4.75" D x 19" W x 3.5" H
Weight .....	4.5 Lbs

### INSTALLATION WARNING

The individual user should take care to determine, prior to use or installation, whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, DuraComm makes no representation or warranty as to the merchantability, suitability or fitness of these units for any specific application.

**DO NOT** block any of the cooling vents on the sides and always allow adequate ventilation by not installing the unit inside tightly closed spaces. Physical mounting position is not critical but the cooling vents must not be blocked. Make certain the input voltage is the correct voltage BEFORE applying DC power.

## **CONDUCTOR PRETREATMENT**

All kinds of copper conductors can be clamped without treatment. DO NOT solder tin stranded conductors. The solder yields and fractures under high pressure. The result is increased contact resistance and excessive temperature rise. Additionally, corrosion has been observed due to the fluxes. Notch fractures at the transition from the rigid tinned part to the flexible conductors are also possible. Ferrules can be used as a protection when wiring stranded conductors. Copper ferrules prevent the current transfer from being influenced by dissimilar metals and remove the risk of corrosion. Always use the correct tool to crimp the ferrule.

## **RECOMMENDED COPPER WIRE SIZE FOR CURRENT CAPACITY**

**Recommended Copper Wire Size for Current Capacity**  
*(Insulated Wire, Single Conductor in free air)*

<b><u>Current Level in Amperes</u></b>	<b><u>Wire Size</u></b>
<i>&lt;7 AMPERES</i>	<i>20 AWG Up to 5 feet 18 AWG Up to 10 feet</i>
<i>14 AMPERES</i>	<i>18 AWG Up to 5 feet 16 AWG Up to 10 feet</i>
<i>20 AMPERES</i>	<i>16 AWG Up to 5 feet 14 AWG Up to 10 feet</i>
<i>30 AMPERES</i>	<i>14 AWG Up to 5 feet 12 AWG Up to 10 feet</i>
<i>40 AMPERES</i>	<i>12 AWG Up to 5 feet 10 AWG Up to 10 feet</i>
<i>50 AMPERES</i>	<i>10 AWG Up to 5 feet 8 AWG Up to 10 feet</i>
<i>70 AMPERES</i>	<i>8 AWG Up to 5 feet 6 AWG Up to 10 feet</i>
<i>100 AMPERES</i>	<i>6 AWG Up to 5 feet 4 AWG Up to 10 feet</i>

## **LIMITED WARRANTY**

*DuraComm warrants to the initial end user, each power supply manufactured by DuraComm to be free from defects in material and workmanship, when in normal use and service for a period of three years from the date of purchase, from an authorized DuraComm dealer.*

*Should a product manufactured by DuraComm fail or malfunction due to manufacturing defect, or faulty component, DuraComm, at its option, will repair or replace the faulty product or parts thereof, which, after examination by DuraComm, prove to be defective or not operational according to specifications in effect at the time of sale to the initial end user. The product that is replaced or repaired under the provisions of this warranty, will be warranted for the remainder of the original warranty period, only, and will not extend into a new three year warranty period.*

*The limited warranty does not extend to any DuraComm product which has been subject to misuse, accidental damage, neglect, incorrect wiring not associated with manufacture, improper charging voltages, or any product which has had the serial number removed, altered, defaced, or changed in any way.*

*DuraComm reserves the right to change, alter, or improve the specifications of its products at any time, and by so doing, incurs no obligation to install or retrofit any such changes or improvements in or on products manufactured prior to inclusion of such changes.*

*DuraComm requires any product needing in or out of warranty service to be returned to DuraComm. All requests for warranty service must be accompanied by proof of purchase, such as bill of sale with purchase date identified. DuraComm is not responsible for any expenses or payments incurred for the removal of the product from its place of use, transportation or shipping expenses to the place of repair, or return expenses of a repaired or replacement product to its place of use.*

*The implied warranties which the law imposes on the sale of this product are expressly LIMITED, in duration, to the three (3) year time period specified herein. DuraComm will not be liable for damages, consequential or otherwise, resulting from the use and operation of this product, or from the breach of this LIMITED WARRANTY.*

*Some states do not allow limitations on the duration of the implied warranty or exclusions or limitations of incidental or consequential damages, so said limitations or exclusions may not apply to you. This warranty gives you specific legal rights which vary from state to state.*

*This warranty is given in lieu of all other warranties, whether expressed, implied, or by law. All other warranties, including WITHOUT LIMITATION, warranties of merchantability and fitness or suitability for a particular purpose, are specifically excluded. DuraComm reserves the right to change or modify its warranty and service programs without prior notice.*

## **DuraComm® Corporation**

6655 Troost Avenue  
Kansas City, MO 64131  
Phone (816) 472-5544 Fax (816) 472-0959  
[www.duracomm.com](http://www.duracomm.com)