

## EH-30

# 30 Amp Environmentally Hardened Desk Top Power Supply Owners Guide

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

- Extreme operating temp (-30 C to + 60 C)
- Universal AC/DC input
- Built in Battery Backup/Charging Circuit
- Parallel function capability
- Built in Power Factor Correction
- RoHS Compliant
- 3 year warranty



## DESCRIPTION

The Environmentally Hardened EH-30 desktop power supply is UL&CUL recognized and manufactured to ISO 9001 quality assurance standards. These power supplies convert AC to DC output into low noise and ripple, regulated 13.8 volt DC output for channel 1 and 13.4 Volt DC for channel 2. The EH-30 has a built in battery backup and charging circuit with diode isolation for seamless transfer to battery if input power is disrupted. Once input power is restored the EH-30 will automatically recharge the battery with 0.5 amps of trickle charging.

The EH-30 contains a parallel circuit which provides for connection to another EH-30 for load sharing. It also contains active Power Factor Correction for energy savings.

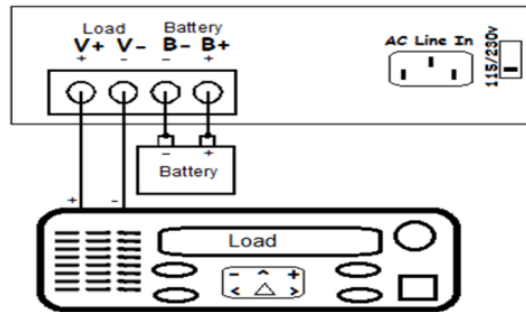
## SPECIFICATIONS

AC Input Voltage .....	90 to 264 VAC / 127 to 370 VDC Auto ranging
DC Output Voltage .....	Ch 1 = 13.8 VDC, Ch 2 = 13.4 VDC
Output Ripple .....	25 mV P-P @ full load
Related Current (max.) .....	Ch 1 = 30.0 Amps, Ch 2 = 0.5 Amps
Duty Cycle .....	Continuous = 100% Industry Continuous Comm. Service (CCS)
Over Voltage .....	17V max. Shutdown, re-power on to recover
Overload .....	105 to 107% (CH 1) Rated Output Hiccup Mode – Auto Recover
Over Temperature .....	+100 C Shut down, Auto Recover
Load Regulation .....	4.0% No load to full load
Line Regulation .....	0.5 %
Inrush Current (max.) .....	30A/115VAC, 45A/230VAC
AC Current .....	6A/115VAC, 3A/230VAC
Rated Power.....	414 Watts
Cooling .....	Forced air, Fan on = +45 C
Working Temperature* .....	-22 F to +140 F (-30 C to +60 C)
(Derate) .....	2.5% for every 1 C over 50 C
Efficiency.....	80 % typical
Safety .....	UL 60950-1 UL/CUL recognized
Quality Assurance .....	ISO 9001 standards
Size .....	2.875"H x 7.0"W x 8.25"D (73mm H x 178mm W x 210mm D)
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. Refer to Figure 1 for the following instructions.

1. **LOAD-** Connect your 12-volt DC device using UL wiring to the EH-30 terminal output marked Load (-) and Load (+). Be certain to connect Positive (+) to Positive (red) and Negative (-) to Negative (black). If two EH-30s are used in parallel then connect wires to each terminal as shown.
2. **BATTERY-** Connect your 12-volt DC battery using UL wiring to the EH-30 terminal marked Battery (+) and Battery (-). Be certain to connect Positive (+) to Positive (red) and Negative (-) to Negative (black). If two EH-30s are used in parallel then connect the batteries as shown. Note: It is not recommended to connect 2 or more batteries in series as this will delay charging time and if one battery fails it may cause other to malfunction.
3. **PARALLEL –** Two EH-30s may be connected for parallel operation. Be certain to connect the terminal marked parallel to the terminal marked parallel. Note: The EH-30 is factory pre-set to 13.8 VDC output. If output is re-set, make sure other EH-30 used in parallel is set to same voltage.



*Figure 1: Connecting Battery and load to EH-30*

**OPERATION:** Insert Power cord into an outlet of the proper voltage.

Press the ON/OFF (- / O) switch to the "ON" (-) position and observe if indicator light on front of unit illuminates. If the indicator fails to light, re-check the equipment installation.

**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.

## **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**

*(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.*

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