

DuraComm[®]

RM-3624 / RM-3624M Power Supply

User's Guide

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

GENERAL SPECIFICATIONS:

Output Voltage	24.0 V
Output Adjustment Range.....	23-29 VDC
Output Voltage Tolerance	+/- 1 pct
Output Amperage, maximum continuous.....	27 A
Maximum Output Amperage	Single Surge 36 A
Maximum Power, continuous	750 Watts
Output Voltage Adjustment	+10 pct, -15 pct
Maximum Ripple and Noise	150 mV p-p max, 10 mV RMS typical
Input Voltage Range	90-130 or 180-280 VAC
Input Frequency Range.....	47-63 Hz
Maximum AC Current.....	12 A/120 VAC; 6 A/240 VAC
Typical Efficiency	80 pct
Max Inrush Current, single cycle.....	35 A
Short Circuit Protection	Foldback Limiting
Overload Protection (operates)	typical 110-120 pct
Line Regulation	50 mV
Load Regulation.....	100 mV (20-100 pct load)
Fan Control	Heat sink temp >140 F (60 C) = ON
Over Temperature	>195 F (90 C) auto output shutdown
Rise Time following ON.....	50 mS
Hold Time following OFF.....	10 mS
Working Temperature Range.....	32 - 125 F (0 - +50 C)
Storage Temperature	0 - 185 F (-20 - +85 C)
Withstand Voltage*	1.5 KV @ 10 ma(I/P-O/P, I/P-FG)/1 min
(Continued)	500 V @ 10 ma(O/P-FG)/1 min
Dimensions	7.0H x 19W x 7.5D inches, nominal
Weight.....	10 lbs, nominal

*Input MOVs ZNR 4 & 5 removed

GENERAL APPLICATION NOTES

The RM-series is constructed using SM-series modules. Input and output connections of the SM-series are via a 9 place screw type barrier terminal strip.

Connection Labels and Meaning / Use. Starting from the left:

L.....	Line Input in 120 VAC systems or A leg in 240 VAC
N	System Neutral in 120 VAC systems or B leg in 240 VAC
FG	Chassis or frame ground (system safety ground)
NC.....	No Connection
P.....	Parallel Connection feed back, unit to unit load share
-V	Negative Output terminals
+V	Positive Output terminals
V ADJ.....	Output Voltage Adjustment
Green LED.....	Output Indicator LED

WARNINGS

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.

The precision regulated power supplies operate internally from voltages in excess of 12/24/48 volts. In rare cases, voltage spikes or transients on the AC power line, or over heating, may cause a component failure in the power supply. Overloading the output will

cause the over current feature to operate. In either case, the cause must be determined and corrected. Failures require investigation as to cause and/or repair of the unit.

THERE ARE NO USER SERVICEABLE PARTS INSIDE. HAZARDOUS VOLTAGES EXIST INSIDE THE UNIT. SERVICE AND REPAIR MUST BE REFERRED TO QUALIFIED FACTORY PERSONNEL.

INSTALLER NOTES

The outputs are NOT referenced to the chassis. The Modular System can be used either positive or negative ground. Using the provided short jumper, run the jumper from the FG terminal to the -V or +V terminal, as desired.

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 and the thermostatically controlled cooling fan must not be blocked.

Make certain the input voltage switch is set to the correct voltage BEFORE applying AC power to the module(s).

METER CIRCUITS for meter equipped units

The panel meter is switched to provide DC output voltage measurement and individual output load current measurement for each individual module.

When set to the VOLT position, the full scale reading is 15 or 30 volts.

When set to the AMP position, the full scale reading is 30 amps.

The meter and associated circuitry accuracy is 10 percent of full scale deflection. Since full scale is 30 amps, a 20 amp current can vary from 17 to 23 amp indicated. To prevent unnecessary output voltage drops, the meter circuits use the voltage drop of the parallel black #16 AWG negative return to the module as a 50 mV shunt. The parallel #16 AWG wires provide a nominal 50 mV drop at 30 amps. The panel meter sensitivity is 50 mV for full scale.

The wire wound resistor is used as the meter multiplier for voltage measurement. The meter sensitivity for voltage measurement is 10 ohms per volt.

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 is 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.

BATTERY BACK-UP INSTALLATIONS

DuraComm has a battery backup accessory, Model RMBB and RMBC, for the RM-series of power supplies. The RMBB and RMBC mounts directly to the rear panel of the RM-series and provides auto-change to battery power. Model RMBC provides a trickle charge to the battery. Do NOT connect a lead-acid battery directly across the 13.8 VDC output. This will over-charge the battery resulting out-gassing and loss of electrolyte and failure of the battery.

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 one year 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 one 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 one (1) 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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