QUICK START GUIDE

KEPCO An ISO 9001 Company.

RKE

SINGLE OUTPUT
1500W POWER SUPPLIES

I — INTRODUCTION

SCOPE OF MANUAL. This Quick Start Guide covers the installation and operation of the Kepco RKE 1500W Series of PFC (Power Factor Corrected), RoHS (Reduction of Hazardous Substances) compliant, programmable switching power supplies. Full specifications are listed in the applicable Operator's Manual that can be downloaded from the Kepco web site:

- www.kepcopower.com/support/opmanls.htm#rke

DESCRIPTION. The Kepco RKE 1500W Series consists of three models of switching power supplies, each with a single output of 24V, 36V or 48V as shown in Table 1. Units may be operated with a nominal 100V a-c to 240V a-c (input voltage range 85 to 265 Va-c), 50-60 Hz (input frequency range 47-66Hz). Overvoltage protection and an isolated remote TTL ON-OFF control are provided. An LED "output voltage ON" light and an output voltage adjust trimmer are visible below the control terminals (left side of the case). Units are manufactured on a steel frame with a steel cover.

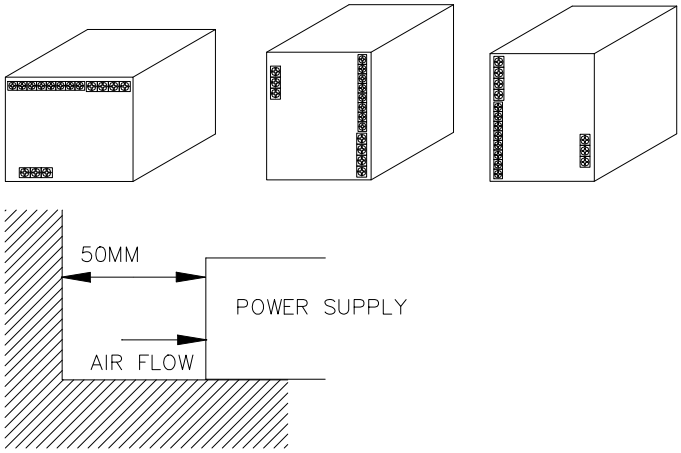
TABLE 1. RKE MODELS

MODELS	24V	36V	48V
1500W	RKE 24-50K	RKE 36-42K	RKE 48-32K

II — INSTALLATION

MOUNTING THE POWER SUPPLY: The unit may be mounted on one mounting surface as shown in Figure 1. Maximum penetration of mounting screws (M4) is 0.24 in (6 mm) from case. The air surrounding the power supply must not exceed the ambient temperature values given in the graph in Figure 4.

CONNECTIONS: Figure 2 shows proper connection of one or more loads. AC input power is applied via the terminal block (see Figure 3). Make sure to connect the AC input Neutral, Line and Ground wires to the respective terminals of the terminal block,



NOTE:
INSTALL POWER SUPPLY IN WELL—VENTILATED AREA WITH FAN AT LEAST 50MM FROM OTHER EQUIPMENT.
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FIGURE 1. POWER SUPPLY MOUNTING DIRECTION

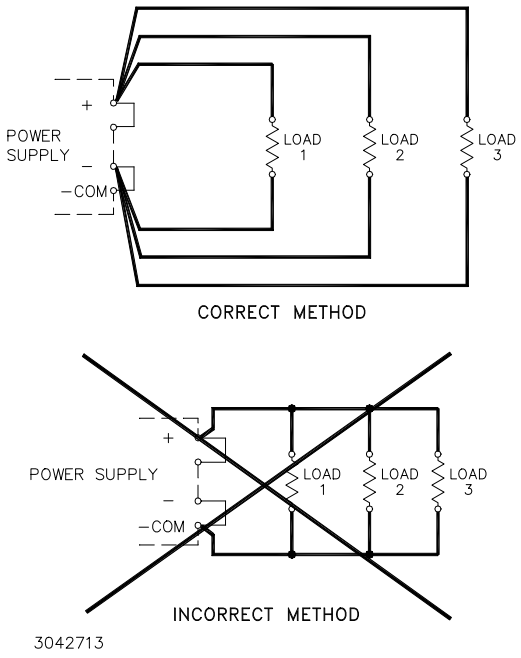

FIGURE 2. LOAD CONNECTIONS

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III — OPERATION

When output voltage is available, the green LED is on. The Output Voltage Adjust trimmer (see Figure 3) allows adjustment of the output voltage.

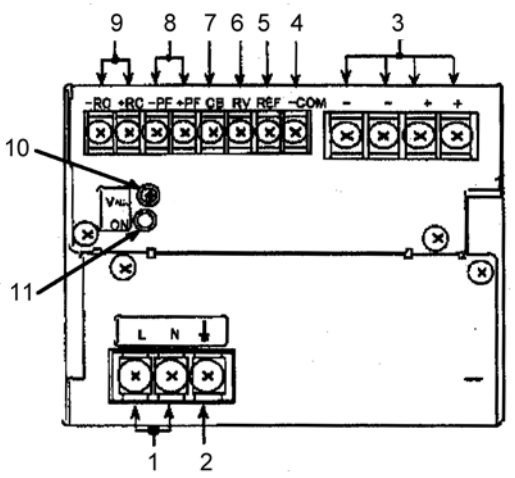
REMOTE ON-OFF CONTROL When remote ON/OFF is not in use, ±RC terminals must be shorted (use shorting link supplied) for unit to operate. Remove short across ±RC and apply "high," 2.4V to 24V (or open), across ±RC to turn output voltage OFF. Apply "low," 0.0V to 0.4V (or short) across ±RC to turn output voltage ON. Source current is 1.6mA maximum for low level logic, and sink current is 1.0 mA maximum at high level. The ±RC terminals are isolated from the a-c input terminal and the DC output terminals.

REMOTE VOLTAGE PROGRAMMING In addition to the integral trimmer, output voltage can also be adjusted via an external variable resistance or external variable d-c voltage. Refer to the Operator's Manual for details.

PARALLEL OR SERIES OPERATION Power Supplies can be connected in parallel (with or without N+1 redundancy) for increased current or in series for increased voltage. Refer to Operator's Manual for details.

PRELIMINARY ELECTRICAL CHECK To verify power supply functionality, refer to Operator Manual for details.

PROTECTION AND ALARMS Refer to Operator manual for details regarding overvoltage, overtemperature, current limit/overcurrent, fan failure and undervoltage protection and the Power Fail alarm signal.



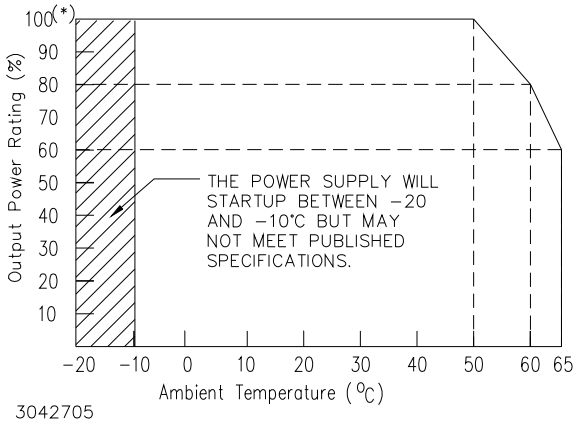
NOTE Unit is shipped with shorting link)s (not shown) connecting +RC to –RC and REF to RV.

LEGEND:

1. **AC input terminals (L, N):** Connect to AC, 100 to 240V, input line.
2. **Frame Ground (earth) terminal:** Connect to earth ground. This terminal is connected to the case.
3. **DC output terminals (+, -)**: Connect to load (see Figure 2).
4. **Signal Common (-COM):** Provides return for REF and RV signals
5. **Reference Voltage (REF):** Using the REF terminal (together with the RV terminal), all the output voltages of slave power supplies can be controlled by one voltage adjustment of a master power supply (normally it is shorted with a metal shorting link to the RV terminal).
6. **Output Voltage Adjust (RV):** This terminal (together with the REF terminal) is used for remotely controlling output voltage.
7. **Current Balance (CB):** This terminal is used when several power supplies are connected in parallel.
8. **Power failure (+PF, -PF):** These terminals output an open logic signal if output voltage drops to 80% or lower of a set voltage (5V or lower for 36V model), or if output voltage is shut down due to overvoltage or current limit protection, fan speed failure, or overheating.
9. **Remote ON-OFF (+RC, -RC):** Output is turned ON-OFF by opening-shorting the RC terminals (output OFF when open). RC terminals are isolated from input and output terminals. Normally, ±RC terminals are shorted with a metal shorting link.
10. **Output voltage adjustment trimmer (V.ADJ):** Adjusts output voltage.
11. **Output ON indicator:** This green LED lights when output voltage is more than 80% of the programmed voltage.

FIGURE 3. CONTROLS, INDICATORS AND TERMINAL LOCATIONS

POWER RATING VS. TEMPERATURE



POWER RATING VS. INPUT VOLTAGE

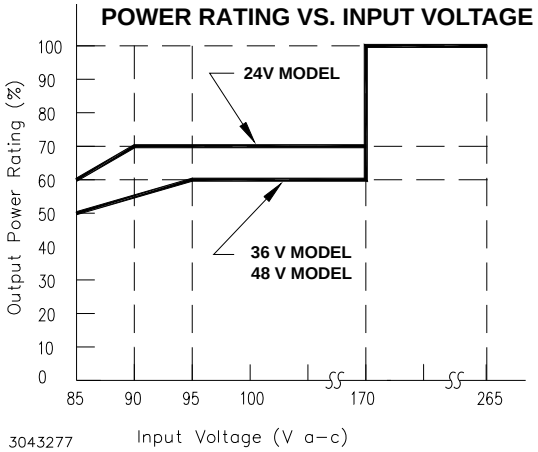


FIGURE 4. POWER RATING VS. TEMPERATURE AND INPUT VOLTAGE