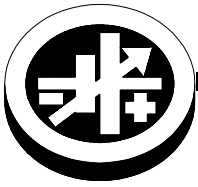


INSTRUCTION MANUAL



KEPCO An ISO 9001 Company.



KEPCO 15 WATT HIGH FREQUENCY SWITCHING POWER SUPPLIES

I — INTRODUCTION

The Kepco FAK 15 Watt Series low profile high frequency switching power supplies employ flyback conversion and operate at 70% efficiency with either a-c or d-c input. A thermistor soft-start circuit limits start-up surge. Surface mount technology permits efficient compact topology for minimum mounting space. Four models may be selected for outputs of 5, 12, 15 or 24V. A green "POWER OK" light is provided. A steel cover (Model CA 21) is available as an option. Output voltage may be adjusted with a trimmer accessible near the input-output terminal strip. When the input is cut off, the output is maintained for 20–30 milliseconds (30 milliseconds typical). EMI filtering meets FCC Class B rating. Table 1 contains specifications for each model of the FAK 15 Watt Series. Environmental specifications for each model are the same.

II — SPECIFICATIONS

The following specifications apply to FAK 15 Watt Series models.

TABLE 1. OUTPUT RATINGS AND SPECIFICATIONS, FAK 15W SERIES

MODEL		FAK 5-3K	FAK 12-1.3K	FAK 15-1K	FAK 24-0.7K
OUTPUT VOLTS, d-c (NOMINAL)		5.0V	12.0V	15.0V	24.0V
ADJUSTMENT RANGE		4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V
OUTPUT CURRENT (NOMINAL)		3.0A	1.3A	1.0A	0.7A
OUTPUT POWER (MAXIMUM)		15.0W	15.6W	15.0W	16.8W
RIPPLE AND NOISE (mV p-p) 0-50°C 10-100% LOAD	source (typ)	10	10	10	10
	source (max)	30	30	30	30
	switching (typ)	30	30	30	30
	switching (max)	60	70	70	80
	spike noise (d-c—50MHz)	120	190	220	310
OVERCURRENT SETTING 25°C, NOM. INPUT		3.3-5.0A	1.4-2.3A	1.1-2.0A	0.8-1.4A

INPUT:

Voltage: 115V a-c nominal; Range 85-132V a-c; 110-170V d-c.
 Frequency: Nominal 50-60 Hz; Range 47-440Hz (at 440Hz leakage current exceeds UL safety spec. limit).
 Current: 0.28A typ., 0.35A max. (nominal output at rated load @25° C).
 Initial Turn-on Surge: 22A max. (one-half of first input cycle).

STABILIZATION:

Source Effect: 0.6% typ.; 2.0% max. from minimum to maximum input.
 Load Effect: 1.2% typ.; 3.0% max. (range: 10%-100% load).
 Temperature Effect: 0.6% typ.; 2.0% max. (range: 0° to 50°C).
 Combined Effect: ±1.0% typ.; ±3.0% max. (includes source, load, and temperature effects).
 Drift: 0.1% typ.; 0.5% max. (1/2 hr—8 hr at 25°C).

RECOVERY CHARACTERISTICS: A step load change from 50% to 100% produces less than ±4% output excursion. Recovery occurs to within ±1% of the original setting in <1 ms (t_r or t_f equal to or greater than 50µsec at load change).

START-UP TIME: 100 ms. maximum.

HOLD-UP TIME: 30 ms. typ. (20 ms. min).

DIELECTRIC STRENGTH:

Between input and output: 2KV a-c for one minute.
 Between input and ground terminals: 2KV a-c for one minute.

LEAKAGE CURRENT (UL method, 115V a-c, 50-60Hz): 0.5 mA maximum.

SAFETY: UL 478 recognized; CSA 1402 certified.

EMI: Designed to meet FCC 20780. Class B.

VIBRATION: (non-operating, one hour on each one of the three axes):

5-10 Hz, 10 mm amplitude.
 10-55 Hz, 2g acceleration.

SHOCK: (non-operating, one-half sinusoidal pulse, three shocks to each axis):

Acceleration: 20g
 Duration: 11ms ±5ms

OPERATING TEMPERATURE: See Figure 1.

STORAGE TEMPERATURE: -40°C to +75°C.

OPERATING AND STORAGE RELATIVE HUMIDITY: 20%–95% (non-condensing).

FUSE: Medium acting 2A, 125V; (5.2 x 20mm), Nagasawa P/N GHS2A-HL; Kepco P/N 541-0107.

WARRANTY: 1 year.

KEPCO, INC. ● 131-38 SANFORD AVENUE ● FLUSHING, NY. 11352 U.S.A. ● TEL (718) 461-7000 ● FAX (718) 767-1102

<http://www.kepcopower.com> ● email: hq@kepcopower.com

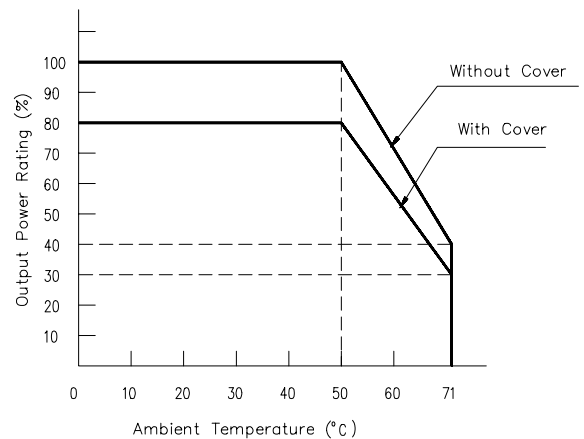
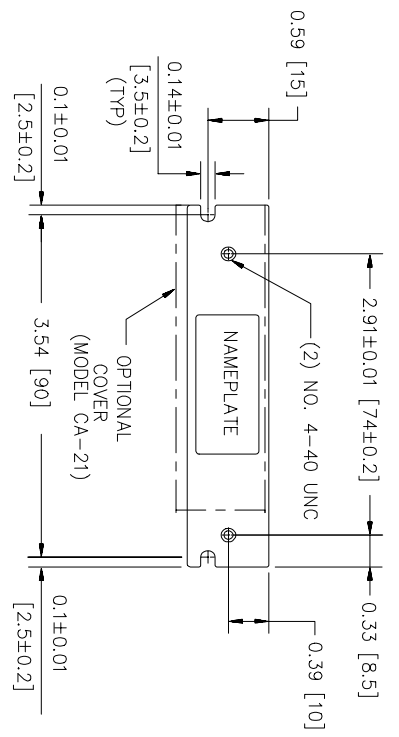
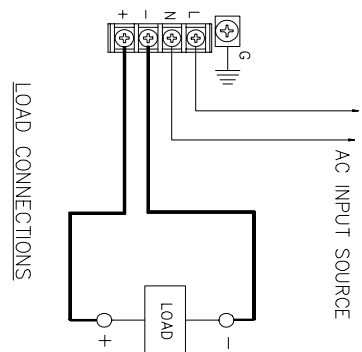
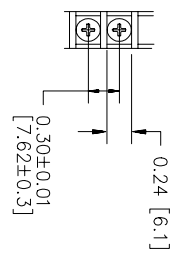


FIGURE 1. OUTPUT POWER VS. AMBIENT TEMPERATURE

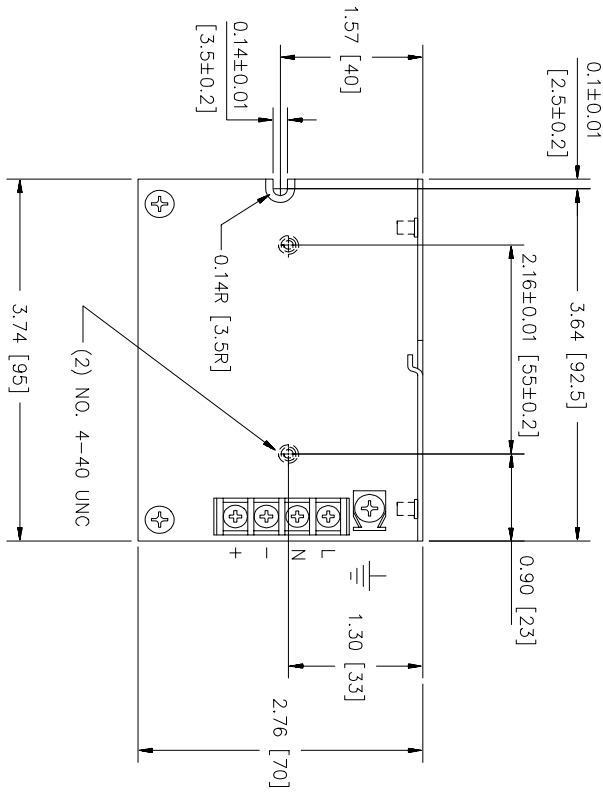


DETAILED DRAWING OF

TERMINAL BLOCK

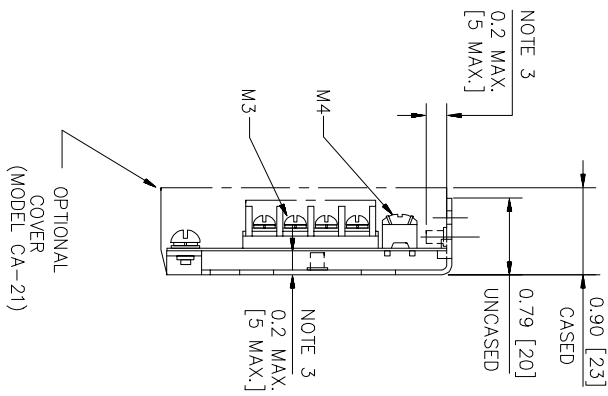


LOAD CONNECTIONS

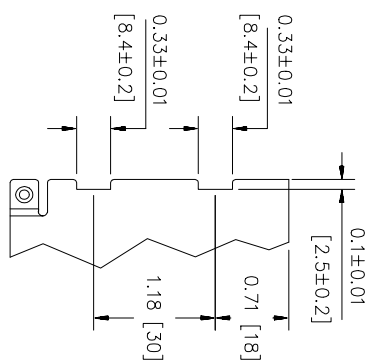


NOTES:

1. DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS, OTHERS IN INCHES.
2. TOLERANCES: ±.04 (±1) EXCEPT AS NOTED.
3. MAXIMUM MOUNTING SCREW PENETRATION: 0.2 (5).



PARTIAL BOTTOM VIEW



MECHANICAL OUTLINE DRAWING