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Test & Measurement

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Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

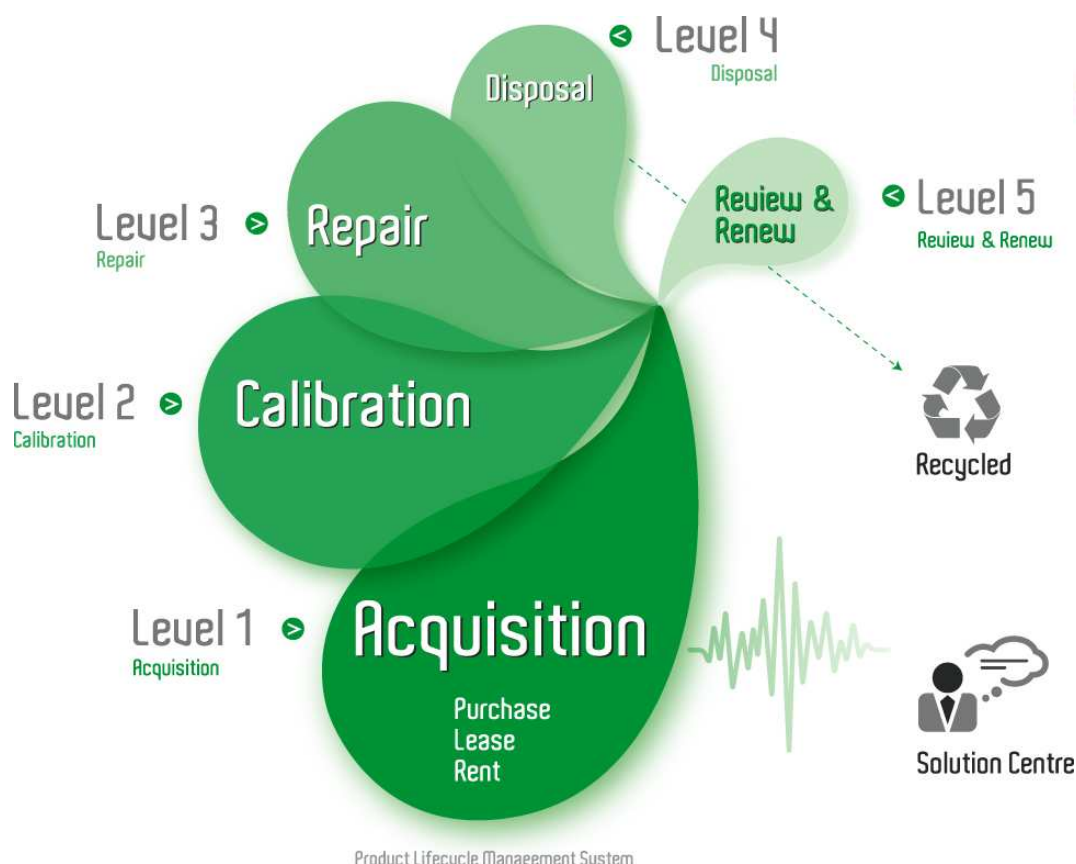
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FEATURED PRODUCT - SERIES ERD



DIN-RAIL MOUNTABLE

The Family of ERD Models

ERD MODEL TABLE (-24, 24V Input; -48, 48V Input)

MODEL	OUTPUT VOLTAGE		OVP SETTING	OUTPUT CURRENT			CURRENT LIMIT	RIPPLE		NOISE (SPIKE)	EFFICIENCY
	Volts		Volts	Amps			Amps	mV		mV	Percent
	Factory set, (1)	Adjustment range	Nom input 25°C	50°C	60°C	71°C	25°C Nom input rectangular fixed	Nom input max load p-p typ max	d-c to 50MHz	Nom input max load typ	
30 WATT MODELS											
ERD 5-6-24 ERD 5-6-48	5	4.0~5.5	6.0~6.9	6.0	4.2	2.4	6.6~7.1	30	50	100	77%
ERD 12-2.5-24 ERD 12-2.5-48	12	8.4~13.2	13.7~15.7	2.5	1.8	1.0	2.8~3.1	50	80	170	
ERD 15-2-24 ERD 15-2-48	15	12.0~16.5	17.0~19.5	2.0	1.4	0.8	2.3~2.6	50	80	200	
ERD 24-1.3-24 ERD 24-1.3-48	24	16.8~26.4	27.0~30.5	1.3	0.9	0.5	1.5~1.8	50	100	290	
ERD 48-0.6-24 ERD 48-0.6-48	48	32.6~52.8	55.0~63.0	0.6	0.4	0.2	0.7~1.0	60	150	530	
60 WATT MODELS											
ERD 5-12-24 ERD 5-12-48	5	4.0~5.5	6.0~6.9	12.0	8.4	4.8	13.2~13.8	30	50	100	24V input: 79% 48V input: 82%
ERD 12-5-24 ERD 12-5-48	12	8.4~13.2	13.7~15.7	5.0	3.5	2.0	5.6~6.0	50	80	170	
ERD 15-4-24 ERD 15-4-48	15	12.0~16.5	17.0~19.5	4.0	2.8	1.6	4.5~4.9	50	80	200	
ERD 24-2.5-24 ERD 24-2.5-48	24	16.8~26.4	27.0~30.5	2.5	1.8	1.0	2.8~3.1	50	100	290	
ERD 48-1.2-24 ERD 48-1.2-48	48	32.6~52.8	55.0~63.0	1.2	0.8	0.5	1.4~1.7	60	150	530	
150 WATT MODELS											
ERD 5-30-24 ERD 5-30-48	5	4.0~5.5	6.0~6.9	30.0	21.0	12.0	33.0~35.0	30	50	100	24V input: 79% 48V input: 81%
ERD 12-12-24 ERD 12-12-48	12	8.4~13.2	13.7~15.7	12.0	8.4	4.8	13.4~14.4	50	80	170	
ERD 15-10-24 ERD 15-10-48	15	12.0~16.5	17.0~19.5	10.0	7.0	4.0	11.2~12.0	50	80	200	
ERD 24-6-24 ERD 24-6-48	24	16.8~26.4	27.0~30.5	6.0	4.2	2.4	6.8~7.3	50	100	290	
ERD 48-2.8-24 ERD 48-2.8-48	48	32.6~52.8	55.0~63.0	2.8	2.0	1.1	3.3~3.6	60	150	530	

(1) Nominal input, maximum load, 25°C

These are d-c to d-c converters operating at 300KHz. High frequency switching, plus extensive use of custom hybrid microcircuits with surface mount components, allows for low-profile mounting. The microcircuits afford high reliability by contributing to low parts count. The ERD are true transformer isolated power supplies whose output polarity is independent of the input. Available sizes: 30W, 60W, and 150W.

FEATURES

- “Power-OK” LED.
- Remote on/off: TTL compatible signal applied to the optically isolated “RC” terminals.
- Remote error sensing: Compensates for voltage drops up to 0.4V per wire (0.25V in 5V model).
- Adjustable voltage: Internal trimmer accessible through the case allows manual adjustment of the voltage setting.
- Remote voltage control: Provision is made for an external resistor to trim the output voltage setting.
- Overvoltage protection: Power is shut off if output voltage is forced beyond the set limit.
- Rectangular current limiting so you can drive non-linear loads.
- Built-in EMI filter meets conducted noise standard of MIL-STD 461B.
- Safety: All models recognized by UL, certified by CSA and are certified to meet the MIL STD 810D Environment.
- Connections: Input and output connections are via screw terminal barrier strip.



ERD can be individually installed or may be combined into a custom power assembly for multi-output requirements. Please see pages 131-135 for details on Kepco's Power Assembly Program.



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ERD GENERAL SPECIFICATIONS

SPECIFICATION	RATING/DESCRIPTION	CONDITION
Temperature	0-71°C (see model table)	Operating
	-40°C to +75°C	Storage
Humidity	95% RH	Non-condensing operating and storage
Shock	20g, 3 axes (11msec ±5msec pulse duration)	Non-operating 3 shocks each axis
Vibration	5-10Hz: 10mm amplitude, 3 axes	Non-operating 1 hour each axis
	10-55Hz: 2g, 3 axes	
Isolation	Output to case	500V d-c, 100MΩ
Withstand Voltage	Input to output	2KV a-c for 1 minute
	Input to case	2KV a-c for 1 minute
Safety	UL 478 recognized; CSA C22.2-154 certified	
Type of Construction	PC card, enclosed	
Enclosure	Aluminum	
Cooling	Convection	Vertical installation
	Use moving air (5 CFM), or derate by 20%	Horizontal installation

ERD INPUT CHARACTERISTICS

SPECIFICATION	30 WATT MODELS		60 WATT MODELS		150 WATT MODELS		CONDITION
	24V	48V	24V	48V	24V	48V	
Voltage Range	20-30 V	40-56 V	20-30 V	40-56 V	20-30 V	40-56 V	
Current	typ	1.6A	0.8A	3.3A	1.6A	8.0A	Nominal input voltage 50°C power rating
	max	1.8A	0.9A	3.5A	1.7A	8.5A	
	max	2.2A	1.1A	4.3A	2.1A	10.5A	Minimum input voltage, 50°C power rating
	max	0.15A	0.1A	0.15A	0.1A	0.15A	
Fuse Value	max	4.0A	2.5A	6.3A	4.0A	15.0A	Nominal input voltage, no load
EMI	Meets conducted noise standard of MIL-STD 461B						Method CEO3 broadband
Circuit Type	Forward converter						
Switching Frequency	300KHz (1)						Nominal input, rated load

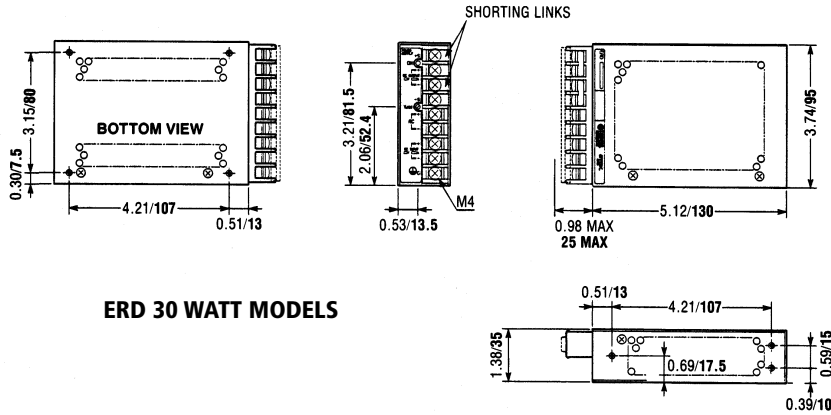
(1) 24V 150W models: 220KHz

ERD OUTPUT CHARACTERISTICS

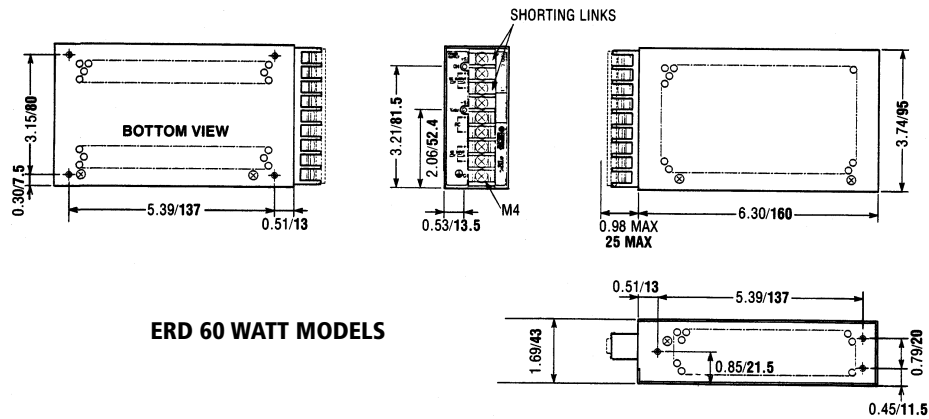
SPECIFICATION	TYP	MAX	CONDITION
Source Effect	0.2%	0.8%	Minimum to maximum input
Load Effect	0.3%	1.0%	10% to 100% load
Temperature Effect	0.3%	1.0%	Nominal input maximum load, 0-50°C
Combined Effect, Source Load & Temperature	0.6%	2.0%	
Time Effect (drift)	0.1%	0.5%	0.5-8.5 hr maximum load, 25°C
Recovery Characteristics	Excursion	<4.0%	Nom input, 25°C; step load change from 50% to 100% of rated load.
	Recovery within ±1%	<1msec	

OUTLINE DIMENSIONAL DRAWINGS

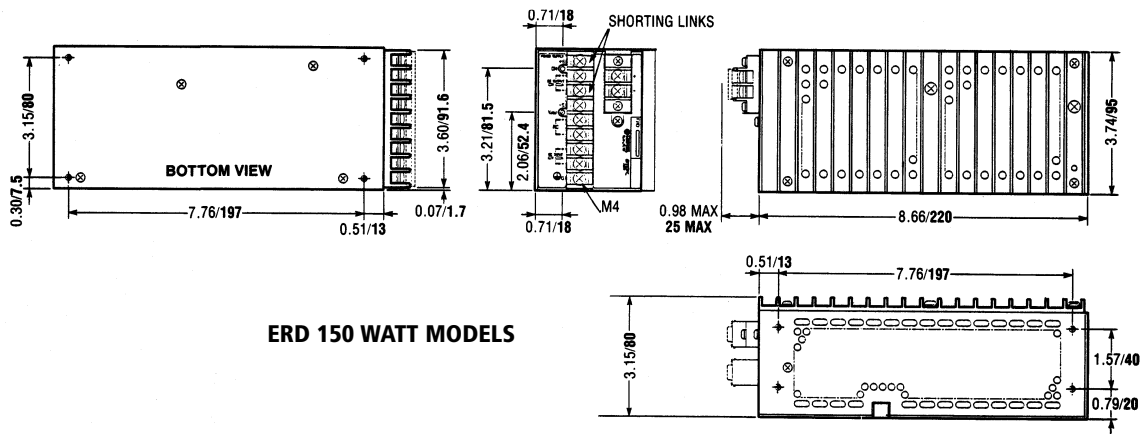
Fractional dimensions in light face type are in inches, **dimensions in bold face type are in millimeters.**



ERD 30 WATT MODELS



ERD 60 WATT MODELS



ERD 150 WATT MODELS

DIMENSIONS

- 30W** inches — 1.38 x 3.74 x 5.12⁽¹⁾
mm — 35 x 95 x 130
- 60W** inches — 1.69 x 3.74 x 6.3⁽¹⁾
mm — 43 x 95 x 160
- 150W** inches — 3.15 x 3.74 x 8.66⁽¹⁾
mm — 80 x 95 x 220

NET WEIGHT

- 30W** 0.9lbs, 0.40Kg
- 60W** 1.2lbs, 0.55Kg
- 150W** 2.6lbs, 1.20Kg

Tolerances: 0.028" (0.7mm) between mounting holes, 0.04" (1.0mm) other dimensions.

Mounting:

30W & 60W: 8-32 tapped holes — (4) bottom, (3) each side; maximum screw penetration 0.24" (6mm).

150W: 8-32 tapped holes — (4) bottom, (4) each side; maximum screw penetration 0.24" (6mm).

(1) Excluding barrier strip.