JQE Power Supplies

JQE MODEL TABLE

MODEL	d-c OUTPUT RANGE VOLTS	AMPS	OUTPUT IMPEDANCE VOLTAGE MODE SERIES R	SERIES L(1)	CURRENT MODE SHUNT R	SHUNT C(2)	MAX. INPUT AMPS at 125V a-c
QUARTER-RACK							
JQE 6-10M	0-6	0-10	30μΩ	1μH	50kΩ	3kμF	2.0
JQE 15-6M	0-15	0-6	125μΩ	1μH	84kΩ	1kμF	2.1
JQE 25-4M	0-25	0-4	300μΩ	1μH	125kΩ	700μF	2.2
JQE 36-3M	0-36	0-3	600μΩ	1μH	165kΩ	400μF	2.2
JQE 55-2M	0-55	0-2	1.4mΩ	1μH	250kΩ	220μF	2.3
JQE 75-1.5M	0-75	0-1.5	2.5mΩ	1μH	330kΩ	160μF	2.3
JQE 100-1M	0-100	0-1	5mΩ	2μH	500kΩ	110μF	2.1
HALF-RACK							
JQE 6-22M	0-6	0-22	14μΩ	0.5μH	23kΩ	5.8kμF	4.2
JQE 6-45M	0-6	0-45	7μΩ	0.5μH	11kΩ	8kμF	9.0
JQE 15-12M	0-15	0-12	63μΩ	0.5μH	42kΩ	2.7kμF	4.0
JQE 15-25M	0-15	0-25	30μΩ	0.5μH	20kΩ	4.5kμF	8.4
JQE 25-10M	0-25	0-10	125μΩ	0.5μH	50kΩ	2.4kμF	5.3
JQE 25-20M	0-25	0-20	63μΩ	0.5μH	25kΩ	4.3kμF	10.5
JQE 36-8M	0-36	0-8	225μΩ	0.5μH	62.5kΩ	1.4kμF	6.0
JQE 36-15M	0-36	0-15	120μΩ	0.5μH	33kΩ	3.6kμF	9.5
JQE 55-5M	0-55	0-5	550μΩ	1μH	100kΩ	850μF	5.0
JQE 55-10M	0-55	0-10	275μΩ	1μH	50kΩ	2.1kμF	9.0
JQE 75-3M	0-75	0-3	1.25mΩ	1μH	165kΩ	850μF	4.0
JQE 75-8M	0-75	0-8	469μΩ	1μH	62.5kΩ	1.2kμF	10.0
JQE 100-2.5M	0-100	0-2.5	2mΩ	1μH	200kΩ	600μF	4.5
JQE 100-5M	0-100	0-5	1.25mΩ	1μH	100kΩ	600μF	8.4
JQE 150-1.5M	0-150	0-1.5	5mΩ	2μH	330kΩ	440μF	4.6
JQE 150-3.5M	0-150	0-3.5	2.2mΩ	2μH	140kΩ	440μF	8.7
FULL-RACK							
JQE 6-90M	0-6	0-90	3.5μΩ	0.5μH	3.5kΩ	17.6kμF	15.7
JQE 15-50M	0-15	0-50	15μΩ	0.5μH	10kΩ	12kμF	16.6
JQE 25-40M	0-25	0-40	31μΩ	0.5μH	12.5kΩ	14kμF	21.0
JQE 36-30M	0-36	0-30	60μΩ	0.5μH	16kΩ	11kμF	19.0
JQE 55-20M	0-55	0-20	138μΩ	1μH	25kΩ	7.3kμF	18.0
JQE 75-15M	0-75	0-15	250μΩ	1μH	33kΩ	4.2kμF	18.0
JQE 100-10M	0-100	0-10	0.62mΩ	1μH	50kΩ	2.2kμF	17.0
JQE 150-7M	0-150	0-7	1.1mΩ	2μH	72kΩ	1kμF	18.0

(1) For determining dynamic impedance in voltage mode.
(2) For determining dynamic impedance in current mode.

Series JQE power supplies are systems-type voltage stabilizers with current limiting. They are available in a variety of ratings: 100 watts in a 1/4-rack package, 250-500 watts in a 1/2-rack package, and 1000 watts in a full-rack package.

The tabulation of the effective series resistance and inductance in voltage mode and the effective shunt resistance and shunt capacitance in current mode, is done to allow a calculation of the output impedance versus frequency.

FEATURES

- 10 turn voltage control for exceptional resolution.
- Analog output control by resistance: 1000Ω/Volt; or by a voltage delivering 0-1mA.
- Digital listen only control using SN-series digital interfaces.
- Current limited, front panel control (not programmable) 10%-105% I_o max.
- JQE can control current with an external current-sense resistor.

This KEPCO product is backed by a firm **5-YEAR WARRANTY**

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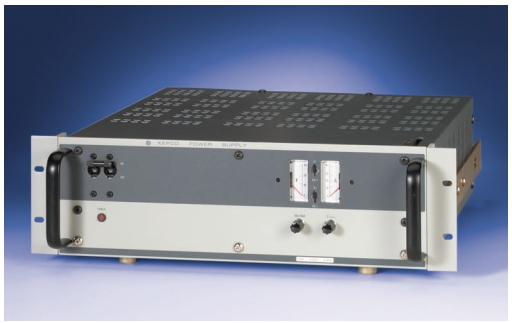
Model JQE 25-4M Quarter Rack

Model JQE 100-2.5M Half Rack



Model JQE 25-40M Full Rack

CE JQE are CE marked per the Low Voltage Directive (LVD), EN61010-1.

JQE GENERAL SPECIFICATIONS

SPECIFICATION	RATING/DESCRIPTION	CONDITION
INPUT		
a-c Voltage	105-125, 210-250V a-c	User selectable
Current	See model table	Max load, 115V a-c
Frequency	47-65Hz	Range
OUTPUT		
d-c Output	Series pass	Transistor
Type of Stabilizer	Voltage stabilizer	Current limited
Voltage	0 to 100% of rating	Adjustment range for temp 0-71°C
Current	0 to 100% of rating	
Error Sense	0.5V per load wire	Static voltage allowance
Isolation Voltage	500V d-c or peak	Output to ground
Leakage Current	<5 microamperes	rms at 115V a-c
Output to Ground	<50 microamperes	p-p at 115V a-c
Series Connection	500V	Max voltage off ground
Parallel Connection	Automatic	Use current mode limiting
	Current sharing	Use master-slave connection
	Redundancy type	External steering diodes
OVP	Not available	
CONTROL		
Type Voltage	Fixed input, variable gain	
Current	Differential comparison	
Voltage Local	10-turn precision rheostat	
Remote Analog	1000 ohms per volt or 0 to 1mA control current	
Remote Digital	Use SN/SNR interface	12 bit Listen-only
Current Local	Multiturn pot	
Remote Analog	Not provided	See Series ATE models
Dynamics Normal (slow)	dV/dt = I/C	See tabulated value of C in the model table
Fast mode	Not provided	See Series ATE models
MECHANICAL		
Input Connection	Detachable IEC type 3-wire	¼ and ½ rack size
	Permanently wired	Full rack size
Output Connections	Front panel binding posts	Models under 15A
	Rear barrier strip	¼ and ½ size
	Rear compression studs	Full rack size
Meters	Two 1½" vertical 3%, analog	Front panel
Indicators	Neon	Pilot
Mounting (in std 19" racks)	Use RA 24 rack adapter	¼ and ½ size
	Mounting "ears" provided	Full rack
Cooling	Forced air	Exhaust to rear
Dimensions (HxWxD) inches	5 7/32 x 4 5/32 x 17 3/16	¼ rack size
mm	132.6 x 105.6 x 436.6	
inches	5 7/32 x 8 11/32 x 17 3/8	½ rack size
mm	132.6 x 211.9 x 441.3	
inches	5 7/32 x 19 x 17 1/64	Full rack size
mm	177 x 482.6 x 504.8	
Finish: Fed Std 595	Light gray, color 26440	Front panel, 2 tone
Weight (packed for shipment)	18lb (8.2Kg)	¼ rack size
	37lb (16.8Kg)	½ rack size (250W)
	49lb (22.3Kg)	½ rack size (500W)
	97lb (44.1Kg)	Full rack size

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JQE STATIC SPECIFICATIONS

INFLUENCE QUANTITY	OUTPUT EFFECTS VOLTAGE MODE	OUTPUT EFFECTS CURRENT MODE(1)	AMPLIFIER OFFSETS(6) VOLTAGE ΔE_{io}	AMPLIFIER OFFSETS(6) CURRENT ΔI_{io}	REFERENCE 6.2V±5%
Source 105-125/210V a-c	<0.0005%	<0.005%	<10µV	<2nA	0.0001%
Load No load-full load	<0.005% or 0.2mV(2)	<0.01%	<200µV	<5nA	—
Time 8-hours (drift)	<0.01% or 1mV(2)	>0.02%	<20µV	<2nA	0.005%
Temp. Per °C	<0.01%(3)	<0.02%(3)	<20µV	<5nA	0.005%
Ripple and Noise(4) rms	<0.2mV	<0.02% of I_O max.	—	—	—
Ripple and Noise(4) p-p(5)	<1.0mV	<0.1% of I_O max.	—	—	—

(1) External current sensing, using the voltage amplifier. Effects are measured for a 1-Volt current sensing voltage drop.
(2) Whichever is greater.
(3) Typical temperature effect coefficients are: 0.005% per °C voltage mode; 0.01% per °C externally sensed current mode.
(4) One terminal grounded or connected so that the common-mode current does not flow through the load or (in current-mode) through a sensing resistor.
(5) 20Hz to 10MHz.
(6) The output effect can be calculated by the relationship:
$\Delta E_O = \pm E_r(R_f/R_i) \pm \Delta E_{io}(1+R_f/R_i) \pm I_{io}(R_f)$ where R_f is the feedback resistor, and R_i is the input resistor from the reference, E_r.

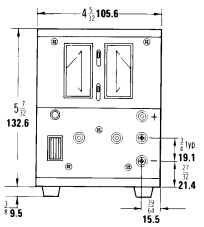
The tabulated offsets, more particularly their change as a function of source, time and temperature, allow a user to calculate performance of the uncommitted amplifier(s) with user specified input and feedback components. The formula for this is given in the static specifications table footnote.

OUTLINE DIMENSIONAL DRAWINGS

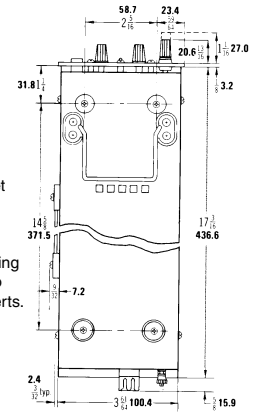
Fractional dimensions in light face type are in inches, **dimensions in bold face type are in millimeters.**
Tolerance: ± 1/64" **(0.4)** between mounting holes
± 1/32" **(0.8)** other dimensions
Panels: Per Mil. Std. 189

The 1/4 rack and 1/2 rack size JQE power supplies can be rack mounted using RA 24. See page 77.

JQE QUARTER-RACK MODELS

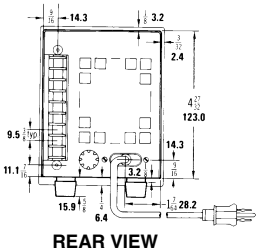


FRONT VIEW



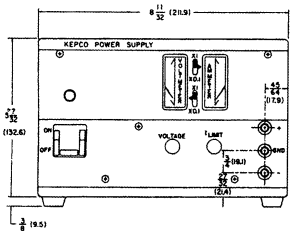
To rack mount, remove handle, feet and bail. Use (4) 8-18 x 5/8" thread cutting screws into plastic inserts.

BOTTOM VIEW

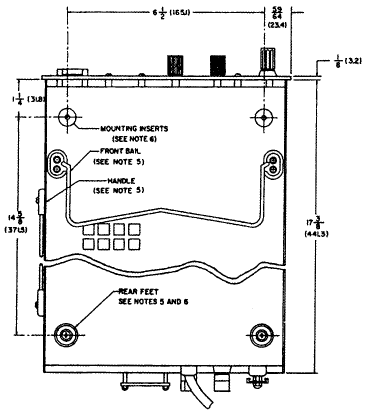


REAR VIEW

JQE HALF-RACK MODELS

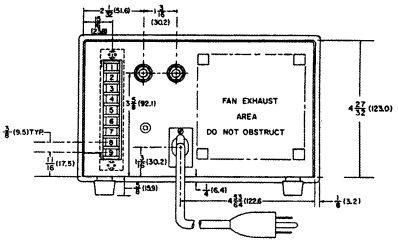


FRONT VIEW



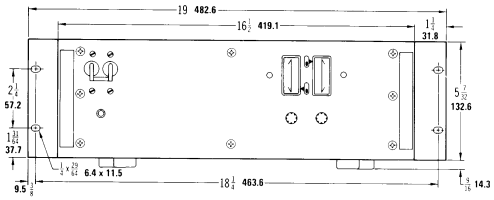
BOTTOM VIEW

To rack mount, remove handle, feet and bail. Use (4) 8-18 x 5/8" thread cutting screws into plastic inserts.

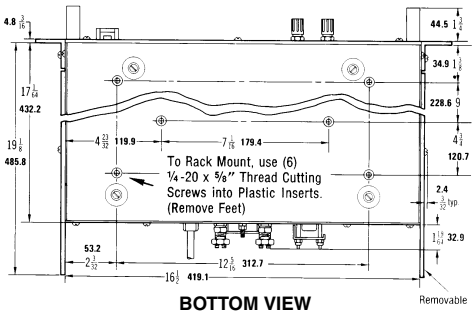


REAR VIEW

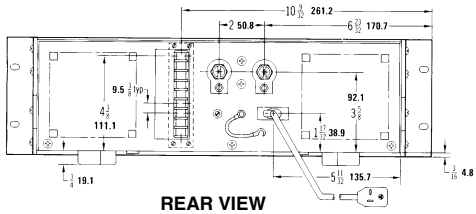
JQE FULL-RACK MODELS



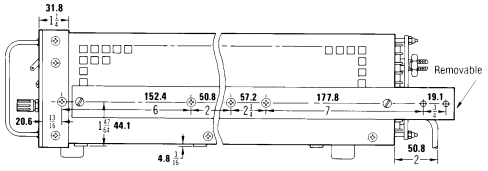
FRONT VIEW



BOTTOM VIEW



REAR VIEW



SIDE VIEW