



FSP150M-K Series

FEATURES

- Wide input range 80 to 264 VAC
- No load power consumption less than 0.15W
- Meet DoE Level VI and CoC EPS V5 Tier 2
- With power factor adjustment circuit
- Class II model meet IEC 60601-1-11 and IP54
- Meet EN55011 \ FCC Class B and IEC60601-1-2
- Operating altitude up to 5000 meters
- 197.0 x 87.0 x 30.48mm dimension Low profile

SAFETY STANDARD APPROVAL



DESCRIPTION

The FSP150M-K series of AC/DC switching power supplies are for 150 watts of continuous output power. They are enclosed in a 94V-0 rated polycarbonate case with an IEC320/C14 (Class-I) inlet or IEC320/C8 (Class-II) inlet to mate with interchangeable cord for world-wide use. All models meet IEC60601-1-2 \ EN55011 and FCC class B emission limits, and are designed for medical applications.

INPUT SPECIFICATIONS

Input voltage:	80-264 VAC
Input frequency:	47-63 Hz
Input current:	2 A (rms, Max) for 115 VAC 1 A (rms, Max) for 230 VAC
Earth leakage current:	<200 μ A @ 264 VAC, 63 Hz
Touch current:	<100 μ A @ 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output voltage /current:	See rating chart
Maximum output power:	See rating chart
Ripple and noise:	1% peak to peak maximum
Over voltage protection:	Automatic recovery
Short circuit protection:	Automatic recovery
Over temperature protection:	Latch off, by recycle input to reset
Temperature coefficient:	\pm 0.04% / $^{\circ}$ C maximum
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change

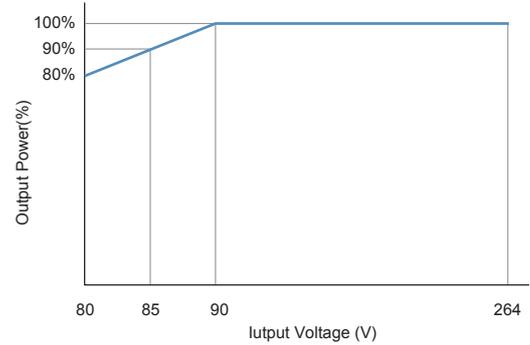
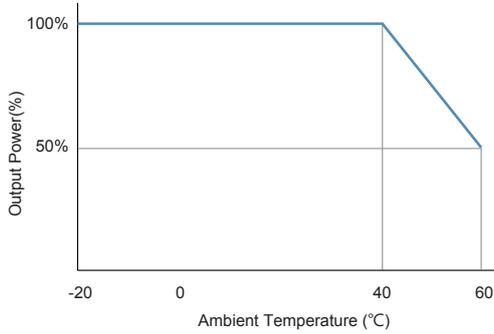
ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20 $^{\circ}$ C to +60 $^{\circ}$ C
Operation altitude	5000 meters
Storage temperature:	-40 $^{\circ}$ C to +85 $^{\circ}$ C
Relative humidity:	5% to 95% non-condensing
Derating:	Derate from 100% at +40 $^{\circ}$ C linearly to 50% at +60 $^{\circ}$ C
Ingress protection	IP54

GENERAL SPECIFICATIONS

Switching frequency:	40-280 KHz
Turn on time	3 Sec max.
Power factor:	0.98 Typical at 115 VAC
Efficiency:	Refer to rating chart
Hold-up time:	20 ms minimum at 100 VAC
Line regulation:	\pm 0.5% maximum at full load
Inrush current:	Within component spec and no damage to Adaptor, at 25 $^{\circ}$ C cold start
Withstand voltage:	4000 VAC from input to output (2 MOPP) 1780 VAC from input to ground (1 MOPP) 500 VAC from output to ground (Class-I)
MTBF:	100,000 hours at full load at 25 $^{\circ}$ C ambient , calculated per MIL-HDBK-217F
EMC Performance (IEC60601-1-2)	
EN55011:	Class B conducted, class B radiated
FCC:	Class B conducted, class B radiated
VCCI:	Class B conducted, class B radiated
EN61000-3-2:	Harmonic distortion, class A and D
EN61000-3-3:	Line flicker
EN61000-4-2:	ESD, \pm 15 KV air and \pm 8 KV contact
EN61000-4-3:	Radiated immunity, 9-28 V/m
EN61000-4-4:	Fast transient/burst, \pm 2 KV
EN61000-4-5:	Surge, \pm 1 KV diff., \pm 2 KV com.
EN61000-4-6:	Conducted immunity, 10 Vrms
EN61000-4-8:	Magnetic field immunity, 30 A/m
EN61000-4-11:	Voltage dip immunity, 30% reduction for 500 ms 60% reduction for 100 ms >95% reduction for 20 ms

OUTPUT POWER DERATING CURVE



OUTPUT VOLTAGE/CURRENT RATING CHART

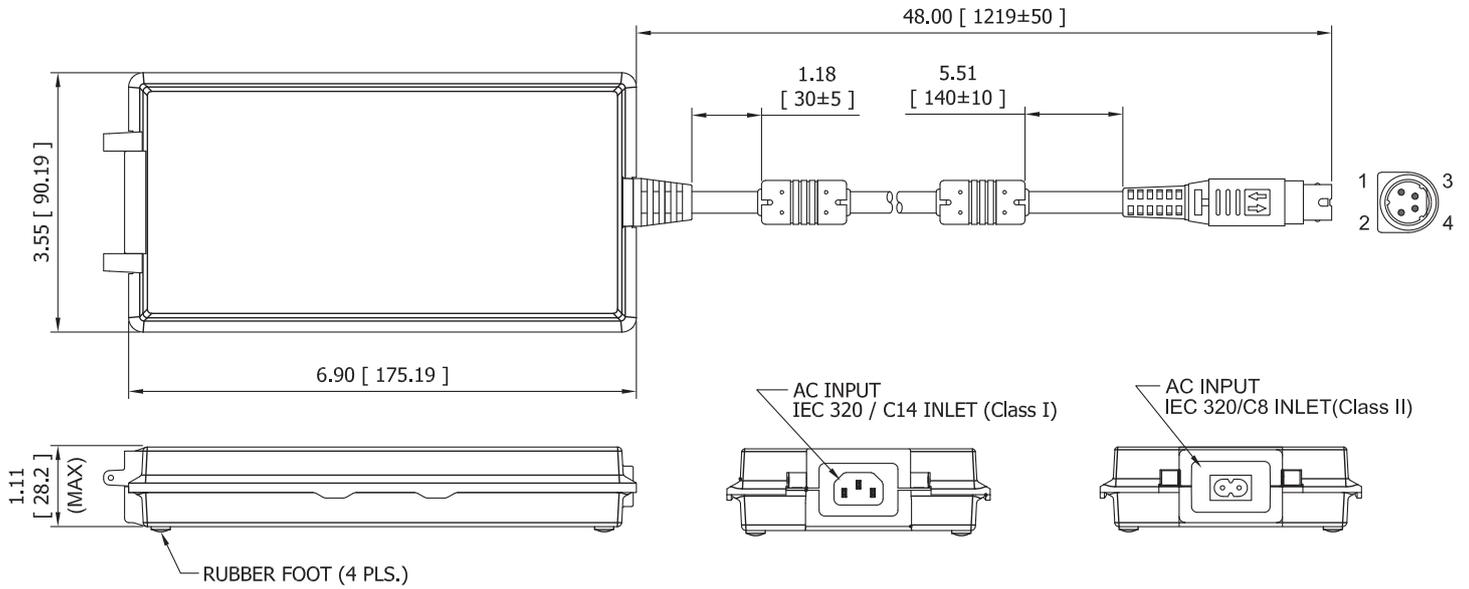
Model ⁽¹⁾		Output						Average Active Efficiency (typical) @ 115 / 230 Vac
Class I	Class II	V	Min. Current	Max. Current	Tol.	Ripple & Noise ⁽²⁾	Max. Power	
FSP150M-KBA	FSP150M-KBC	19 V	0 A	7.90 A	±5%	190 mV	150W	89 / 90%
FSP150M-KAA	FSP150M-KAC	24 V	0 A	6.25 A	±5%	240 mV	150W	91 / 92%
FSP150M-KEA	FSP150M-KEC	36 V	0 A	4.17 A	±5%	360 mV	150W	91 / 92%
FSP150M-KFA	FSP150M-KFC	48 V	0 A	3.13 A	±5%	480 mV	150W	91 / 92%

NOTES:

1. Class I models are equipped with IEC320/C14 inlet. Class II models are equipped with IEC320/C8 inlet.

2. Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 47 µF electrolytic capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Output connector is 4 pin plug without lock, mating with Kycon P/N KPJX-4S-S socket or equivalent.

CONNECTOR PIN CHART

PIN No.	2	2	3	4
Polarity	V1 Return	+V1	V1 Return	+V1

Weight: 600 grams (1.326 lbs.) approx.

Color: Black