

FSP100M-K24 Series

FEATURES

- Compact size 2" × 4" × 1.29"
- Wide input range 80-264 VAC
- Low earth leakage current 175uA
- Power Consumption ≤ 0.15W
- Operation altitude up to 5000 meters
- BF class insulation



SAFETY STANDARD APPROVAL



DESCRIPTION

The FSP100M-K24 series of AC-DC switching power supplies in a package of 2 x 4 x 1.29 inches are capable of delivering 100 watts of continuous power at 7.5 CFM forced air cooling or 80 watts at convection cooling. The units are constructed on a printed circuit board. FSP100M-K24 series are suited for medical applications, information technology and industrial applications. FSP100M-K24 series improves customer design time and reduces end equipment costs except IEC60601-1 safety standards approval.

INPUT SPECIFICATIONS

Input voltage:	80 to 264 VAC (Universal mains supply operation)
Input frequency:	47-63 Hz
Input current:	2 A (rms) for 115 VAC 1.2 A (rms) for 230 VAC
Earth leakage current:	175 µA max. @ 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Total output power:	100 watts maximum
Ripple and noise:	1% peak to peak on other models
Protection:	
OVP:	Latch off
OCP & Shorted:	Auto recovery
OTP:	Latch off
Temperature coefficient:	All outputs ±0.04% /°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

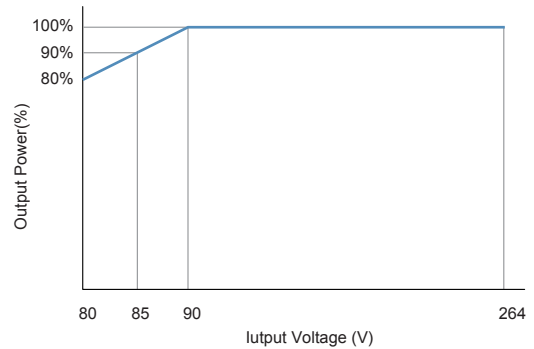
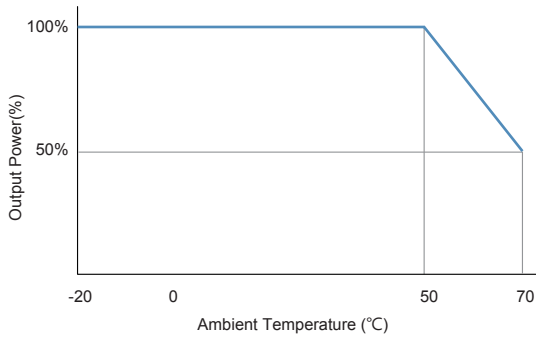
ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20°C to +70°C
Storage temperature:	-40°C to +85°C
Relative humidity:	5% to 95% non-condensing
Derating:	Derate from 100% at +50°C linearly to 50% at +70°C, applicable to convection and forced-air cooling conditions.

GENERAL SPECIFICATIONS

Switching frequency:	65 KHz (typical)
Efficiency:	Refer to rating table
Turn-On Delay Time	≤ 3sec at 100 VAC
Hold-up time:	10 ms minimum at 110 VAC
Line regulation:	±0.2% maximum at full load
Inrush current:	80 A @ 115 VAC / 60 HZ or 160 A @ 230 VAC / 50HZ, at 25°C cold start
Withstand voltage:	4000 VAC from input to output (2 MOPP), 1780 VAC from input to ground, 1500 VAC from output to ground
MTBF:	150,000 hours at full load at 25°C ambient temperature, calculated per MIL-HDBK-217F
EMC Performance	
EN55011 /EN55022:	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, ±15 KV air and ±8 KV contact
EN61000-4-3:	Radiated immunity, 9-28 V/m
EN61000-4-4:	Fast transient/burst, ±2 KV
EN61000-4-5:	Surge, ±1 KV diff., ±2 KV com.
EN61000-4-6:	Conducted immunity, 10 Vrms
EN61000-4-8:	Magnetic field immunity, 30A/m
EN61000-4-11:	Voltage dip immunity, 30% reduction for 500 ms (criteria A @ 230 VAC, criteria A @ 100 VAC), 60% reduction for 100 ms (criteria A @ 230 VAC, criteria B @ 100 VAC), >95% reduction for 20 ms (criteria A @ 230 VAC, criteria B @ 100 VAC)

OUTPUT POWER DERATING CURVE



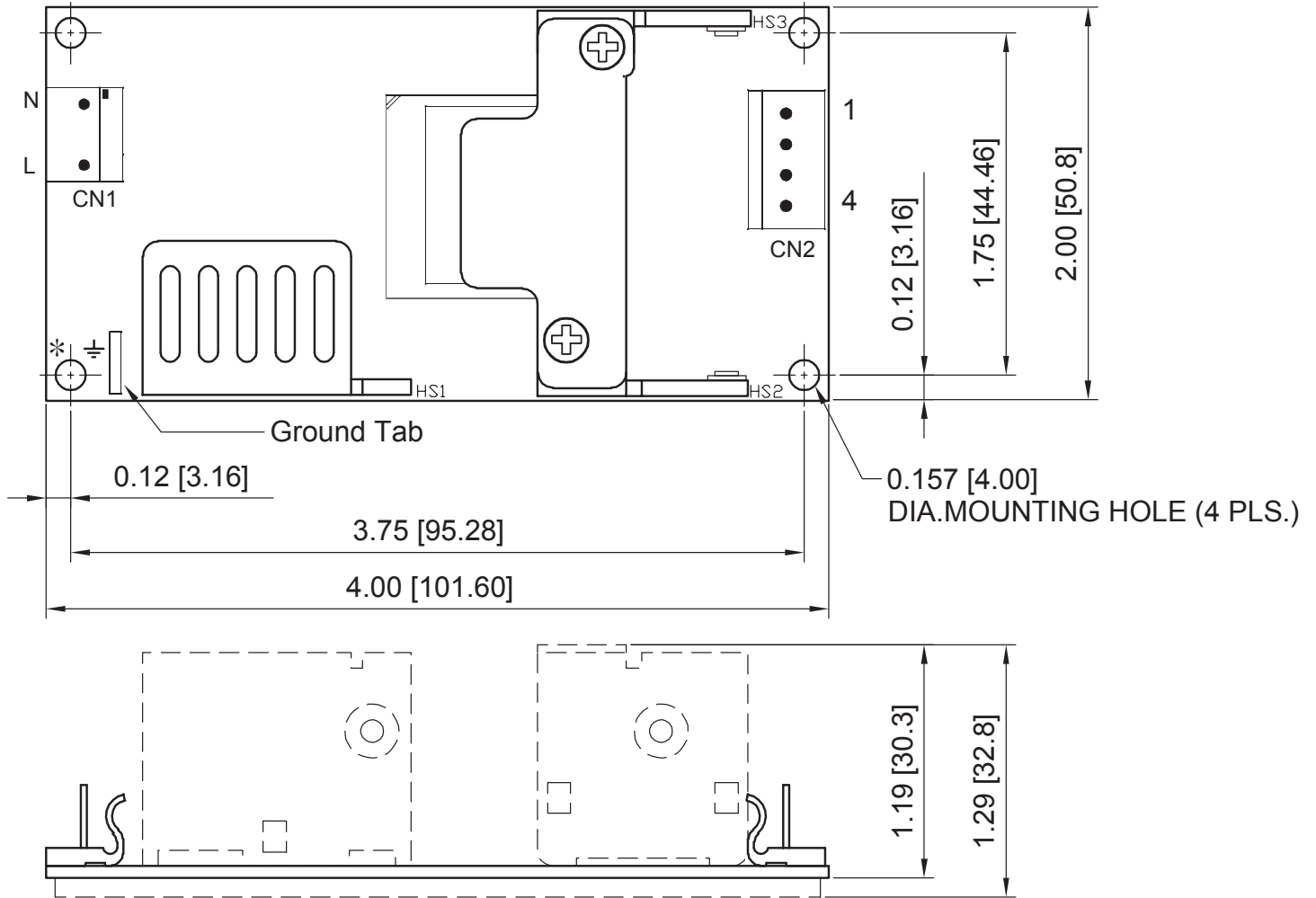
OUTPUT VOLTAGE/CURRENT RATING CHART

Model No.	Output						Average Active Efficiency (typical) @ 115/230 Vac
	V	Min. Current	Max. Current at Convection / 7.5CFM	Tol.	Ripple & Noise ⁽²⁾	Max. Power ⁽¹⁾	
FSP100M-K24-12A	12 V	0 A	6.67 A / 8.34 A	±2%	120 mV	80W / 100W	87 / 90%
FSP100M-K24-18A	18 V	0 A	4.45 A / 5.56 A	±2%	180 mV	80W / 100W	87 / 90%
FSP100M-K24-24A	24 V	0 A	3.34 A / 4.17 A	±2%	240 mV	80W / 100W	88 / 90%
FSP100M-K24-28A	28 V	0 A	2.86 A / 3.58 A	±2%	280 mV	80W / 100W	88 / 90%
FSP100M-K24-36A	36 V	0 A	2.23 A / 2.78 A	±2%	360 mV	80W / 100W	88 / 90%
FSP100M-K24-48A	48 V	0 A	1.67 A / 2.09 A	±2%	480 mV	80W / 100W	88 / 90%

NOTES:

1. The first value of max. power is at convection cooling. The second value is with 7.5 CFM forced air provided by user.
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 10 µF tantalum (or electrolytic) capacitor in parallel with a 0.1 µF ceramic capacitor across the output except model PM101-12A which is with a 22 µF tantalum (or 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. Connector P1: Molex header 09-65-2038 mating with Molex housing 09-50-1031 or equivalent.
4. Connector P2: Molex header 09-65-2048 mating with Molex housing 09-50-1041 or equivalent.
5. Ground tab : 0.25[6.35]x0.032[0.8]

CONNECTOR PIN CHART

Connector	CN1		CN2			
	N	L	1	2	3	4
Pin No.	N	L	1	2	3	4
Polarity	Neutral	Line	+Vout		Common Return	

Weight: 155 grams (0.34 lbs.) approx.