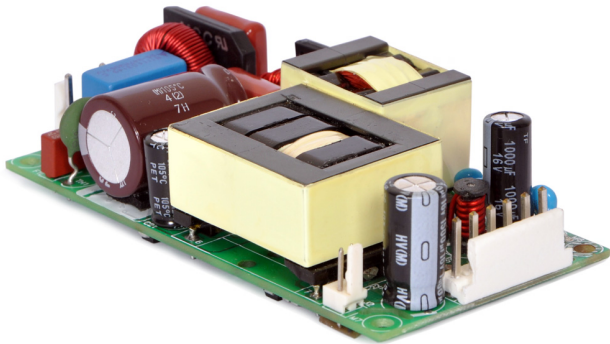


FSP225 (Industrial)



Features

- 4 x 2 x 1 Inches Form factor
- 225 Watts with Forced Air Cooling
- Efficiencies upto 94%
- -40 to 70 degree operating temperature*
- 12V / 0.5A Fan Output, Thermal Shut-Down feature
- 3.37m Hours, Telcordia -SR332-issue 3 MTBF
- Standby Power < 0.5W

Electrical Specifications

Input Voltage	85-264 VAC/390 VDC, Universal (Derate from 100% at 100V AC to 95% at 85V AC)	
Input Frequency	47-63 Hz	
Input Current	115 VAC: 2.2 A max.	230 VAC: 1.1 A max.
No Load Power	less than 0.5W typical	
Inrush Current	115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A	
Leakage Current	300 uA Typical, (N.A. For Class II Option)	Touch current <100uA
Efficiency	94%(48V), 93%(24V,30V), 92%(12V,15V)	
Hold-up Time	at 225W:10 ms ; 110W: 16 ms	
Power Factor	exceeds 0.95 with Full Load	
Output Power	225W with 13 CFM, upto 120W Convection	
Line Regulation	+/-0.5%	
Load Regulation	+/-0.5%	
Transient Response	25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=4% , recovery time < 5 ms	
Rise Time	55ms typical	
Set Point Tolerance	+/-1%	
Over Current Protection	>110%	
Over Voltage Protection	110 to 140%	
Short Circuit Protection	Hiccup mode	
Switching Frequency	PFC – 70 to 130 KHz ,PWM – 50-80 KHz	
Operating Temperature ⁷	-40 to +70°C	
Storage Temperature	-40 to +85°C	
Relative Humidity	5% to 95%, noncondensing	
Altitude	Operating: 16,000 ft.; Nonoperating: 40,000 ft.	
MTBF	3.37m Hours, Telcordia -SR332-issue 3	
Isolation Voltage	Input to Output – 3000V AC for ITE application Input to GND - 1500 VAC (Not Applicable For Class II Option)	
Cooling	225W with 13 CFM forced air cooling ⁶ (refer Mechanical Drawing) upto 120 W with natural convection cooling ⁶ (refer Derating Curve)	

Model Number	Description	Voltage	Max. Load (Convection) (112.5W)	Max. Load (Convection) (120W)	Max. Load (13 CFM)	Min. Load	Ripple ¹
FSP225-1K20	with Screw Terminal	12 V	9.37A	10.0A	18.75A	0.0 A	1%
FSP225-1K21	with Molex Connector	12 V	9.37A	10.0A	18.75A	0.0 A	1%
FSP225-1K30	with Screw Terminal	15 V	7.5A	8.0A	15A	0.0 A	1%
FSP225-1K31	with Molex Connector	15 V	7.5A	8.0A	15A	0.0 A	1%
FSP225-1K40	with Screw Terminal	24 V	4.68A	5.0A	9.37A	0.0 A	1%
FSP225-1K41	with Molex Connector	24 V	4.68A	5.0A	9.37A	0.0 A	1%
FSP225-1K80	with Screw Terminal	48 V	2.34A	2.5A	4.68A	0.0 A	1%
FSP225-1K81	with Molex Connector	48 V	2.34A	2.5A	4.68A	0.0 A	1%
FSP225-1K50	with Screw Terminal	30 V	3.75A	4.0A	7.5A	0.0 A	1%
FSP225-1K51	with Molex Connector	30 V	3.75A	4.0A	7.5A	0.0 A	1%
FSP225-1K70	with Screw Terminal	58 V	1.94A	2.07A	3.88A	0.0 A	1%
FSP225-1K71	with Molex Connector	58 V	1.94A	2.07A	3.88A	0.0 A	1%
FSP225-CK metal cover kit accessory							

Connectors		
J1	Pin 1	AC LINE
	Pin 2	NOT FITTED
	Pin 3	AC NEUTRAL
J2 Option 1 & 2	Pin 1,2,3	V1 +VE
	Pin 4,5,6	V1 -VE
J3	Pin 1	FAN +VE
	Pin 2	FAN -VE

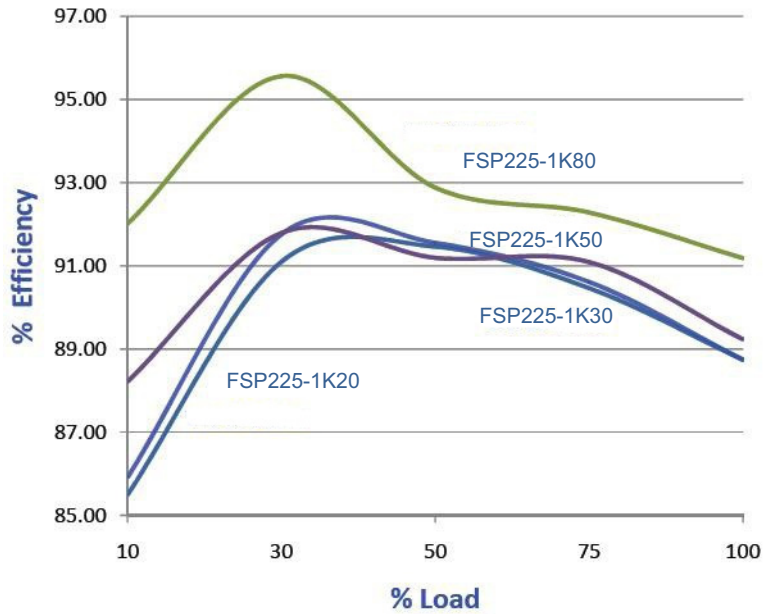
Notes

- Ripple is peak to peak with 20 MHz bandwidth and 10 μ F (Tantalum capacitor) in parallel with a 0.1 μ F capacitor at rated line voltage and load ranges.
- Class II means without input Earth pin.
- Combined output power of main output, fan supply shall not exceed max. Power rating.
- Fan supply output voltage tolerance including set point accuracy, line and load regulation is +/-10% and Ripple and noise is less than 10%.
- Specifications are for nominal input voltage, 25°C unless otherwise stated.
- 225W with 13CFM forced air cooling and 120W with natural convection cooling at 100 to 264VAC.
- 40 to 0°C startup is guaranteed with spec deviation in output ripple and voltage regulation.

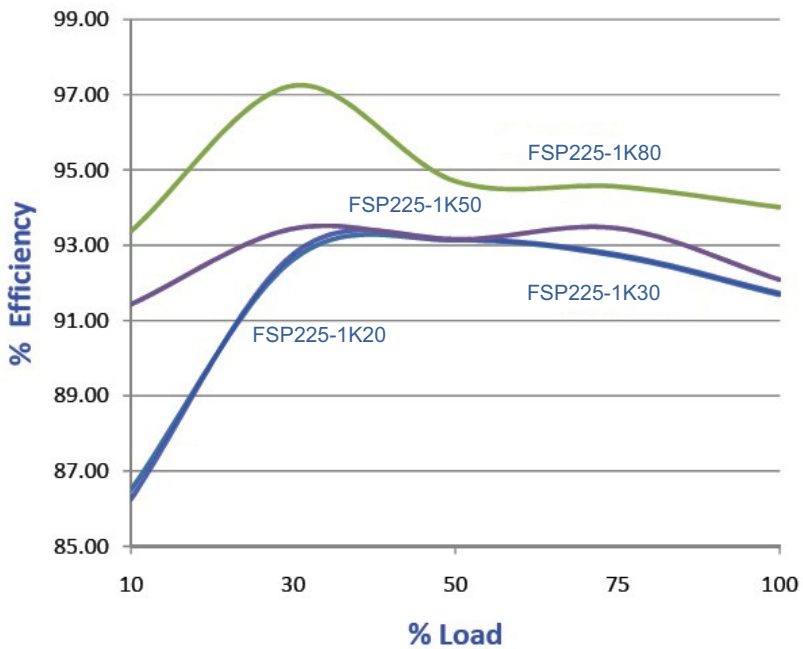
Mechanical Specifications	
AC Input Connector (J1)	Molex: 26-60-4030 Mating: 09-50-3031; Pins: 08-50-0106
DC Output Connector (J2) Option 1 (Screw Terminal)	Molex: 39357 Series or equivalent
DC Output Connector (J2) Option 2 (Molex Connector)	Molex: 26-60-4060 Mating: 09-50-3061; Pins: 08-50-0106
Aux (Fan) Output(J3)	AMP :640456-2 Mating: 640440-2
Dimensions	4 x 2 x 1 inches (101.60 x 50.8x 25.4 mm)
Weight	200 gm approx
EMC	
CE Mark	Complies with LVD Directive
Conducted Emissions	EN55022-B, CISPR22-B, FCC PART15-B
Static Discharge	EN61000-4-2, Level-3
RF Field Susceptibility	EN61000-4-3, Level-3
Fast Transients/Bursts	EN61000-4-4, Level-3
Radiated Emissions	Level A radiated, Level B radiated with external core (King core K5B RC 25x12x15-M in input cable (5 turns))
Surge Susceptibility	EN61000-4-5, Level-3
Harmonic Current	EN61000-3-2, Class D
Safety	
Safety Standard(s)	EN60950-1, IEC60950-1 (ed.2) , UL 60950 (ed.2), CSA C22.2 No.60950-1 (ed.2), Class1 SELV
Approval Agency	Nemko, UL, C-UL
Safety File Number(s)	(Pending)

Efficiency Graph

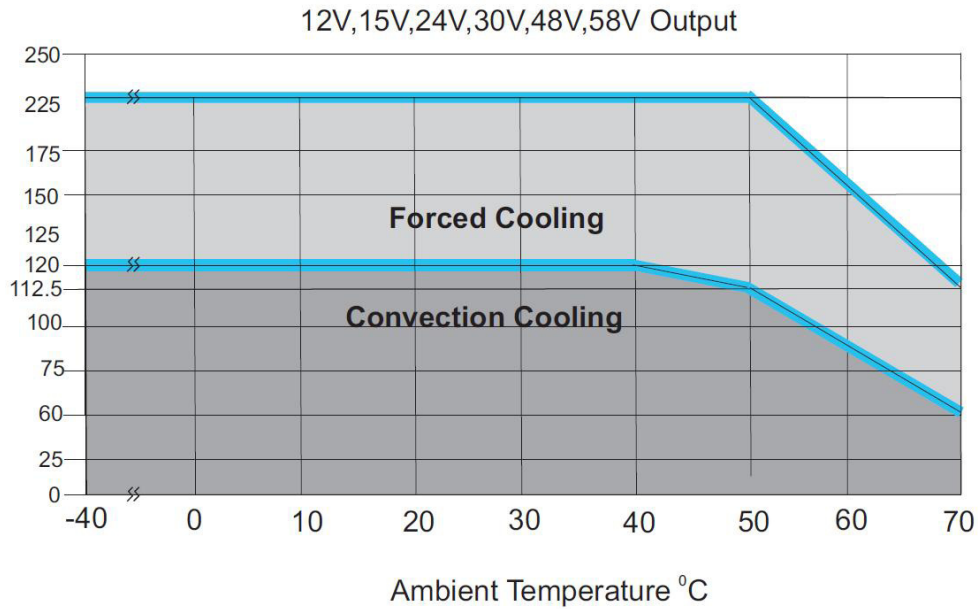
FSP225-1KXX efficiency graph at 115V AC



FSP225-1KXX efficiency graph at 230V AC

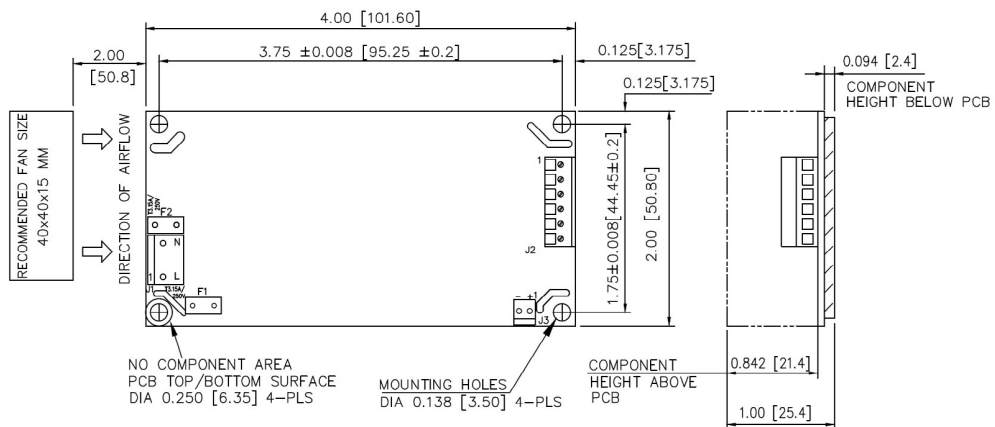


Derating Curve



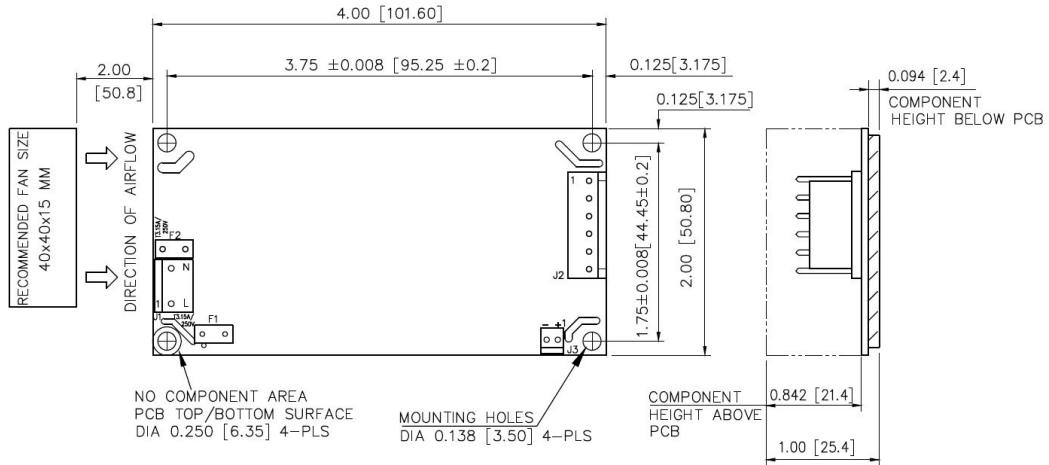
Mechanical Drawing

Option 1



Mechanical Drawing

Option 2



MECHANICAL OUTLINE DIMENSIONS
ALL DIMENSIONS ARE IN INCHES[MM]
GEN TOLERANCE : +/-0.04[+/-1.0MM]