TECHNICAL DATASHEET

500W Panel Mount Power Supplies

FSP500-PBB series

FSP500-PBB series

FEATURES

- Class-I design
- Peak power 1000W continues for 3 seconds
- IEC 62368-1, EN 61558-1, EN 61558-2-16, EN 60335-1 safety standard
- EN55032 class B conducted emission

SAFETY STANDARD APPROVAL

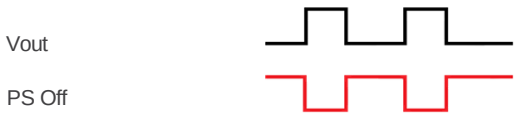
*Certificate is in progress. Please contact sales before design

DESCRIPTION

This AC-DC switching power supplies in a package of 190 x 120 x 61 mm is a Class-I (with Protection Earth) safety construction. This PSU is capable of delivering 500 watts continuous power and peak power 1000W in 3 sec maximum at 50℃ operation temperature. Product is suitable for industry control applications.

INPUT SPECIFICATIONS

Input voltage:	100 to 240 VAC
Input frequency:	47.5 - 63 Hz
Input current:	≤ 7.0 A (rms) for 115 VAC
Earth leakage current:	≤ 3.0 A (rms) for 230 VAC ≤ 1500 μA @ 264VAC, 63Hz
PS OFF	PSU is normally ON until a High-level signal is input.



OUTPUT SPECIFICATIONS

Output voltage adjustment:	± 2V
Total output power:	500 watts maximum
Ripple and noise:	See rating chart
Protection:	
OVP	Auto recovery
OCP & Shorted	Auto recovery
OTP	Auto recovery

ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20℃ to +70℃
Storage temperature:	-40℃ to +85℃
Relative humidity:	10% to 95% non-condensing
Derating:	See derating curve

GENERAL SPECIFICATIONS

Fuse protection:	T15 A , 250 VAC
Operating altitude :	2000 meters above sea level
Power factor:	0.95 mini. @ 115VAC & 100% load 0.95 mini. @ 230VAC & 100% load
Efficiency:	Refer to rating table
Turn-On Delay Time:	2 sec maximum
Hold-up time:	16 mS mini. @ 115VAC & 230VAC, 100% load
Line regulation:	±1.0% maximum at full load
Inrush current:	25 A maximum @ 115VAC 50 A maximum @ 230VAC, 25℃
Withstand voltage:	3000 VAC from input to output 2000 VAC from input to ground 1500 VAC from output to ground
Isolation resistance:	Input to output 100M ohm @ 500Vdc
MTBF:	390K hours mini. at full load, 25℃ ambient temperature, calculated per Telcordia SR-332
EMC Performance	
EN55032:	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, Radio Frequency, Electromagnetic field (RS): 3 V/m
EN61000-4-4:	Fast transient/burst, ±2 KV
EN61000-4-5:	Surge, ±2 KV diff., ±4 KV com.
EN61000-4-6:	Conducted Radio Frequency Disturbances (CS), 3 Vrms
EN61000-4-8:	Power Frequency Magnetic field, 30 A/m
EN61000-4-11:	Voltage dip immunity & voltage interruptions 30% reduction for 500mS, criteria A >95% reduction for 10mS, criteria A >95% reduction for 5000mS, criteria B

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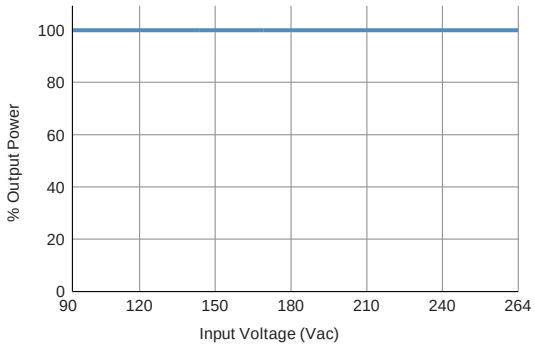
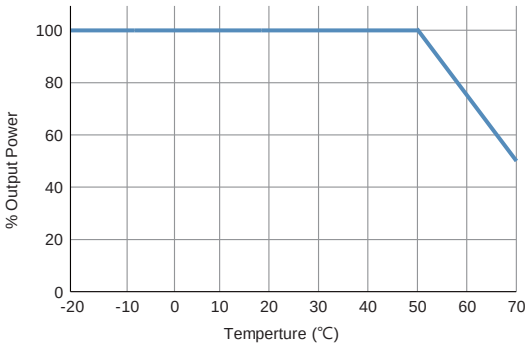
OUTPUT POWER DERATING CURVE





OUTPUT VOLTAGE/CURRENT RATING CHART

Model [1]	Output							Efficiency (typical)
	V1	Min. Current	Max. Current	Tolerance	Ripple & Noise [2]	Max. Power	Peak Power [3]	@ 115 / 230 Vac
FSP500-PBB-A24	24V	0A	20.84A	±1 %	240mV	500W	1000W	89 / 90%
FSP500-PBB-A48	48V	0A	10.42A	±1 %	480mV	500W	1000W	89 / 90%

NOTES:
1. 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 μFtantalum (or electrolytic) capacitor in parallel with a 0.1 μFceramic capacitor across the output.

FIG 1. PEAK OUTPUT POWER

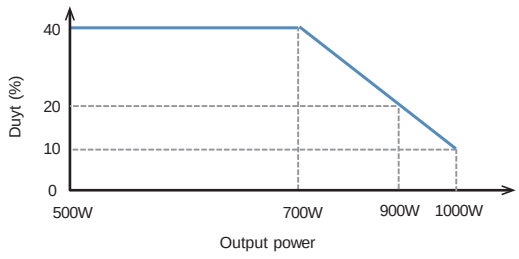
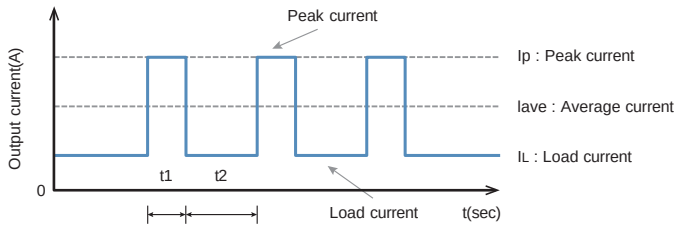


FIG 2. DESCRIPTION OF PEAK CURRENT



Definitions:

- Peak output power [W] = Peak current [A] * Output voltage [V]
- t1 ≦3 sec
- Ip ≦Rated peak current
- Duty =t1/(t1+t2) x 100[%] ≦40%
- Iave =(Ip×t1+IL×t2)/(t1+t2) ≦Rated current

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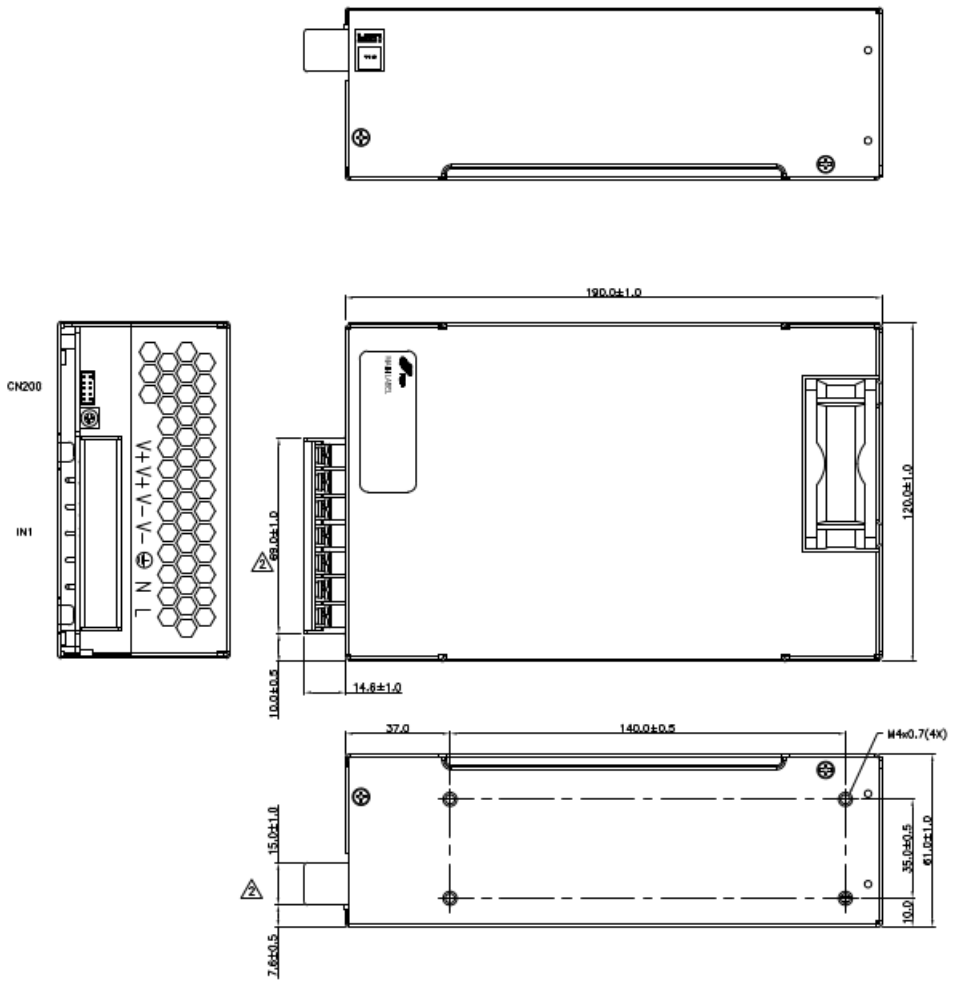
MECHANICAL SPECIFICATIONS



Pin assignment of IN1

Pin No.	Function	Wafer
1	AC/L	DINKLE DT-4C-B14W-07 or EQUIVALENT
2	AC/N	
3	FG	
4	V-	
5	V-	
6	V+	
7	V+	

Pin assignment of CN200

Pin No.	Function	Wafer
1	PS_OFF RTN	S10B-PHDSS or EQUIVALENT
2	PS_OFF	
3	Vsense RTN	
4	Vsense	
5	Power Good RTN	
6	Power Good	
7	NA	
8	NA	
9	NA	
10	NA	

NOTES:
1. Dimensions shown in mm
2.Weight: 1200 grams (2.65 lbs.) approx.

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