TECHNICAL DATASHEET

240W ITE Power Supplies

FSP240-P37P Series

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FEATURES

- Class-I Design
- IEC 62368-1 safety approval
- EN 60335-1, IEC 61010-1 safety compliance
- EN55032 class B emission
- Remote ON / OFF input control (options)
- Input power less than 0.5W at standby mode
- Peak power 480W

SAFETY STANDARD APPROVAL

*Please contact sales office for certificate schedule before design

DESCRIPTION

This AC-DC switching power supplies in a package of 180 x 84 x 41.4 mm is a Class-I (with Protection Earth) safety construction and feature with 0.5W low input power consumption at 0.2W load which is comply with Energy Star requirement. This PSU is capable of delivering continuous power 240 watts at convection cooling and 300W at forced air condition, and 480 watts peak power at 50℃ operation temperature. Product is suitable for industry control applications.

INPUT SPECIFICATIONS

Input voltage:	90 to 264 VAC
Input frequency:	47-63 Hz
Input current:	2.6 A (rms) @ 240W for 115 VAC 1.3 A (rms) @ 240W for 230 VAC
Earth leakage current:	750 μA max. @ 264 VAC
Touch current:	400 μA max. @ 264 VAC
Remote Off (optional)	PSU is normally off and has no output voltage until a HIGH-level signal is input.

Vout

Remote Off

OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Total output power:	240 watts maximum
Ripple and noise:	1% peak to peak maximum
Protection:	
OVP	Auto recovery
OPP & Shorted	Auto recovery
OTP	Auto recovery
Temperature coefficient:	All outputs ±0.04% /℃ 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℃ to +70℃
Storage temperature:	-40℃ to +85℃
Relative humidity:	5% to 95% non-condensing
Derating:	See derating curve

GENERAL SPECIFICATIONS

Fuse protection:	T6.3AL, 250Vac
Operating altitude :	5000 meters above sea leavel
Efficiency:	Refer to rating table
Turn-On Delay Time	≤ 1 sec at 115 VAC
Hold-up time:	20 mS minimum @ 115 VAC & 240W load
Line regulation:	±1% maximum at full load
Inrush current:	15 A @ 115 VAC / 60 Hz or 30 A @ 230VAC / 50 Hz, at 25℃ cold start
Power factor:	≥ 0.95 @ 115 VAC, ≥ 0.90 @ 230 VAC
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:	1000K hours mini. at 240W load and 50℃ ambient temperature, calculated per Telcordia SR-332
EMC Performance	
EN55032 /EN55035:	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 D
EN61000-3-3:	Line flicker
EN61000-4-2:	ESD, ±8 KV air and ±4 KV contact
EN61000-4-3:	Radiated immunity, 3 V/m
EN61000-4-4:	Fast transient/burst, ±1 KV
EN61000-4-5:	Surge, ±2 KV diff., ±4 KV com.
EN61000-4-6:	Conducted immunity, 3 V/m
EN61000-4-8:	Magnetic field immunity, 1 A/m
EN61000-4-11:	Voltage dip immunity & voltage interruptions 30% reduction for 500mS, criteria A >95% reduction for 10mS, criteria A 100% reduction for 5000mS, criteria B

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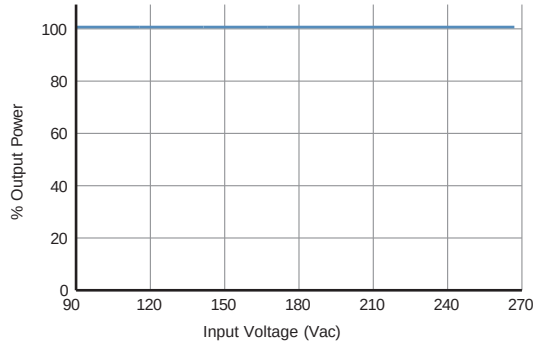
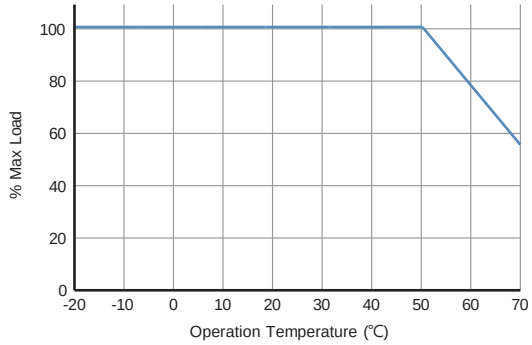
INPUT VOLTAGE DERATING CURVE



OUTPUT POWER DERATING CURVE



OUTPUT VOLTAGE/CURRENT RATING CHART

Model (1)	Output Voltage	Max. Current (5)		Tolerance	Ripple & Noise (2)	Max. Power	Peak Power (3)	Efficiency 115 / 230 Vac
		Convection	Forced air					
FSP240-P37P-A24	24 V	10.0 A	12.5 A	±3 %	240 mV	240W / 300W	480W	90 / 92%
FSP240-P37P-A36	36 V	6.67 A	8.34 A	±3 %	360 mV	240W / 300W	480W	90 / 92%

NOTES:
1. PSU is the PCB form factor. Suffix " C" in model no. is for the enclosed form, e.g. FSP240-P37P-A24C.
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 22 μF capacitor in parallel with a 0.1 μF ceramic capacitor across the output.
3. Refer to Fig. 1 and Fig. 2 for peak power definition.
4. Forced air 18 CFM.
5. Minimum current (load) is 0 A.

FIG 1. PEAK OUTPUT POWER

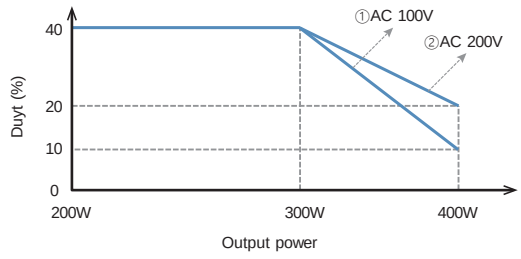
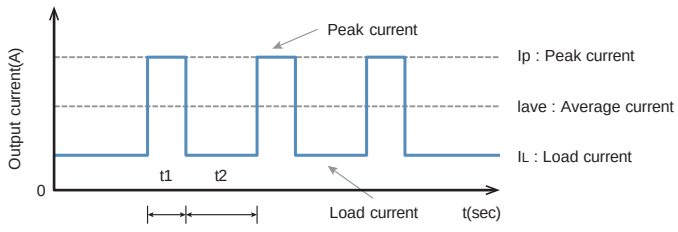


FIG 2. DESCRIPTION OF PEAK CURRENT



MODEL NO. RULE:

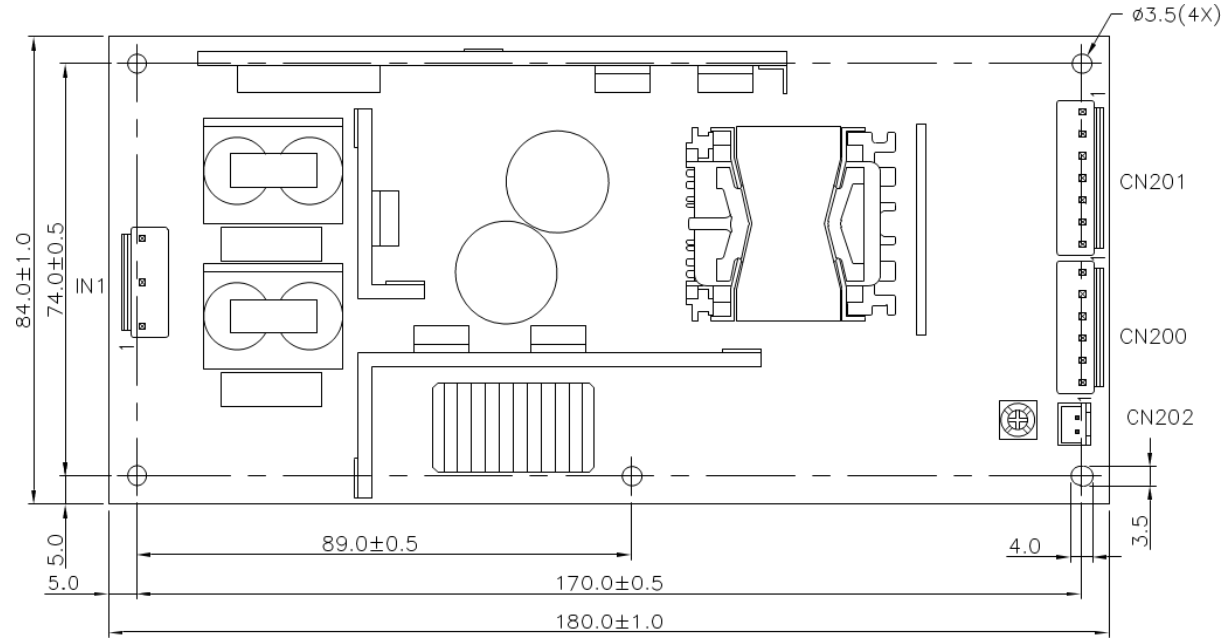
FSP 240 – P37P – A24 C (1) S (2)

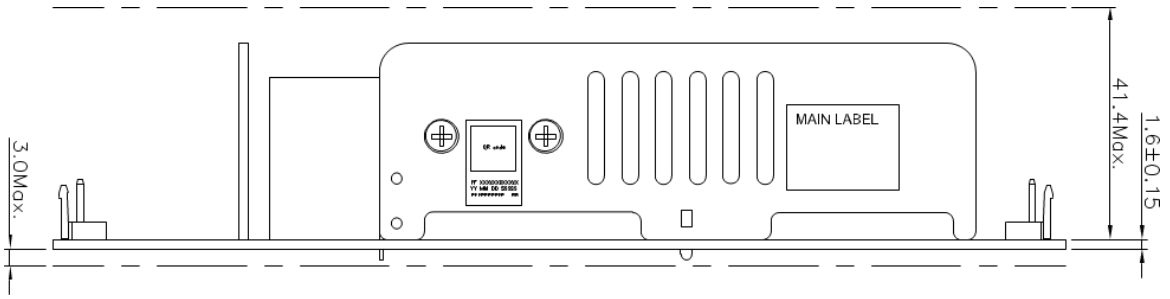
The suffix definition of model no.
(1) Suffix C denotes the metal enclosed form factor.
(2) Suffix S denotes the remote ON/OFF switch.

Definitions:
- Peak output power [W] = Peak current [A] * Output voltage [V]
- t1 ≦10 sec
- Ip ≦Rated peak current
- Duty =t1/(t1+t2) x 100[%] ≦40%
- Iave =(Ip×t1+IL×t2)/(t1+t2) ≦Rated current

MECHANICAL SPECIFICATIONS

PCB form factor





Pin assignment:

1. IN1: JST B3P5-VH or EQU

Pin No.	Function
1	L
2	
3	N
4	
5	FG

2. CN 200: JST B6P-VH or EQU
   CN 201: JST B7P-VH or EQU

Pin No.	Function
CN 200	V +
CN 201	RETURN

3. CN202: JST B2B-XH-A or EQU

Pin No.	Function
1	R / C+
2	R / C-

*Optional function

NOTES:
1. Dimension showed in mm.
2. To ensure compliance with level B emissions, connect the three PCB mounting holes with metallic standoffs to the chassis.
3. Weight: PCB form factor 365 grams (0.804 lbs.) approx.