TECHNICAL DATASHEET

150W ITE Power Supplies

FSP150-P36P Series

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FEATURES

- Class-I Design
- IEC 62368-1 safety standard
- EN55032 Class B emission
- Remote ON / OFF input (optional)
- Standby power less than 0.5W
- Peak power 300W

SAFETY STANDARD APPROVAL

DESCRIPTION

This AC-DC switching power supplies in a package of 160 x 75 x 32 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 150 watts continuous power and 300 watts peak power (except 12V at 225 watts) at 50℃ operation temperature. Product is suitable for industry control applications.

INPUT SPECIFICATIONS

Input voltage:	85 to 264 VAC
Input frequency:	47-63 Hz
Input current:	2.4 A (rms) for 115 VAC 1.2 A (rms) for 230 VAC
Earth leakage current:	750 μAmax. @ 264 VAC, 50 Hz
Touch current:	250 μAmax. @ 264 VAC, 63 Hz
Remote Off (optional)	PSU is normally off and has no output voltage until a HIGH-level signal is input.

OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Total output power:	150watts maximum
Ripple and noise:	240mV peak to peak maximum
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:	T6.3AH, 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:	16.6 mS minimum @ 115 VAC & 100% load
Line regulation:	±1% maximum at full load
Inrush current:	60 A @ 115 VAC / 60 Hz, at 25℃ cold start 120 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 1500 VAC from input to ground, 1500 VAC from output to ground
Isolation resistance	Input to output 100M ohm @ 500Vdc
MTBF:	1000K hours mini. at full load at 25℃ ambient temperature, calculated per Telcordia SR-332

EMC Performance

EN55032:	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, Radio Frequency, Electromagnetic field (RS): 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 Radio Frequency Disturbances (CS), 3 V/m
EN61000-4-8:	Power Frequency Magnetic field, 1 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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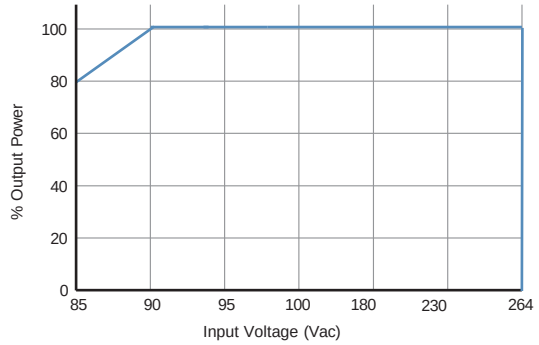
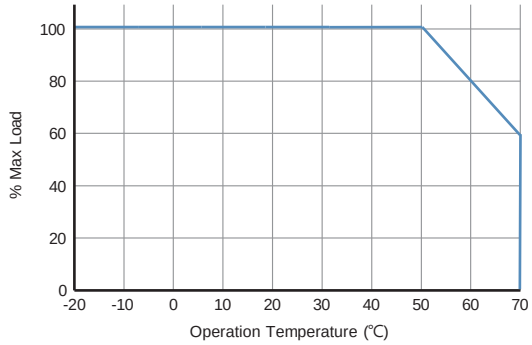
INPUT VOLTAGE DERATING CURVE



OUTPUT POWER DERATING CURVE



OUTPUT VOLTAGE/CURRENT RATING CHART

Model (1)	Output							Efficiency (typical) @ 115 / 230 Vac
	V1	Min. Current	Max. Current	Tolerance	Ripple & Noise (2)	Max. Power	Peak Power (3)	
FSP150-P36P-A12	12 V	0 A	12.5 A	±3 %	120 mV	150W	225W	89 / 91%
FSP150-P36P-A24	24 V	0A	6.25 A	±3 %	240 mV	150W	300W	89 / 91%
FSP150-P36P-A36	36 V	0A	4.16 A	±3 %	240 mV	150W	300W	89 / 91%
FSP150-P36P-A48	48 V	0A	3.13A	±3 %	240 mV	150W	300W	89/ 91%

NOTES:
1. PSU is the PCB form factor. Suffix " C" in model no. is for the enclosed form, e.g. FSP150-P36P-A12C
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.

FIG 1. PEAK OUTPUT POWER

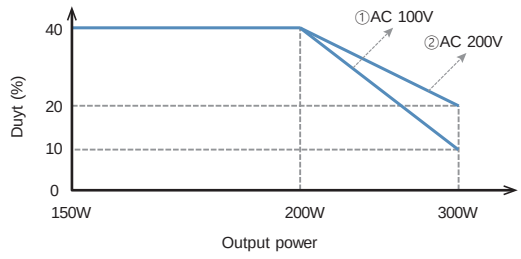
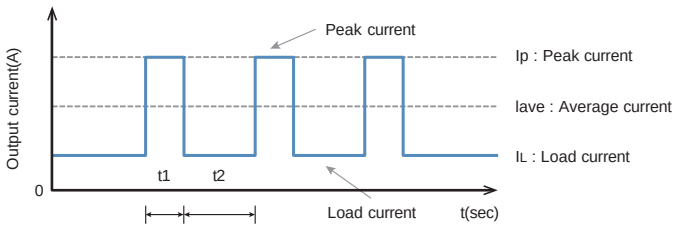


FIG 2. DESCRIPTION OF PEAK CURRENT



MODEL NO. RULE:

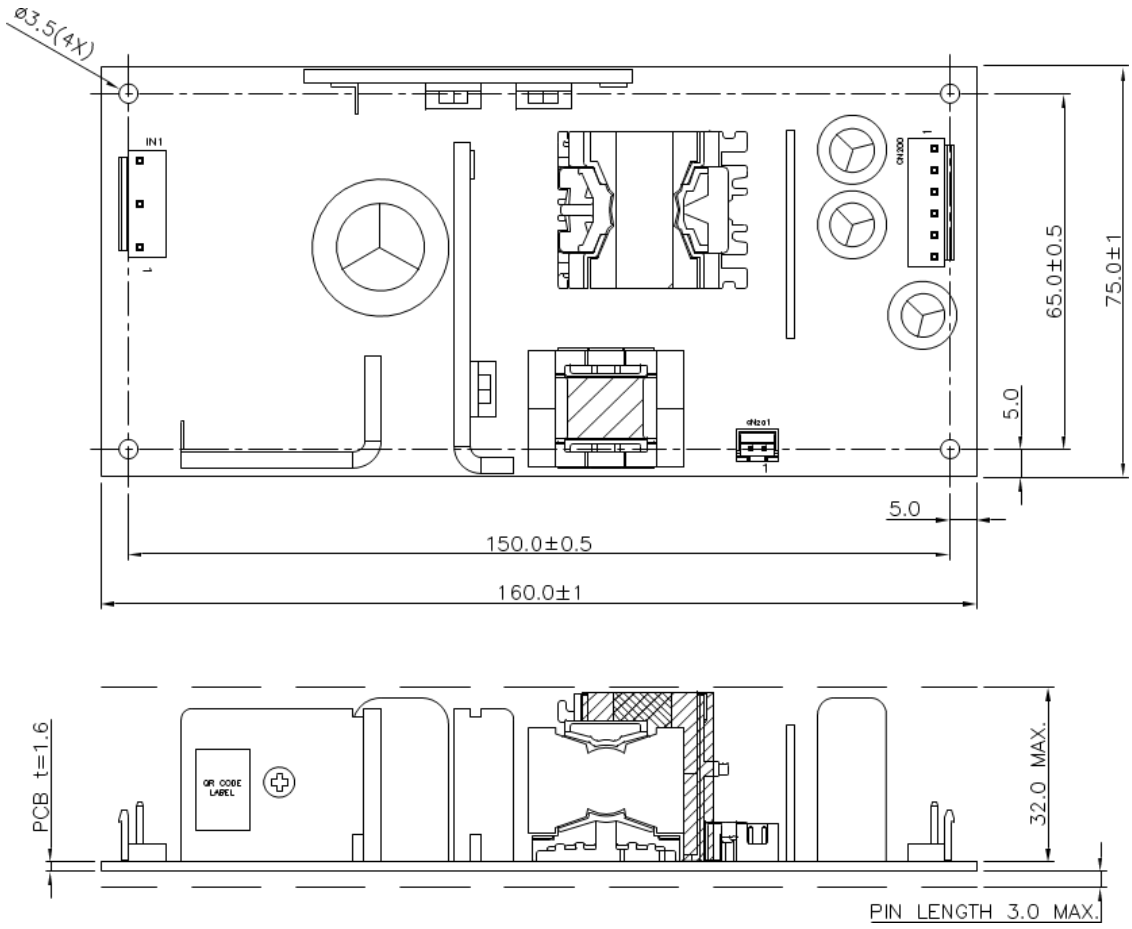
FSP 150 – P36P – A12 C S
(1) (2)

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. CN200: JST B6P-VH or EQU

Pin No.	Function
1, 2, 3	V-
4, 5, 6	V+

3. CN201: 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 285 grams (0.628 lbs.) approx.