TECHNICAL DATASHEET

300W ITE Power Supplies

FSP300-P37P Series

FSP300-P37P series

FEATURES

- Class-I Design
- IEC 62368-1 safety approval
- EN55032 class B emission
- Remote ON control (options)
- Input power less than 0.5W at standby mode
- Peak power 600W

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 38.1 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 300 watts continuous power at convection cooling and 600 watts peak power at 50℃ operation temperature. Please note 7 CFM forced air cooling is required for enclosed form factor. Product is suitable for industry control applications.

INPUT SPECIFICATIONS

Input voltage:	90 to 264 VAC
Input frequency:	47-63 Hz
Input current:	3.5 A (rms) @ 300W for 100 VAC 1.6 A (rms) @ 300W for 230 VAC
Earth leakage current:	500 μA max. @ 264 VAC
Remote ON (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:	300 watts maximum
Ripple and noise:	See rating chart.
Protection:	
OVP	Auto recovery
OPP & Shorted	Auto recovery
OTP	Auto recovery

ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20℃ to +70℃
Storage temperature:	-20℃ to +75℃
Relative humidity:	10% to 95% non-condensing
Derating:	See derating curve

GENERAL SPECIFICATIONS

Fuse protection:	T10A, 250Vac
Operating altitude :	5000 meters above sea leavel
Efficiency:	Refer to rating table
Turn-On Delay Time	1 sec typical
Hold-up time:	20 mS typ. @ 100/230 VAC & 300W load
Line regulation:	±1% maximum at full load
Inrush current:	15 A @ 100 VAC / 60 Hz or 35 A @ 230VAC / 50 Hz, at 25℃ cold start
Power factor:	≥ 0.99 @ 115 VAC & 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:	400K hours mini. at 300W load and 50℃ 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 immunity, 3 Vrms
EN61000-4-8:	Power Frequency Magnetic field, 3 A/m
EN61000-4-11:	Voltage dip immunity & voltage interruptions 30% reduction for 500mS, criteria B >95% reduction for 10mS, criteria A >95% reduction for 5000mS, criteria B

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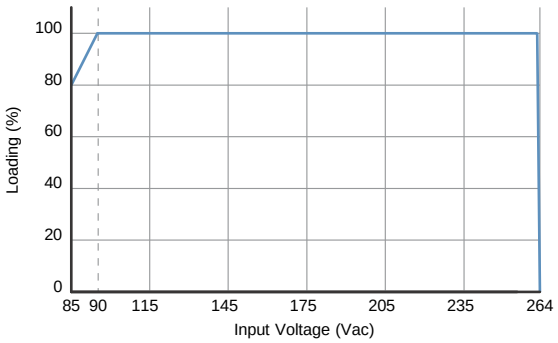
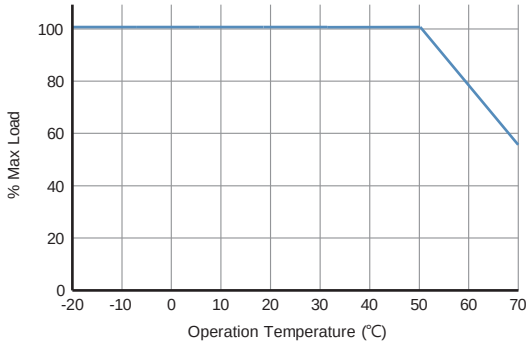
INPUT VOLTAGE DERATING CURVE



OUTPUT POWER DERATING CURVE



OUTPUT VOLTAGE/CURRENT RATING CHART

Model (1)	Output							Efficiency (typical)
	V1	Min. Current	Max. Current	Tolerance	Ripple & Noise (2)	Max. Power	Peak Power (3)	@ 115 / 230 Vac
(4)FSP300-P37P-A24 FSP300-P37P-B24	24V	0A	12.5A	±5 %	390mV	300W	600W	91.5 / 93.5%
(4)FSP300-P37P-A36 FSP300-P37P-B36	36V	0A	8.4A	±5 %	500mV	300W	600W	91.5 / 93.5%
(4)FSP300-P37P-A48 FSP300-P37P-B48	48 V	0A	6.25A	±5 %	500mV	300W	600W	91.5 / 93.5%

NOTES:
1. PSU is the PCB form factor. Suffix " C" in model no. is for the enclosed form factor, e.g. FSP300-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. Please check certificate schedule before design.

FIG 1. PEAK OUTPUT POWER

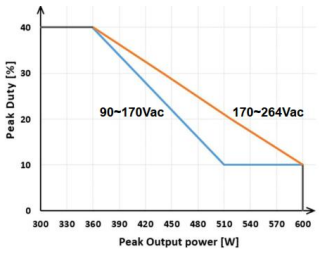
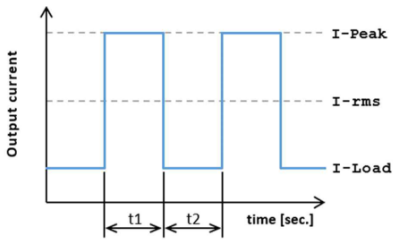


FIG 2. DESCRIPTION OF PEAK CURRENT



MODEL NO. RULE:

FSP 300 – P37P – A24 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 switch.

Definitions:
- Peak output power [W] = Peak current [A] * Output voltage [V]
- t1 ≦10 sec
- Irms ≦Rated peak current
- Duty =t1/(t1+t2) x 100[%] ≦40%
- Irms = √[(Ipeak² × t1 + ILoad² × t2) / (t1 + t2)]

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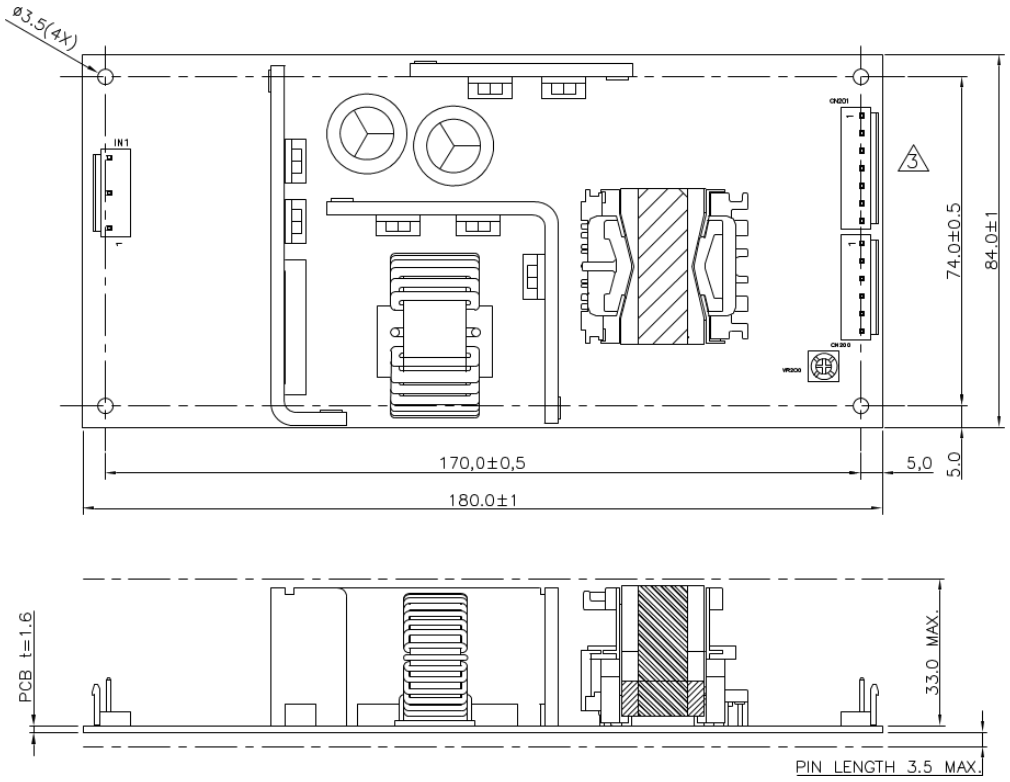
MECHANICAL SPECIFICATIONS

PCB form factor

FSP300-P37P-A series



Pin assignment of IN1

PinNo.	Function	Wafer
1	L	JST B3P5-VH or EQUIVALENT
2		
3	N	
4		
5	FG	

Pin assignment of CN200

PinNo.	Function	Wafer
1	+V	JST B06P-VH or EQUIVALENT
2	+V	
3	+V	
4	+V	
5	+V	
6	+V	

Pin assignment of CN201

PinNo.	Function	Wafer
1	−V	JST B07P-VH or EQUIVALENT
2	−V	
3	−V	
4	−V	
5	−V	
6	−V	
7	−V	

NOTES:
1. Dimension showed in mm.
2. To ensure compliance with level B emissions, connect the two PCB mounting holes with metallic standoffs to the chassis.
3. Weight: PCB form factor 420 grams (0.93 lbs.) approx.

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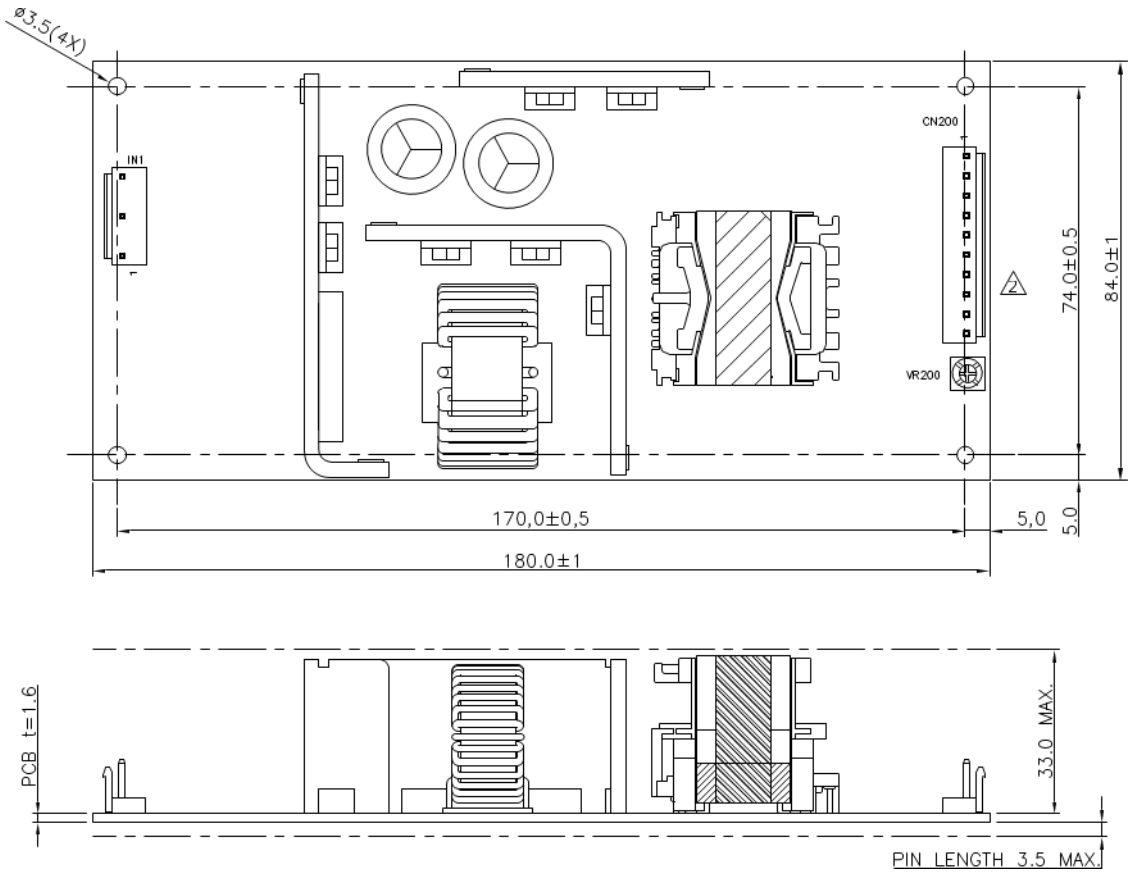
MECHANICAL SPECIFICATIONS

PCB form factor

FSP300-P37P-B series



Pin assignment of IN1

Pin No.	Function	Wafer
1	L	JST B3P5-VH or EQUIVALENT
2		
3	N	
4		
5	FG	

Pin assignment of CN200

Pin No.	Function	Wafer
1	−V	JST B10P-VH or EQUIVALENT
2	−V	
3	−V	
4	−V	
5	−V	
6	+V	
7	+V	
8	+V	
9	+V	
10	+V	

NOTES:
1. Dimension showed in mm.
2. To ensure compliance with level B emissions, connect the two PCB mounting holes with metallic standoffs to the chassis.
3. Weight: PCB form factor 420 grams (0.93 lbs.) approx.

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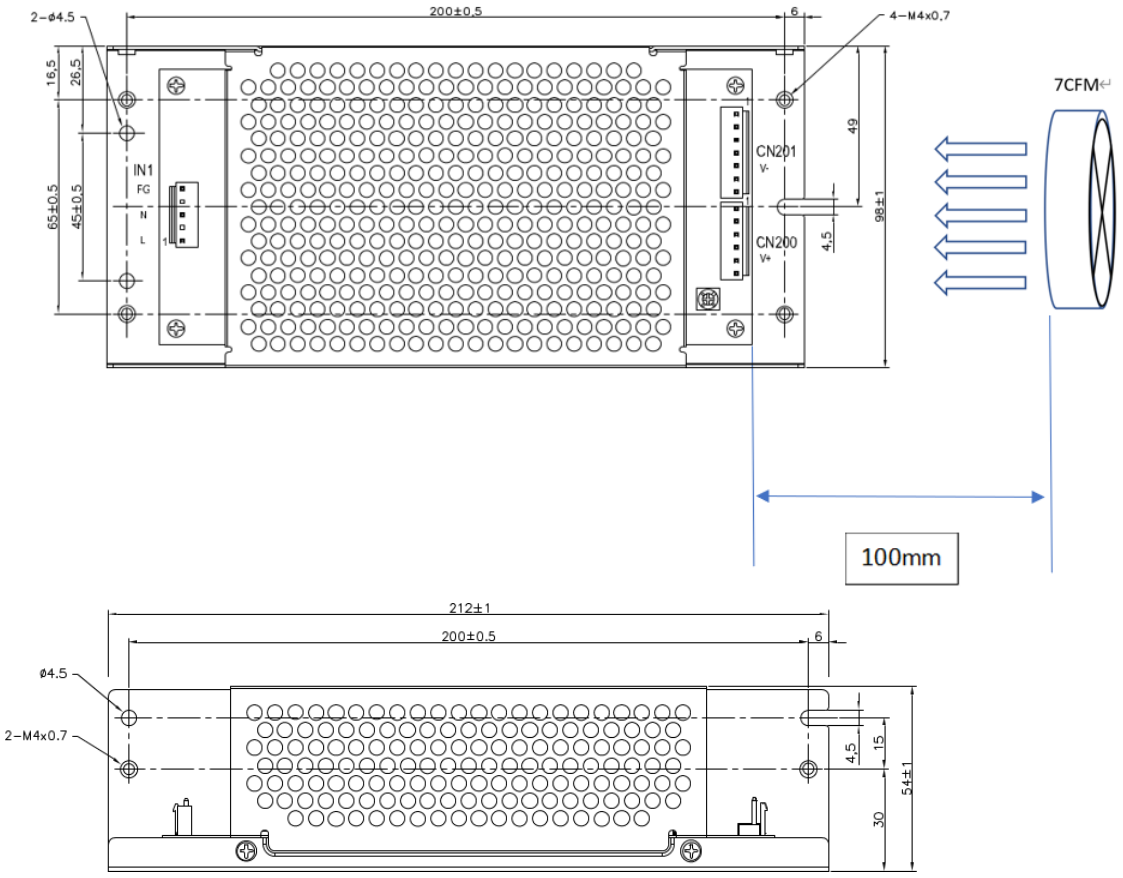
MECHANICAL SPECIFICATIONS

Enclosed form factor



NOTES:
1. Connectors information, please refer to PCB form factor. They are the same connectors and pin assignment.
2. Dimension showed in mm.
3. Weight: 739 grams (1.628 lbs.) approx.

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