

300W ITE POWER SUPPLIES

DESCRIPTION

This AC-DC switching power supplies series in a package of 3 x 6 inches is a single output with +5Vsb PSU. The single main output is capable of delivering 300 watts continuous power at 10 CFM forced air cooling or 200 watts at convection cooling. Three form factors are supported as PCB, L-Bracket and Enclosed with fan assembly. They are designed for information technology and industrial application.

FEATURES

- Provide +5Vsb AUX power
- 1.5KVac withstand voltage between PE and RETURN
- Power failed indication (PFD)
- Output inhibit control
- High altitude 5000 meters operation
- OVP, OCP, OTP protection
- Isolated 12V fan driver
- Fast-on grounding pin

INPUT SPECIFICATIONS

Input voltage: 90-264 VAC
 Input frequency: 47-63 Hz
 Input current: 3.2 A (rms) for 115 VAC
 1.6 A (rms) for 230 VAC
 Earth leakage current: 220 μ A max. @ 264 VAC, 63 Hz
 Inhibit input signal:
 Requires an external TTL high level signal to inhibit outputs for standard models

OUTPUT SPECIFICATIONS

Output voltage/current: See rating chart.
 Total output power: See rating chart.
 Ripple and noise: 1% peak to peak maximum
 Protection:
 OVP Latch off
 OCP & Shorted Auto recovery
 OTP Latch off
 Temperature coefficient: All outputs $\pm 0.04\%$ / $^{\circ}$ C 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
 Fan power: 12 V at 1.0 A maximum (isolated)
 Aux power (+5Vsb) 5 V at 2.0 A maximum
 PFD (Power Failed Indication):
 TTL logic high for normal operation and TTL logic low upon loss of input power. This signal appears at least 1ms prior to V1 output dropping 5% below its nominal value. This signal also provides a minimum delay of 100 ms after V1 is within regulation

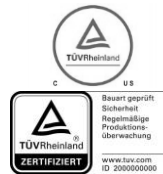
ENVIRONMENTAL SPECIFICATIONS

Operating temperature: 0 $^{\circ}$ C to +70 $^{\circ}$ C
 Storage temperature: -40 $^{\circ}$ C to +85 $^{\circ}$ C
 Relative humidity: 5% to 95% non-condensing
 Derating: Derate from 100% at +50 $^{\circ}$ C linearly to 50% at +70 $^{\circ}$ C, applicable to convection and forced-air cooling conditions

FSP300-K36 SERIES



SAFETY STANDARD APPROVAL



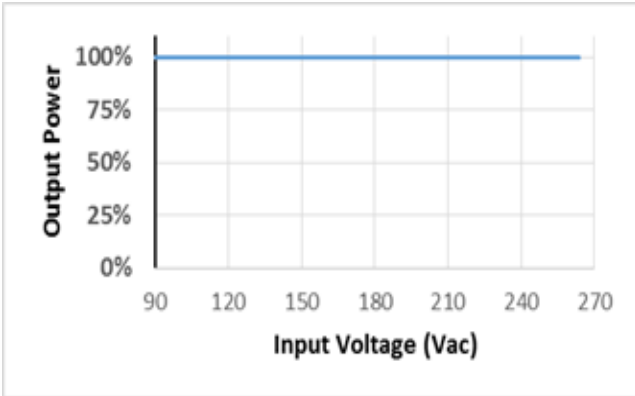
UL 62368-1, CSA C22.2 No. 62368-1

TÜV EN 62368-1

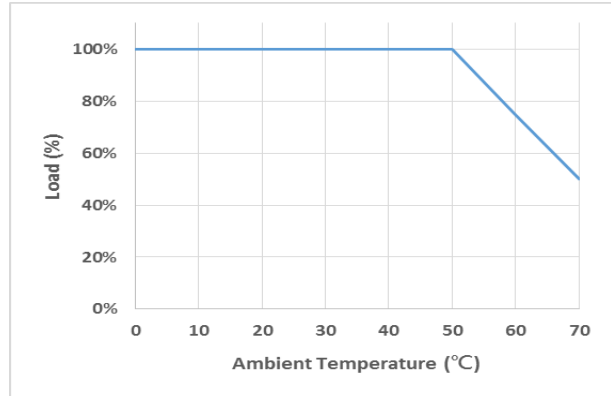
GENERAL SPECIFICATIONS

Switching frequency: 100 KHz (typical)
 Efficiency: 87% minimum on all models
 Hold-up time: 10 ms minimum at 110 VAC
 Line regulation: $\pm 0.5\%$ maximum at full load
 Inrush current: 20 A @ 115 VAC or 40 A @ 230 VAC, at 25 $^{\circ}$ C cold start
 Withstand voltage: 4242 VDC from input to output
 2500 VDC from input to ground
 707 VDC from output to ground
 MTBF: 150,000 hours at full load at 25 $^{\circ}$ C ambient, calculated per MIL-HDBK-217F
 EMC Performance
 EN55032: 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 A and 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, ± 1 KV diff., ± 2 KV com
 EN61000-4-6: Conducted immunity, 3 Vrms
 EN61000-4-8: Magnetic field immunity, 1 A/m
 EN61000-4-11: Voltage dip immunity,
 > 95% reduction for 10 ms, criteria A
 30% reduction for 500 ms, criteria A
 >95% reduction for 5000 ms, criteria B

INPUT VOLTAGE DERATING CURVE



OUTPUT POWER DERATING CURVE



OUTPUT VOLTAGE/CURRENT RATING CHART

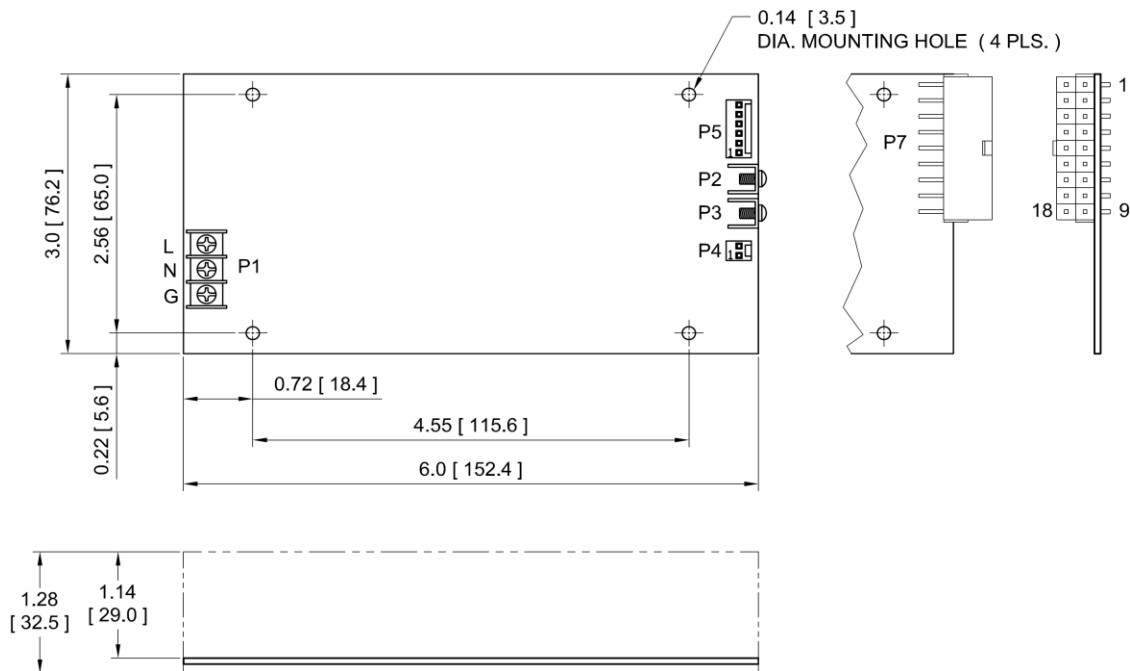
Model ^{(1) (3)}	Output							Efficiency (typical) 115 / 230 Vac
	V1	Min. Current	Max. Current at convection ⁽²⁾	Max. Current at 10 CFM ⁽²⁾	Tol.	Ripple & Noise ⁽⁴⁾	Max. Power	
FSP300-K36-12A	12 V	0 A	16.67 A	25.0 A	±2%	120 mV	200 / 300 W	89 / 91%
FSP300-K36-15A	15 V	0 A	13.34 A	20.0 A	±2%	150 mV	200 / 300 W	89 / 91%
FSP300-K36-19A	19 V	0 A	10.53 A	15.8 A	±2%	190 mV	200 / 300 W	88 / 90%
FSP300-K36-24A	24 V	0 A	8.34 A	12.5 A	±2%	240 mV	200 / 300 W	88 / 91%
FSP300-K36-30A	30 V	0 A	6.67 A	10.0 A	±2%	300 mV	200 / 300 W	89 / 91%
FSP300-K36-36A	36 V	0 A	5.56 A	8.34 A	±2%	360 mV	200 / 300 W	89 / 91%
FSP300-K36-48A	48 V	0 A	4.17 A	6.25 A	±2%	480 mV	200 / 300 W	89 / 91%

NOTES:

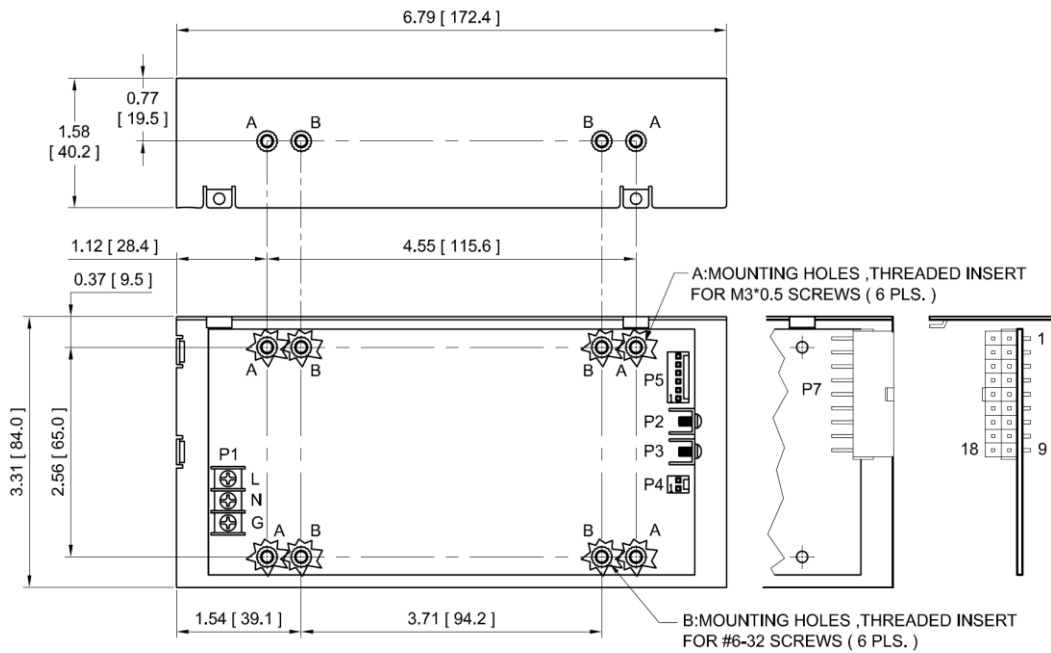
- Suffix "A" in model numbers denotes PCB constructed form. Change suffix "A" to "B" for L-bracket form, e.g. FSP300-K36-12B. Change suffix "A" to "C" for enclosed form, e.g. FSP300-K36-12C.
- 200 W without moving air or 300 W with 10 CFM forced air provided by user.
- Standby power output 5 V at 2 A.
- 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 10 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

MECHANICAL SPECIFICATIONS

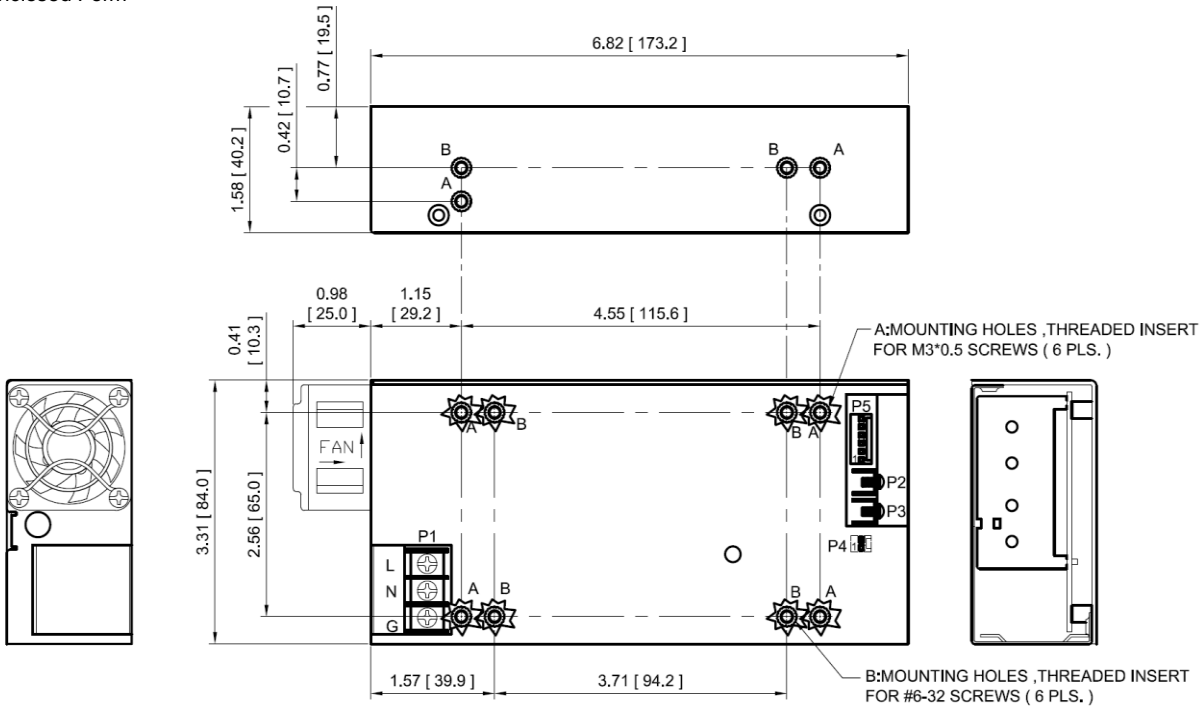
PCB constructed Form



L-bracket Form



Enclosed Form



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1 is Dinkle DT-35-B01W-03 with M3, nickel-plated screws.
4. Output connector P2 and P3: M3 x 0.5 screw connections
5. Fan connector P4: Molex header 22-04-1021 or equivalent, mating with Molex housing 22-01-1022 or equivalent.
6. Connectors P5: Molex header 22-04-1061 or equivalent, mating with Molex housing 22-01-1062 or equivalent.
7. Option output connector P7: Molex header 39-30-1180 or equivalent, mating with Molex housing 39-01-2185 or equivalent.
8. Option input connector P8: Molex header 26-60-4050 or equivalent, mating with Molex housing 09-50-8050 or equivalent.
9. Maximum penetration depth of fixing screws is 4 mm from the outer surface of chassis.

CONNECTOR PIN CHART:

Connector	P1			P2	P3	P4	
Pin No.	1	2	3			1	2
Polarity	Live	Neutral	Ground	+V1	Common Return	+12V Fan (isolated)	Fan Return (isolated)

Connector	P5					
Pin No.	1	2	3	4	5	6
Polarity	-Sense	+Sense	PFD	Inhibit	+5V Standby	Common Return

CONNECTOR PIN CHART (Optional to instead of P2, P3, P4, P5)

Connector	P7							
Pin No.	1	2	3 ~ 8	9	10	11	12 ~ 17	18
Polarity	+5V Standby	Inhibit	+V1	Fan Return	Standby Return	PFD	Common Return	+12V Fan

Connector	P8		
Pin No.	L	N	G
Polarity	Live	Neutral	Ground

WEIGHT:

1. **510 grams** (1.12 lbs.) approx. for PCB constructed form,
2. **612 grams** (1.35 lbs.) approx. for L-bracket form,
3. **744 grams** (1.64 lbs.) approx. for Enclosed form.