

500W Single Output Switching Power Supply

- Built in PFC circuit (0.99)
- High efficiency, high reliability
- 100% full load burn-in test
- Cooling fan on/off automatically
- Built in remote control
- Short circuit/ over load/ over voltage/ over temp. protected
- Universal AC input/ full range
- Approvals: UL/ TUV/ CE/ ISO-9001
- 2 years warranty



Input voltage.....	88~264VAC universal input
Input current/ frequency.....	7A/ 115V, 3.5A/ 230V; 47-63Hz
Inrush current.....	15A/ 115V, 30A/ 230V
Output voltage.....	refer to below table ($\pm 10\%$ ADJ.)
Overload protection.....	105%~135% output constant limiting
Over voltage protection.....	115%~140% of output voltage
Setup, rise, hold up time.....	1.5s, 50ms, 20ms/ 230VAC
Withstand voltage.....	I/P-O/P:3KV, I/P-FG:1.5KV, 1min.
Working temp.....	0-40°C @100%, -10°C @80%, 50°C @60%
Safety standard.....	UL 1950, TUV EN60950
EMC standard.....	(EN55022), IEC1000-4-2~6,8,11, IEC1000-3-2
Connection.....	15P/ 9.5mm pitch terminal block
Weight.....	1.8kgs
Packing.....	8PCS/ 0.9CUFT

Stock No	Type No	Output	Tol.	R&N	Effi.	P.P.
10131	SP-500-12	12V, 40A	$\pm 1\%$	240mV	84%	300
10132	SP-500-13.5	13.5V, 36A	$\pm 1\%$	240mV	84%	300
10133	SP-500-15	15V, 32A	$\pm 1\%$	240mV	83%	300
10134	SP-500-24	24V, 20A	$\pm 1\%$	240mV	85.5%	300

10134	SP-500-24	24V, 20A	$\pm 1\%$	240mV	85.5%	300
10135	SP-500-27	27V, 18A	$\pm 1\%$	200mV	86.5%	300
10136	SP-500-48	48V, 10A	$\pm 1\%$	300mV	87%	300



MEAN WELL

SWITCHING POWER SUPPLY

ISO-9001 CERTIFIED MANUFACTURER

SP-500

SERIES

- .LOW COST, HIGH RELIABILITY
- .COOLING FAN ON/OFF AUTOMATICALLY
- .BUILT IN REMOTE CONTRAL
- .INTERNATIONAL AC INPUT RANGE
- .HIGH EFFICIENCY, LOW WORKING TEMPERATURE
- .SOFT-START CIRCUIT, LIMITING AC SURGE CURRENT
- .SHORT CIRCUIT, OVERLOAD, OVER VOLTAGE, OVER TEMP. PROTECTED
- .COMPACT SIZE, LIGHT WEIGHT
- .100% FULL LOAD BURN-IN TEST
- .105°C OUTPUT CAPACITOR
- .BUILT IN EMI FILTER, LOW RIPPLE NOISE
- .BUILT IN PFC CIRCUIT



MODEL	SP-500-12	SP-500-13.5	SP-500-15	SP-500-24	SP-500-27	SP-500-48
DC OUTPUT VOLTAGE	12V	13.5V	15V	24V	27V	48V
OUTPUT V. TOLERANCE	±1%	±1%	±1%	±1%	±1%	±1%
OUTPUT RATED CURRENT	40A	36A	32A	20A	18A	10A
OUTPUT CURRENT RANGE	0-40A	0-36A	0-32A	0-20A	0-18A	0-10A
RIPPLE & NOISE	240mVp-p	240mVp-p	240mVp-p	240mVp-p	200mVp-p	300mVp-p
LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
LOAD REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
DC OUTPUT POWER	480W	486W	480W	480W	486W	480W
EFFICIENCY	84%	84%	83%	85.5%	86.5%	87%
DC VOLTAGE ADJ.	10-13.2V	12-15V	13.5-18V	20-26.4V	24-30V	41-56V
INPUT VOLTAGE RANGE	88~264VAC 47~63Hz; 124~370VDC					
AC CURRENT	7A/115V 3.5A/230V					
POWER FACTOR	0.95/100~240VAC					
INRUSH CURRENT	18A/115V 36A/230V					
LEAKAGE CURRENT	<3.5mA/240VAC					
OVERLOAD PROTECTION	105%~135% TYPE:FOLDBACK CURRENT LIMITING RESET:AUTO RECOVERY					
OVER VOLTAGE PROTECTION	13.8~16.2V	15.5~18.2V	18~21V	27.6~32.4V	31~36.5V	57.6~67.2V
FAN CONTROL, O.T.P.	RTH1 or RTH2>=50°C FAN ON, <=45°C FAN OFF, >=70°C OUTPUT SHUTDOWN					
TEMP. COEFFICIENT	±0.03% / °C (0~50°C)					
SETUP, RISE, HOLD UP TIME	1.5s, 50ms, 20ms					
VIBRATION	10~500Hz, 2G 10min./1cycle, PERIOD FOR 60min. EACH AXES					
WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC					
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:500VDC / 100M Ohms					
WORKING TEMP., HUMIDITY	-10°C~+50°C(REFER TO OUTPUT DERATING CURVE), 20%~90% RH					
STORAGE TEMP., HUMIDITY	-20°C~+85°C, 10%~95% RH					
DIMENSION	185*20*93mm CASE:910					
WEIGHT	1.8Kgs					
SAFETY STANDARDS	UL1950, TUV EN60950 APPROVED					
EMC STANDARDS	CISPR22 (EN55022), IEC1000-4-2,3,4,5,6,8,11 IEC1000-3-2 VERIFICATION					

MEAN WELLSWITCHING POWER SUPPLYISO-

NOTE :

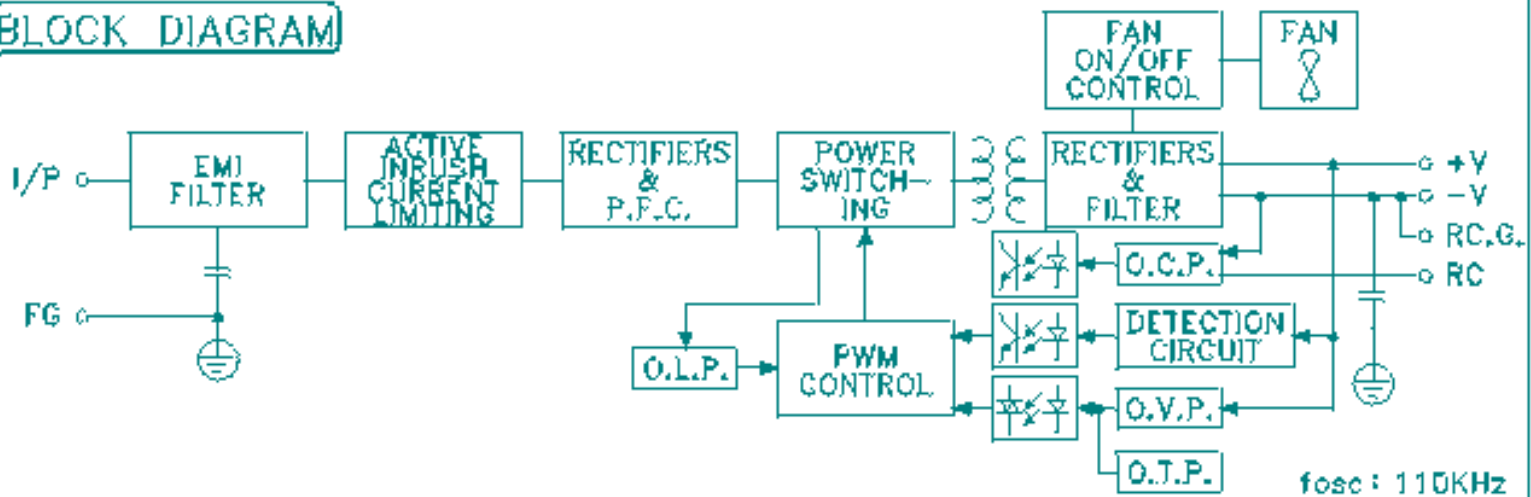
- 1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C 70% RH. AMBIENT.
- 2.TOLERANCE;GINCLUDE SET UP TOLERANCE, LINE REGULATION, LOAD REGULATION.
- 3.RIPPLE & NOISE ARE MEASURED AT 20MHz BY USING A 12" TWISTED PAIR TERMINATED WITH A 0.1uF & 47uF CAPACITOR.
- 4.LINE REGULATION IS MEASURED FROM LOW LINE TO HIGH LINE AT RATED LOAD.
- 5.LOAD REGULATION IS MEASURED FROM 0% TO 100% RATED LOAD.
- 6.C3,4,14,16,31,32,101,102 MUST BE REMOVED.
- 7.REFER TO OUTPUT DERATING CURVE VS INPUT VOLTAGE.

JUN.09.98

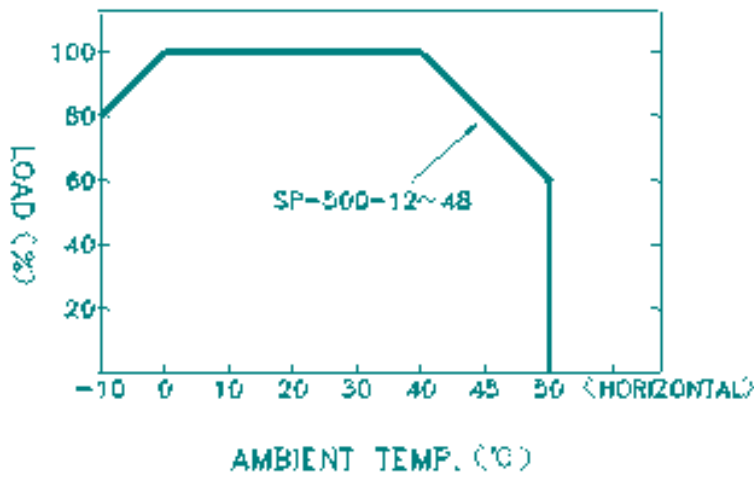
[NEXT \(MECHANICAL INFO\)](#)

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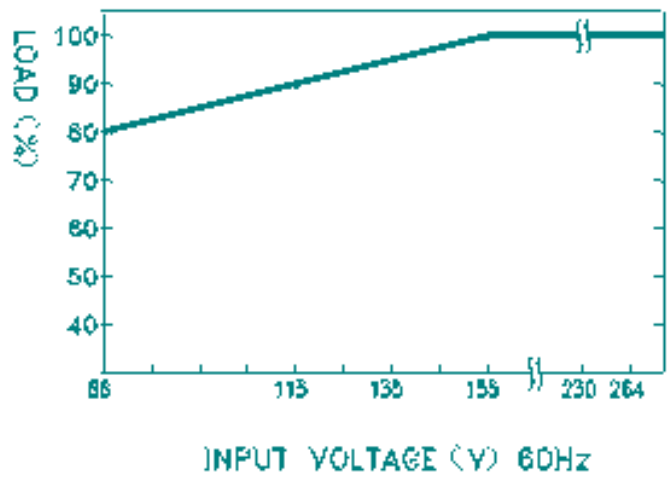
BLOCK DIAGRAM



OUTPUT DERATING VS T_a



OUTPUT DERATING VS INPUT VOLTAGE



DIMENSION (mm)

☒ CASE : 910

☒ TERMINAL PIN NO. ASSIGNMENT

☒ PIN 1,2 : AC INPUT

☒ PIN 3 : FG \oplus

☒ PIN 4,5 : NC

☒ PIN 6 : R.C.G.

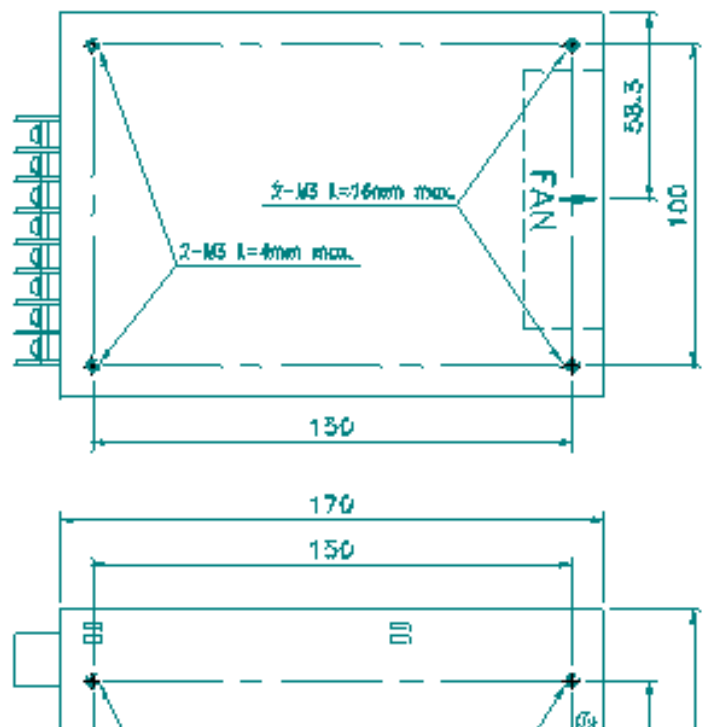
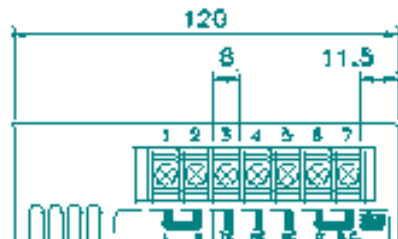
☒ PIN 7 : R.C.

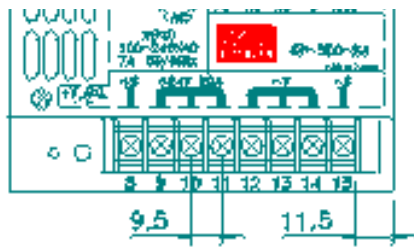
☒ PIN 8 : +S

☒ PIN 9,10,11: DC OUTPUT +V

☒ PIN 12,13,14: DC OUTPUT -V

☒ PIN 15 : -S





Quality Engineering Test Report

SERIES: SP-500 500W AC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A.SP-500-12 12V / 40 A D.SP-500-24 24V / 20 A
B.SP-500-13.5 13.5V / 36 A E.SP-500-27 27V / 18 A
C.SP-500-15 15V / 32 A F.SP-500-48 48V / 10 A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:88~264VAC O/P:FULL LOAD	D :61VAC~267VAC	P
2	LINE REGULATION	I/P:88~264VAC SPEC: O/P:FULL LOAD A: ±0.3% B: ±0.3% C: ±0.3% D: ±0.2% E: ±0.2% F: ±0.2%	A: 0% ~ 0% B: 0% ~ 0% C: -0.04% ~ 0% D: -0.02% ~ 0% E: 0% ~ +0.02% F: -0.01% ~ 0%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A: ±0.5% B: ±0.5% C: ±0.5% D: ±0.5% E: ±0.5% F: ±0.5%	A: -0.15% ~ +0.21% B: -0.18% ~ +0.13% C: -0.12% ~ +0.12% D: -0.05% ~ +0.07% E: -0.44% ~ +0.41% F: -0.04% ~ +0.04%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:88~264VAC SPEC: O/P:0% TO FULL LOAD A: ±1% B: ±1% C: ±1% D: ±1% E: ±1% F: ±1%	A: -0.26% ~ +0.05% B: -0.33% ~ +0.04% C: -0.21% ~ 0% D: -0.16% ~ 0% E: -0.83% ~ +0.02% F: -0.05% ~ +0.03%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A: 240mV B: 240mV C: 240mV D: 240mV E: 200mV F: 300mV	A: 170mV B: 165mV C: 187mV D: 113mV E: 117mV F: 108mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC:3.5A O/P:FULL LOAD	D : 2.4A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC:30A O/P: FULL LOAD	D : 27A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: O/P:MIN. LOAD A: 10~13.2V B: 12~15V C: 13.5~18V D: 20~26.4V E: 24~30V F: 41~56V	A: 9.24V~13.68V B: 11.62V~16.55V C: 12.47V~19.04V D: 19.22V~27.76V E: 22.61V~32.55V F: 38.61V~58.21V	P
9	SET UP TIME	I/P:230VAC SPEC:1.5S O/P:FULL LOAD	D : 778mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:20mS O/P:FULL LOAD	D : 41mS	P
11	EFFICIENCY	I/P:230VAC SPEC: O/P:FULL LOAD A:84% B:84% C:83% D:85.5% E:86.5% F:87%	A:85.03% B:85.73% C:84.51% D:87.19% E:87.06% F:89.27%	P

[NEXT](#)