Astrodyne

500W Single Output with PFC Function

SP500 series

- Universal AC input
- Protections:Short circuit/Over load/Over voltage/Over temperature
- Built-in active PFC function, PF >0.95
- Forced air cooling by built-in DC Fan
- Built-in cooling Fan ON OFF control
- Built in remote ON-OFF control
- Built-in remote sense function
- Fixed switching fequency at 110KHz

Model Number	Output Volts	Output Amps	OVP	Min Load	DC Volt Adjust	Efficiency
SINGLE OUTPUT						
SP500-12	12 Volts(DC)	40 Amps	13.8 ~ 16.2Volt(DC)	0~40Amps	10~13.2Volt(DC)	84%
SP500-13.5	13.5 Volts(DC)	36 Amps	15.75 ~ 18.2Volt(DC)	0~36Amps	12~15Volt(DC)	84%
SP500-15	15 Volts(DC)	32 Amps	18 ~ 21Volt(DC)	0~32Amps	13.5~18Volt(DC	83%
SP500-24	24 Volts(DC)	20 Amps	27.6 ~ 32.4Volt(DC)	0~20Amps	20~26.4Volt(DC)	85.5%
SP500-27	27 Volts(DC)	18 Amps	31 ~ 36.5Volt(DC)	0~18Amps	24~30Volt(DC)	86.5%
SP500-48	48 Volts(DC)	10 Amps	57.6~ 67.2Volt(DC)	0~10Amps	41~56Volt(DC)	87%

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INPUT SPECIFICATIONS

Input Voltage Range (Note 5)	90 ~ 264VAC 124~370 Volts(DC)
Frequency Range	47-63 Hz
Inrush Current, typ: (cold start)	18Amps/115VAC; 36Amps 230VAC
Input Current	7.0Amps @ 115VAC
	3.5 Amps @ 230VAC
Leakage current	< 3.5mAmps / 240VAC
Min Load	See Selection Chart
Power Factor @ FL	PF > 0.95 / 230VAC
	> 0.95 / 115VAC

OUTPUT SPECIFICATIONS

Voltage and Current (Note3)	See Selection Chart
Line Regulation	±0.5%
Load Regulation	±0.5%
Voltage Tolerance (Note 2)	±1.0%
Ripple/Noise (Note 1)	240mVpk-pk: 12~24Volts(DC)
	200mVpk-pk: 27Volts(DC)
	300mVpk-pk: 48Volts(DC)
Hold Up Time @ FL	24mS
Setup, Rise Time @ FL	1500mS, 50mS
Over Voltage Protection	See Selection Chart
	Hiccup mode, auto-recover
Over Current Protection	105~135% rated output power
	Fold back current limiting,auto recover
Over Temperature (Note 3)	
80°C TSW1: detect on heatsink of power transistor	
90°C TSW2: detect on heatsink of power diode	
Shut down o/p voltage, auto recover	
DC Volt Adjust	See Selection Chart
Peak Load: 10min (Note 4)	10% max

GENERAL SPECIFICATIONS

Safety	UL60950-1,
	TUV EN60950-1 Approved
Insulation Resistance	≥ 100MΩ / 500Volts(DC)
EMI	Compliance to EN55022B (CISPR22B)
Harmonic Current	Compliance to EN61000-3-2,-3
Remote Control	RC+/RC-: short= Power on
	open= Power off
Efficiency	See Selection Chart
Isolation	3000VAC Input - Output
	1500VAC Input - Ground
	500VAC Output - Ground
EMS	Compliance to
	EN61000-4-2,3,4,5,6,8,11
	ENV50204,
	light Industry Level, Criteria A
Fan Control	RTH1 or RTH2 ≥ 50°C Fan On,
	≤ 45°C Fan Off, ≥ 70°C output shutdown

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	-10°C to +50°C (See Derate Curve)
Storage Temperature	-20°C to +85°C, 10~95% RH
Relative Humidity	20~90% RH non cond
Temperature Coefficient	±0.03% / °C (0-50°C)
MTBF	133.4KHrs min,MIL-HDBK-217F(25°C)
Vibration	10~500Hz, 2G10min./1cycle, period for
	60min. each along X, Y, Z axes

PHYSICAL SPECIFICATIONS

Size	170x120 x 93mm (6.69"x4.72 "x3.66")
Weight	67.02 oz (1900g)

NOTE

1. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
2. Tolerance : includes set up tolerance, line regulation and load regulation.
3. Derating may be needed under low input voltages. Please check the derating curve for more details.

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted

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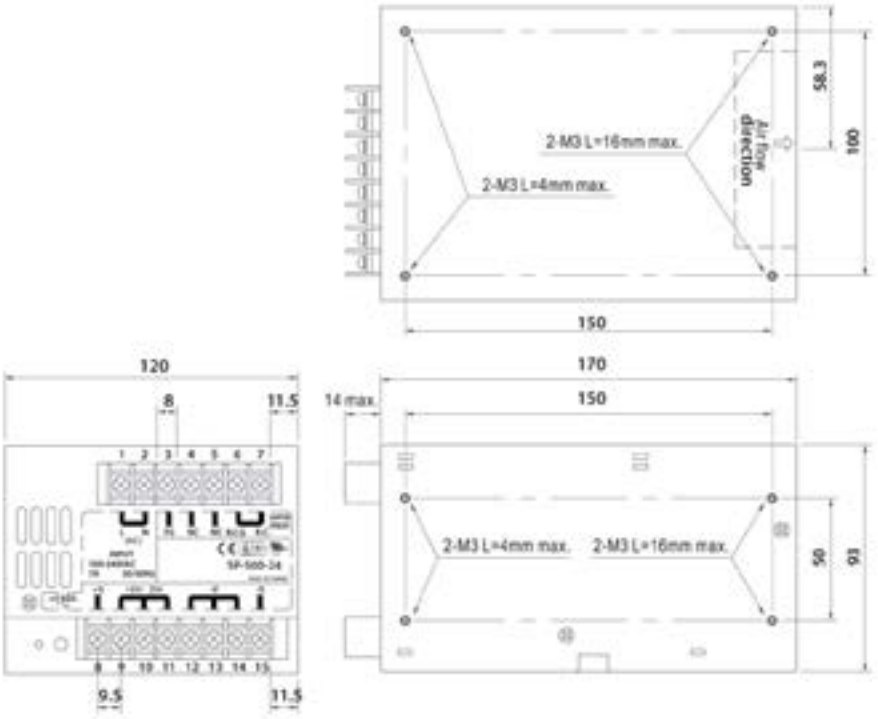
■ Mechanical Specification

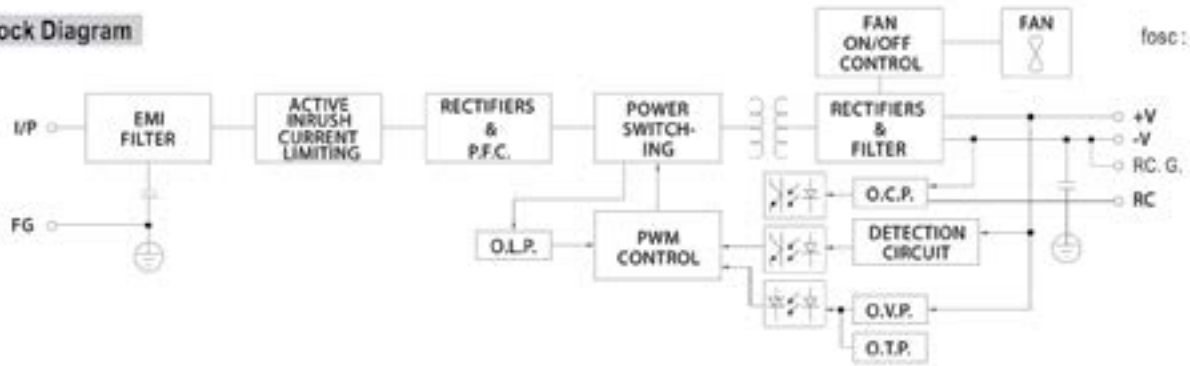
Case No. 910 Unit:mm



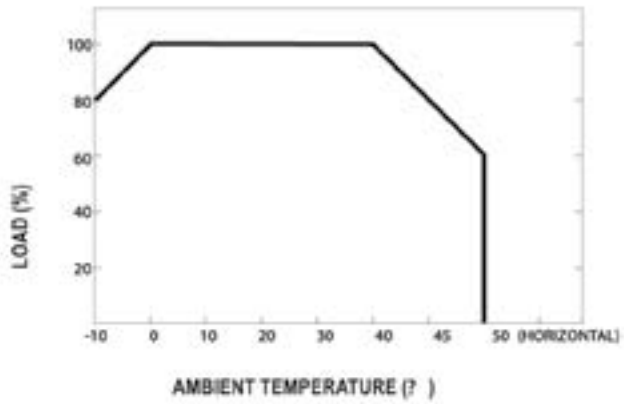
Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	7	R.C.
2	AC/N	8	+S
3	FG ⏚	9~11	DC OUTPUT +V
4,5	NC	12~14	DC OUTPUT -V
6	R.C.G	15	-S

■ Block Diagram



■ Derating Curve



■ Output Derating VS Input Voltage