Astrodyne

500W with PFC and Parallel Function

PSP500 series

- Universal AC input
- Protections:Short circuit/Over load/Over voltage/Over temperature
- Built-in active PFC function, PF>0.95
- Foced air cooling by built-in DC fan
- Current sharing up to 2000W(3+1)
- With power good and fail signal output
- Built-in remote ON-OFF control
- Built-in remote sense function

Model Number	Output Volts	Output Amps	OVP	Min Load	DC Volt Adjust	Load Reg	Efficiency
SINGLE OUTPUT							
PSP500-5	5 Volts(DC)	80 Amps	5.75~6.75Volt(DC)	0~80Amps	4.75~5.5Volt(DC)	±2.0%	76%
PSP500-12	12 Volts(DC)	41.5 Amps	13.8~16.2Volt(DC)	0~41.5Amps	10~13.2Volt(DC)	±0.5%	82%
PSP500-13.5	13.5 Volts(DC)	37 Amps	15.5~18.2Volt(DC)	0~37Amps	12~15Volt(DC)	±0.5%	82%
PSP500-15	15 Volts(DC)	33 Amps	18~21Volt(DC)	0~33Amps	13.5~18Volt(DC)	±0.5%	82%
PSP500-24	24 Volts(DC)	20.8 Amps	27.6~32.4Volt(DC)	0~20.8Amps	20~26.4Volt(DC)	±0.5%	84%
PSP500-27	27 Volts(DC)	18.5 Amps	31~36.5Volt(DC)	0~18.5Amps	24~30Volt(DC)	±0.5%	84%
PSP500-48	48 Volts(DC)	10.5 Amps	57.6~67.2Volt(DC)	0~10.5Amps	41~56Volt(DC)	±0.5%	86%

ASTRODYNE USA: 1-800-823-8082
ASTRODYNE PACIFIC: 886-2-26983458

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INPUT SPECIFICATIONS

Input Voltage Range (Note 4)	90 ~ 264VAC 127~370 Volts(DC)
Frequency Range	47-63Hz
Inrush Current, typ: (cold start)	20Amps/115VAC; 40Amps/230VAC
Input Current	7.0 Amps@115VAC
	3.5 Amps@230VAC
Leakage current	< 1mAmps / 240VAC
Min Load	See Selection Chart
Power Factor (typ.) @ FL	0.95/230VAC; 0.98/100VAC

OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart
Line Regulation	±0.5%: 5Volts(DC)
	±0.3%: 12~15Volts(DC)
	±0.2%: 24~48Volts(DC)
Load Regulation	See Selection Chart
Voltage Tolerance (Note 2)	2.0%: 5Volts(DC)
	1.0%: 12~48Volts(DC)
Ripple/Noise (Note 1)	100mVpk-pk: 5Volts(DC)
	150mVpk-pk: 12~27Volts(DC)
	200mVpk-pk: 48Volts(DC)
Hold Up Time @ FL	24mS
Setup, Rise Time @ FL	1500mS, 50mS
Over Voltage Protection	See Selection Chart
	Shutdown o/p voltage, re-power
Over Current Protection	110~125% rated output power
	Constant Current limiting, auto-recov
Over Temperature Protection	RTH2≥95°C detect on heatsink of
	Q1, Q7 power transistor & L3 output
	choke, shutdown o/p voltage,
	auto-recover after cool down
DC Voltage Adjust	See Selection Chart

GENERAL SPECIFICATIONS

Safety	UL60950-1,
	TUV EN60950-1 Approved
Insulation Resistance	≥100MΩ/500Volts(DC)/25°C/70%RH
EMI	Compliance to EN55022B(CISPR22B)
Harmonic Current	Compliance to EN61000-3-2,-3
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, ENV55024
	light Industry Level, Criteria A
Remote Control	RC+/RC-: 0~0.8Volts(DC)=Power ON
	4~10Volts(DC)=Power Off
	sink current <4~10mA

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	-10°C to +60°C (See Derate Curve)
Storage Temperature	-20°C to +85°C, 10~95% RH
Relative Humidity	20~90% RH, with 30CFM non cond
Temperature Coefficient	±0.03% / °C (0-50°C)
MTBF	130.1KHrs min,MIL-HDBK-217F(25°C)
Vibration	10~500Hz, 2G10min./1cycle, period for
	60min. each along X, Y, Z axes

PHYSICAL SPECIFICATIONS

Size	278 x 127 x 63.5 mm (10.95"x 5"x 2.5")
Weight	91.71 oz (2600g)

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. In parallel connection, maybe only one unit operated, if the total output load less than 5% of rated load condition.
4. 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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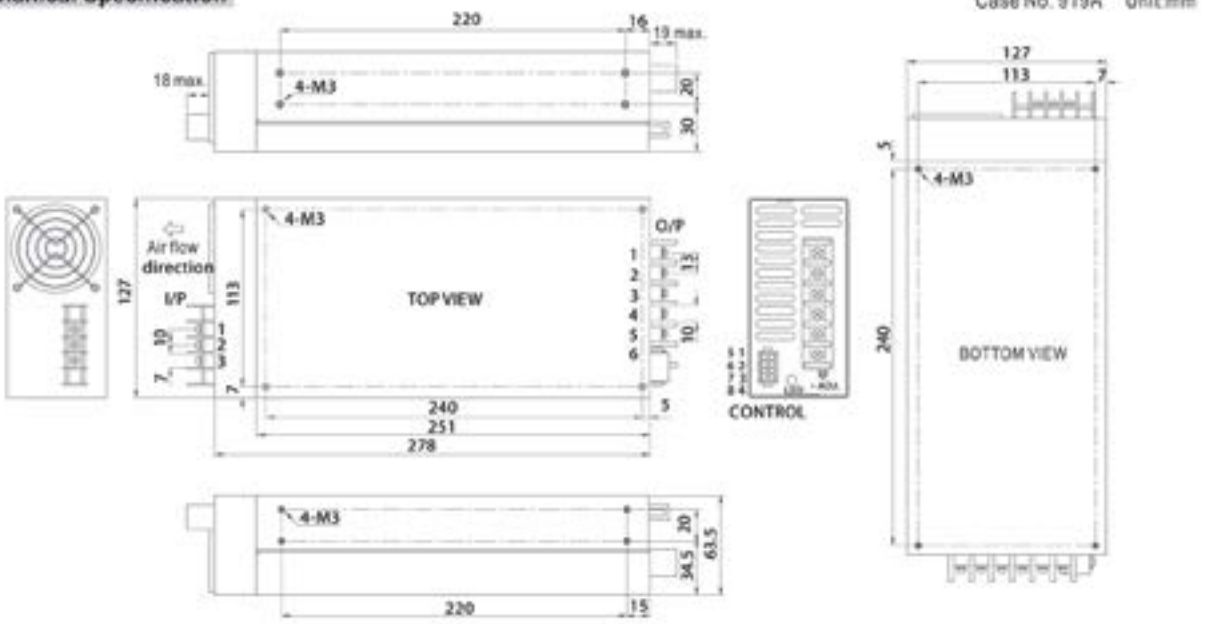
■ Mechanical Specification

Case No. 919A Unit:mm



AC Input Terminal Pin
No. Assignment

Pin No.	Assignment
1	AC/L
2	AC/N
3	FG ⏚

DC Output Terminal Pin
No. Assignment

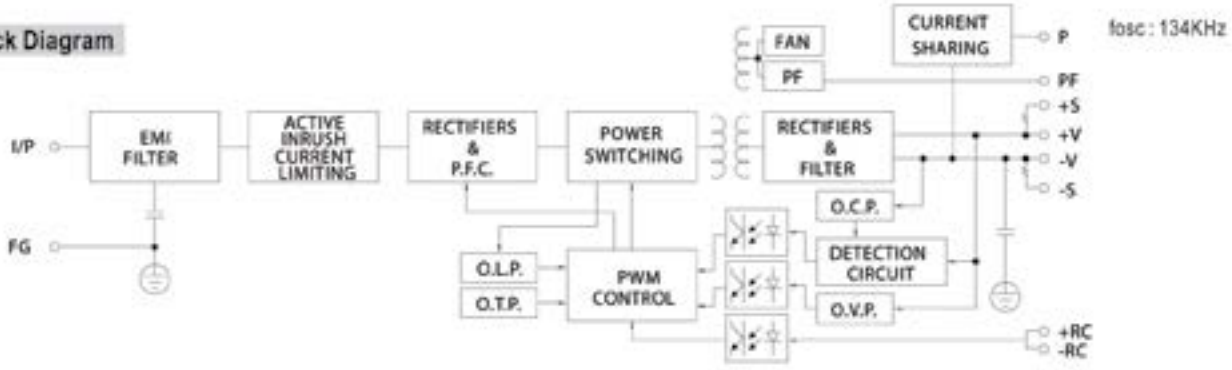
Pin No.	Assignment
1~3	DC OUTPUT +V
4~6	DC OUTPUT -V

Control Pin No. Assignment : MOLEX 5559-NP uses 5558 male crimp terminal

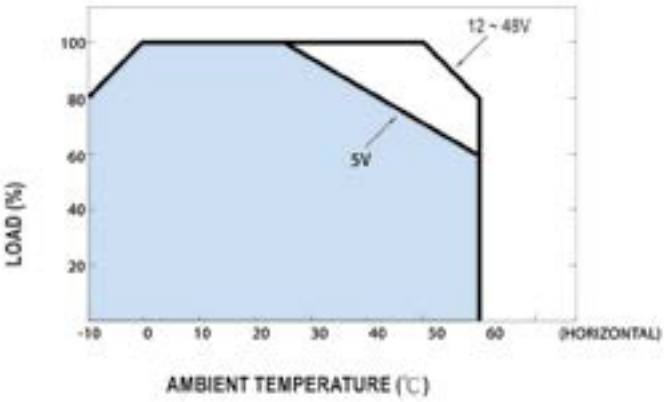
Pin No.	Assignment	Pin No.	Assignment	Mating connector	Terminal
1	P(Current share)	5	NC	MOLEX 5557-NR	MOLEX 5556 Female crimp Terminal receptacle
2	-S	6	PF(Power fail signal)		
3	G	7	+S		
4	RC-	8	RC+		

■ Block Diagram

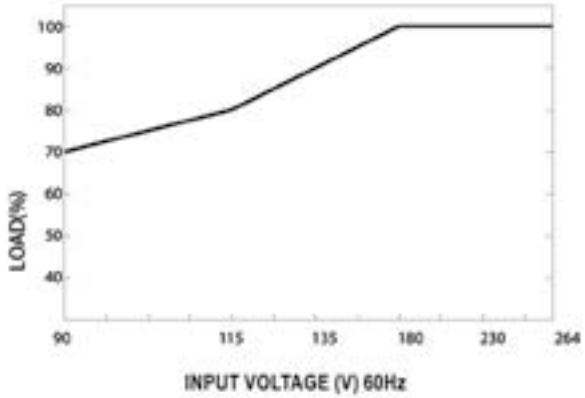
fosc : 134KHz



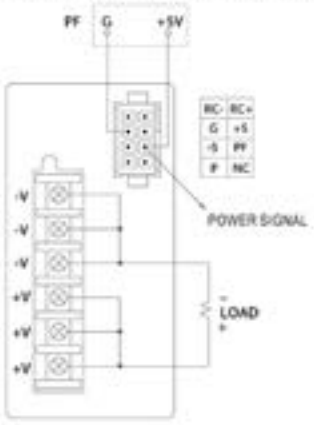
■ Derating Curve



■ Output Derating VS Input Voltage

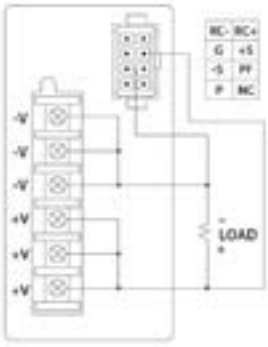


■ Control terminal instruction manual

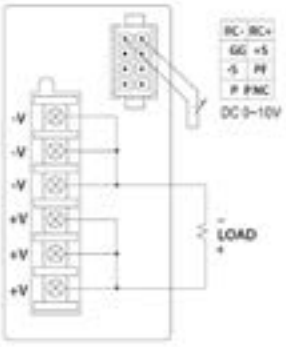


Power Fail Signal

PF Signal is the voltage difference between "G" and "PF" pin output



Remote Sensing

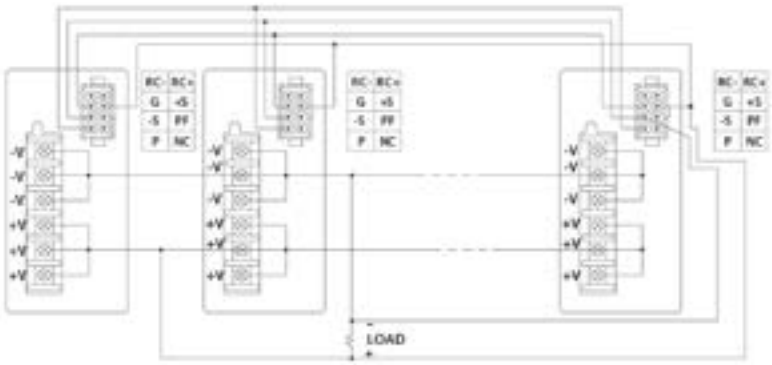


Remote Control

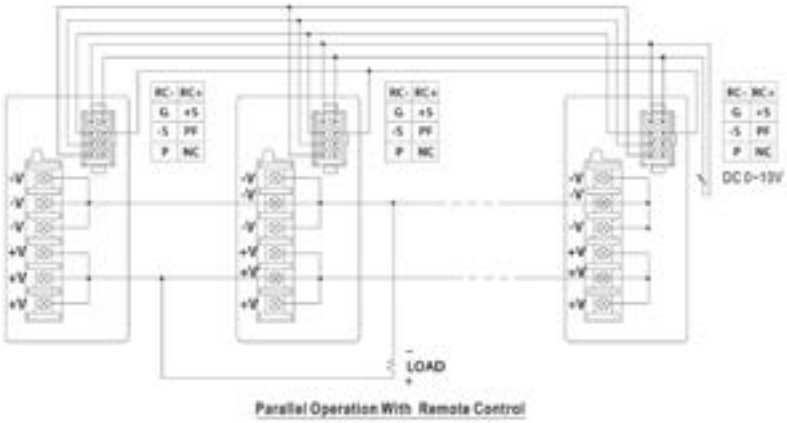
Power ON: When VRC+,RC-=0 ~ 0.8V or Open

Power OFF: When VRC+,RC-=4 ~ 10V

■ Parallel Operation



Parallel Operation With Remote Sensing



Parallel Operation With Remote Control