Astrodyne

600W with PFC and Parallel Function

PSP600 series

- Universal AC Input
- Protections:Short Circuit/Over Load/Over Voltage/Over Temperature
- Built-In Active PFC Function
- Forced Air Cooling by Built-In DC Fan
- Current Sharing up to 2000W (3+1)
- With DC OK Signal Output
- Built-In Remote ON-OFF Control
- Built-In Remote Sense Function
- Fixed Switching Frequency at PFC: 88KHz PWM: 100KHZ

Model Number	Output Volts	Output Amps	OVP	Min Load	DC Volt Adjust	Load Reg	Efficiency
SINGLE OUTPUT							
PSP600-5	5 Volts(DC)	80 Amps	5.75~6.75Volt(DC)	0~80Amps	4.75~5.5Volt(DC)	±1.0%	79%
PSP600-12	12 Volts(DC)	50 Amps	13.8~16.2Volt(DC)	0~50Amps	10~13.2Volt(DC)	±0.5%	84%
PSP600-13.5	13.5 Volts(DC)	44.5 Amps	15.5~18.2Volt(DC)	0~44.5Amps	12~15Volt(DC)	±0.5%	85%
PSP600-15	15 Volts(DC)	40 Amps	18~21Volt(DC)	0~40Amps	13.5~18Volt(DC)	±0.5%	85%
PSP600-24	24 Volts(DC)	25 Amps	27.6~32.4Volt(DC)	0~25Amps	20~26.4Volt(DC)	±0.5%	86%
PSP600-27	27 Volts(DC)	22.2 Amps	31~36.5Volt(DC)	0~22.2Amps	24~30Volt(DC)	±0.5%	86%
PSP600-48	48 Volts(DC)	12.5 Amps	57.6~67.2Volt(DC)	0~12.5Amps	41~56Volt(DC)	±0.5%	87%

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

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INPUT SPECIFICATIONS

Input Voltage Range (Note 3)	90 ~ 264VAC 124~370 Volts(DC)
Frequency Range	47-63Hz
Inrush Current, typ: (cold start)	20Amps/115VAC; 40Amps/230VAC
Input Current	6.8 Amps@115VAC
	3.4 Amps@230VAC
Leakage current	< 1.3mAmps / 240VAC
Min Load	See Selection Chart
Power Factor (typ.) @ FL	0.95/230VAC; 0.99/100VAC

OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart
Line Regulation	±0.5%
Load Regulation	See Selection Chart
Voltage Tolerance (Note 2)	±2.0%: 5Volts(DC)
	±1.0%: 12~48Volts(DC)
Ripple/Noise (Note 1)	180mVpk-pk: 5Volts(DC)
	240mVpk-pk: 12~27Volts(DC)
	300mVpk-pk: 48Volts(DC)
Hold Up Time @ FL	20mS
Setup, Rise Time @ FL	1500mS, 50mS
Over Voltage Protection	See Selection Chart
	Shutdown o/p voltage, re-power
Over Current Protection	105~135% rated output power
	Constant Current limiting, auto-recov
Over Temperature Protection	
	+5Volts(DC): 95°C(TSW1) detect on heatsink of power
	transitor; 95°C(TSW51) detect on heatsink of power diode
	+12~48Volts(DC): 85°C(TSW1) detect on heatsink of power
	transitor; 80°C(TSW51) detect on heatsink of power diode
	shutdown o/p voltage, re-power 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,
	light Industry Level, Criteria A
Remote Control	RC+/RC-: Short=Power ON
	Open=Power Off
Pok Signal	PSU turn on: 3.3~5.6Volts(DC)
	PSU turn off: 0~1Volts(DC)

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	-20°C to +60°C (See Derate Curve)
Storage Temperature	-40°C to +85°C, 10~95% RH
Relative Humidity	20~90% RH, non cond
Temperature Coefficient	±0.03% / °C (0-50°C)
MTBF	116.4KHrs min,MIL-HDBK-217F(25°C)
Vibration	10~500Hz, 2G10min./1cycle, period for
	60min. each along X, Y, Z axes

PHYSICAL SPECIFICATIONS

Size	170 x 120 x 93 mm (6.69"x 4.72"x 3.66")
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

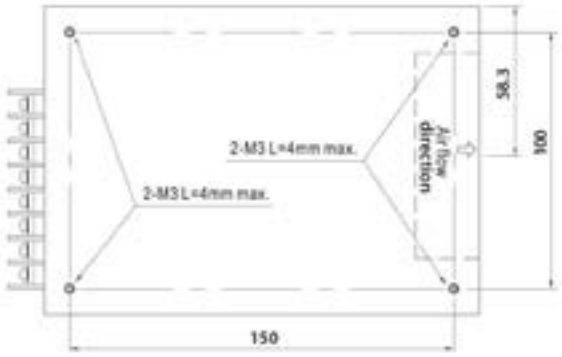
Case No.910A Unit:mm

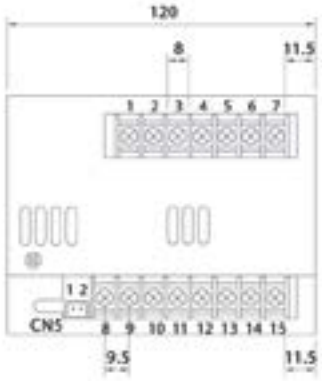
RS Connector(CN5) : JST B-XH or equivalent

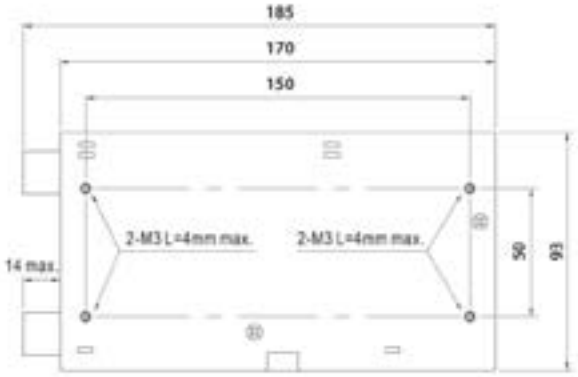
Pin No.	Assignment	Mating Housing	Terminal
1	RS+	JST XHP or equivalent	JST SXH-001T or equivalent
2	RS-		

Terminal Pin No. Assignment

Pin No.	Assignment
1	AC/L
2	AC/N
3	FG ⏚
4	P(Current Share)
5	POK
6	R.C. G
7	R.C.
8~11	DC OUTPUT +V
12~15	DC OUTPUT -V

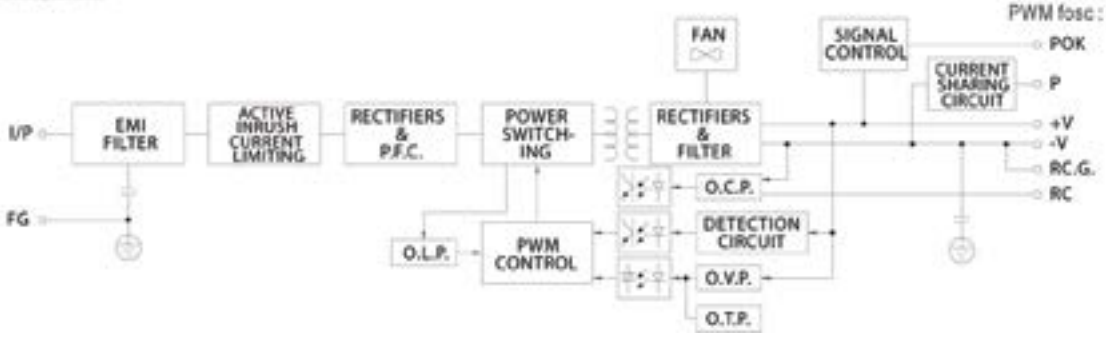






■ Block Diagram

PFC fosc : 80KHz
PWM fosc : 100KHz



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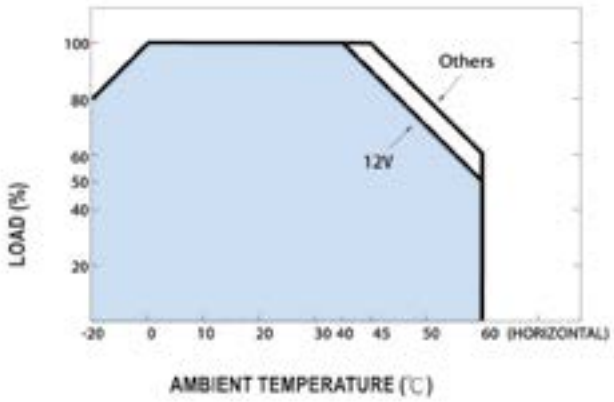
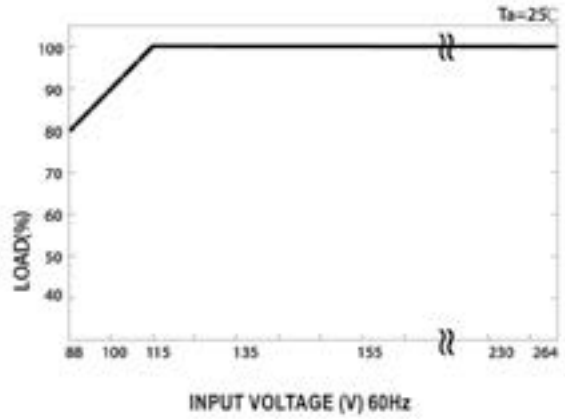
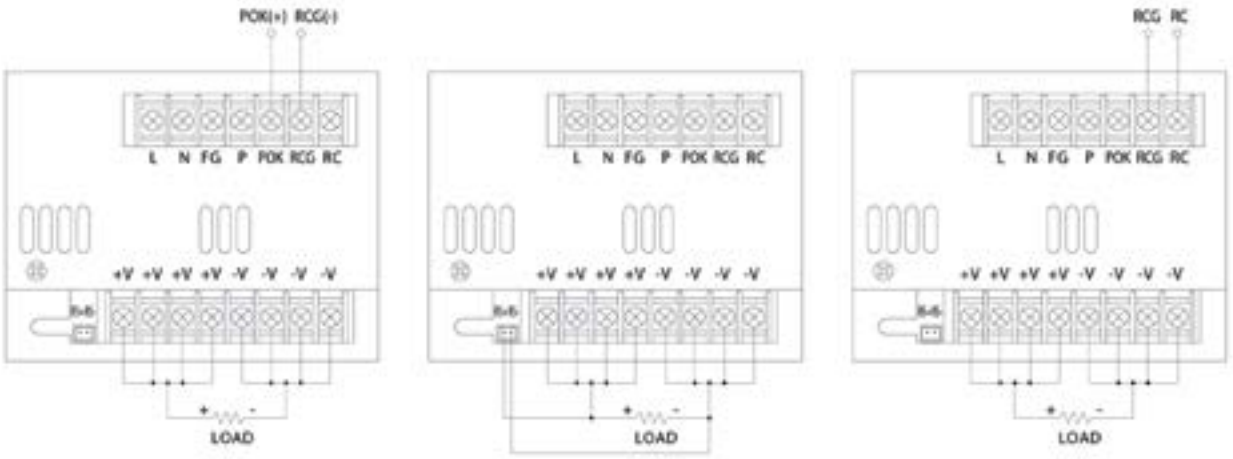
■ Derating Curve



■ Output Derating VS Input Voltage



■ Control Terminal Instruction Manual



POK Signal

POK Signal is the voltage difference between "RCG" and "POK" pin output POK Signal for TTL level signal
PSU turn on: 3.3V ~ 5.6V
PSU turn off: 0V ~ 1V

Remote Sensing

Remote Control

Power ON: RCG and RC for short
Power OFF: RCG and RC for open

■ Parallel Operation with Remote Sensing

(1)Parallel operation is available by connecting the units shown as below (+S,-S and P are connected mutually in parallel) :
(2)The voltage difference among each output should be minimized that less than ±2% is required.
(3)The total output current must not exceed the value determined by the following equation (Output current at parallel operation)
=(The rated current per unit) x (Number of unit) x 0.9.
(4) In parallel operation 4 units is the maximum, please consult the manufacture for other applications.
(5) When remote sensing is used in parallel operation, the sensing wire must be connected only to the master unit.
(6) When in parallel operation, the minimum output load should be greater than 3% of total output load.
(Min. load > 3% rated current per unit x number of unit)