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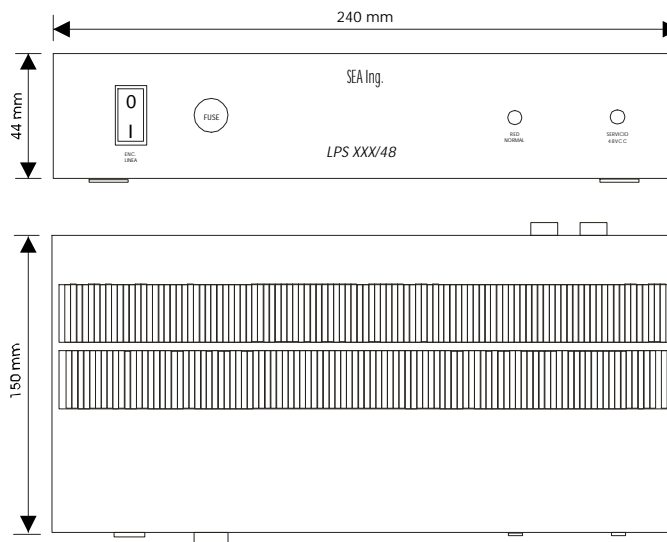


RECTIFICADORES SEA Ing. **Linea LPS**

Características generales:

- * Entrada de tensión universal automática
- * Alto rendimiento, baja temperatura de trabajo
- * Filtro EMI a su entrada
- * Bajo ripple
- * Tamaño compacto, bajo peso
- * Protección contra cortocircuito
- * Protección contra sobre carga y tensión
- * Salida por bornera reforzadas
- * Controladas en U, I
- * Disponibles en 50, 65, 100 y 150 W
- * Probadas con carga a un 100% de su capacidad nominal
- * Placa manufacturada con certificación ISO - 9001

Características mecánicas



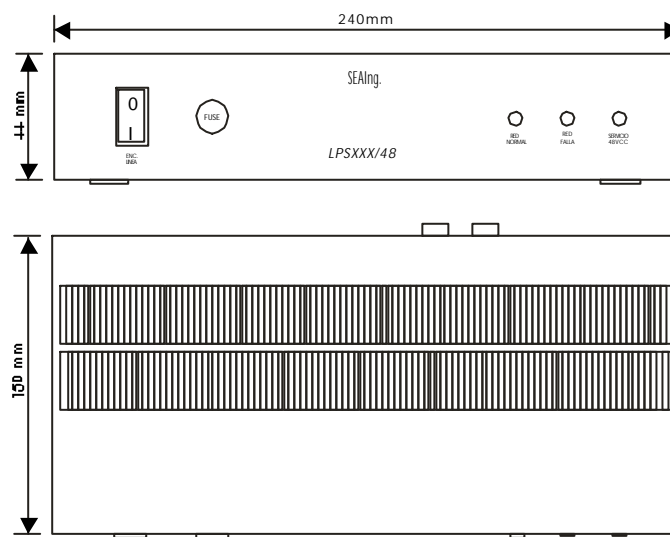


RECTIFICADOR - CARGADOR SEA Ing. Linea LPS

Características generales:

- *Entrada de tensión universal automática
- *Alto rendimiento, baja temperatura de trabajo
- *Filtro EMI a la entrada
- *Bajo ripple
- *Tamaño compacto, bajo peso
- *Protección contra cortocircuito
- *Protección contra sobrecarga y tensión
- *Salida independiente para consumo y baterías
- *Controladas en U, I
- *Disponibles en 50, 65, 100 y 150W
- *Probadas con carga a un 100% de su capacidad nominal
- *Placa manufacturada con certificación ISO-9001

Características mecánicas



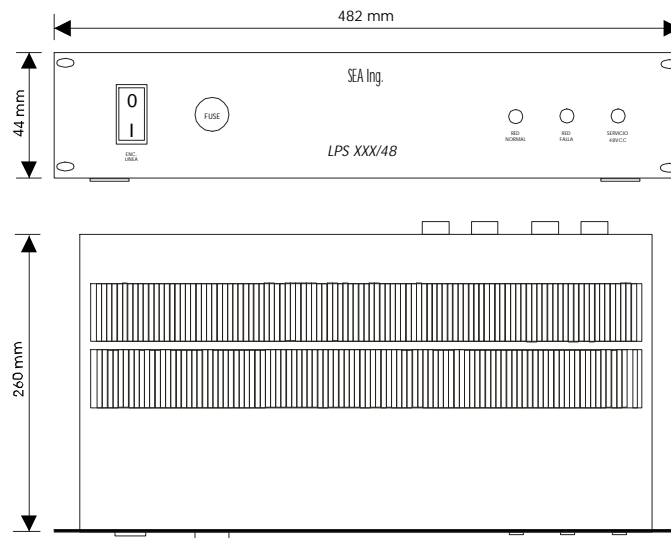


RECTIFICADOR - CARGADOR SEA Ing. **Linea LPS Rack 19" 1 U**

Características generales:

- * Entrada de tensión universal automática
- * Alto rendimiento, baja temperatura de trabajo
- * Filtro EMI a su entrada
- * Bajo ripple
- * Tamaño compacto, bajo peso
- * Protección contra cortocircuito
- * Protección contra sobre carga y tensión
- * Corte de baterías por baja para protección de las mismas y la carga
- * Alarmas falla de red y servicio, locales y remotas
- * Aptas para conexión en paralelo
- * Salida independiente para consumo y baterías
- * Controladas en U, I
- * Disponibles en 50, 65, 100, 150 W, 350W
- * Probadas con carga a un 100% de su capacidad nominal
- * Placa manufacturada con certificación ISO - 9001

Características mecánicas



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

SPECIFICATION	MODEL	LPS-65-3.3	LPS-65-5	LPS-65-7.5	LPS-65-12	LPS-65-13.5	LPS-65-15	LPS-65-24	LPS-65-27	LPS-65-48
DC OUTPUT VOLTAGE		3.3V	5V	7.5V	12V	13.5V	15V	24V	27V	48V
OUTPUT V. TOLERANCE		±3%	±3%	±3%	±2%	±2%	±2%	±2%	±2%	±2%
OUTPUT RATED CURRENT		12A	12A	8A	5.2A	4.7A	4.2A	2.7A	2.4A	1.35A
OUTPUT MIN. CURRENT		0A	0A	0A	0A	0A	0A	0A	0A	0A
OUTPUT MAX. CURRENT		15.2A	13.8A	9.6A	6A	5.4A	4.8A	3A	2.7A	1.5A
RIPPLE & NOISE p-p		80mV	100mV	100mV	100mV	100mV	100mV	100mV	100mV	100mV
LINE REGULATION		±1%	±1%	±1%	±1%	±1%	±1%	±1%	±1%	±1%
LOAD REGULATION		±3%	±3%	±3%	±2%	±2%	±2%	±2%	±2%	±2%
RATED OUTPUT POWER		39.6W	60W	60W	62.4W	63.5W	63W	64.8W	64.8W	64.8W
MAXIMUM OUTPUT POWER	RATED OUTPUT POWER FOR CONVECTION; 72W (+3.3V:50W;+5V:69W) WITH 18 CFM MIN. FORCED AIR									
EFFICIENCY		69%	76%	79%	79%	79%	79%	80%	80%	80%
DC VOLTAGE ADJ.	+10,-5%									
INPUT VOLTAGE RANGE	90~264VAC 47~440Hz ; 120~370VDC									
AC CURRENT	1.5A/115V 0.9A/230V									
INRUSH CURRENT	COLD START 20A/115V 40A/230V									
LEAKAGE CURRENT	<0.5mA/240VAC									
OVERLOAD PROTECTION	73~105W (3.3V:51~75W)(5V:70~105W) TYPE:PULSING HICCUP SHUTDOWN RESET:AUTO RECOVERY									
OVER VOLTAGE PROTECTION	115%~135%									
TEMP. COEFFICIENT	±0.04% / °C (0~50°C)									
SETUP, RISE, HOLD UP TIME	800ms, 20ms, 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~+60°C(REFER TO OUTPUT DERATING CURVE), 20%~90% RH									
STORAGE TEMP., HUMIDITY	-20°C~+85°C, 10%~95% RH									
DIMENSION	127*76.2*40mm (L*W*H) PCB ONLY									
WEIGHT	0.28Kgs									
SAFETY STANDARDS	UL1950, TUV EN60950 APPROVED									
EMC STANDARDS	CISPR22 (EN55022), IEC1000-4-2,3,4,5 IEC1000-3-2,3 VERIFICATION									

- NOTE : 1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C 70% RH. AMBIENT.
 2.TOLERANCE INCLUDE 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.OUTPUT PROVIDE UP TO MAXIMUM CURRENT, BUT RELATED TO MAXIMUM OUTPUT POWER.
 6.MOUNTING HOLES M1 AND M2 SHOULD BE GROUNDED FOR EMI PURPOSES.

CARACTERISTICAS DE LAS PLACAS QUE EQUIPAN LOS RECTIFICADORES LINEA LPS-100

.LOW COST, HIGH RELIABILITY	.COMPACT SIZE, LIGHT WEIGHT
.105°C OUTPUT CAPACITOR	.100% FULL LOAD BURN-IN TEST
.INTERNATIONAL AC INPUT RANGE	.BUILT IN PFC CIRCUIT
.BUILT IN EMI FILTER, LOW RIPPLE NOISE	.POWER FACTOR : 0.98 TYP.
. HIGH EFFICIENCY, LOW WORKING TEMPERATURE	
.SOFT-START CIRCUIT, LIMITING AC SURGE CURRENT	
.SHORT CIRCUIT, OVERLOAD, OVER VOLTAGE PROTECTED	

SPECIFICATION	MODEL	LPS-100 -3.3	LPS-100 -5	LPS-100 -7.5	LPS-100 -12	LPS-100 -13.5	LPS-100 -15	LPS-100 -24	LPS-100 -27	LPS-100 -48
DC OUTPUT VOLTAGE		3.3V	5V	7.5V	12V	13.5V	15V	24V	27V	48V
OUTPUT V. TOLERANCE		±2%	±2%	±2%	±2%	±2%	±2%	±1%	±1%	±1%
OUTPUT RATED CURRENT		20A	20A	13.5A	8.5A	7.5A	6.7A	4.2A	3.8A	2.1A
OUTPUT CURRENT		0-20A	0-20A	0-13.5A	0-8.5A	0-7.5A	0-6.7A	0-4.2A	0-3.8A	0-2.1A
RIPPLE & NOISE		100mV	100mV	100mV	100mV	100mV	100mV	150mV	150mV	250mV
LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
LOAD REGULATION		±1%	±1%	±1%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
RATED OUTPUT POWER		66W	100W	101.25W	102W	101.25W	100.5W	100.8W	102.6W	100.8W
EFFICIENCY		69%	75%	76%	79%	79%	80%	83%	83%	83%
DC VOLTAGE ADJ.	CH1:+10,-5%									
INPUT VOLTAGE RANGE	85-264VAC 47-63Hz 120-370VDC									
AC CURRENT	1.7A/115V 0.75A/230V 3.3V: 1.2A/115V 0.6A/230V									
INRUSH CURRENT	COLD START 40A/230V									
LEAKAGE CURRENT	<2mA/240VAC									
OVERLOAD PROTECTION	105-150% TYPE:CONSTANT CURRENT LIMITING RESET:AUTO RECOVERY									
OVER VOLTAGE PROTECTION	115%-135% TYPE:SHUTDOWN RESET:RE POWER ON									
TEMP. COEFFICIENT	±0.05% / °C (0-50°C)									
SETUP, RISE, HOLD UP TIME	600ms, 30ms, 20ms/230VAC; 1.2s, 30ms, 20ms/115VAC									
POWER FACTOR	PF>0.95/230VAC, PF>0.98/115VAC									
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~+60°C(REFER TO OUTPUT DERATING CURVE), 20%-90% RH									
STORAGE TEMP., HUMIDITY	-20°C~+85°C, 10%-95% RH									
DIMENSION	222*62*35mm (L*W*H) PCB ONLY									
WEIGHT	370gs									
SAFETY STANDARDS	MEET UL1950, TUV EN60950									
EMC STANDARDS	MEET EN55022 CLASS B, EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61000-3-2,-3									

NOTE : 1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C AMBIENT.
 2.TOLERANCE;INCLUDE 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.

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

SPECIFICATION	MODEL	LPP-150 -3.3	LPP-150 -5	LPP-150 -7.5	LPP-150 -12	LPP-150 -13.5	LPP-150 -15	LPP-150 -24	LPP-150 -27	LPP-150 -48
DC OUTPUT VOLTAGE		3.3V	5V	7.5V	12V	13.5V	15V	24V	27V	48V
OUTPUT V. TOLERANCE		±2%	±2%	±2%	±2%	±2%	±2%	±1%	±1%	±1%
OUTPUT RATED CURRENT		30A	30A	20A	12.5A	11.2A	10A	6.3A	5.6A	3.2A
OUTPUT CURRENT		0-30A	0-30A	0-20A	0-12.5A	0-11.2A	0-10A	0-6.3A	0-5.6A	0-3.2A
RIPPLE & NOISE		100mV	100mV	100mV	100mV	100mV	100mV	150mV	150mV	250mV
LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
LOAD REGULATION		±1%	±1%	±1%	±1%	±1%	±1%	±0.5%	±0.5%	±0.5%
RATED OUTPUT POWER		99W	150W	150W	150W	151.2W	150W	150W	151.2W	153.6W
EFFICIENCY		66%	72%	76%	79%	80%	80%	83%	83%	84%
DC VOLTAGE ADJ.	CH1: +10,-5%									
INPUT VOLTAGE RANGE	85~264VAC 47~63Hz 120~370VDC									
AC CURRENT	2.2A/115V 1.1A/230V 3.3V: 1.5A/115V 0.8A/230V									
INRUSH CURRENT	COLD START 40A/230V									
LEAKAGE CURRENT	<3.5 mA/240VAC									
OVERLOAD PROTECTION	105~150% TYPE:CONSTANT CURRENT LIMITING RESET:AUTO RECOVERY									
OVER VOLTAGE PROTECTION	110% ~135% TYPE:SHUTDOWN RESET:RE POWER ON									
TEMP. COEFFICIENT	±0.05% / °C (0~50°C)									
SETUP, RISE, HOLD UP TIME	600ms, 30ms, 20ms									
POWER FACTOR	PF>=0.96/230VAC, PF>=0.98/115VAC									
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~+60°C WITH COOLING FAN (REFER TO OUTPUT DERATING CURVE), 20% ~90% RH									
STORAGE TEMP., HUMIDITY	-20°C~+85°C, 10% ~95% RH									
DIMENSION	222*75*41mm (L*W*H) ONLY PCB									
WEIGHT	550gs									
SAFETY STANDARDS	UL1950, TUV EN60950 APPROVED									
EMC STANDARDS	CISPR22 (EN55022) CLASS B, EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61000-3-2,-3 VERIFICATION									

NOTE : 1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C AMBIENT.
2.TOLERANCE;INCLUDE 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.



■ Features :

- AC input range selected by switch
- Built-in passive PFC function compliance to EN61000-3-2
- With AC ON-OFF switch
- 3 poles AC inlet with fuse holder
- Protections: Short circuit/Over load/Over voltage/Over temperature
- Charger type can be selected(Optional)
- Charger for lead-acid batteries
- 2 color LED loading indicator
- Open frame available
- Low cost, High reliability
- 2 years warranty



S: Power Supply
A: Voltage detector
B: Current detector
P: With PFC
N: None PFC

P A - 120 P - 13 C

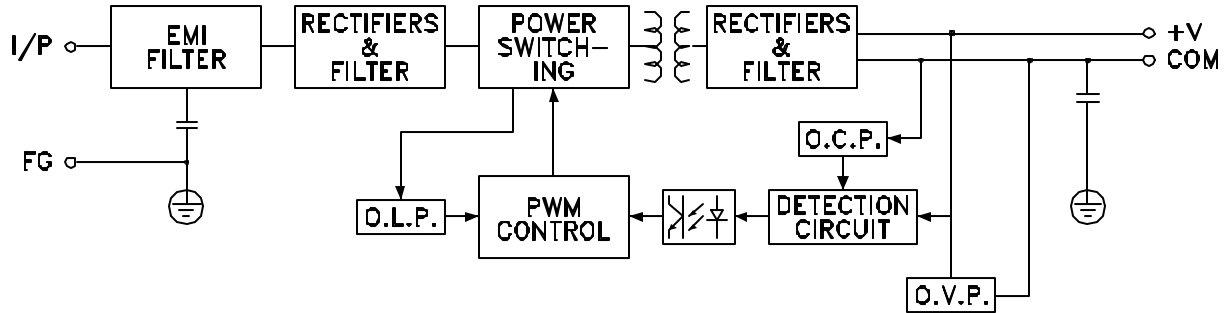
□: O.D.M. number
P: Open P.C.B.
C: With case
13: 13.8V
27: 27.6V
54: 55.2V

SPECIFICATION

MODEL		PS-120-13P/C	PS-120-27P/C	PS-120-54P/C
OUTPUT	DC VOLTAGE	13.8V	27.6V	54V
	RATED CURRENT	7.2A	4.3A	2.2A
	CURRENT RANGE	0 ~ 7.2A	0 ~ 4.3A	0 ~ 2.2A
	RATED POWER	99.36W	118.68W	118.8W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	200mVp-p	250mVp-p
	VOLTAGE ADJ. RANGE	12 ~ 15V	24 ~ 30V	48 ~ 60V
	VOLTAGE TOLERANCE Note.3	±3.0%±8.5%	±1.0%±8.0%	±1.0%±7.5%
	LINE REGULATION	±1.0%	±1.0%	±1.0%
	LOAD REGULATION	1.0%±6.0%	1.0%±5.0%	1.0%±5.0%
	SETUP, RISE TIME	1000ms, 50ms at full load		
HOLD TIME (Typ.)	16ms at full load			
INPUT	VOLTAGE RANGE	88 ~ 132VAC / 176 ~ 264VAC selected by switch		
	FREQUENCY RANGE	47~63Hz		
	POWER FACTOR (Typ.)	>0.65 (with PFC series)		
	EFFICIENCY (Typ.)	77%/70%	81%/76%	82%/78%
	AC CURRENT (Typ.)	3A/115VAC 1.5A/230VAC		
	INRUSH CURRENT (Typ.)	COLD START 25A/115VAC 50A/230VAC		
	LEAKAGE CURRENT	<1.5mA / 240VAC		
PROTECTION	OVER LOAD	105 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed		
	OVER VOLTAGE	15 ~ 17V	30 ~ 35V	60 ~ 66V
	OVER TEMPERATURE	RTH2 ≥ 70°C ±10°C Detect on RTH2 thermistor Protection type : Hiccup mode, recovers automatically after fault condition is removed		
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH		
	TEMP. COEFFICIENT	±0.05%/°C (0 ~ 45°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV E60950-1, EN60335, EN60335-1, EN60335-2-29 Approved		
	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:100M Ohms/500VDC		
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B		
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3		
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A		
	MTBF	249.5K hrs min. MIL-HDBK-217F (25°C)		
	DIMENSION	PCB Type:144*90*35mm External case type:180*96*49mm (L*W*H)		
NOTE	PACKING	1.1Kg; 16pcs / 17.9Kg / 1.69CUFT(without PFC) 1.24Kg; 16pcs / 20.1Kg / 1.69CUFT(with PFC)		
	NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 5. With PFC I/P range: 95~132VAC/190~264VAC. 6. For open P.C.B. WITH 17.8CFM min. Forced air.		

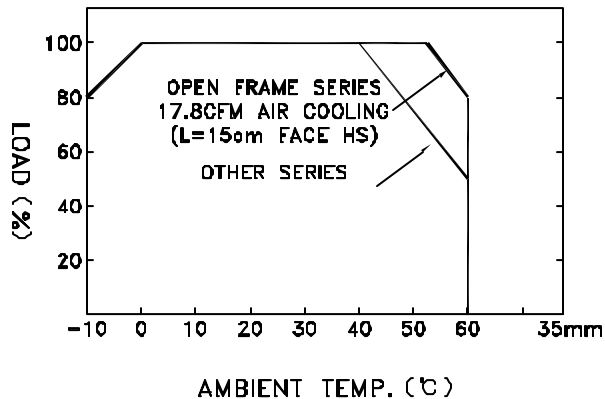
PA/B-120 SERIES

BLOCK DIAGRAM

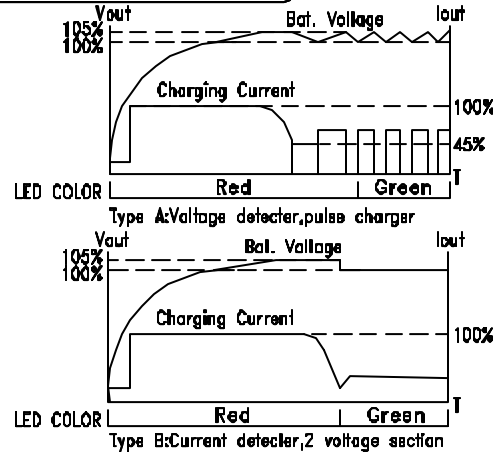


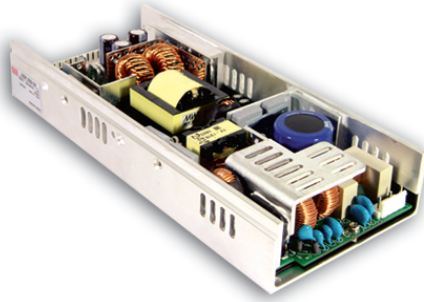
fosc : 100KHz

OUTPUT DERATING



CHARGING CURVE





■ Features :

- ZVS technology to reduce power dissipation
- Universal AC input / Full range
- Built in active PFC circuit compliance to EN61000-3-2
- Protections: Short circuit/Over load/Over voltage/Over temperature
- Free air convection for 300W and 350W with 23.5CFM forced air
- High power density 5.6w/in³
- Active AC surge current limiting
- U-bracket low profile: 38mm
- 3 years warranty

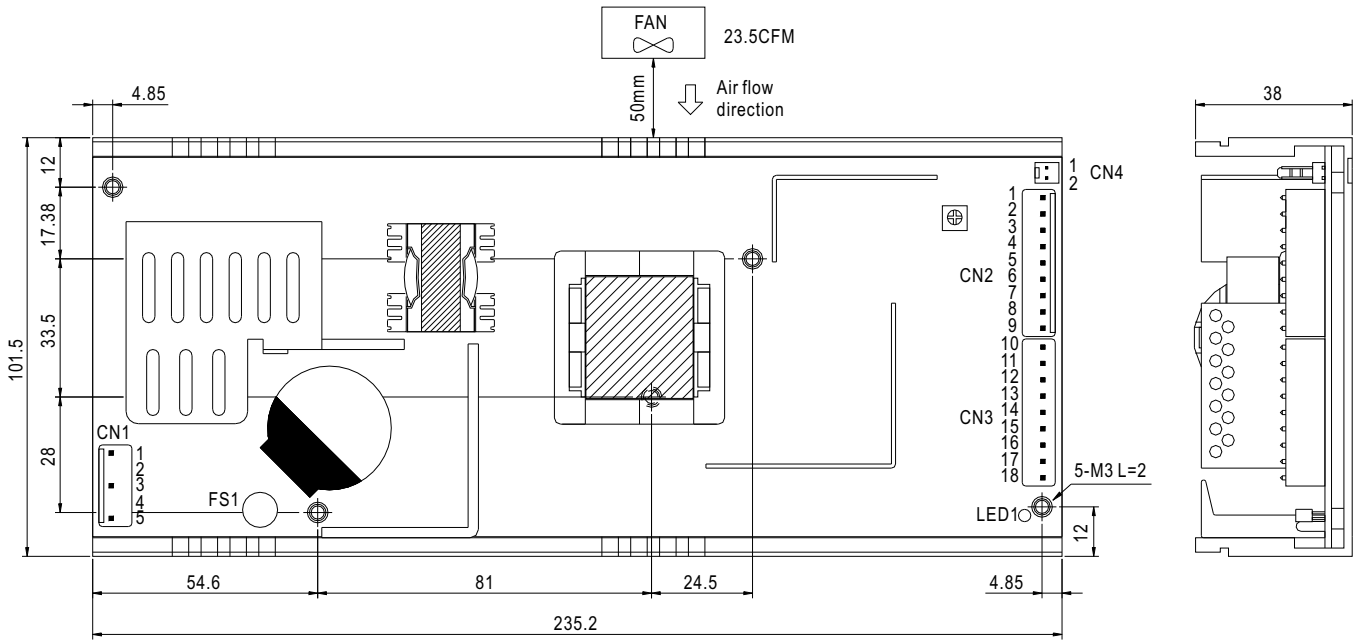


SPECIFICATION

MODEL		USP-350-3.3	USP-350-5	USP-350-12	USP-350-15	USP-350-24	USP-350-48
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V	24V	48V
	RATED CURRENT	70A	70A	29.2A	23.4A	14.6A	7.3A
	CURRENT RANGE (convection)	0 ~ 50A	0 ~ 50A	0 ~ 25A	0 ~ 20A	0 ~ 12.5A	0 ~ 6.25A
	CURRENT RANGE (23.5CFM FAN)	0 ~ 70A	0 ~ 70A	0 ~ 29.2A	0 ~ 23.4A	0 ~ 14.6A	0 ~ 7.3A
	RATED POWER (convection)	165W	250W	300W	300W	300W	300W
	RATED POWER (23.5CFM FAN)	231W	350W	350.4W	351W	350.4W	350.4W
	RIPPLE & NOISE (max.) Note.2	80mVp-p	80mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	2.97 ~ 3.6V	4.5 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 26.4V	43.2 ~ 52.8V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%
SETUP, RISE TIME	2000ms, 100ms/230VAC 4000ms, 100ms/115VAC at full load						
HOLD TIME (Typ.)	12ms/230VAC	16ms/230VAC	16ms/115VAC at full load				
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC	127 ~ 370VDC				
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	0.94/230VAC	0.95/230VAC	0.98/115VAC at full load			
	EFFICIENCY (Typ.)	78%	84%	88%	88%	88%	89%
	AC CURRENT (Typ.)	4A/115VAC	2A/230VAC				
	INRUSH CURRENT (Typ.)	22A/115VAC	44A/230VAC				
	LEAKAGE CURRENT	<2mA / 240VAC					
PROTECTION	OVER LOAD	105 ~ 120% rated output power		105 ~ 130% rated output power			
		Protection type : Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	3.7 ~ 4.6V	5.7 ~ 7V	13.5 ~ 16.3V	17 ~ 21V	26.7 ~ 32.4V	53 ~ 64.8V
	Protection type : Hiccup mode, recovers automatically after fault condition is removed						
OVER TEMPERATURE	80°C (3.3V,5V,12V,15V,24V,48V) (TSW1 : Detect on heatsink of power transistor); 80°C ±5°C (3.3V,5V,12V,15V), 75°C ±5°C (24V,48V) (TSW2 : Detect on heatsink of power diode)						
	Protection type : Shut down o/p voltage with auto-recovery						
ENVIRONMENT	WORKING TEMP.	-10 ~ +65°C (Refer to output load derating curve)					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 45°C)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes					
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 Approved					
	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:100M Ohms/500VDC					
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B					
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3					
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, Light industry level, criteria A						
OTHERS	MTBF	106.3K hrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	235.2*101.5*38mm (L*W*H)					
	PACKING	1.1Kg; 16pcs/18Kg/0.72CUFT					
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 5. Derating may be needed under low input voltages. Please check the derating curve for more details. 						

Mechanical Specification

Case No. 941A-D Unit:mm



AC Input Connector (CN1) : JST B5P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	FG	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2,4	No Pin		
3	AC/N		
5	AC/L		

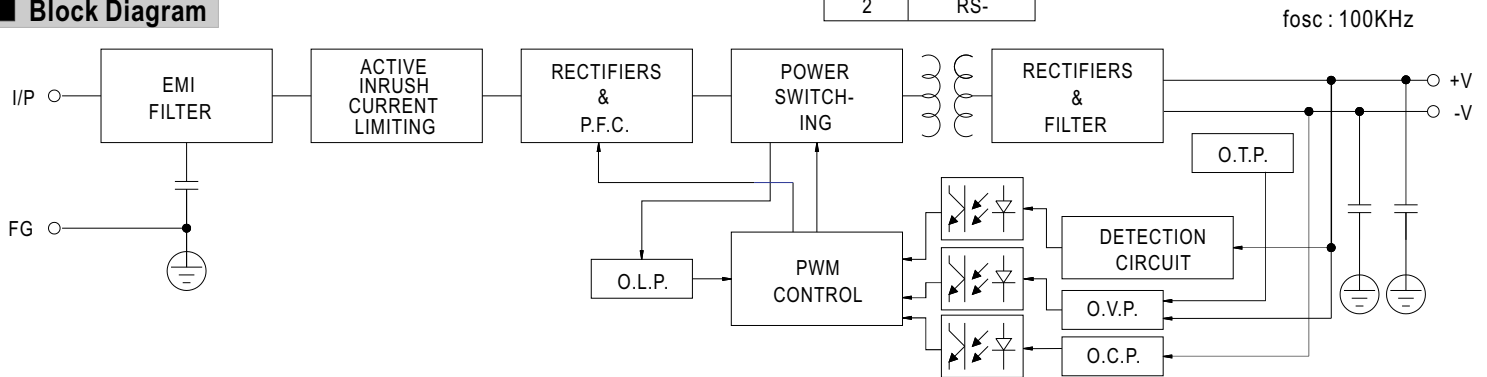
DC Output Connector (CN2,CN3) : JST B9P-VH*2 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1~9	-V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
10~18	+V		

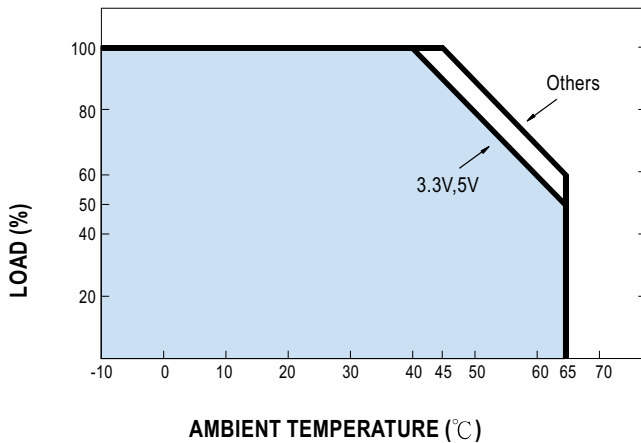
(CN4) : Remote Sense

Pin No.	Assignment
1	RS+
2	RS-

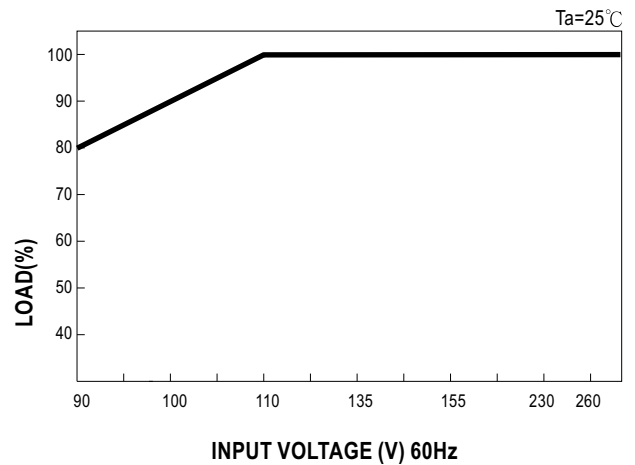
Block Diagram



Derating Curve



Static Characteristics (5V)



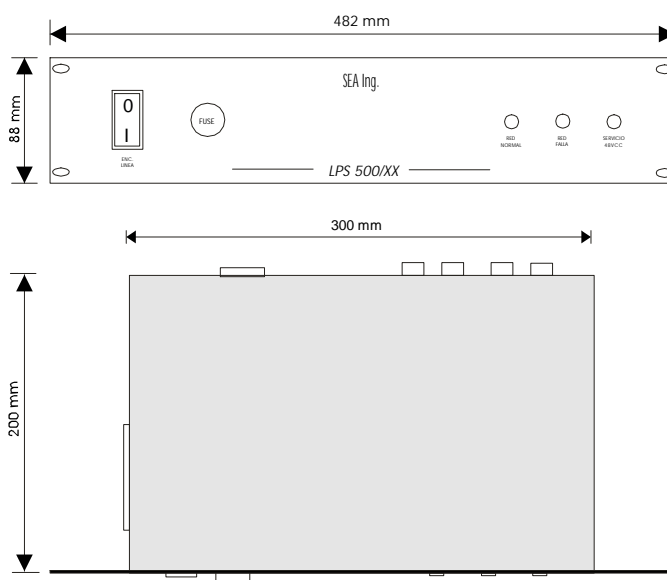


RECTIFICADOR - CARGADOR SEA Ing. Linea LPS, N+1 Rack 19" 2U

Características generales:

- * Entrada de tensión universal automática
- * Alto rendimiento, baja temperatura de trabajo
- * Filtro EMI a su entrada
- * Bajo ripple
- * Tamaño compacto, bajo peso
- * Protección contra cortocircuito
- * Protección contra sobre carga y tensión
- * Paraleleables con balanceo automatico de cargas por modulo (micro)
- * Corte de baterías por baja para protección de las mismas y la carga
- * Alarmas falla de red y servicio, locales y remotas
- * Salida independiente para consumo y baterías
- * Controladas en U, I
- * Disponibles en 500 W cada modulo
- * Probadas con carga a un 100% de su capacidad nominal
- * Placa manufacturada con certificación ISO - 9001

Características mecánicas



SEA Ing.

CARACTERÍSTICAS DE LOS RECTIFICADORES MODULARES PARALELEABLES LÍNEA PSP-500

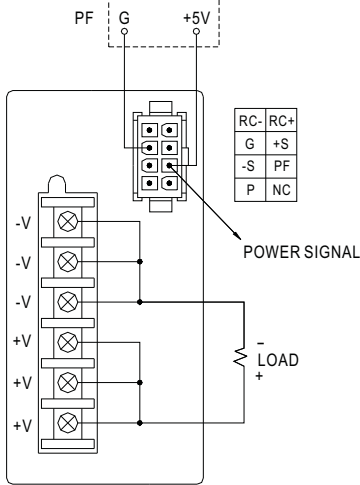
- | | |
|--|--|
| .LOW COST, HIGH RELIABILITY | .100% FULL LOAD BURN-IN TEST |
| .BUILT IN EMI FILTER, CURRENT SHARING CIRCUIT | .105°C OUTPUT CAPACITOR |
| .BUILT IN REMOTE CONTROL, REMOTE SENSE,
POWER GOOD SIGNAL | .BUILT IN PFC CIRCUIT PFC _i Ü0.95,
COMPLIES WITH EN61000-3-2 |
| .SHORT CIRCUIT, OVERLOAD, OVER VOLTAGE, OVER TEMP. PROTECTED | |

SPECIFICATION	MODEL	PSP-500 -5	PSP-500 -12	PSP-500 -13.5	PSP-500 -15	PSP-500 -24	PSP-500 -27	PSP-500 -48
DC OUTPUT VOLTAGE		5V	12V	13.5V	15V	24V	27V	48V
OUTPUT V. TOLERANCE		±2%	±1%	±1%	±1%	±1%	±1%	±1%
OUTPUT RATED CURRENT		80A	41.5A	37A	33A	20.8A	18.5A	10.5A
OUTPUT CURRENT RANGE		0-80A	0-41.5A	0-37A	0-33A	0-20.8A	0-18.5A	0-10.5A
RIPPLE & NOISE(Vp-p)		100m	150m	150m	150m	150m	150m	200m
LINE REGULATION		±0.5%	±0.3%	±0.3%	±0.3%	±0.2%	±0.2%	±0.2%
LOAD REGULATION		±2%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
DC OUTPUT POWER		400W	498W	499.5W	495W	499.2W	499.5W	504W
PEAK OUTPUT POWER		500W	600W	600W	600W	600W	600W	600W
EFFICIENCY		76%	82%	82%	82%	84%	84%	86%
DC VOLTAGE ADJ.		4.75-5.5V	10-13.2V	12-15V	13.5-18V	20-26.4V	24-30V	41-56V
INPUT VOLTAGE RANGE	90-264VAC 47-63Hz; 127-370VDC							
AC CURRENT	7A/115V 3.5A/230V							
POWER FACTOR	0.98/100VAC 0.95/230VAC							
INRUSH CURRENT	20A/115V 40A/230V							
LEAKAGE CURRENT	<1mA/240VAC							
OVERLOAD PROTECTION	115%-130% TYPE:CONSTANT CURRENT LIMITING RESET:AUTO RECOVERY							
OVER VOLTAGE PROTECTION	5.75-6.75	13.8-16.2V	15.5-18.2V	18-21V	27.6-32.4V	31-36.5V	57.6-67.2V	
OVER TEMP.PROTECTION	RTH2;Ü95°C OUTPUT SHUTDOWN							
REMOTE CONTROL	RC+/RC-: 0-0.8V=POWER ON; 3-10V=POWER OFF SINK CURRENT3-10mA							
TEMP. COEFFICIENT	±0.03% / °C (0-50°C)							
SETUP, RISE, HOLD UP TIME	1.5s, 50ms, 15ms							
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~+60°C(REFER TO OUTPUT DERATING CURVE), 20%-90% RH WITH 30CFM FORCED AIR							
STORAGE TEMP., HUMIDITY	-20°C~+85°C, 10%-95% RH							
DIMENSION	278*127*63.5mm							
WEIGHT	2.5 Kgs							
SAFETY STANDARDS	UL1950, TUV EN60950 APPROVED							
EMC STANDARDS	CISPR22(EN55022)CLASS B, EN61000-4-2,3,4,5,6,8,11;ENV50204 EN61000-3-2 VERIFICATION							

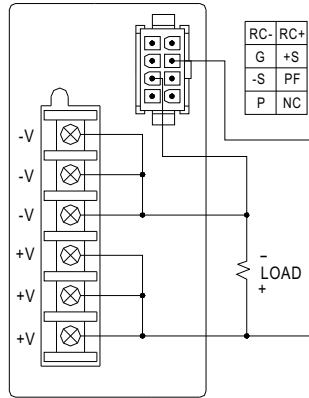
- NOTE :
- 1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C 70% RH. AMBIENT.
 - 2.TOLERANCE INCLUDE SET UP TOLERANCE, LINE REGULATION, LOAD REGULATION.
 - 3.RIPPLE & NOISE ARE MEASURED AT 20MHz BY USING A 12" TWISTED PAIR TERMINATED WITH A 0.1uF & 47uF CAPACITOR.
 - 4.LINE REGULATION IS MEASURED FROM LOW LINE TO HIGH LINE AT RATED LOAD.
 - 5.LOAD REGULATION IS MEASURED FROM 0% TO 100% RATED LOAD.
 - 6.REFER TO OUTPUT DERATING CURVE VS INPUT VOLTAGE.
 7. PEAK OUTPUT POWER LASTING <30 SECONDS WITH A MAX. 10% DUTY CYCLE.

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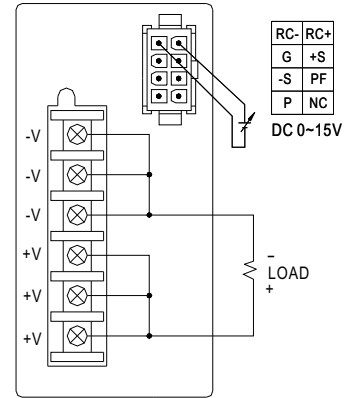
Control terminal instruction manual



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

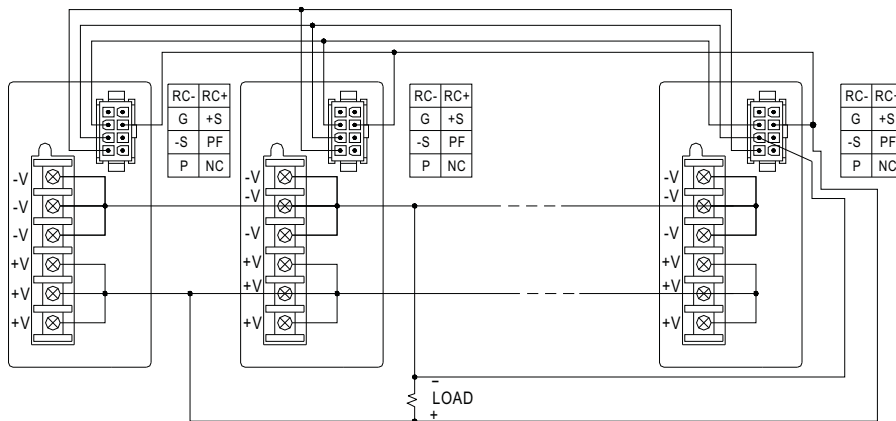


Remote Sensing

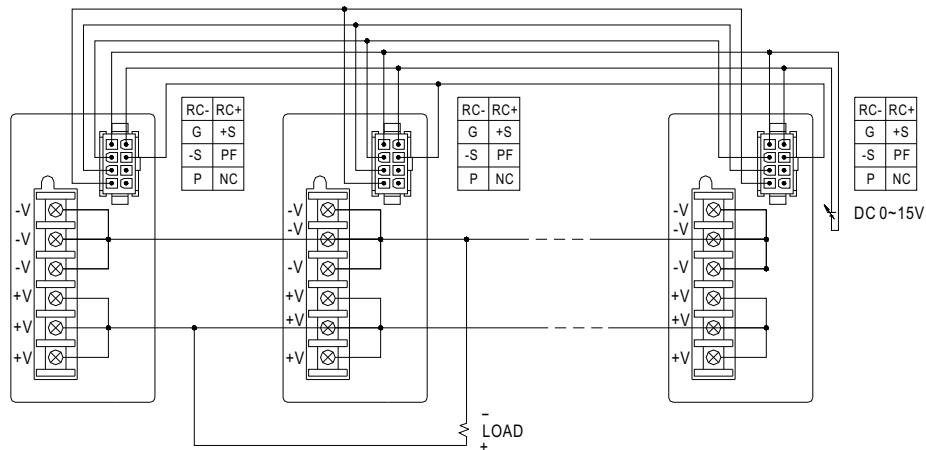


Remote Control
Power ON: When VRC+, RC-=0 ~ 0.8V or Open
Power OFF: When VRC+, RC-=4 ~ 10V

Parallel Operation



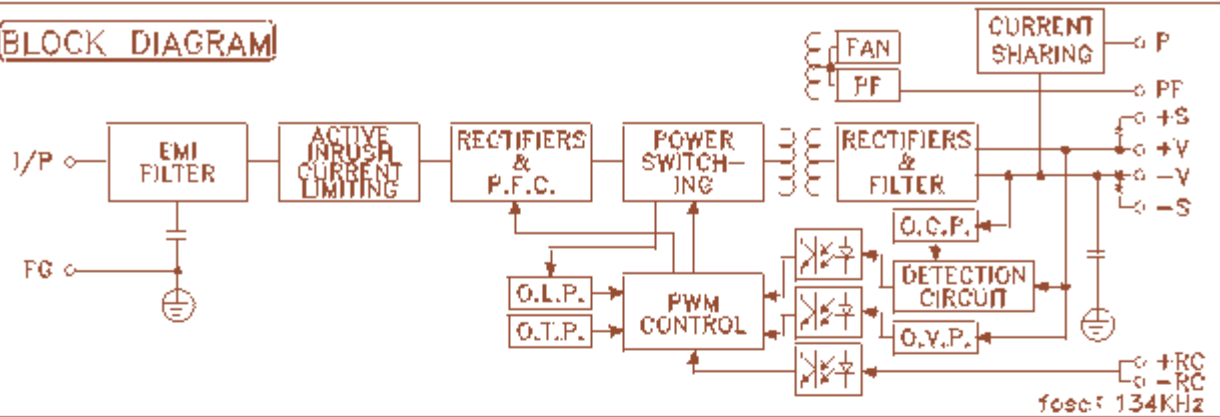
Parallel Operation With Remote Sensing



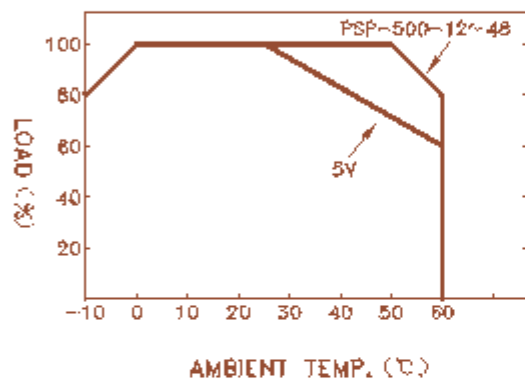
Parallel Operation With Remote Control

PSP-500 SERIES

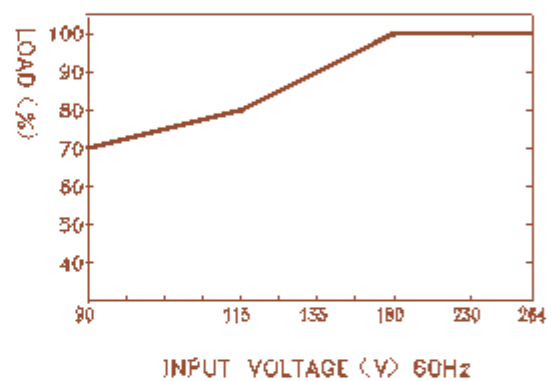
BLOCK DIAGRAM



OUTPUT DERATING VS T_a



OUTPUT DERATING VS INPUT VOLTAGE



DIMENSION (mm)

☒ CASE : 919

☒ I/P TERMINAL PIN NO. ASSIGNMENT

☒ PIN 1,2 : AC INPUT

☒ PIN 3 : FG \perp

☒ O/P TERMINAL PIN NO. ASSIGNMENT

☒ PIN 1,2,3 : DC OUTPUT +V

☒ PIN 4,5,6 : DC OUTPUT -V

☒ CONTROL PIN NO. ASSIGNMENT

☒ Molex 5559-NP Uses 3558 Male Crimp Terminal

☒ PIN 1 : P (CURRENT SHARE)

☒ PIN 2 : -S

☒ PIN 3 : G

☒ PIN 4 : RC-

☒ PIN 5 : NC

☒ PIN 6 : PF (POWER FAIL SIGNAL)

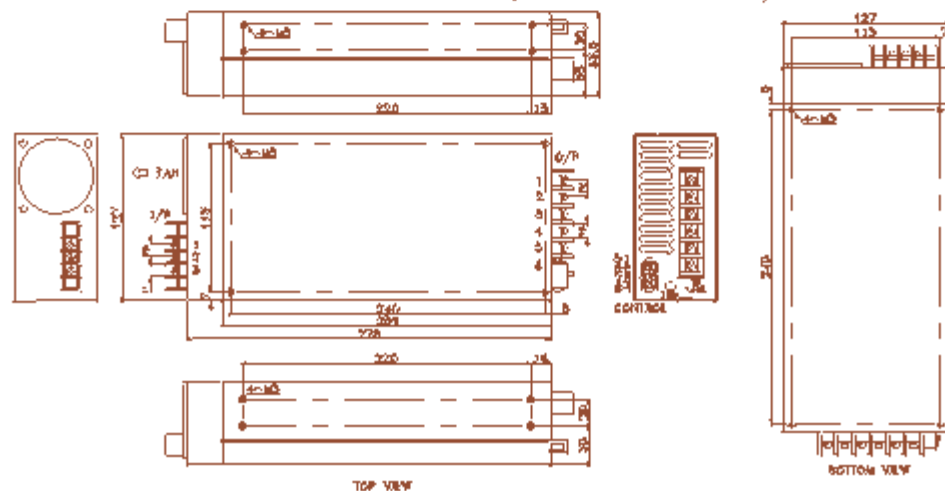
☒ MATING CONNECTOR

☒ Molex 5557-NR

Uses 5556 Female

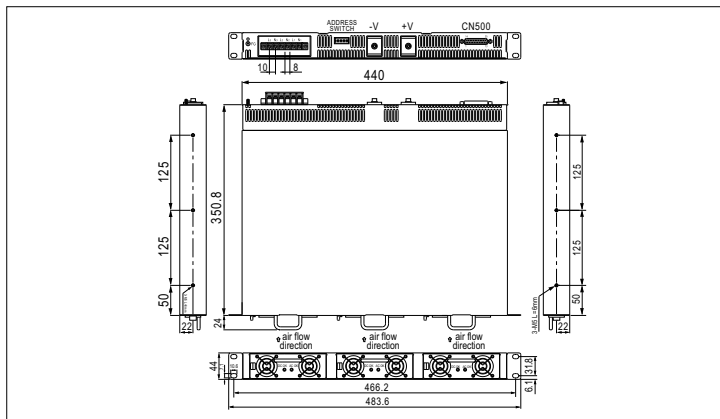
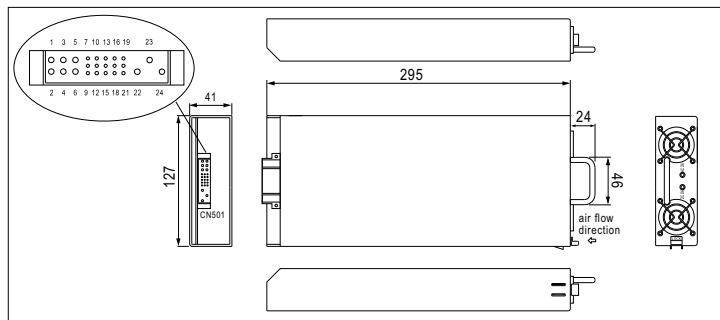
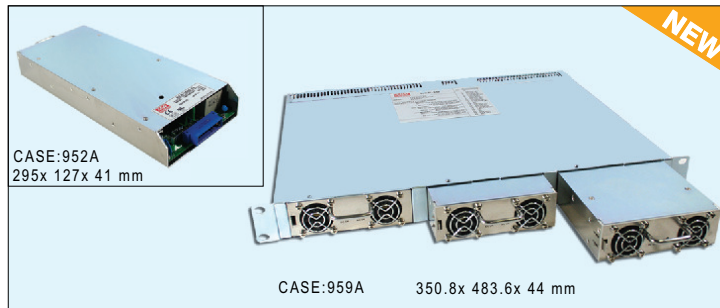
Crimp Terminal

Receptacle



1000W 1U Rack Power System

- Universal AC input / Full range
- Built-in 5V/0.3A auxiliary power
- Built-in active PFC function, PF>0.96
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Forced air cooling by built-in DC fan
- High power density 10.7W/in³
- 1U low profile
- Output voltage can be trimmed between 90 ~ 110% of the rated output voltage
- Active current sharing up to 3000W (3 units) in one 19" rack, 3 racks max. can be operated in parallel (up to 8 units)
- Remote control for single unit
- Built-in remote sense function
- Hot-swap operation
- Internal oring diode
- AC OK and DC OK signal output
- Optional I²C serial data bus
- 3 years warranty



- AC input voltage range 90~264VAC
- DC adjustment range $\pm 3\%$ rated output voltage
- Overload protection 105%~125% constant current limiting, auto-recovery
- Over voltage protection 110%~135% rated output voltage
- Setup, rise, hold up time 1000ms, 60ms, 16ms at full load and 230VAC
- Withstand voltage I/P-O/P:3KVAC, I/P-FG:1.5KVAC, 1 minute
- Working temperature -20~50°C@100%, 60°C@60%
- Safety standards UL60950-1, TUV EN60950-1 approved
- EMC standards EN55022 Class B, EN61204-3, EN61000-3-2,-3, EN61000-4-2,3,4,5,6,8,11, ENV50204, EN61000-6-2 heavy industry level
- Packing 1.91kg (single unit) ; 11kg (rack with 3 units)

Stock No.	Model No.	Output	Tol.	R&N	Effi.
11441	RCP-1000-12	12V, 0~60A	$\pm 1\%$	150mV	81%
11442	RCP-1000-24	24V, 0~40A	$\pm 1\%$	200mV	87%
11443	RCP-1000-48	48V, 0~21A	$\pm 1\%$	300mV	89%
11444	RCP-1U <input type="checkbox"/>	19" 1U rack for RCP-1000 series			

= I: AC inlet ; T: terminal block



■ Features :

- Universal AC input / Full range
- Built-in 5V/0.3A auxiliary power
- Built-in active PFC function, PF>0.96
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan with fan speed control
- Low profile:1U height
- Active current sharing up to 3000W (3 units)in 19" rack, 3 racks max. can be operated in parallel (up to 8 units) (Note.7)
- Remote control for single unit
- Built-in remote sense function
- Output voltage trimming function
- Hot-swap operation
- Optional I²C serial data bus
- AC OK & DC OK signal
- Internal ORing diode
- 3 years warranty

■ SELECTION GUIDE



Single Unit: RCP-1000-12-C

Rack: RCP-1U I

Whole System: RCP-3K1U I-12-C

C: With I²C Interface
 —: Without I²C Interface

Output Voltage

I: AC Inlet(IEC320-C14)
 T: Terminal Block

C: With I²C Interface
 —: Without I²C Interface

Output Voltage

I: AC Inlet(IEC320-C14)
 T: Terminal Block

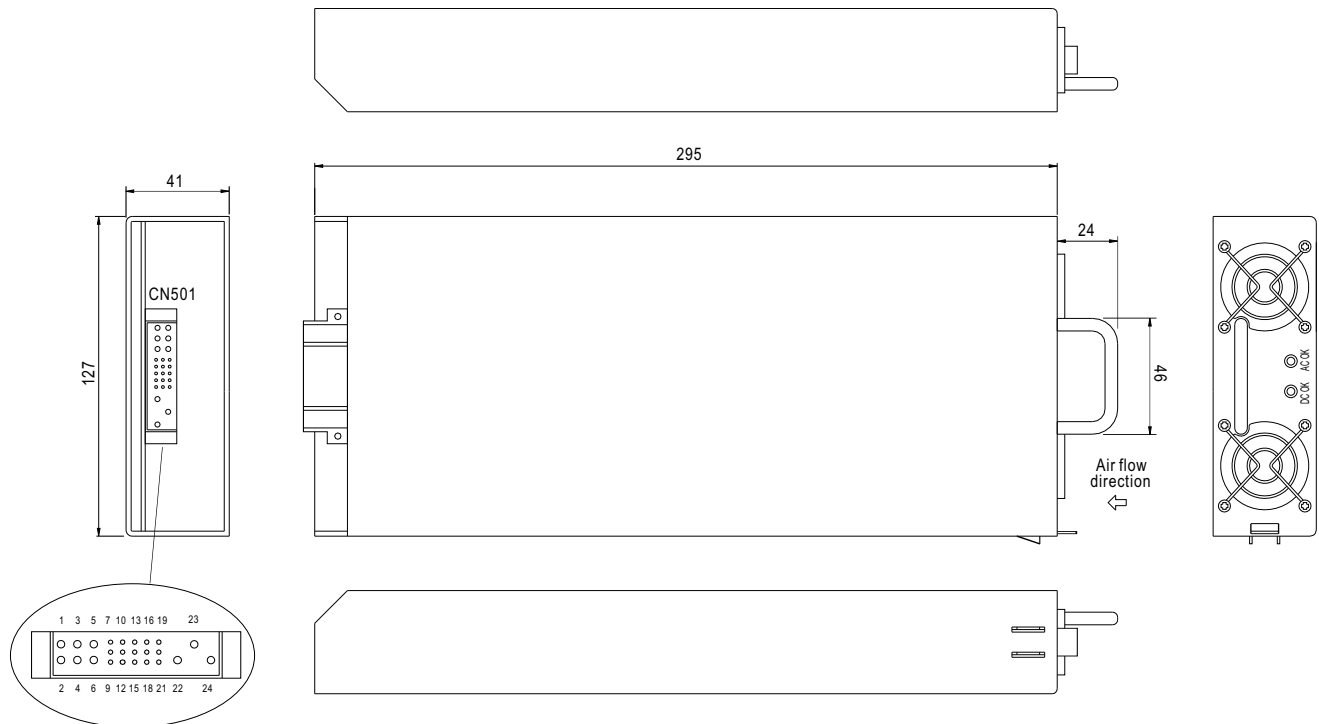
SPECIFICATION - Single Unit

MODEL		RCP-1000-12	RCP-1000-24	RCP-1000-48	
OUTPUT	DC VOLTAGE	12V	24V	48V	
	RATED CURRENT	60A	40A	21A	
	CURRENT RANGE	0 ~ 60A	0 ~ 40A	0 ~ 21A	
	RATED POWER	720W	960W	1008W	
	RIPPLE & NOISE (max.) Note.2	150mVp-p	200mVp-p	300mVp-p	
	VOLTAGE ADJ. RANGE	11.6 ~ 12.4V	23.2 ~ 24.8V	46.3 ~ 49.7V	
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±0.5%	±0.5%	±0.5%	
	SETUP, RISE TIME	1000ms, 60ms/230VAC at full load			
HOLD UP TIME (Typ.)	16ms/230VAC at full load				
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC	127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY (Typ.)	81%	87%	89%	
	AC CURRENT (Typ.)	8.5A/115VAC	4.5A/230VAC	10.5A/115VAC	5.5A/230VAC
	INRUSH CURRENT (Typ.)	COLD START 50A			
LEAKAGE CURRENT	<1.1mA / 230VAC				
PROTECTION	OVERLOAD	105 ~ 125% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed			
	OVER VOLTAGE	13.2 ~ 16.2V	26.4 ~ 32.4V	52.8 ~ 64.8V	
		Protection type : Shut down o/p voltage, re-power on to recover			
	OVER TEMPERATURE	75°C ±5°C (TSW1) Detect on heatsink of power transistor 85°C ±5°C (TSW2) Detect on heatsink of power diode Protection type : Shut down o/p voltage, recovers automatically after temperature goes down			

MODEL		RCP-1000-12	RCP-1000-24	RCP-1000-48
FUNCTION	AUXILIARY POWER	5V @ 0.3A		
	REMOTE ON/OFF CONTROL	By electrical signal or dry contact ON:short OFF:open		
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.5V		
	DC OK SIGNAL	Open collector signal, on when $V_{out} \geq 80\% \pm 5\%$, max. sink current:10mA		
	AC FAIL SIGNAL	Open collector signal, refer to function manual		
	OUTPUT VOLTAGE TRIM	Adjustment of output voltage, possible between 90 ~ 110% of rated output		
	OVER TEMP WARNING	Logic " High" for over temperature warning, refer to function manual		
ENVIRONMENT	WORKING TEMP.	-20 ~ +60°C (Refer to output load derating curve)		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH		
	TEMP. COEFFICIENT	$\pm 0.02\%/^{\circ}\text{C}$ (0 ~ 50°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 Approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.7KVDC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC		
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B		
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3		
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, ENV50204, EN61000-6-2 (EN50082-2) Heavy industry level, criteria A		
OTHERS	MTBF	43.4Khrs min. MIL-HDBK-217F (25°C)		
	DIMENSION	295*127*41mm (L*W*H)		
	PACKING	1.91Kg; 6pcs/12.5Kg/1.04CUFT		

SPECIFICATION - Rack System

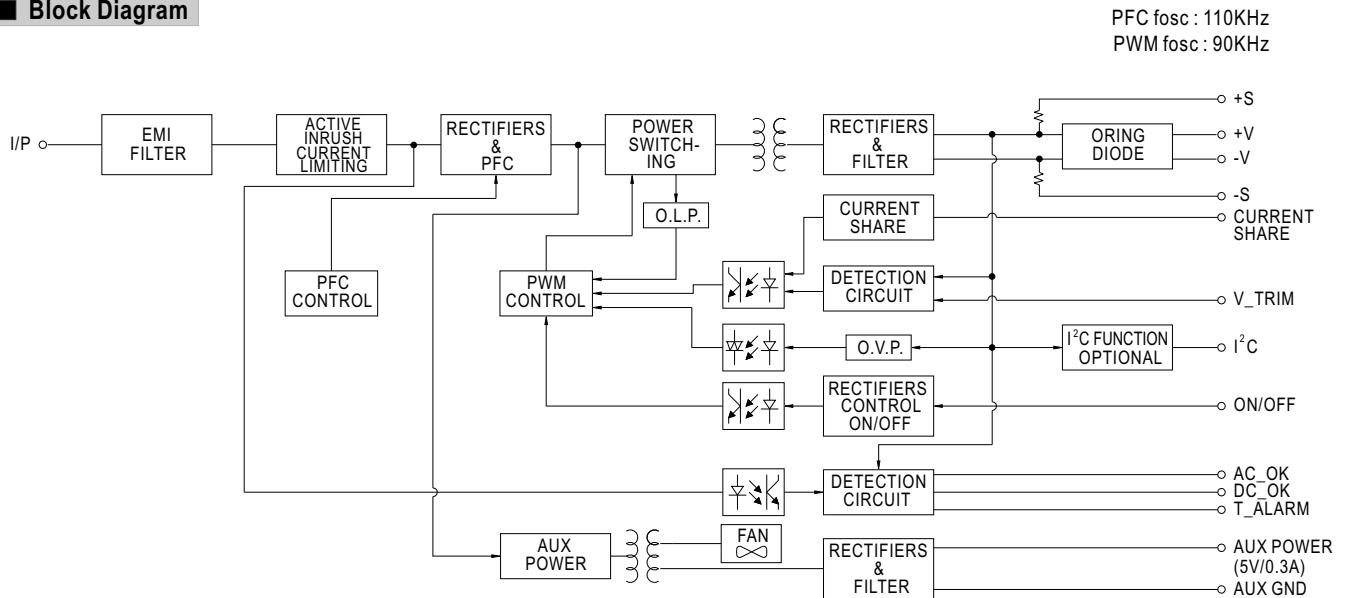
MODEL		RCP-3K1U□-12	RCP-3K1U□-24	RCP-3K1U□-48
OUTPUT	MODULE	RCP-1000-12		RCP-1000-24
	RACK	RCP-1UI or RCP-1UT		
	OUTPUT VOLTAGE	12V	24V	48V
	MAX. OUTPUT CURRENT	180A	120A	63A
	MAX. OUTPUT POWER <small>Note.6</small>	2160W	2880W	3024W
INPUT	VOLTAGE RANGE <small>Note.5</small>	90 ~ 264VAC 127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	AC CURRENT (Typ.)FOR EACH UNIT	8.5A/115VAC	4.5A/230VAC	10.5A/115VAC 5.5A/230VAC
	LEAKAGE CURRENT	<3.5mA / 230VAC		
	AUXILIARY POWER	5V @ 0.3A		
FUNCTION	REMOTE ON/OFF CONTROL	By electrical signal or dry contact ON:short OFF:open		
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.5V. "Local Sense"should be connected in order to get the correct output voltage if the "Remote Sense" is not used		
	DC OK SIGNAL	Open collector signal, on when $V_{out} \geq 80\% \pm 5\%$, max. sink current:10mA		
	AC FAIL SIGNAL	Open collector signal, refer to function manual		
	OUTPUT VOLTAGE TRIM	Adjustment of output voltage, possible between 90 ~ 110% of rated output		
	OVER TEMP WARNING	Logic " High" for over temperature warning, refer to function manual		
	ENVIRONMENT	WORKING TEMP.	-20 ~ +60°C (Refer to output load derating curve)	
WORKING HUMIDITY		20 ~ 90% RH non-condensing		
STORAGE TEMP., HUMIDITY		-40 ~ +85°C, 10 ~ 95% RH		
TEMP. COEFFICIENT		$\pm 0.02\%/^{\circ}\text{C}$ (0 ~ 50°C)		
VIBRATION		10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 Approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.7KVDC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC		
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B		
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3		
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, ENV50204, EN61000-6-2 (EN50082-2) Heavy industry level, criteria A		
OTHERS	DIMENSION	Rack 483.6*350.8*44(L*W*H)		
	PACKING	11Kg; 1pcs/11Kg/2.67CUFT		
NOTE	<ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. Tolerance : includes set up tolerance, line regulation and load regulation. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. Derating may be needed under low input voltages. Please check the derating curve for more details. Output of all the RCP-1000 modules are connected in parallel in the rack. Under parallel operation of more than one rack connecting together, ripple of the output voltage may be higher than the SPEC at light load condition. It will go back to normal ripple level once the output load is more than 10%. 			



Input / Output Connector Pin No. Assignment(CN501) : Postronic PCB24W9M400A1

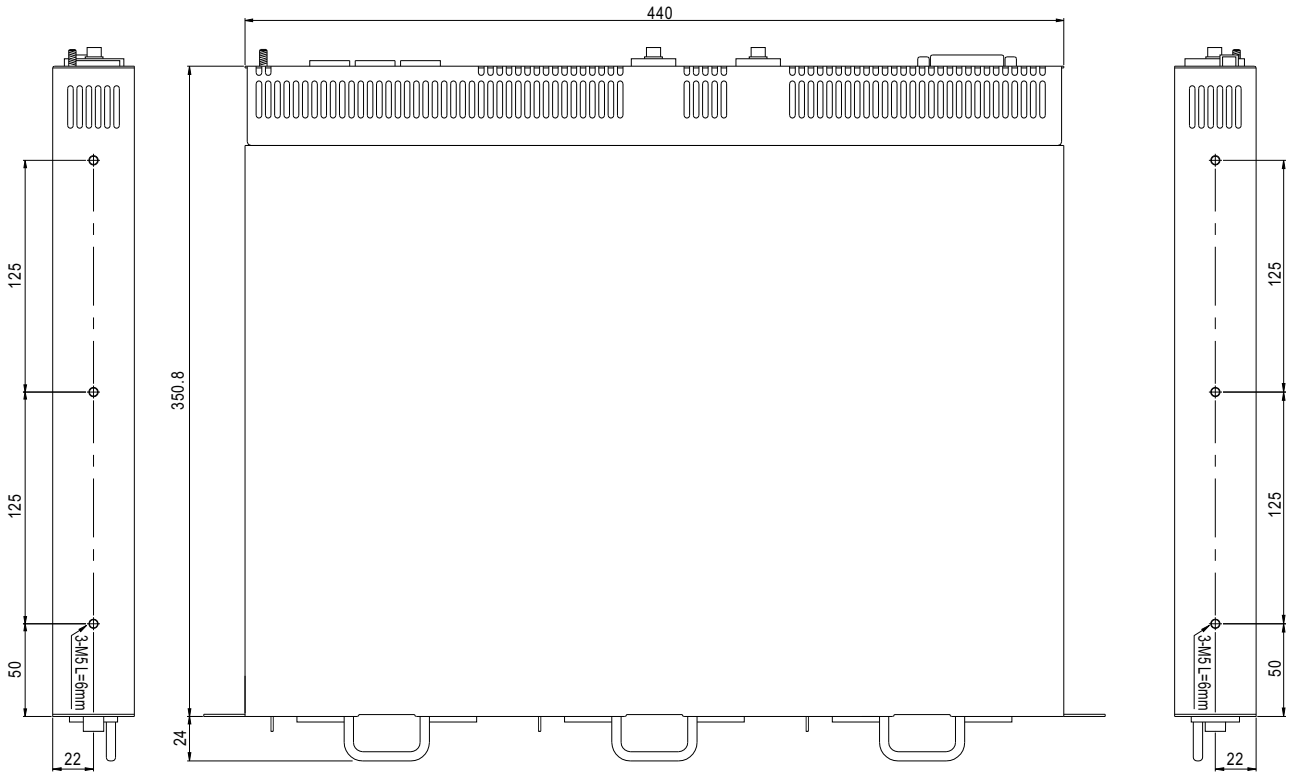
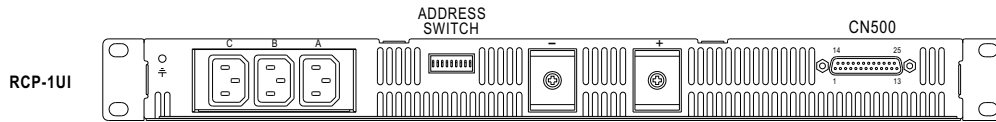
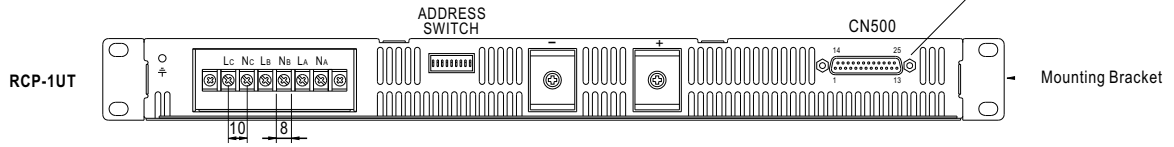
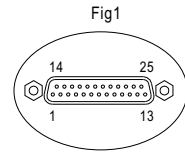
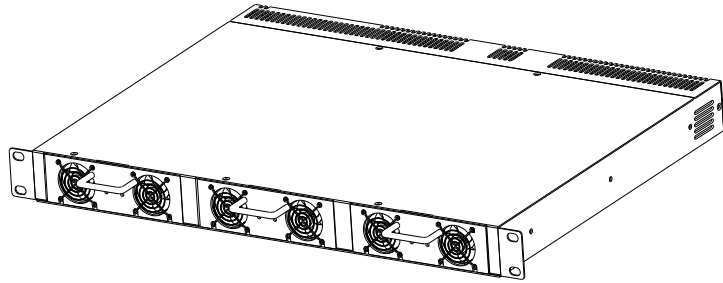
Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Mating Housing
1,2,4	+V	10	AC_OK	15	+5V_AUX	20	A1	Postronic PCB24W9F400A1
3,5,6	-V	11	DC_OK	16	GND_AUX	21	A2	
7	ON/OFF	12	CS	17	SDA	22	FG	
8	+S	13	V_TRIM	18	SCL	23	AC/L	
9	-S	14	T_ALARM	19	A0	24	AC/N	

■ Block Diagram

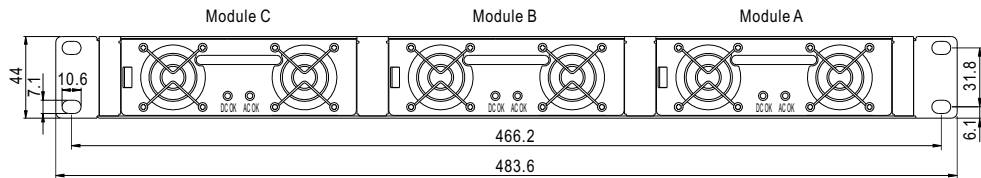


Mechanical Specification (Rack System)

Case No. 959A Unit:mm



↑ Air flow direction



■ CN500 Pin No. Assignment

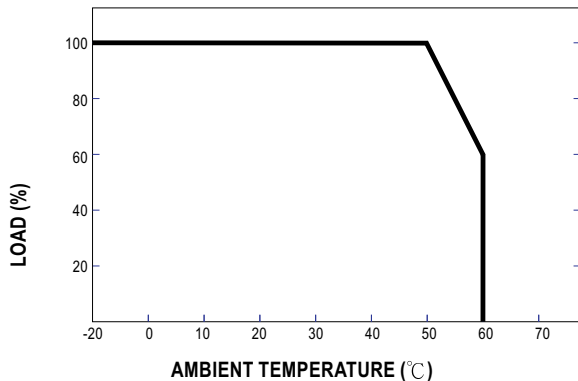
Connector Pin No. Assignment(CN500) : D-Type Right Angle 25 positions

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	ON/OFF-A	6	+5V-AUX	11	V-TRIM-B	16	AC-OK-C	21	-S
2	AC-OK-A	7	GND-AUX	12	T-ALARM-B	17	DC-OK-C	22	+V
3	DC-OK-A	8	ON/OFF-B	13	NC	18	V-TRIM-C	23	SCL
4	V-TRIM-A	9	AC-OK-B	14	CS	19	T-ALARM-C	24	SDA
5	T-ALARM-A	10	DC-OK-B	15	ON/OFF-C	20	+S	25	-V

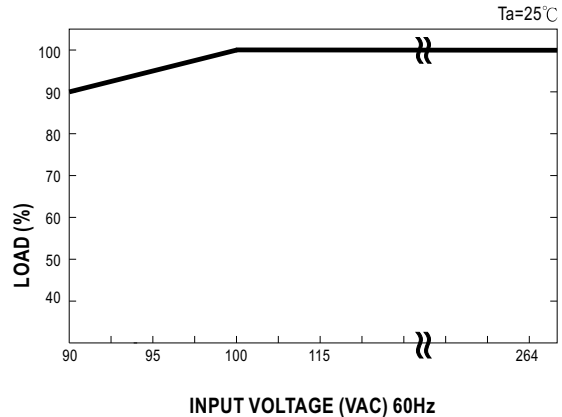
■ CN500 IN/OUT Connector pins function description

Pin No.	Function	Description
1,8,15	ON/OFF	Each unit can separately turn the output on and off by electrical or dry contact between ON/OFF A,B,C(pin 1,8,15) and -S(pin 21). Short: ON, Open:OFF.
2,9,16	AC-OK	High : When the input voltage is $\geq 82V_{rms} \pm 4V$. Low : when the input voltage in $\leq 82V_{rms} \pm 4V$.
3,10,17	DC-OK	High : When the $V_{out} \geq 80\% \pm 5\%$. Low : When $V_{out} \leq 80\% \pm 5\%$
4,11,18	V-TRIM	Connection for output voltage trimming. The voltage can be trimmed within its defined range.
5,12,19	T-ALARM	High : When the internal temperature is within safe limit. Low : $10^{\circ}C$ below the thermal shut down limit.
6	+5V-AUX	Auxiliary voltage output, 4.3~5.3V, referenced to GND-AUX(pin 7). The maximum load current is 0.3A. This output has the built-in "Oring diodes" and is not controlled by the remote ON/OFF control.
7	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+V & -V).
14	CS	Current sharing signal. When units are connected in parallel, the CS pins of the units should be connected to allow current balance between units.
20	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V.
21	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V.
22	+V	Positive output voltage. For local sense use only, can't be connected directly to the load.
23	SCL	Serial clock used in the I ² C interface option. Refer to the I ² C interface description.
24	SDA	Serial data used in the I ² C interface option. Refer to the I ² C interface description.
25	-V	Negative output voltage. For local sense use only, can't be connected directly to the load.

■ Derating Curve



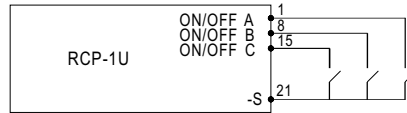
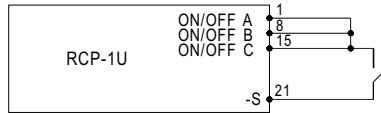
■ Static Characteristics



Function Manual

1. Remote ON/OFF Control

The PSU can be turned ON/OFF together or separately by using the "Remote ON/OFF" function.

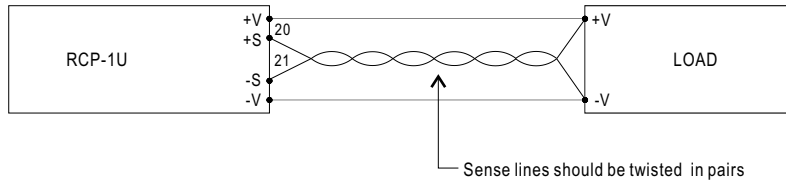


Between ON/OFF and -S	Output
SW Open	OFF
SW Short	ON

2. Voltage Drop Compensation

2.1 Remote Sense

The remote sense compensates voltage drop on the load wiring up to 0.5V.



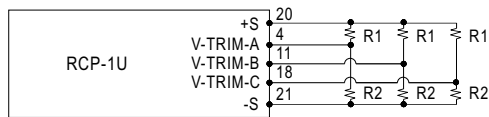
2.2 Local Sense

Notice : The +S,-S have to be connected to the +V,-V terminals locally in order to get the correct output voltage if the remote sensing is not used.

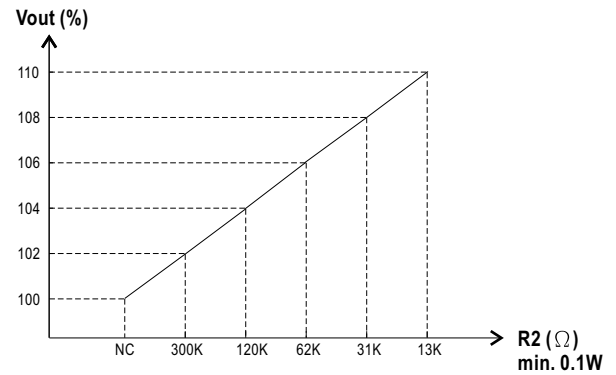
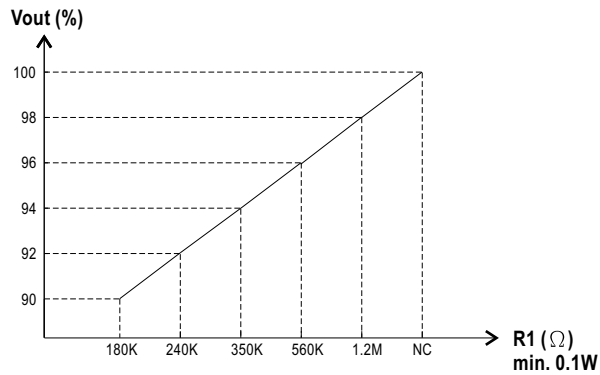


3. Output Voltage Trimming

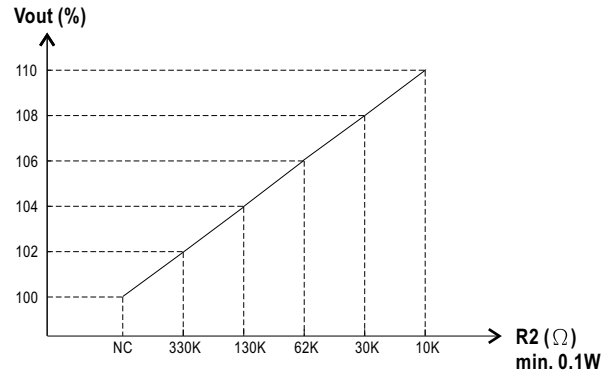
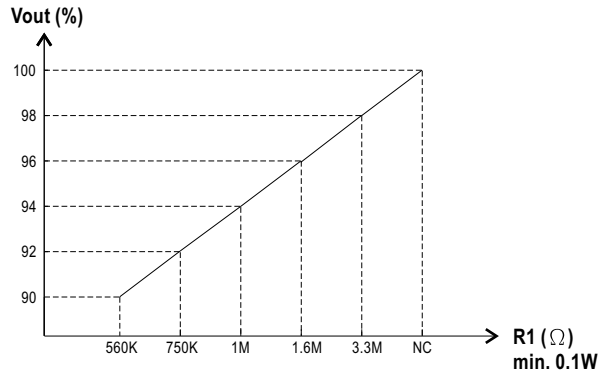
Output voltage can be trimmed between 90~110% of its rated value by the following method.



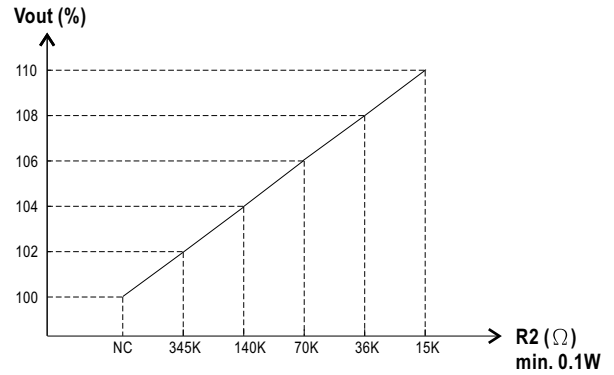
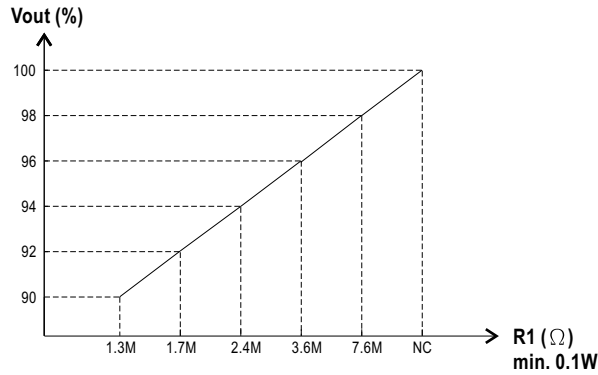
3.1 RCP-1000-12



3.2 RCP-1000-24



3.3 RCP-1000-48



4. Front Panel Indicators & Corresponding Signal at Function Pins

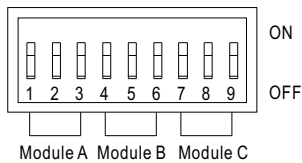
Function	LED	Description	* Signal	PSU Output
AC-OK	ON	When input voltage $\geq 82V \pm 4V$	0 ~ 0.5V	ON
AC-NG	OFF	When input voltage $\leq 82V \pm 4V$	4.5 ~ 5.5V	OFF
DC-OK	ON	When output voltage $\geq 80\% \pm 5\%$ of Vo rated.	0 ~ 0.5V	ON
DC-NG	OFF	When output voltage $\leq 80\% \pm 5\%$ of Vo rated.	4.5 ~ 5.5V	ON
T-OK	----	When the internal temperature (TSW1 & TSW2 short) is within safe limit	0 ~ 0.5V	ON
T-ALARM	----	When the internal temperature (TSW1 or TSW2 open) exceeds the limit of temperature alarm	4.5 ~ 5.5V	OFF

*Signal between function pin and "-S".

5. I²C Bus Interface Option

5.1 Addressing(A0,A1,A2)

The DIP switch down position is logic level "1" and the up position is level "0". Address are applicable when modules RCP-1000 I²C function are used.



Address dip switch setting

A2	A1	A0	Module
3	2	1	A
6	5	4	B
9	8	7	C

5.2 Digital Function (Read Only)

Digital function are provided by a PCF8574 8-bit I/O port device. When this device is read by the I²C bus controller, a single 8-bit word provides the following information.

BIT	FUNCTION	GOOD STATE	FAIL STATE	MEANING
0	AC Input Fail	0	1	Input power fail
1	Output Power Good / Fail	0	1	Output voltage is less than specification
2	Temperature Warning	0	1	Internal temperature is over 60°C. PSU turns on
3	Over Temperature Protection	0	1	Temperature exceeds nominal operating limit. PSU turns off
4	Fan Fail Warning	0	1	Failure of an internal fan
5	Not Used	-----	-----	Not used
6	Not Used	-----	-----	Not used
7	Not Used	-----	-----	Not used

PCF8574 slave address

Bit	7	6	5	4	3	2	1	0
Value	0	1	0	0	A2	A1	A0	R/W

Read : 1
Write : 0

6. Analog Function (Read Only)

6.1 Analog function are provided by a single PCF8591 4-channel 8-bit A/D converter. When this device is read by the I²C bus controller, it provides an 8-bit word with the following information:

A/D Channel	FUNCTION
1	Output Voltage
2	Output Current
3	Internal Temperature
4	Not Used

PCF8591 slave address

Bit	7	6	5	4	3	2	1	0
Value	1	0	0	1	A2	A1	A0	R/W

PCF8591 control byte

Bit	7	6	5	4	3	2	1	0
Value	0	0	0	0	0	0		

0 0 : Output Voltage
0 1 : Output Current
1 0 : Internal Temperature

6.2 A/D scaling

The voltage reading is made inside the power supply unit before the "Oring diode" and is typically 0.5V higher than the actual output voltage.

The following table for the scaling should be employed:

VALUE = BYTE VALUE x RESOLUTION

Output Voltage	Range	Scaling	Tolerance	
12V	0~16V	0.0625V/Bit	±5%	A/D Channel 1 Voltage
24V	0~33V	0.129V/Bit	+3%,-5%	
48V	0~65V	0.254V/Bit	+2%,-5%	
12V	0~80A	0.312A/Bit	±10%	A/D Channel 2 Current
24V	0~55A	0.215A/Bit	±10%	
48V	0~30A	0.117A/Bit	±10%	
12V	0~100°C	0.391°C/Bit	±3°C	A/D Channel 3 Temperature
24V	0~100°C	0.391°C/Bit	±3°C	
48V	0~100°C	0.391°C/Bit	±3°C	

7.EEPROM Function (Read Only)

The EEPROM is a 2048 bit (256 byte) device which is preprogrammed at the factory with the following data :

Address	Bytes	Data
4	16	Manufacturer
20	20	Serial Number
40	16	Revision
56	16	Country of production
72	16	Model Name
88	16	Output Voltage
104	16	Date of production
254	2	Check Sum

EEPROM slave address

Bit	7	6	5	4	3	2	1	0
Value	1	0	1	0	A2	A1	A0	R/W