RSP-750 series

750W Power Supply with Single Output

Dimension					
L	*	W	*	H	
250	*	127	*	41 (1U)	mm
9.84	*	5	*	1.61 (1U)	inch



User's Manual

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R33100 RoHS

UL62368-1

BS EN/EN62368-1

GB4943.1

TPTC004

IS13252 (except 48V)

Industrial Automate Telecom Network EV

IEC62368-1

Features

- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 92%
- Forced air cooling by built-in DC fan
- Output voltage and constant current level programmable
- Built-in remote ON-OFF control / remote sense / auxiliary power / DC OK signal
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Optional conformal coating
- 5 years warranty

Applications

- Factory control or automation apparatus
- Test and measurement instrument
- Laser related machine
- Burn-in facility
- RF application

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RSP-750 is a 750W single output enclosed type AC/DC power supply. This series operates for 90~264VAC input voltage and offers the models with the DC output mostly demanded from the industry. Each model is cooled by the built-in fan with fan speed control, working for the temperature up to 70℃. Moreover, RSP-750 provides vast design flexibility by equipping various built-in functions such as the output programming, remote ON-OFF control, auxiliary power, etc.

Model Encoding / Order Information

RSP - 750 - 48

- 48 — Output voltage (5V/12V/15V/24V/27V/48V)
- 750 — Output wattage
- RSP — Series name

SPECIFICATION

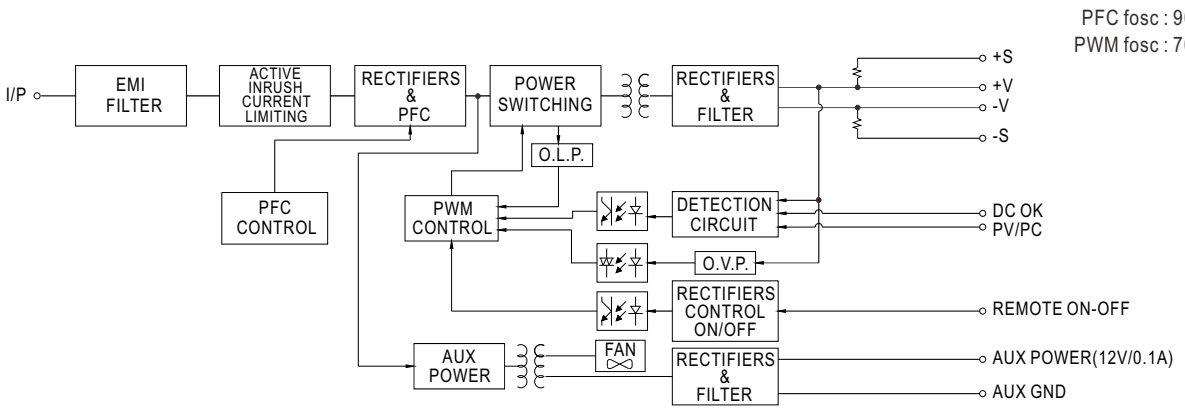
MODEL		RSP-750-5	RSP-750-12	RSP-750-15	RSP-750-24	RSP-750-27	RSP-750-48
OUTPUT	DC VOLTAGE	5V	12V	15V	24V	27V	48V
	RATED CURRENT	100A	62.5A	50A	31.3A	27.8A	15.7A
	CURRENT RANGE	0 ~ 100A	0 ~ 62.5A	0 ~ 50A	0 ~ 31.3A	0 ~ 27.8A	0 ~ 15.7A
	RATED POWER	500W	750W	750W	751.2W	750.6W	753.6W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	10 ~ 13.5V	13.5 ~ 16.5V	20 ~ 26.4V	24 ~ 30V	43 ~ 55V
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	1000ms, 50ms at full load					
	HOLD UP TIME (Typ.)	16ms/230VAC 16ms/115VAC at full load					
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC 127 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	0.97/230VAC 0.98/115VAC at full load					
	EFFICIENCY (Typ.)	82%	87%	89%	90.5%	90.5%	92%
	AC CURRENT (Typ.)	5V : 5.6A/115VAC 2.8A/230VAC		12V~48V : 8.2A/115VAC 3.9A/230VAC			
	INRUSH CURRENT (Typ.)	25A/115VAC 40A/230VAC					
	LEAKAGE CURRENT	<2.0mA / 240VAC					
PROTECTION	OVERLOAD	105 ~ 125% rated output power					
		Protection type : Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE (OVP)	5.75 ~ 6.75V	13.8 ~ 16.8V	17 ~ 20.5V	27.6 ~ 32.4V	31 ~ 36.5V	56.6 ~ 66.2V
		Protection type : Shut down o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down					
FUNCTION	OUTPUT VOLTAGE PROGRAMMABLE(PV)	Adjustment of output voltage is allowable to 40 ~ 110% of nominal output voltage. Please refer to the Function Manual.					
	CONSTANT CURRENT LEVEL PROGRAMMABLE(PC)	Adjustment of constant current level is allowable to 40 ~ 110% of rated current. Please refer to the Function Manual.					
	AUXILIARY POWER	12V @ 0.1A ; tolerance : ±10%					
	REMOTE ON-OFF CONTROL	Power on : short between *Remote ON-OFF(pin13)* & *12V-AUX(pin14)* on CN50 Power off : open between *Remote ON-OFF(pin13)* & *12-AUX(pin14)* on CN50					
	DC OK SIGNAL	The TTL signal out, power supply turn on = 0 ~ 1V ; power supply turn off = 3.3 ~ 5.6V					
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes					
SAFETY & EMC (Note 7)	SAFETY STANDARDS	UL62368-1, CSA C22.2 No. 62368-1, TUV BS EN/EN62368-1, CCC GB4943.1, BSMI CNS15598-1, AS/NZS62368.1, EAC TP TC 004, BIS IS13252(Part1): 2010/IEC 60950-1:2005(except for 48V) approved					
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION	**Parameter**		**Standard**		**Test Level / Note**	
		Conducted		BS EN/EN55032 (CISPR32),CNS15936		Class B	
		Radiated		BS EN/EN55032 (CISPR32),CNS15936		Class B	
		Harmonic Current		BS EN/EN61000-3-2		-----	
		Voltage Flicker		BS EN/EN61000-3-3		-----	
	EMC IMMUNITY	BS EN/EN55024, BS EN/EN61000-6-2, CCC GB17625.1,GB/T9254					
		Parameter		**Standard**		**Test Level / Note**	
		ESD		BS EN/EN61000-4-2		Level 3, 8KV air ; Level 2, 4KV contact	
		Radiated		BS EN/EN61000-4-3		Level 3	
		EFT / Burst		BS EN/EN61000-4-4		Level 3	
		Surge		BS EN/EN61000-4-5		Level 4, 4KV/Line-Earth ; Level 3, 2KV/Line-Line	
		Conducted		BS EN/EN61000-4-6		Level 3	
		Magnetic Field		BS EN/EN61000-4-8		Level 4	
		Voltage Dips and Interruptions		BS EN/EN61000-4-11		>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods	
OTHERS	MTBF	336.9K hrs min. Telcordia SR-332 (Bellcore) ; 109.1K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	250*127*41mm (L*W*H)					
	PACKING	1.64Kg; 6pcs/10.8Kg/1.1CUFT					

NOTE

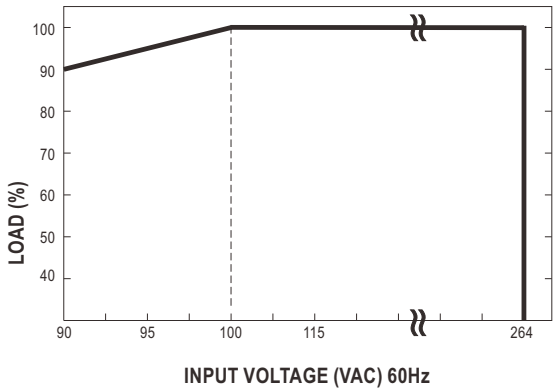
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltages. Please check the derating curve for more details.
5. There is high possibility to trigger the floating over voltage protection when PV voltage is trimmed from a high voltage level to a lower voltage level at light load or no load condition. It is suggested that turn off the power supply and set PV voltage to the lowest level, then adjust output voltage to a desired value.
6. Strongly recommended that external output capacitance should not exceed 5000uF. (Only for: RSP-750-5)
7. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 720mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
9. Products sourced from Taiwan do not have the BIS logo, please contact your MEAN WELL sales for more information.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

Block Diagram

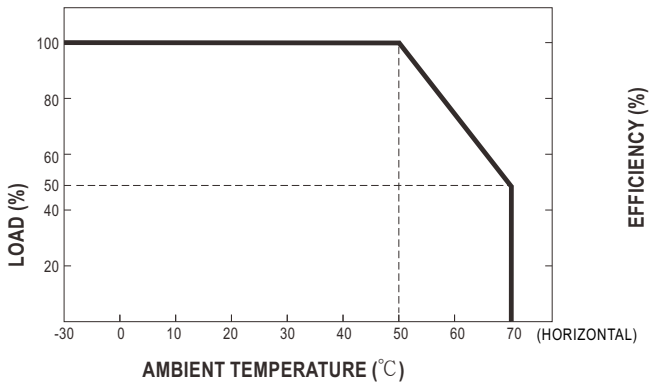


Static Characteristics

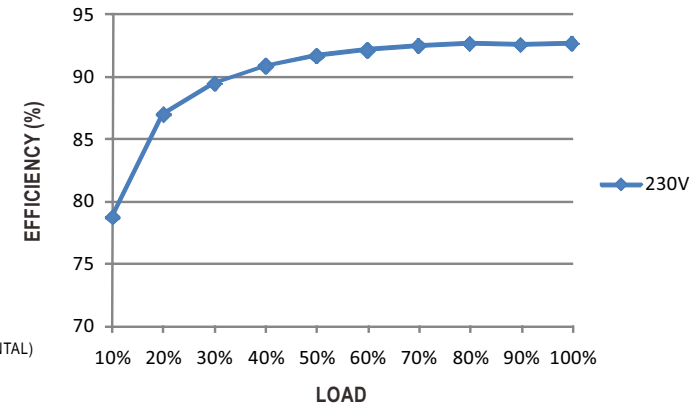


INPUT \ MODEL	5V	12V	15V
100~264VAC	500W 100A	750W 62.5A	750W 50A
90VAC	450W 90A	675W 56.25A	675W 45A
INPUT \ MODEL	**24V**	**27V**	**48V**
100~264VAC	751.2W 31.3A	750.6W 27.8A	753.6W 15.7A
90VAC	676.08W 28.17A	675.54W 25.02A	678.24W 14.13A

Derating Curve



Efficiency vs Load (48V Model)

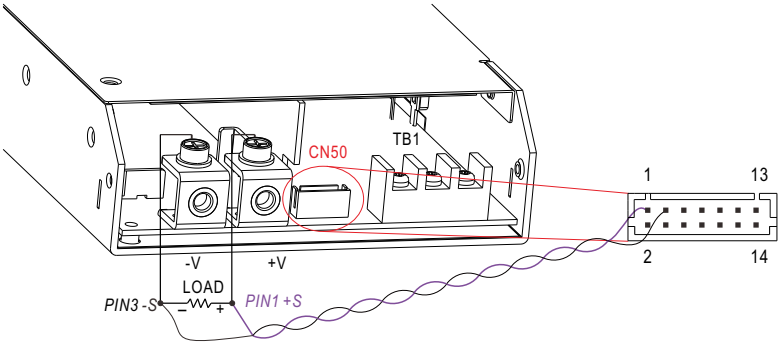


※ The curve above is measured at 230VAC.

■ Function Manual

1.Remote Sense

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



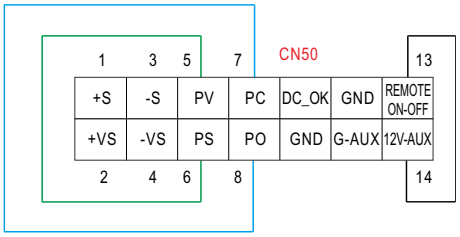


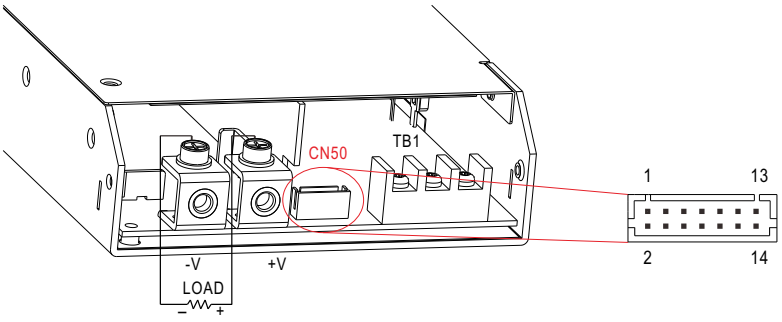
Fig 1.1

◎ The +*S* signal should be connected to the positive terminal of the load whereas -*S* signal to the negative terminal.

◎ By factory default, on CN50, *Remote ON-OFF* (pin13) and *12V-AUX* (pin14), *PV*(pin5) and *PS* (pin6), and *PC* (pin7) and *PO* (pin8, respectively, are shorted when shipped. The power supply will have no output if the shorting connector is not assembled unless certain functin needs to be activated.

2.Remote ON-OFF

※ The power supply can be turned ON/OFF by using the “Remote ON-OFF” function.



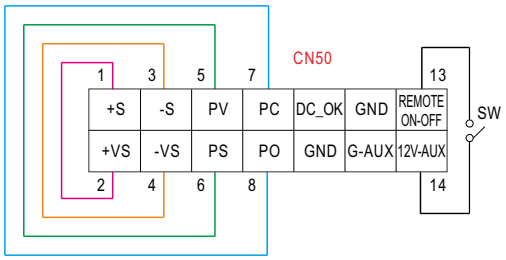


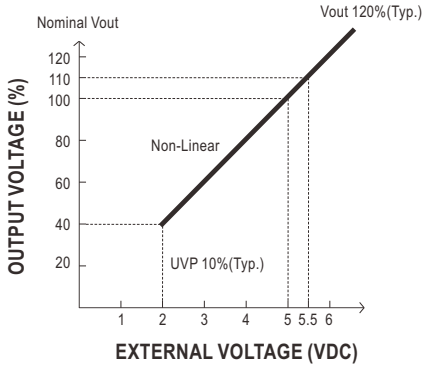
Fig 2.1

Between Remote *ON-OFF(pin13)* and *12V-AUX(pin14)*	Power Supply Status
SW close (Short)	ON
SW open (Open)	OFF

◎ When multiple power supplies need to turn ON/OFF simultaneously by Remote ON-OFF control, -S & -V on CN50, as well as +S & +V, on each power supply should be connected.

3. Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed to 40~110% of the nominal voltage by applying EXTERNAL VOLTAGE.



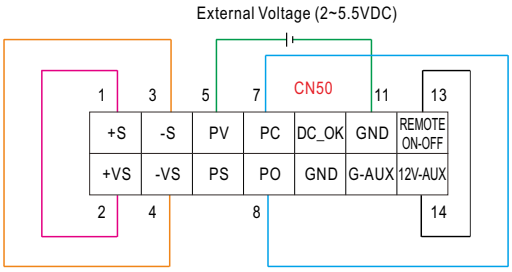


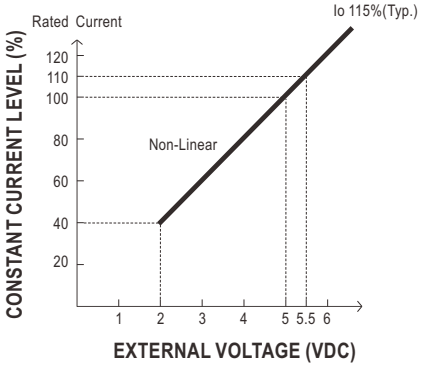
Fig 3.1

◎ If EXTERNAL VOLTAGE (VDC) <0.5V,the power supply may enter under voltage protection; it needs to be restarted to work.

※ Caution: By factory default, the Output Voltage Programming is not activated, and *PV (pin5)* and *PS(pin6)* are shorted by connector. Whenever this function is not needed to activate, as assumed in other sections' diagrams, please keep *PV (pin5)* and *PS(pin6)* shorted ; other wise, the power supply will have no output.

4. Constant Current Level Programming (or, PC / remote current programming / dynamic current trim)

※ The constant current level can be trimmed to 40~110% of the rated current by applying EXTERNAL VOLTAGE.



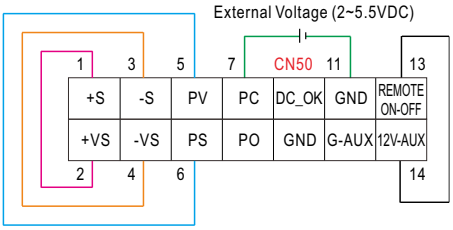
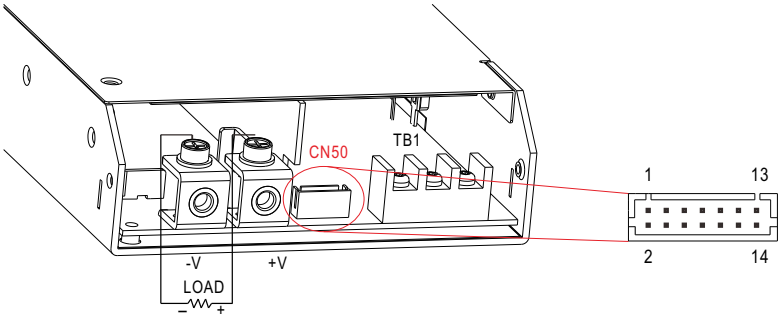


Fig 4.1

※ Caution: By factory default, the Output Current Programming is not activated, and *PC(pin7)* and *PO(pin8)* are shorted by connector. Whenever this function is not needed to activate, as assumed in other sections' diagrams, please keep *PC(pin7)* and *PO(pin8)* shorted ; otherwise, the power supply will have no output.



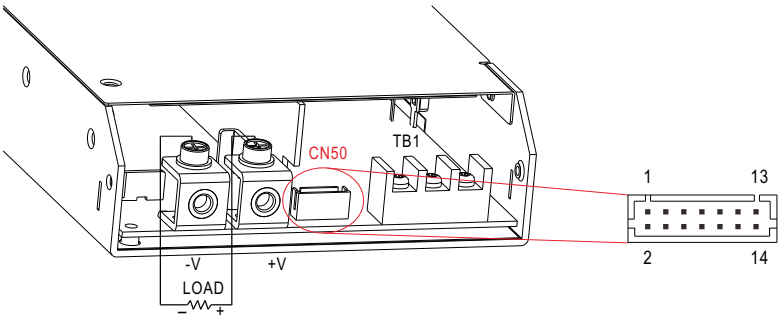
5.DC_OK signal

※ "DC_OK" is an open collector signal. It indicates the output status of the power supply. It can operate in two ways : One is sinking current from external TTL signal ; the other is sending out a TTL voltage signal.

◎ **Sinking current from external TTL signal:** The maximum sink current is 10mA and the maximum external voltage is 5.6V.

◎ **Sending out TTL voltage signal :**

Between *DC- OK(pin9)* and *GND(pin10&11)*	Output Status
0 ~ 1V	Power supply ON
3.3 ~ 5.6V	Power supply OFF



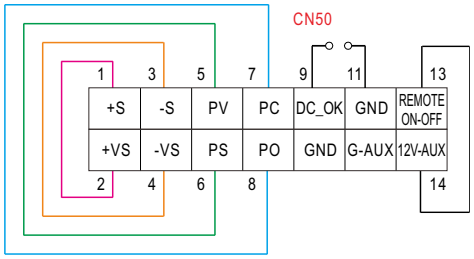
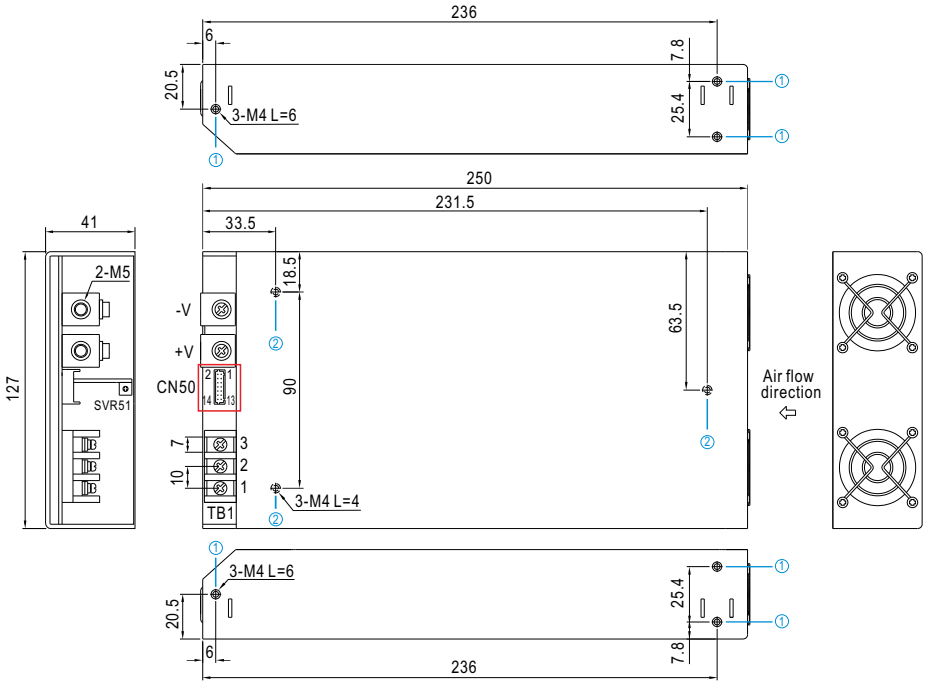


Fig 5.1

■ Mechanical Specification

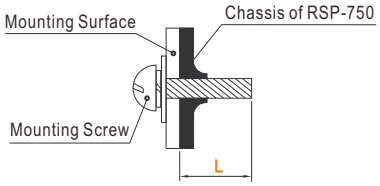
(Unit: mm , tolerance ± 1mm)

Case No.212A

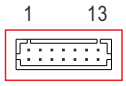


※ Mounting Instruction

Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M4	6mm	7~11Kgf-cm
②	M4	4mm	7~11Kgf-cm



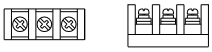
※Control Pin No. Assignment (CN50) : HRS DF11-14DP-2DS or equivalent



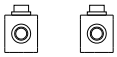
Mating Housing	HRS DF11-14DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1	+S	Positive sensing for remote sense.
2	+VS	+V Signal. The +VS should be connected to the +S to reduce the noise when "output voltage programming" function is in use.
3	-S	Negative sensing for remote sense.
4	-VS	-V Signal. The -VS should be connected to the -S to reduce the noise when "output voltage programming" function is in use.
5	PV	Connect to external DC voltage source for output voltage programming, referenced to pin 10,11 (GND).
6	PS	Reference pin regarding output voltage programming. Please refer to the Function Manual.
7	PC	Connect to external DC voltage source for output current programming.
8	PO	Reference pin regarding output current programming. Please refer to the Function Manual.
9	DC_OK	Open collector signal, referenced to pin10,11(GND). Low when PSU turns on. The maximum sink current is 10mA and the maximum external voltage is 5.6V.
10,11	GND	These pins connect to the negative terminal (-V). Return for DC_OK Signal output.
12	G-AUX	Auxiliary voltage output ground. The signal return is isolated from the output terminals (+V & -V).
13	REMOTE ON-OFF	Turns the output on and off by electrical or dry contact between pin 13 (ON/OFF) and pin 14 (12V-AUX). Short: Power ON, Open: Power OFF.
14	12V-AUX	Auxiliary voltage output, 10.8~13.2V, referenced to pin 12(G-AUX). The maximum load current is 0.1A. This output is not controlled by the "remote ON/OFF control".

※AC Input Terminal Pin No. Assignment

Pin No.	Assignment	Diagram	Maximum mounting torque
1	AC/N		18Kgf-cm
2	AC/L		
3	FG ⏚		

※DC Output Terminal Pin No. Assignment

Assignment	Diagram	Maximum mounting torque
+V, -V		10Kgf-cm

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

RSP-1000 series

1000W Power Supply with Single Output

Dimension

L	*	W	*	H	
295	*	127	*	41 (1U)	mm
11.6	*	5	*	1.61 (1U)	inch



User's Manual

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Parallel R33100 RoHS UL62368-1 BS EN/EN62368-1 GB4943.1 TPTC004 IEC62368-1 IS 13252 (except for 48V) Industrial Automate Telecom Network EV

Features

- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 90%
- Forced air cooling by built-in DC fan
- Output voltage programmable
- Active current sharing up to 4000W (3+1)
- Built-in remote ON-OFF control / remote sense / auxiliary power / DC OK signal
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Optional conformal coating
- 5 years warranty

Applications

- Factory control or automation apparatus
- Test and measurement instrument
- Laser related machine
- Burn-in facility
- RF application

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RSP-1000 is a 1KW single output enclosed type AC/DC power supply with 1U low profile. This series operates for 90~264VAC input voltage and offers the models with the DC output mostly demanded from the industry. Each model is cooled by the built-in fan with fan speed control, working for the temperature up to 60℃. Moreover, RSP-1000 provides vast design flexibility by equipping various built-in functions such as the output programming, active current sharing, remote ON-OFF control, auxiliary power, etc.

Model Encoding / Order Information

RSP - 1000 - 24

- 24 — Output voltage (12V/15V/24V/27V/48V)
- 1000 — Output wattage
- RSP — Series name

SPECIFICATION

MODEL		RSP-1000-12	RSP-1000-15	RSP-1000-24	RSP-1000-27	RSP-1000-48
OUTPUT	DC VOLTAGE	12V	15V	24V	27V	48V
	RATED CURRENT	60A	50A	40A	37A	21A
	CURRENT RANGE	0 ~ 60A	0 ~ 50A	0 ~ 40A	0 ~ 37A	0 ~ 21A
	RATED POWER	720W	750W	960W	999W	1008W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	10 ~ 13.5V	13.5 ~ 16.5V	20 ~ 26.4V	24 ~ 30V	43 ~ 55V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	300ms, 50ms at full load				
	HOLD UP TIME (Typ.)	16ms/230VAC 16ms/115VAC at full load				
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC 127 ~ 370VDC				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	0.95/230VAC 0.98/115VAC at full load				
	EFFICIENCY (Typ.)	83%	85%	88%	88%	90%
	AC CURRENT (Typ.)	12A/115VAC 6A/230VAC				
	INRUSH CURRENT (Typ.)	25A/115VAC 40A/230VAC				
	LEAKAGE CURRENT	<2.0mA / 240VAC				
PROTECTION	OVERLOAD	105 ~ 125% rated output power				
		Protection type : Constant current limiting, recovers automatically after fault condition is removed				
	OVER VOLTAGE	13.8 ~ 16.8V	17 ~ 20.5V	27.6 ~ 32.4V	31 ~ 36.5V	56.6 ~ 66.2V
		Protection type : Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down				
FUNCTION	OUTPUT VOLTAGE PROGRAMMABLE(PV)	Adjustment of output voltage is allowable to 40 ~ 110% of nominal output voltage. Please refer to the Function Manual.				
	CURRENT SHARING	Up to 4000W or (3+1) units. Please refer to the Function Manual.				
	AUXILIARY POWER	5V @ 0.5A (+5%, -8%)				
	REMOTE ON-OFF CONTROL	Power ON : short Power OFF : open. Please refer to the Function Manual.				
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.5V. Please refer to the Function Manual.				
	DC OK SIGNAL	The TTL signal out, PSU turn on = 0 ~ 1V ; PSU turn off = 3.3 ~ 5.6V. Please refer to the Function Manual.				
ENVIRONMENT	WORKING TEMP.	-20 ~ +60℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY	20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT	±0.02%/℃ (0 ~ 50℃)				
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes				
SAFETY & EMC (Note 5)	SAFETY STANDARDS	UL62368-1, CSA C22.2 No. 62368-1, TUV BS EN/EN62368-1, CCC GB4943.1, BSMI CNS15598-1, AS/NZS62368.1, IS13252(Part1)/IEC60950-1, EAC TP TC 004 approved				
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC				
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH				
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**		
		Conducted	BS EN/EN55032 (CISPR32), CNS15936	Class B		
		Radiated	BS EN/EN55032 (CISPR32), CNS15936	Class A		
		Harmonic Current	BS EN/EN61000-3-2	-----		
		Voltage Flicker	BS EN/EN61000-3-3	-----		
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2, CCC GB17625.1, GB/T9254, BSMI CNS13438				
		Parameter	**Standard**	**Test Level / Note**		
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact		
		Radiated	BS EN/EN61000-4-3	Level 3		
		EFT / Burst	BS EN/EN61000-4-4	Level 3		
		Surge	BS EN/EN61000-4-5	Level 4, 4KV/Line-Earth ; Level 3, 2KV/Line-Line		
		Conducted	BS EN/EN61000-4-6	Level 3		
		Magnetic Field	BS EN/EN61000-4-8	Level 4		
		Voltage Dips and Interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods		
OTHERS	MTBF	939.4K hrs min. Telcordia SR-332 (Bellcore) ; 116.5K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	295*127*41mm (L*W*H)				
	PACKING	1.95Kg; 6pcs/12.7Kg/1.15CUFT				

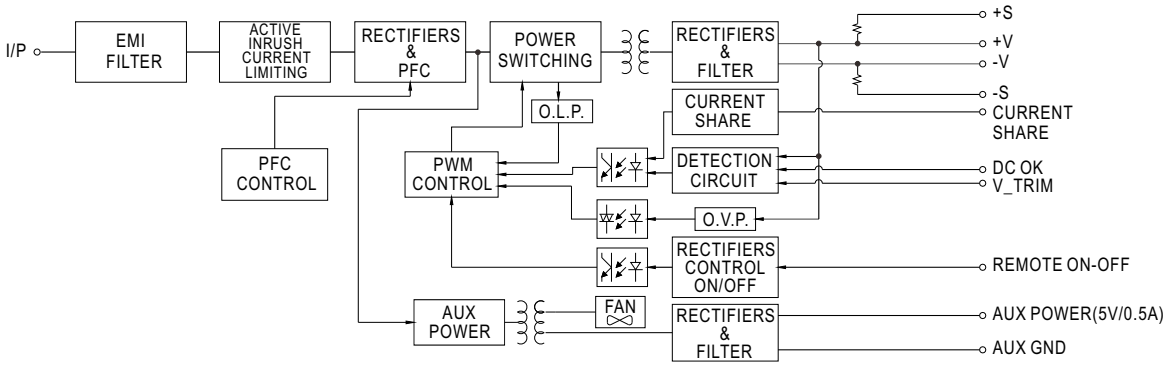
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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. Derating may be needed under low input voltages. Please check the derating curve for more details.
5. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to “EMI testing of component power supplies.” (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

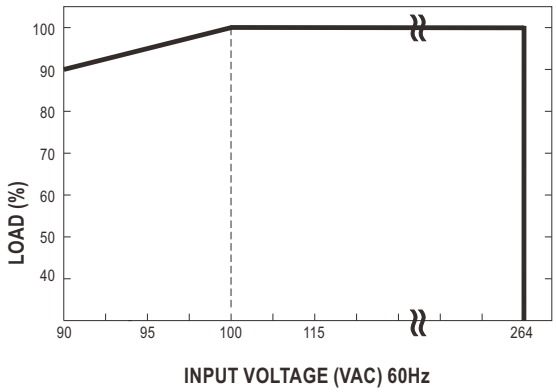
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

Block Diagram

PFC fosc : 110KHz
PWM fosc : 90KHz

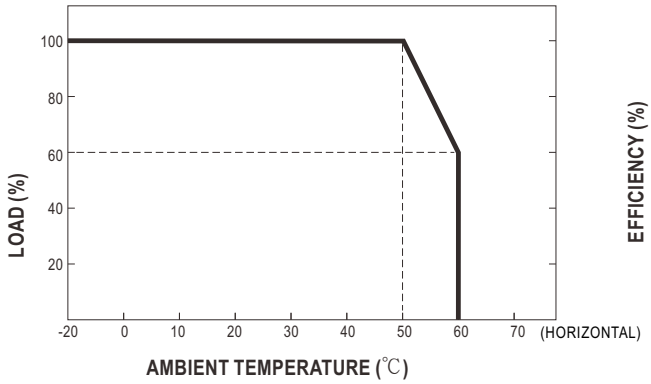


Static Characteristics

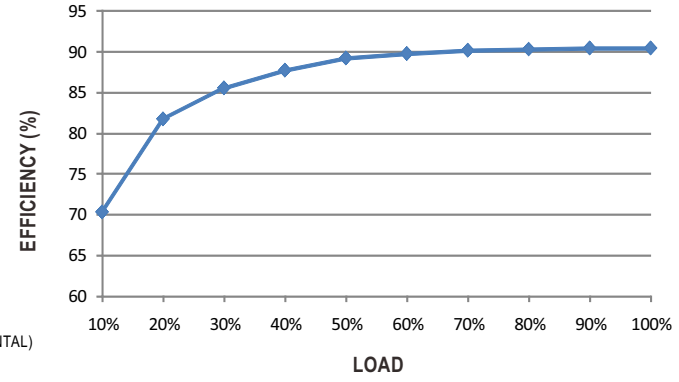


INPUT \ MODEL	12V	15V	24V	27V	48V
100~264VAC	720W 60A	750W 50A	960W 40A	999W 37A	1008W 21A
90VAC	648W 54A	675W 45A	864W 36A	899.1W 33.3A	907.2W 18.9A

Derating Curve



Efficiency vs Load (48V Model)

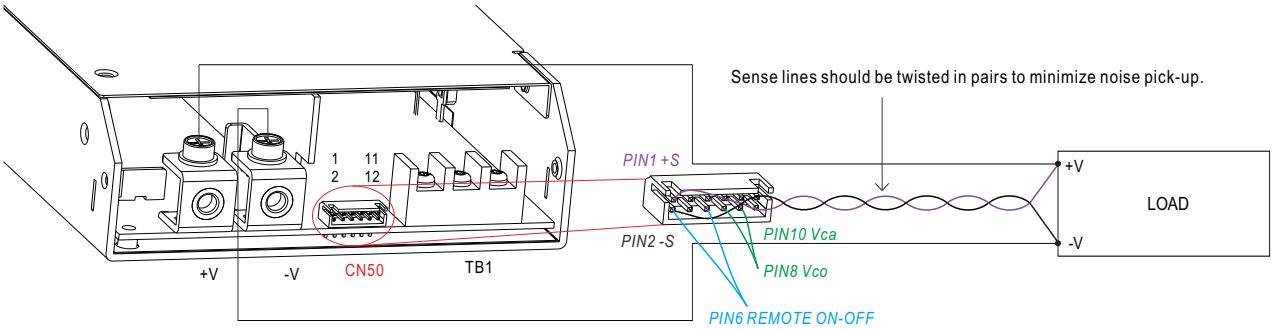


※ The curve above is measured at 230VAC.

■ Function Manual

1.Remote Sense

※ The Remote Sense compensates voltage drop on the load wiring up to 0.5V



◎ The +*S* signal should be connected to the positive terminal of the load whereas -*S* signal to the negative terminal.

◎ This configuration is based on the assumption the Output Voltage Programming is not activated and power supply is ON.

Fig 1.1

2.Remote ON-OFF Control

※ The power supply can be turned ON-OFF indivicluaaly or along with other units by using the “Remote ON-OFF” function.

Between *Remote ON-OFF (pin6)* and *-S(pin2)*	Power Supply Status
Switch Short	ON
Switch Open	OFF

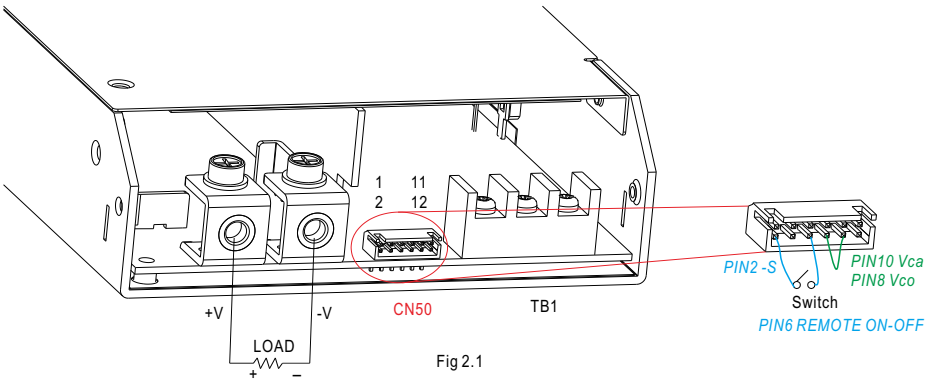


Fig 2.1

◎ The power supply is shipped, by factory default, with *Remote ON-OFF(pin6)* and *-S(pin2)* shorted by connector.

◎ When multiple power supplies need to turn ON/OFF simultaneously by Remote ON-OFF control, -S & -V, as well as +S & +V, on each power supply should be connected.

3.DC_OK signal

※ "DC_OK" is an open collector signal. It indicates the output status of the power supply. It can operate in two ways : One is sinking current from external TTL signal ; the other is sending out a TTL voltage signal.

◎ **Sinking current from external TTL signal:** The maximum sink current is 10mA and the maximum external voltage is 5.6V.

◎ **Sending out TTL voltage signal :**

Between *DC- OK(pin5)* and *GND(pin11&12)*	Output Status
0 ~ 1V	ON
3.3 ~ 5.6V	OFF

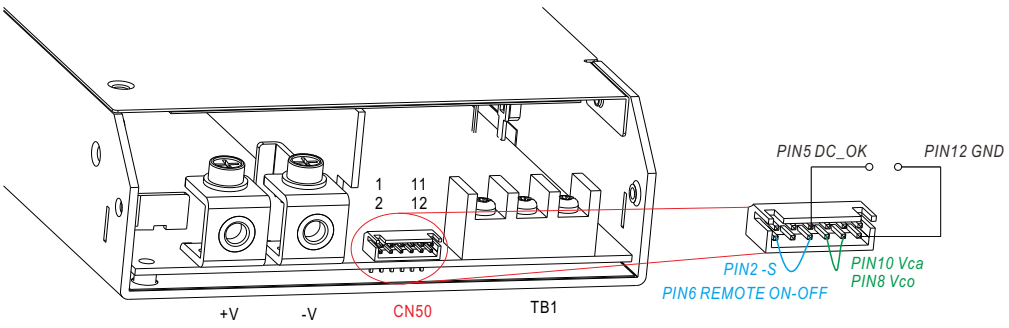
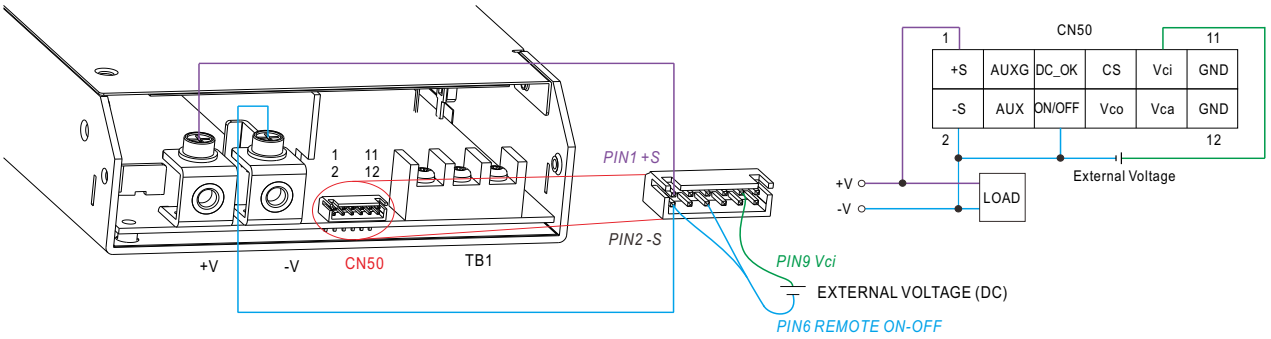


Fig 3.1

4. Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed to 40~110% of the nominal voltage by applying either an EXTERNAL VOLTAGE or an EXTERNAL RESISTANCE.

(1)Applying EXTERNAL VOLTAGE between "*Vci*"*(pin9)* and "*-S*"*(pin2)* as shown in Fig4.1

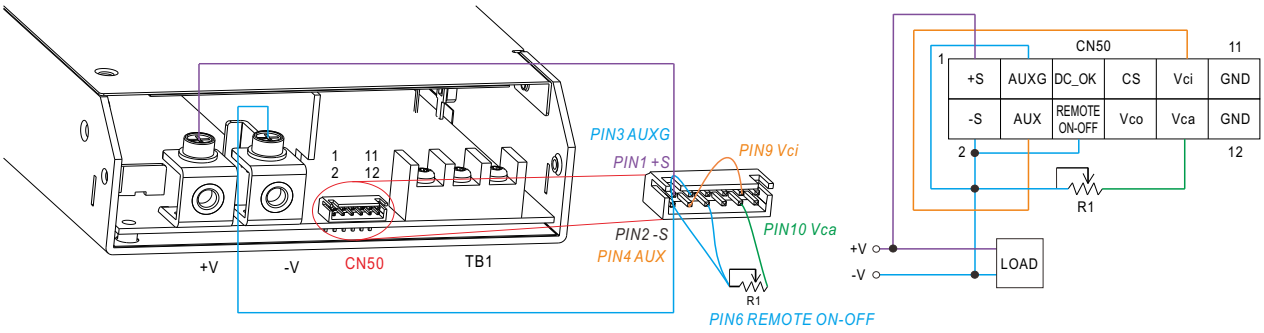


◎+*S* & +*V* and -*S* & -*V* also need to be connected on CN50

Fig 4.1

(2)Applying EXTERANL RESISTANCE as shown in Fig4.2 & Fig 4.3

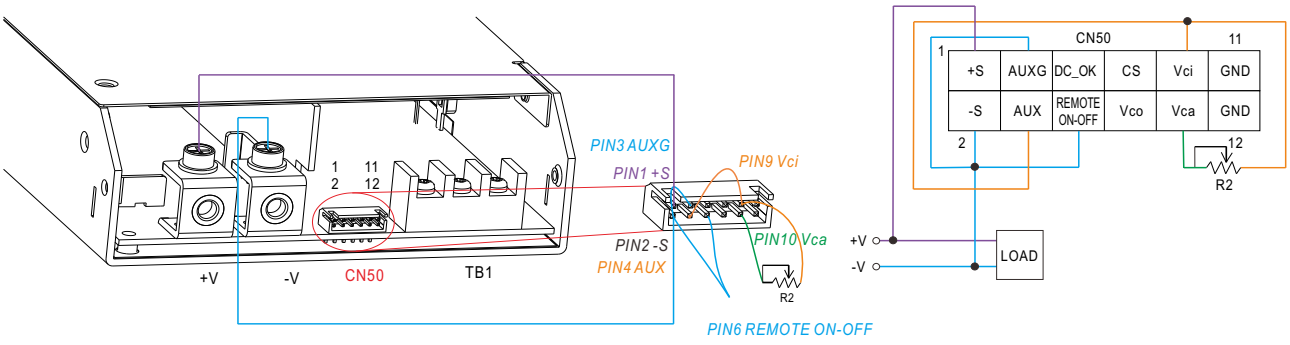
(A) Output voltage goes down



◎+*S* & +*V* and -*S* & -*V* also need to be connected on CN50.

Fig 4.2

(B)Output voltage goes up



◎+*S* & +*V* and -*S* & -*V* also need to be connected on CN50.

Fig 4.3

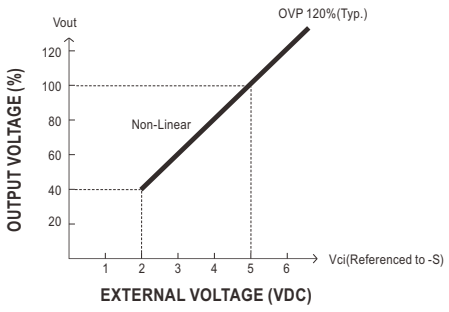


Fig 4.1.1

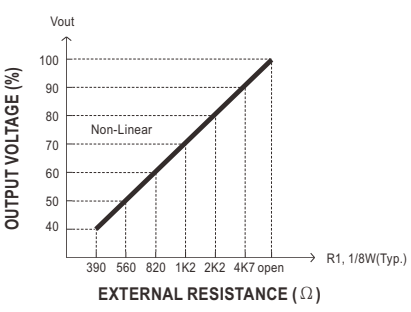


Fig 4.2.1

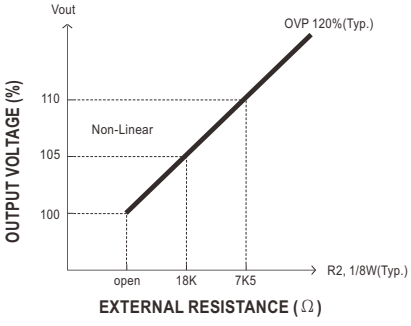


Fig 4.3.1

※ Caution: By factory default, the Output Voltage Programming is not activated, and *Vco (pin8)* and *Vca(pin10)* are shorted by connector. Whenever this function is not needed to activate, as assumed in other sections' diagrams, please keep *Vco(pin8)* and *Vca(pin10)* shorted ; other wise, the power supply will have no output.

5.Current Sharing with Remote Sense

RSP-1000 has the built-in active current sharing function and can be connected in parallel, up to 4 units, to provide higher output power as exhibited below :

※The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

※ Difference of output voltages among parallel units should be less than 0.2V.

※ The total output current must not exceed the value determined by the following equation:

Maximum output current at parallel operation=(Rated current per unit)×(Number of unit)×0.9

※ When the total output current is less than 5% of the total rated current, or say (5% of Rated current per unit)×(Number of unit) the current shared among units may not be fully balanced.

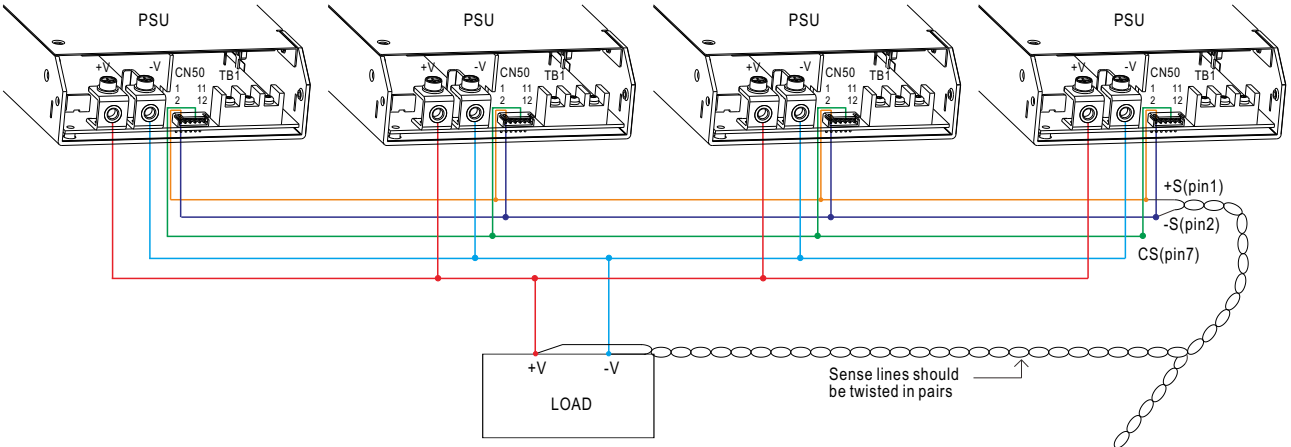
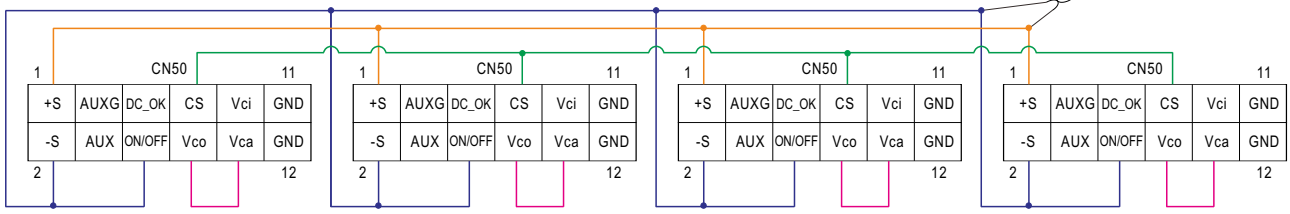


Fig 5.1

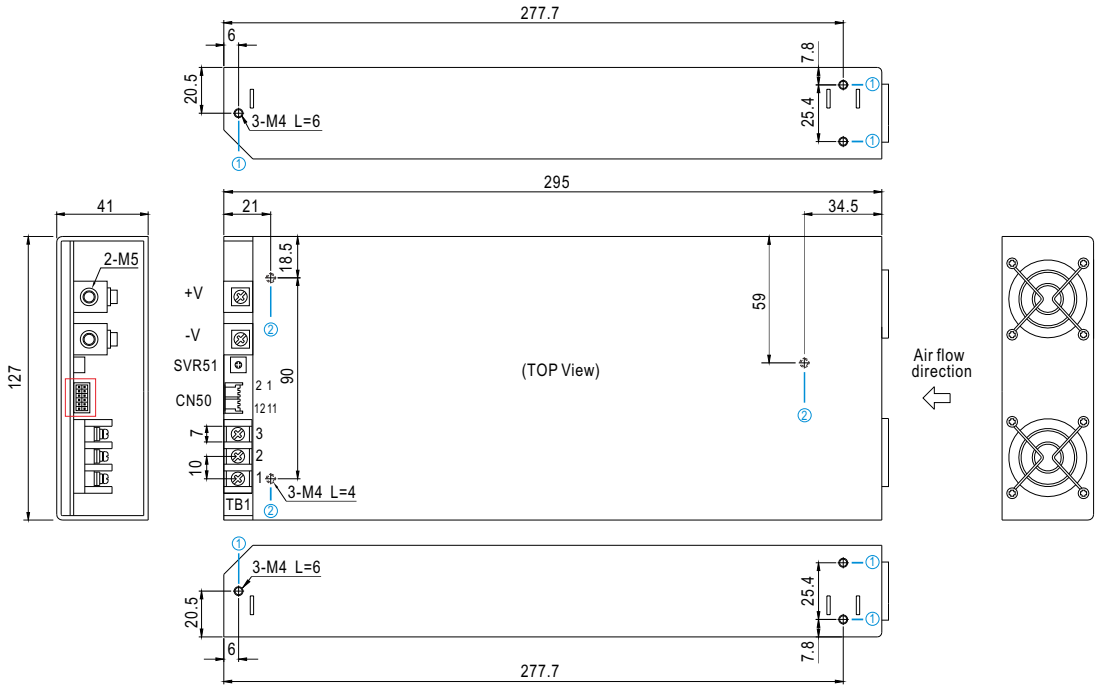


◎ +S,-S and CS are connected mutually in parallel.

■ Mechanical Specification

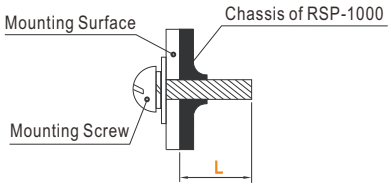
(Unit: mm , tolerance ±0.5mm)

Case No. 952B

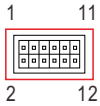


※ Mounting Instruction

Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M4	6mm	7~11Kgf-cm
②	M4	4mm	7~11Kgf-cm



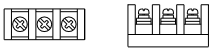
※Control Pin No. Assignment (CN50) : HRS DF11-12DP-2DS or equivalent



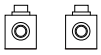
Mating Housing	HRS DF11-12DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1	+S	Positive sensing for remote sense.
2	-S	Negative sensing for remote sense.
3	G-AUX	Auxiliary voltage output ground. The signal return is isolated from the output terminals (+V & -V).
4	5V-AUX	Auxiliary voltage output, 4.6~5.25V, referenced to pin 3(G-AUX). The maximum load current is 0.5A. This output has the built-in oring diodes and is not controlled by the "remote ON/OFF control".
5	DC_OK	Open collector signal, referenced to pin11,12(GND). Low when PSU turns on. The maximum sink current is 10mA and the maximum external voltage is 5.6V.
6	Remote ON-OFF	Turns the output on and off by electrical or dry contact between pin 6 (Remote ON-OFF) and pin 2 (-S). Short: Power ON, Open: Power OFF.
7	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.
8	Vco	Short connecting between Vco (pin8) and Vca (pin10) if output voltage programming function is not activated.
9	Vci	Connect to external DC voltage source for output voltage programming, referenced to pin 2 (-S).
10	Vca	Connect to external resistor (1/8W) for output voltage programming.
11,12	GND	These pins connect to the negative terminal (-V). Return for DC_OK Signal output.

※AC Input Terminal Pin No. Assignment

Pin No.	Assignment	Diagram	Maximum mounting torque
1	AC/N		18Kgf-cm
2	AC/L		
3	FG ⏚		

※DC Output Terminal Pin No. Assignment

Assignment	Diagram	Maximum mounting torque
+V, -V		10Kgf-cm

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

1500W Single Output Power Supply

RSP-1500 series

Dimension

L	*	W	*	H	
278	*	127	*	83.5(2U)	mm
10.9	*	5	*	3.29(2U)	inch



User's Manual Click Me

Parallel PFC R33100 RoHS UL62368-1 BS EN/EN62368-1 TPTC004 IEC62368-1

Industrial Automate Telecom Network EV

Features

- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 91%
- Forced air cooling by built-in DC fan
- Output voltage programmable
- Active current sharing up to 6000W (3+1)
- Built-in remote ON-OFF control / remote sense / auxiliary power / power OK signal
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Optional conformal coating
- 5 years warranty

Applications

- Factory control or automation apparatus
- Test and measurement instrument
- Laser related machine
- Burn-in facility
- Digital broadcasting
- RF application

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RSP-1500 is a 1.5KW single output enclosed type AC/DC power supply. This series operates for 90~264VAC input voltage and offers the models with the DC output mostly demanded from the industry. Each model is cooled by the built-in fan working for the temperature up to 70℃. Moreover, RSP-1500 provides vast design flexibility by equipping various built-in functions such as the output programming, active current sharing, remote ON-OFF control, auxiliary power, etc.

Model Encoding / Order Information

RSP - 1500 - 48

- 48 — Output voltage (5V/12V/15V/24V/27V/48V)
- 1500 — Output wattage
- RSP — Series name

SPECIFICATION

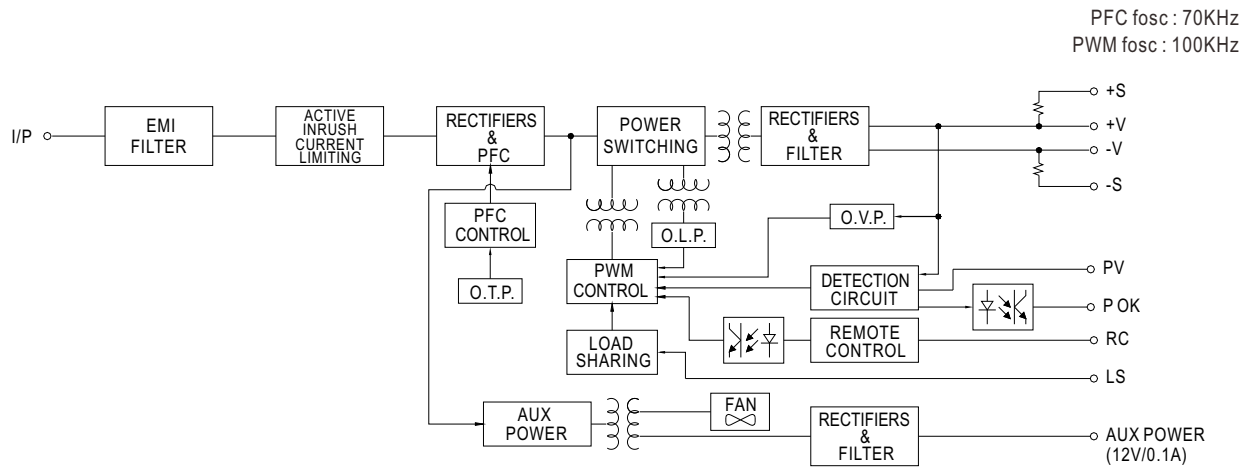
MODEL		RSP-1500-5	RSP-1500-12	RSP-1500-15	RSP-1500-24	RSP-1500-27	RSP-1500-48
OUTPUT	DC VOLTAGE	5V	12V	15V	24V	27V	48V
	RATED CURRENT	240A	125A	100A	63A	56A	32A
	CURRENT RANGE	0 ~ 240A	0 ~ 125A	0 ~ 100A	0 ~ 63A	0 ~ 56A	0 ~ 32A
	RATED POWER	1200W	1500W	1500W	1512W	1512W	1536W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	4.5 ~ 5.5V	10 ~ 13.5V	13.5 ~ 16.5V	20 ~ 26.4V	24 ~ 30V	43 ~ 56V
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	1500ms, 100ms at full load					
	HOLD UP TIME (Typ.)	10ms at full load		14ms at full load		16ms at full load	
INPUT	VOLTAGE RANGE	90 ~ 264VAC 127 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	0.95/230VAC 0.98/115VAC at full load					
	EFFICIENCY (Typ.)	80%	87%	87%	90%	90%	91%
	AC CURRENT (Typ.)	17A/115VAC 8A/230VAC					
	INRUSH CURRENT (Typ.)	30A/115VAC 60A/230VAC					
	LEAKAGE CURRENT	<2.0mA / 240VAC					
PROTECTION	OVERLOAD Note.4	105 ~135% rated output power					
		Protection type : Constant current limiting unit will shut down o/p voltage after 5sec. Re-power on to recover					
	OVER VOLTAGE	5.75 ~ 6.75V	13.8 ~ 16.8V	17 ~ 20.5V	27.6 ~ 32.4V	31 ~ 36.5V	57.6 ~ 67.2V
		Protection type : Shut down o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down					
FUNCTION	OUTPUT VOLTAGE PROGRAMMABLE(PV)	Adjustment of output voltage is allowable to 70 ~ 100% of nominal output voltage. Please refer to the Function Manual.					
	CURRENT SHARING	Up to 6000W or (3+1) units. Please refer to the Function Manual.					
	AUXILIARY POWER	12V@0.1A(Only for Remote ON-OFF control)					
	REMOTE ON-OFF CONTROL	Please see the Function Manual.					
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.3V. Please refer to the Function Manual.					
	ALARM SIGNAL OUTPUT	Power OK signal. Please see the Function Manual.					
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT	±0.05%/℃ (0 ~ 50℃)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes					
SAFETY & EMC (Note 5)	SAFETY STANDARDS	UL62368-1, CAN/CSA C22.2 No. 62368-1, TUV BS EN/EN62368-1, BSMI CNS15598-1, AS/NZS62368.1, EAC TP TC 004 approved					
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION	**Parameter**		**Standard**		**Test Level / Note**	
		Conducted		BS EN/EN55032 (CISPR32), BSMI CNS15936		Class B/Class A (only for BSMI)	
		Radiated		BS EN/EN55032 (CISPR32), BSMI CNS15936		Class A	
		Harmonic Current		BS EN/EN61000-3-2		-----	
		Voltage Flicker		BS EN/EN61000-3-3		-----	
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2					
		Parameter		**Standard**		**Test Level / Note**	
		ESD		BS EN/EN61000-4-2		Level 3, 8KV air ; Level 2, 4KV contact	
		Radiated		BS EN/EN61000-4-3		Level 3	
		EFT / Burst		BS EN/EN61000-4-4		Level 2	
		Surge		BS EN/EN61000-4-5		Level 3, 2KV/Line-Earth ; Level 2, 1KV/Line-Line	
		Conducted		BS EN/EN61000-4-6		Level 3	
		Magnetic Field		BS EN/EN61000-4-8		Level 4	
		Voltage Dips and Interruptions		BS EN/EN61000-4-11		>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods	
OTHERS	MTBF	814.4K hrs min. Telcordia SR-332 (Bellcore) ; 90.4K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	278*127*83.5mm (L*W*H)					
	PACKING	3.0Kg; 4pcs/13Kg/1.19CUFT					

NOTE

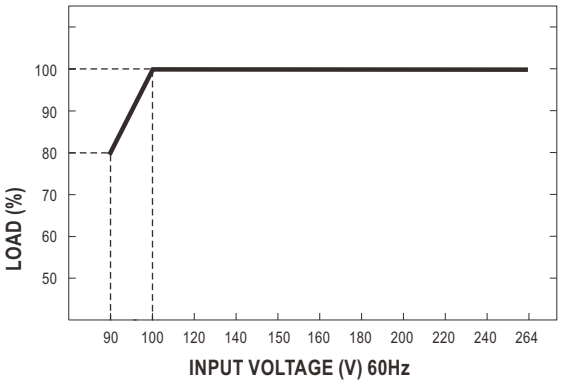
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltages. Please check the derating curve for more details.
5. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 720mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to “EMI testing of component power supplies.” (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

Block Diagram

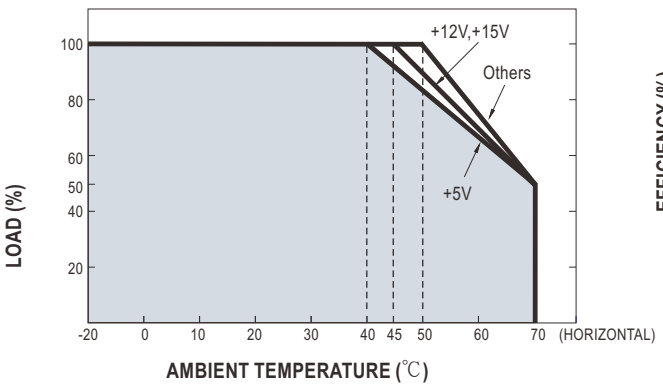


Static Characteristics

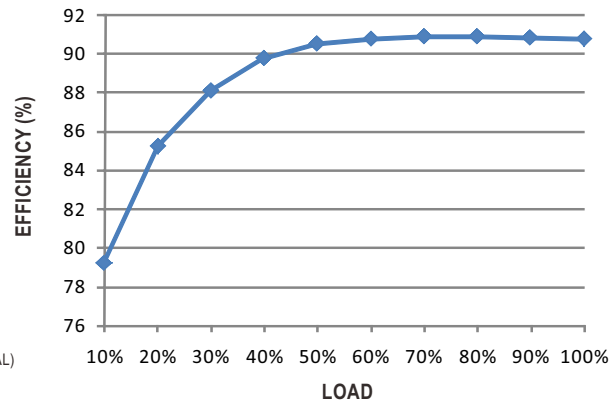


INPUT \ MODEL	5V	12V	15V
100~264VAC	1200W 240A	1500W 125A	1500W 100A
90VAC	960W 192A	1200W 100A	1200W 80A
INPUT \ MODEL	**24V**	**27V**	**48V**
100~264VAC	1512W 63A	1512W 56A	1536W 32A
90VAC	1209.6W 50.4A	1209.6W 44.8A	1228.8W 25.6A

Derating Curve



Efficiency vs Load (48V Model)

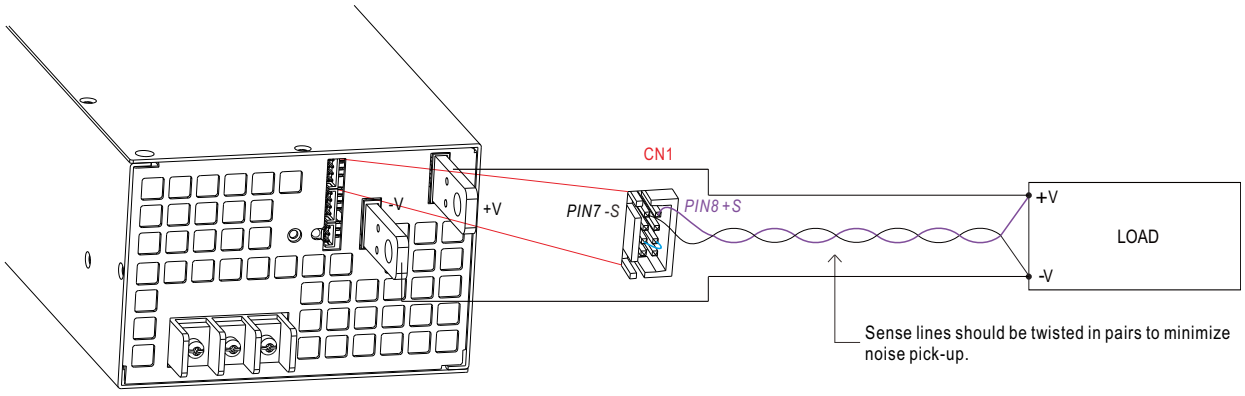


◎ The curve above is measured at 230VAC.

■ Function Manual

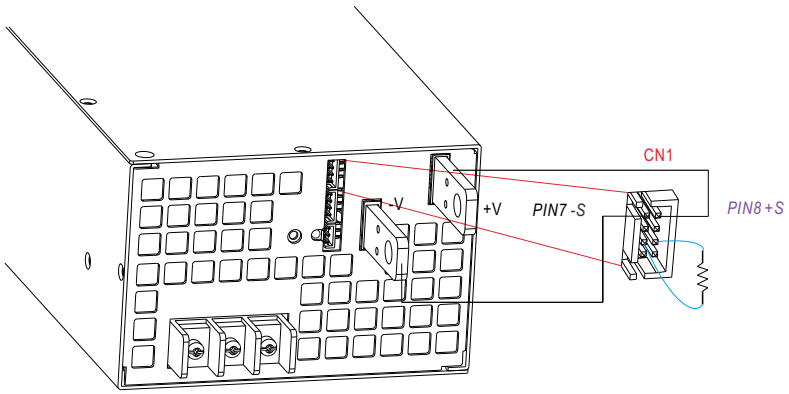
1. Remote Sense

※ The Remote Sense compensates voltage drop on the load wiring up to 0.3V



2. Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed to 70~100%(Typ.) of the nominal voltage by applying EXTERNAL RESISTANCE



◎ Connect an external resistor with a 0.25W rating or above between *TRIM(pin4)* & *-S(pin3 or pin5 or pin7)* on CN1 or CN2, and +S & +V, -S & -V also need to be connected.

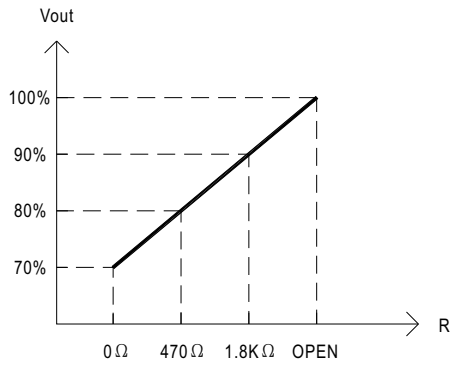
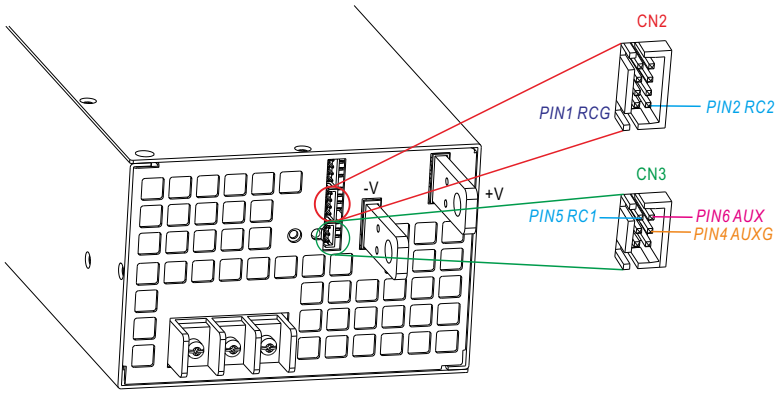


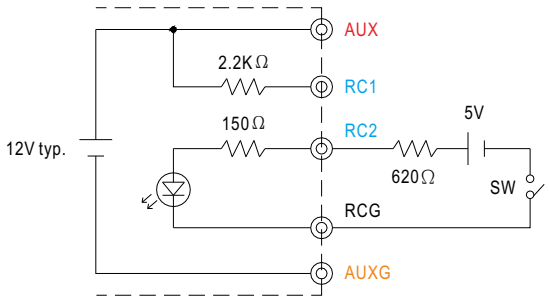
Fig. 2.2 External Resistance (Typical)

3.Remote ON-OFF

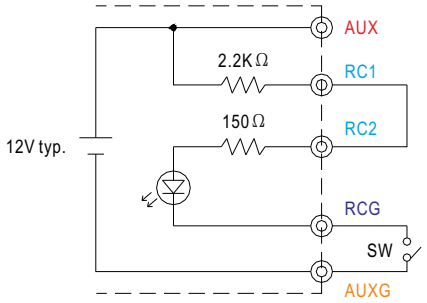
※ Remote ON-OFF is activated by the configuration with respect to CN1,CN2 and CN3 as shown in the following diagram.



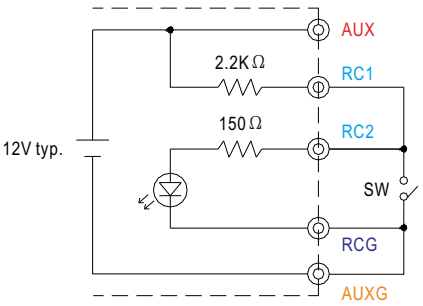
Example 3.2(A): Using external voltage source



Example 3.2(B): Using internal 12V auxiliary output



Example 3.2(C): Using internal 12V auxiliary output

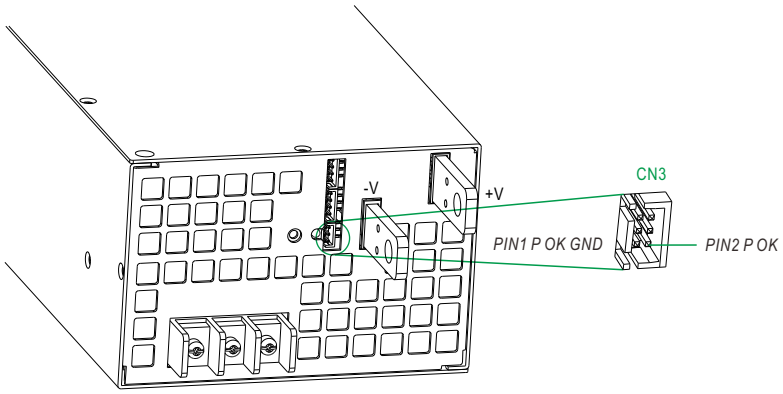


◎ Connection Method

		Fig. 3.2(A)	Fig. 3.2(B)	Fig. 3.2(C)
SW Logic	Output on	SW Open	SW Open	SW Close
	Output off	SW Close	SW Close	SW Open

4.Alarm Signal Output

※ Alarm signal is sent out through "*P OK*" & "*P OK GND*" and pins on CN3. Please acknowledge an external voltage source is required for this function.



Function	Description	Output of alarm(P OK)
P OK	The signal is "Low" when the power supply is above 65% of the rated output voltage, or say, Power OK	Low (0.5V max at 10mA)
	The signal turns to be "High" when the power supply is under 65% of the rated output voltage, or say, Power Fail	High or open (External applied voltage 10mA max.)

Table 4.1 Explanation of alarm

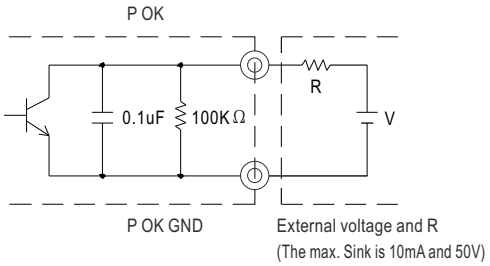


Fig. 4.1 Internal circuit of P OK (Open collector method)

5.Current Sharing with Remote Sense

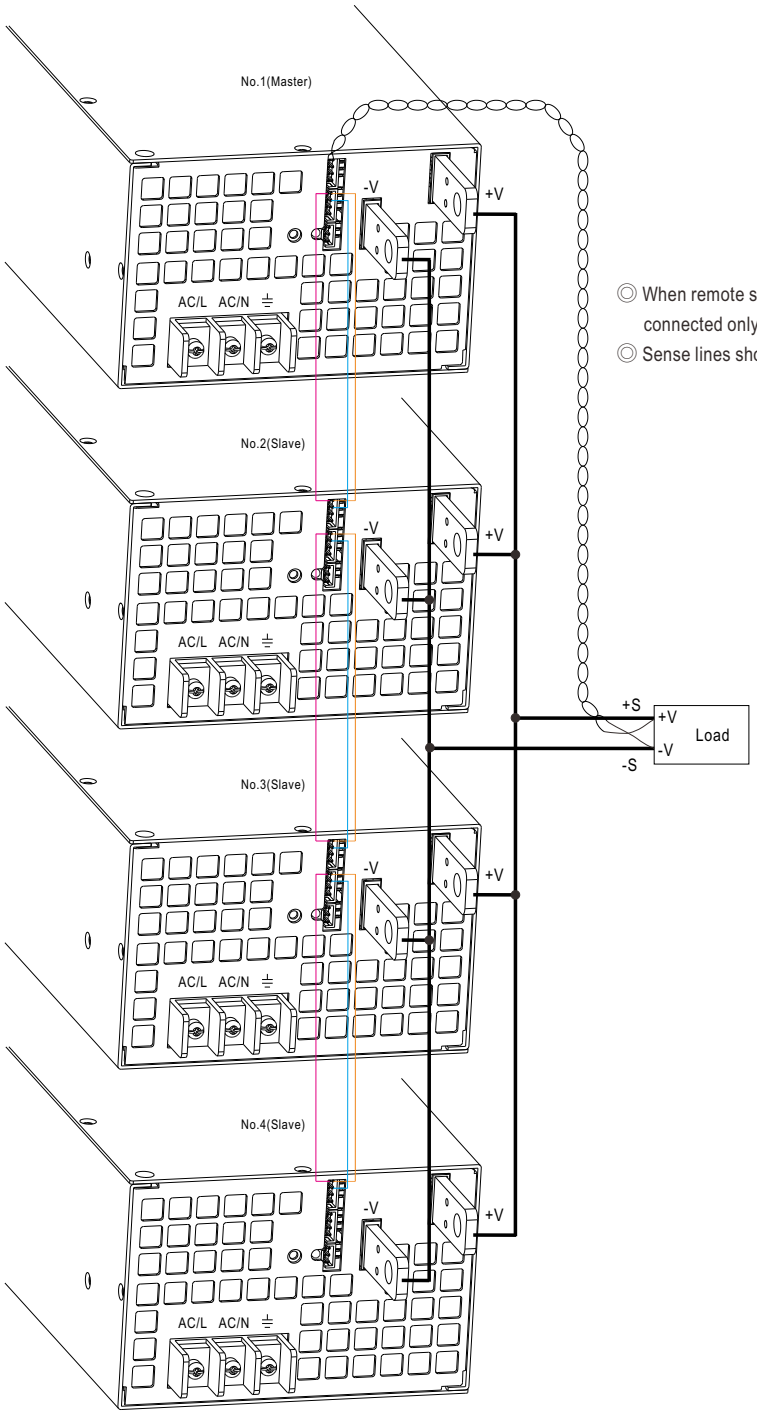
RSP-1500 has the built-in active current sharing function and can be connected in parallel, up to 4 units, to provide higher output power as exhibited below :

※ The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

※ Difference of output voltages among parallel units should be less than 0.2V.

※ The total output current must not exceed the value determined by the following equation:

Maximum output current at parallel operation=(Rated current per unit)×(Number of unit)×0.9



◎ When remote sensing is used in parallel operation, the sensing wire must be connected only to the master unit

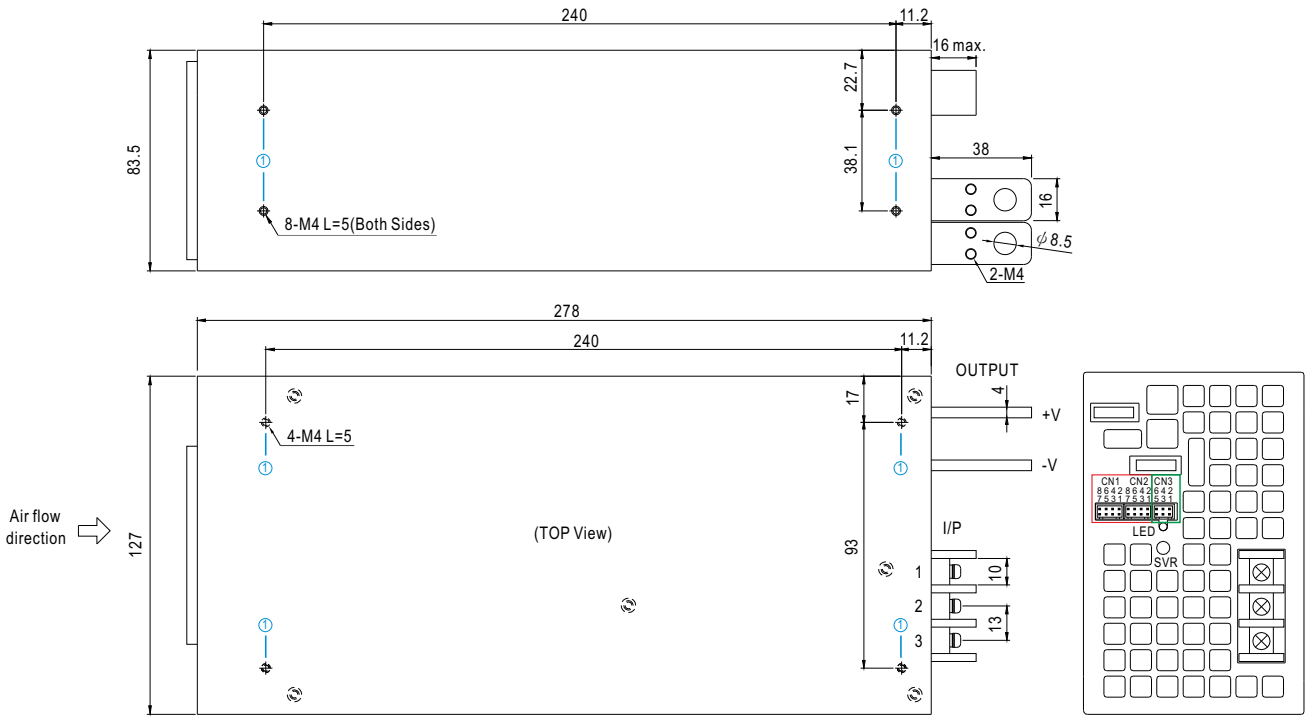
◎ Sense lines should be twisted in pairs to minimize noise pick-up.

◎ +S,-S and CS are connected mutually in paralle.

■ Mechanical Specification

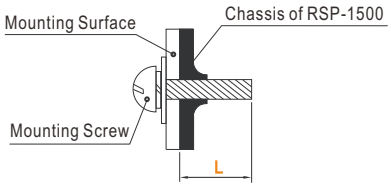
(Unit: mm , tolerance ±0.5mm)

Case No.943A

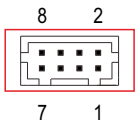


※ Mounting Instruction

Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M4	5mm	7~10Kgf-cm



※ Control Pin No. Assignment (CN1,CN2) : HRS DF11-8DP-2DS or equivalent

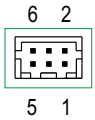


Mating Housing	HRS DF11-8DS or equivalent
Terminal	HRS DF11-**SC or equivalent

◎ CN1 and CN2 are connected internally.

Pin No.	Function	Description
1	RCG	Remote ON-OFF Ground
2	RC2	Remote ON-OFF
3,5,7	-S	Negative sensing for remote sense
4	TRIM	Connection for output voltage programming
6	LS(Current Share)	Current Share
8	+S	Postive sensing for remote sense

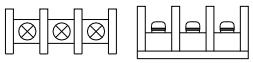
※Control Pin No. Assignment (CN3) : HRS DF11-6DP-2DS or equivalent



Mating Housing	HRS DF11-6DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1	P OK GND	Power OK Ground
2	P OK	Power OK Signal
3	RCG	Remote ON-OFF Ground
4	AUXG	Auxiliary Ground
5	RC1	Remote ON-OFF
6	AUX	Auxiliary Output

※AC Input Terminal Pin No. Assignment

Pin No.	Assignment	Diagram	Maximum mounting torque
1	FG ⏚		18Kgf-cm
2	AC/N		
3	AC/L		

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

1600W Power Supply with Single Output

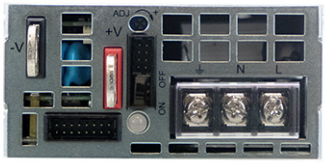
RSP-1600 series

Dimension

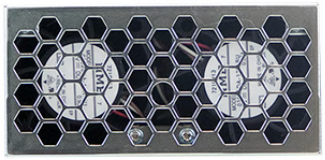
L	*	W	*	H	
300	*	85	*	41 (1U)	mm
11.8	*	3.35	*	1.61 (1U)	inch



Front



Back



User's Manual

Click Me

Features

- Universal AC input / Full range
  (Withstand 300VAC surge input for 5 seconds)
- Built-in active PFC function
- High efficiency up to 93%
- Forced air cooling by built-in DC fan
- Output voltage and constant current level programmable
- Active current sharing up to 9600W (5+1)
- Built-in remote ON-OFF control / remote sense / auxiliary power / DC OK signal / OTP alarm signal
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Optional PMBus or CANBus protocol
- 5 years warranty

Applications

- Factory control or automation apparatus
- Test and measurement instrument
- Laser related machine
- Aging facility
- Digital broadcasting
- Constant current source
- Redundant system

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RSP-1600 is a 1.6KW single output enclosed type AC/DC power supply with a 1U low profile and a high power density up to 25W/inch³. This series operates for 90~264VAC input voltage and offers the models with the DC output mostly demanded from the industry. Each model is cooled by the thermostatically controlled fan. Moreover, RSP-1600 provides vast design flexibility by equipping various built-in functions such as the output programming, active current sharing, remote ON-OFF control, auxiliary power, etc.

Model Encoding / Order Information

RSP - 1600 - 48 ☐

- ☐ Communication protocol option
- 48 Output voltage (12V/24V/27V/36V/48V)
- 1600 Output wattage
- RSP Series name

Type	Communication Protocol	Note
Blank	None	In Stock
PM	PMBus protocol	By request
CAN	CANBus protocol	By request

SPECIFICATION

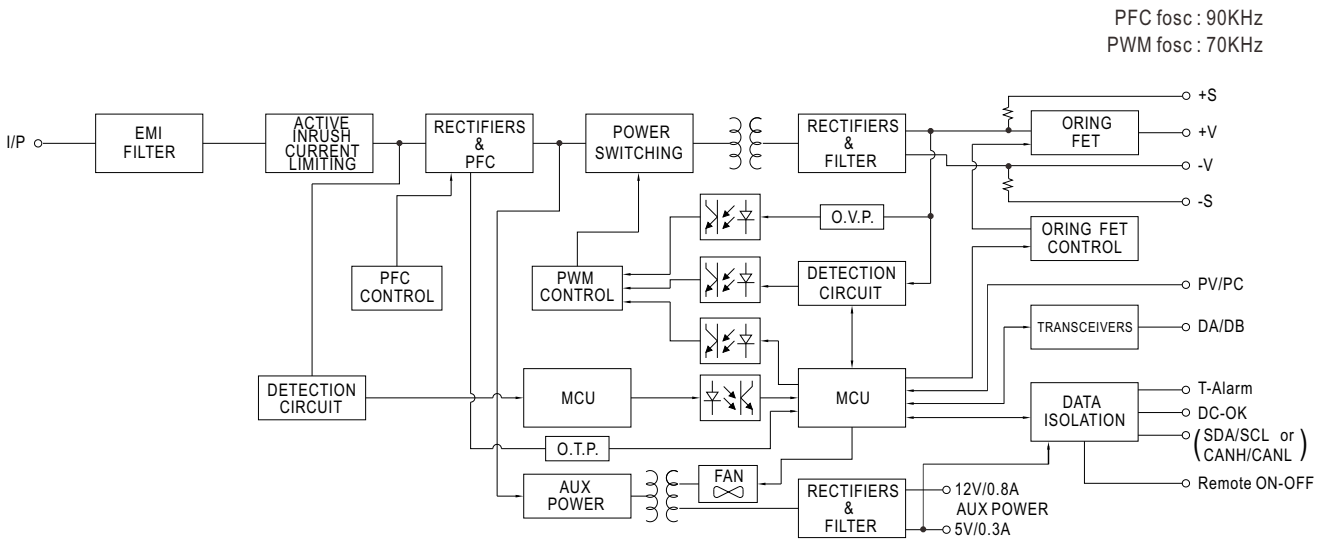
MODEL		RSP-1600-12	RSP-1600-24	RSP-1600-27	RSP-1600-36	RSP-1600-48
OUTPUT	DC VOLTAGE	12V	24V	27V	36V	48V
	RATED CURRENT	125A	67A	59A	44.5A	33.5A
	CURRENT RANGE	0 ~ 125A	0 ~ 67A	0 ~ 59A	0 ~ 44.5A	0 ~ 33.5A
	RATED POWER	1500W	1608W	1593W	1602W	1608W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	200mVp-p	200mVp-p	250mVp-p	300mVp-p
	VOLTAGE ADJ. RANGE	11.5 ~ 15V	23.5 ~ 30V	26.5 ~ 33.5V	35.5 ~ 45V	47.5 ~ 58.8V
	VOLTAGE TOLERANCE Note.4	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	1500ms, 60ms/230VAC at full load				
	HOLD UP TIME (Typ.)	16ms / 230VAC at 75% load	10ms / 230VAC at full load			
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC	250 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	0.97/230VAC at full load				
	EFFICIENCY (Typ.)	89%	91.5%	92%	92%	93%
	AC CURRENT (Typ.) Note.5	14A/115VAC 8A/230VAC	15A/115VAC 8.5A/230VAC			
	INRUSH CURRENT (Typ.)	COLD START 35A/230VAC				
	LEAKAGE CURRENT	<2mA / 230VAC				
PROTECTION	OVERLOAD	105 ~ 115% rated current				
		Protection type : Constant current limiting, shut down O/P voltage after 5 sec. After O/P voltage falls, re-power on to recover				
	OVER VOLTAGE	15.75 ~ 18.75V	31.5 ~ 37.5V	35.2 ~ 41.9V	47.2 ~ 56.3V	63 ~ 75V
		Protection type : Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, recovers automatically after temperature goes down				
FUNCTION	OUTPUT VOLTAGE PROGRAMMABLE(PV) Note 6	Adjustment of output voltage is allowable to 40 ~ 125% of nominal output voltage (60 ~ 125% for 12V). Please refer to the Function Manual.				
	OUTPUT CURRENT PROGRAMMABLE(PC) Note 6	Adjustment of constant current level is allowable to 20 ~ 100% of rated current. Please refer to the Function Manual.				
	AUXILIARY POWER	5V @ 0.3A, 12V @ 0.8A				
	REMOTE ON-OFF CONTROL	By electrical signal or dry contact Power ON:short Power OFF:open. Please refer to the Function Manual				
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.5V. Please refer to the Function Manual				
	ALARM SIGNAL	Isolated signal output for T-alarm and DC OK				
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY	20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)				
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes				
SAFETY & EMC (Note 8)	SAFETY STANDARDS	UL62368-1, CAN/CSA C22.2 No. 62368-1, TUV BS EN/EN62368-1, BSMI CNS15598-1, AS/NZS62368.1, EAC TP TC 004 approved				
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC				
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH				
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**		
		Conducted	BS EN/EN55032 (CISPR32), CNS15936	Class B		
		Radiated	BS EN/EN55032 (CISPR32), CNS15936	Class A		
		Harmonic Current	BS EN/EN61000-3-2	Class A		
		Voltage Flicker	BS EN/EN61000-3-3	-----		
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2, BSMI CNS13438				
		Parameter	**Standard**	**Test Level / Note**		
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact		
		Radiated	BS EN/EN61000-4-3	Level 3		
		EFT / Burst	BS EN/EN61000-4-4	Level 3		
		Surge	BS EN/EN61000-4-5	Level 4, 2KV/Line-Line 4KV/Line-Earth		
		Conducted	BS EN/EN61000-4-6	Level 3		
		Magnetic Field	BS EN/EN61000-4-8	Level 4		
		Voltage Dips and Interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods		
OTHERS	MTBF	478.8K hrs min. Telcordia SR-332 (Bellcore) ; 42.1K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	300*85*41mm (L*W*H)				
	PACKING	2.1Kg;6pcs/13.6Kg/1.25CUFT				

NOTE

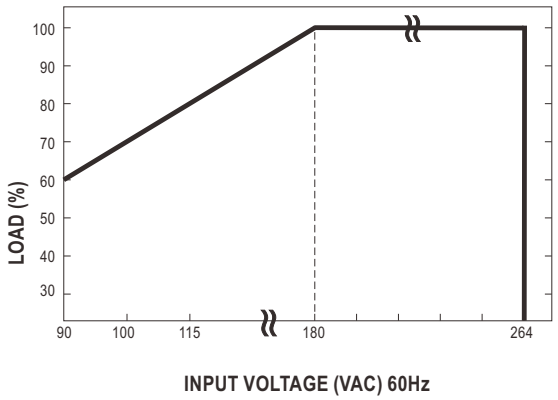
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Under parallel operation ripple of the output 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 5%.
4. Tolerance : includes set up tolerance, line regulation and load regulation.
5. Derating may be needed under low input voltages. Please check the derating curve for more details.
6. PV/PC functions when users are not operating on PMBus/CANBus. SVR functions when users are neither operating on PMBus/CANBus nor using PV/PC.
7. Output will shut down after O/P voltage is below < 80% of Vset for 5 sec, re-power on to recover.
8. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 720mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to “EMI testing of component power supplies.” (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
9. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

Block Diagram

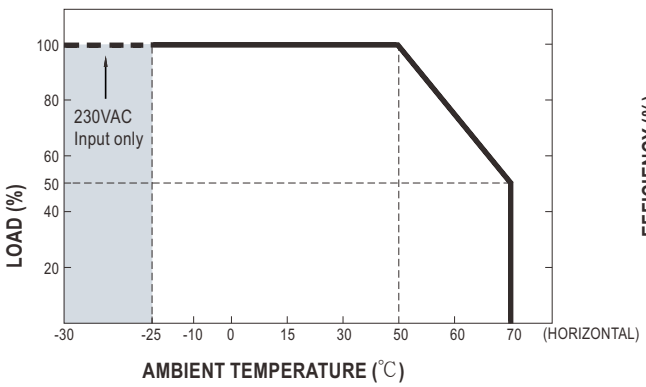


Static Characteristics

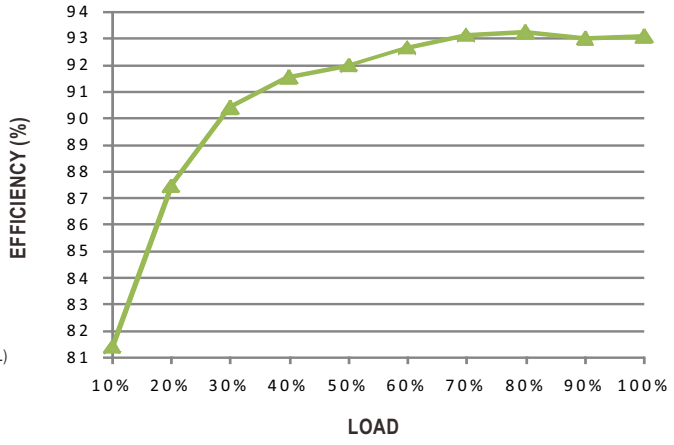


INPUT \ MODEL	12V	24V	27V	36V	48V
180~264VAC	1500W 125A	1608W 67A	1593W 59A	1602W 44.5A	1608W 33.5A
115VAC	1200W 100A	1286.4W 53.6A	1274.4W 47.2A	1281.6W 35.6A	1286.4W 26.8A
100VAC	1050W 87.5A	1125.6W 46.9A	1115.1W 41.3A	1121.4W 31.15A	1125.6W 23.45A
90VAC	900W 75A	964.8W 40.2A	955.8W 35.4A	961.2W 26.7A	964.8W 20.1A

Derating Curve



Efficiency vs Load (48V Model)



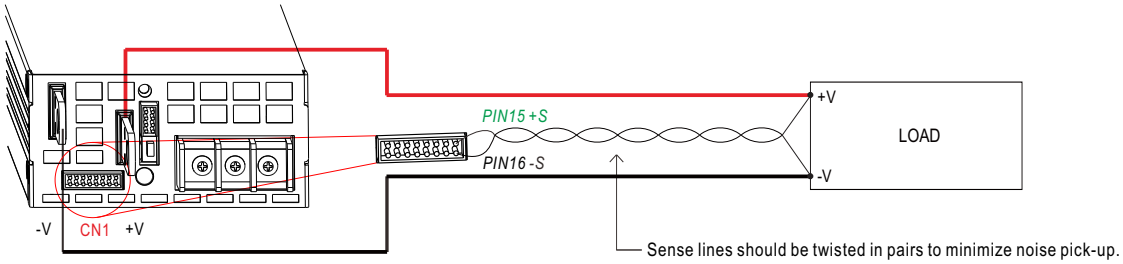
◎ The curve above is measured at 230VAC.

■ Function Manual

1. Voltage Drop Compensation

1.1 Remote Sense

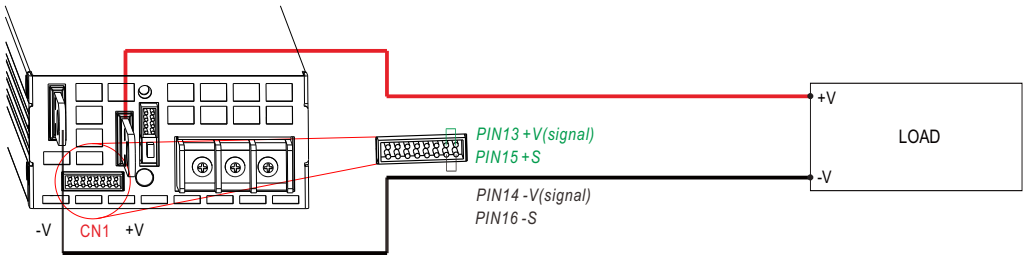
※ The Remote Sense compensates voltage drop on the load wiring up to 0.5V



◎ The +S signal should be connected to the positive terminal of the load whereas -S signal to the negative terminal.

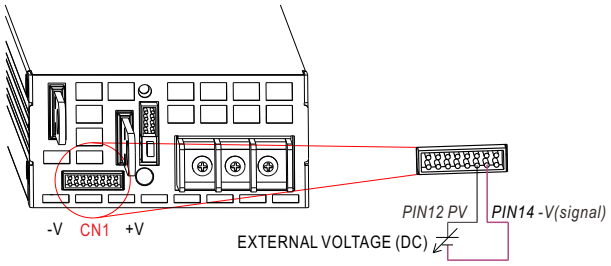
1.2 Local Sense

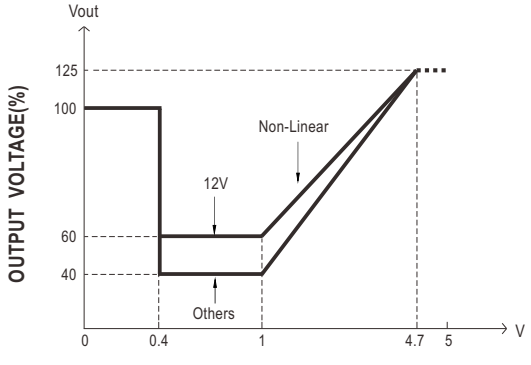
※ The +S,-S have to be connected to the +V(signal), -V(signal), respectively, as the following diagram, in order to get the correct output voltage if Remote Sense is not used.



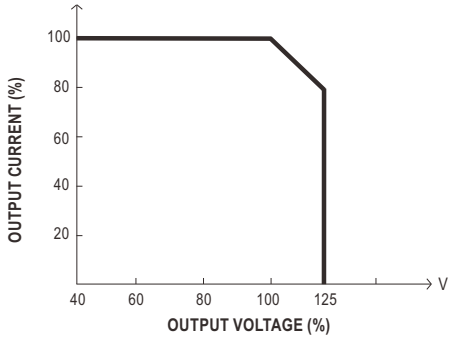
2. Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed by applying EXTERNAL VOLTAGE.





EXTERNAL VOLTAGE (DC)

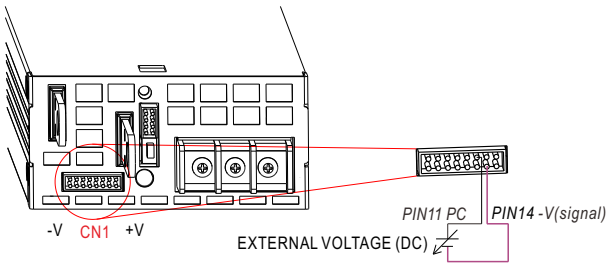


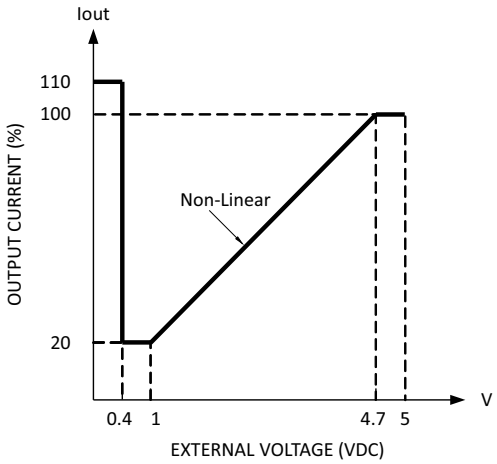
◎ The rated current should change with the Output Voltage Programming accordingly.

◎ For Remote Sense / Local Sense, please refer to “Voltage Drop Compensation” section.

3. Constant Current Level Programming (or, PC / remote current programming / dynamic current trim)

※ The constant current level can be trimmed to 20~100% of the rated current by applying EXTERNAL VOLTAGE.



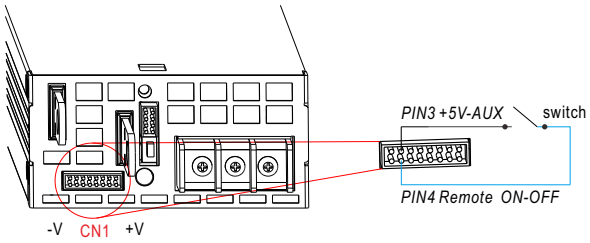


◎ For Remote Sense / Local Sense, please refer to "Voltage Drop Compensation" section.

◎ Output will shut down after O/P voltage is below < 80% of Vset for 5 sec, re-power on to recover.

4. Remote ON-OFF Control

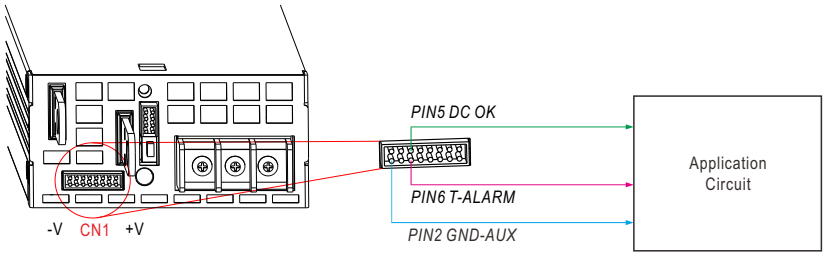
※ The power supply can be turned ON/OFF individually or along with other units by using the "Remote ON-OFF" function.



Between Remote ON-OFF and +5V-AUX	Power Supply Status
Switch Short	ON
Switch Open	OFF

5. Alarm Signal Output

※ There are 2 alarm signals, DC OK and T-ALARM, in TTL signal form, on CN1. These signals are isolated from output. The maximum sink current is 10mA.



6.Current Sharing with Remote Sense

RSP-1600 has the built-in active current sharing function and can be connected in parallel, up to 6 units, to provide higher output power as exhibited below :

※ The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

※ Difference of output voltages among parallel units should be less than 0.2V.

※ The total output current must not exceed the value determined by the following equation:

Maximum output current at parallel operation=(Rated current per unit)×(Number of unit)×0.9

※ When the total output current is less than 5% of the total rated current, or say (5% of Rated current per unit)×(Number of unit) the current shared among units may not be balanced.

※ Under parallel operation 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 5%.

※ CN500/SW1 Function pin connection

Parallel	PSU1		PSU2		PSU3		PSU4		PSU5		PSU6	
	CN500	SW1	CN500	SW1	CN500	SW1	CN500	SW1	CN500	SW1	CN500	SW1
1 unit	X	ON	—	—	—	—	—	—	—	—	—	—
2 unit	V	ON	V	ON	—	—	—	—	—	—	—	—
3 unit	V	ON	V	OFF	V	ON	—	—	—	—	—	—
4 unit	V	ON	V	OFF	V	OFF	V	ON	—	—	—	—
5 unit	V	ON	V	OFF	V	OFF	V	OFF	V	ON	—	—
6 unit	V	ON	V	OFF	V	OFF	V	OFF	V	OFF	V	ON

(V : CN500 connected ; X : CN500 not connected.)

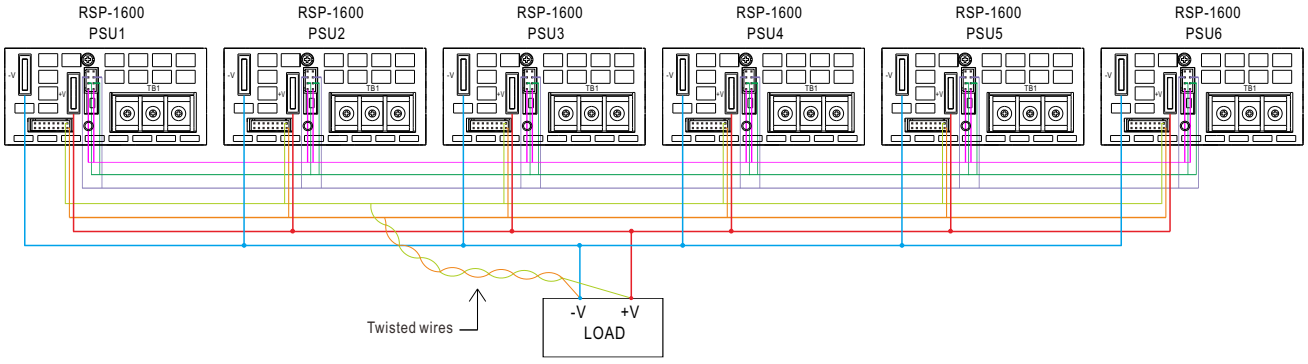
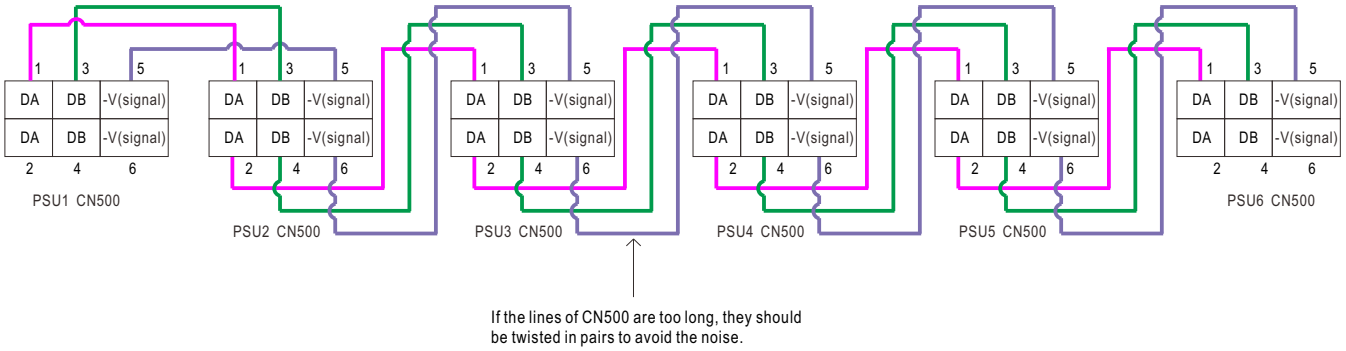


Fig 5.1

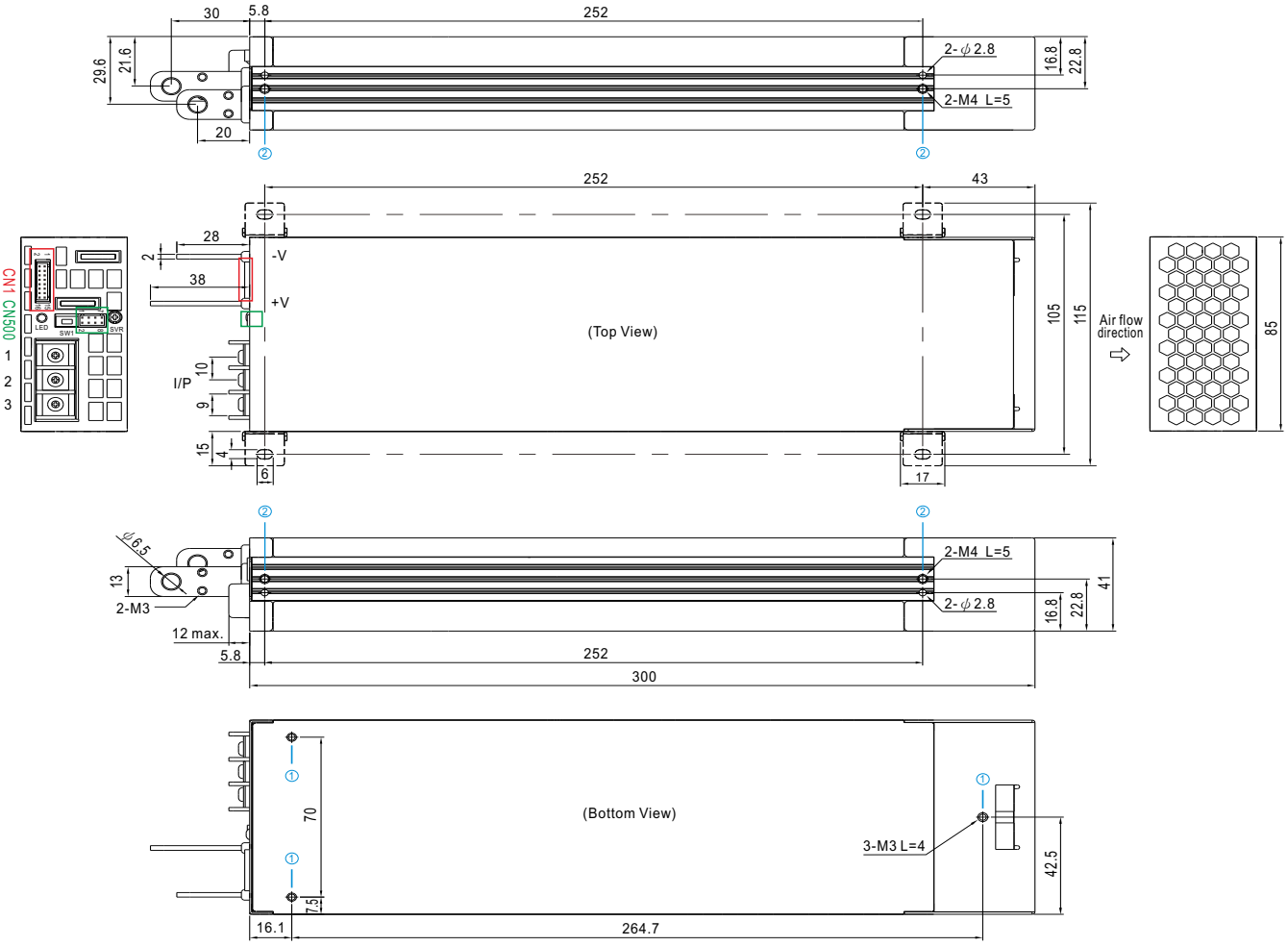


◎ DA,DB and -V(signal) are connected mutually in parallel.

◎ For Remote Sense / Local Sense, please refer to “Voltage Drop Compensation” section.

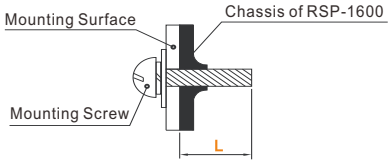
■ Mechanical Specification

(Unit: mm , tolerance ±0.5mm) Case No.250

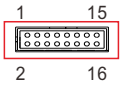


※ Mounting Instruction

Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M3	4mm	6~8Kgf-cm
②	M4	5mm	7~10Kgf-cm



※ Control Pin No. Assignment(CN1) : HRS DF11-16DP-2DS or equivalent



Mating Housing	HRS DF11-16DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1	+12V-AUX	Auxiliary voltage output, 10.6~13.2V, referenced to GND-AUX (pin2). The maximum load current is 0.8A. This output has the built-in "Oring diodes" and is not controlled by "Remote ON-OFF".
2	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+V & -V).
3	+5V-AUX	Auxiliary voltage output, 4.5~5.5V, referenced to GND-AUX (pin2). The maximum load current is 0.3A. This output has the built-in "Oring diodes" and is not controlled by "Remote ON-OFF
4	Remote ON-OFF	The unit can turn the output ON/OFF by electrical signal or dry contact between *Remote ON/OFF* and *+5V-AUX*. (Note.2) Short (4.5 ~ 5.5V) : Power ON ; Open (-0.5 ~ 0.5V) : Power OFF ; The maximum input voltage is 5.5V.
5	$\overline{\text{DC-OK}}$	High (3.5 ~ 5.5V) : When the Vout ≦77%±5%. Low (-0.5 ~ 0.5V) : When Vout ≧80%±5%. The maximum sourcing current is 10mA and only for output. (Note.2)
6	T-ALARM	High (3.5 ~ 5.5V) : When the internal temperature exceeds the limit of temperature alarm, or when Fan fails. Low (-0.5 ~ 0.5V) : When the internal temperature is normal, and when Fan normally works. The maximum sourcing current is 10mA and only for output(Note.2)
7,8,9	NC	For standard model: Retain for future use.
	A0,A1,A2	For PMBus / CANBus model: PMBus / CANBus interface address lines. (Note.1)
10	NC	Retain for future use.
11	PC	Connection for constant current level programming. (Note.1)
12	PV	Connection for output voltage programming. (Note.1)
13	+V (Signal)	Positive output voltage signal. It is for local sense; it cannot be connected directly to the load.
14	-V (Signal)	Negative output voltage signal. It is for local sense and certain function reference; it cannot be connected directly to the load.
15	+S	Positive sensing for remote sense.
16	-S	Negative sensing for remote sense.

Note.1: Non-isolated signal, referenced to [-V(signal)].
Note.2: Isolated signal, referenced to GND-AUX.

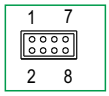
※ LED Status Indicators

LED	Description
Green	The power supply functions normally.
Red	Abnormal status (Over temperature protection, Overload protection, Fan fail.)

※ AC Input Terminal Pin No. Assignment

Pin No.	Assignment	Diagram	Maximum mounting torque
1	FG ⏚		8Kgf-cm
2	AC/N		
3	AC/L		

※ Control Pin No. Assignment(CN500) : HRS DF11-8DP-2DS or equivalent



Mating Housing	HRS DF11-8DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1,2	DA	Differential digital signal for parallel control.
3,4	DB	Differential digital signal for parallel control.
5,6	-V (Signal)	Negative output voltage signal. It is for certain function reference; it cannot be connected directly to the load.
7	NC	For standard model: None.
	SDA	For PMBus model: Serial Data used in the PMBus interface. (Note)
	CANH	For CANBus model: Data line used in CANBus interface. (Note)
8	NC	For standard model: None.
	SCL	For PMBus model: Serial Clock used in the PMBus interface. (Note)
	CANL	For CANBus model: Data line used in CANBus interface. (Note)

Note: Isolated signal, referenced to GND-AUX.

※ Control Pin No. Assignment(SW1)

Pin No.	Function	Description
1,2	Terminal resistance	SW1 is the selector of terminal resistor that is designed for DA/DB signals and parallel control function.

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

2000W Power Supply with Single Output

RSP-2000 series

Dimension

L	*	W	*	H		
295	*	127	*	41	(1U)	mm
11.6	*	5	*	1.61	(1U)	inch



User's Manual
Click Me

Parallel PFC R33100 RoHS UL62368-1 BS EN/EN62368-1 TPTC004 IEC62368-1 IS 13252 (except 48V)

Industrial Automate Telecom Network EV

Features

- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 92%
- Forced air cooling by built-in DC fan
- Output voltage programmable
- Active current sharing up to 8000W (3+1)
- Built-in remote ON-OFF control / remote sense / auxiliary power / DC OK signal / OTP alarm signal
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Optional conformal coating
- 5 years warranty

Applications

- Factory control or automation apparatus
- Test and measurement instrument
- Laser related machine
- Burn-in facility
- Digital broadcasting
- RF application

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RSP-2000 is a 2KW single output enclosed type AC/DC power supply with 1U low profile. This series operates for 90~264VAC input voltage and offers the models with the DC output mostly demanded from the industry. Each model is cooled by the built-in fan with fan speed control, working for the temperature up to 70℃. Moreover, RSP-2000 provides vast design flexibility by equipping various built-in functions such as the output programming, active current sharing, remote ON-OFF control, auxiliary power, etc.

Model Encoding / Order Information

RSP - 2000 - 48

- 48 — Output voltage (12V/24V/48V)
- 2000 — Output wattage
- RSP — Series name

SPECIFICATION

MODEL		RSP-2000-12	RSP-2000-24	RSP-2000-48
OUTPUT	DC VOLTAGE	12V	24V	48V
	RATED CURRENT	100A	80A	42A
	CURRENT RANGE	0 ~ 100A	0 ~ 80A	0 ~ 42A
	RATED POWER	1200W	1920W	2016W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	200mVp-p	300mVp-p
	VOLTAGE ADJ. RANGE	10.5 ~ 14V	21 ~ 28V	42 ~ 56V
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%
	LINE REGULATION	±1.0%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±0.5%	±0.5%
	SETUP, RISE TIME	1500ms, 60ms/230VAC at full load		
	HOLD UP TIME (Typ.)	16ms/230VAC at 75% load 10ms/230VAC at full load		
INPUT	VOLTAGE RANGE Note.4,5	90 ~ 264VAC 250 ~ 320VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	0.97/230VAC at full load		
	EFFICIENCY (Typ.)	87%	90.5%	92%
	AC CURRENT (Typ.) Note.4	13A/115VAC 7A/230VAC	16A/115VAC 10A/230VAC	16A/115VAC 10A/230VAC
	INRUSH CURRENT (Typ.)	COLD START 50A		
	LEAKAGE CURRENT	<2mA / 240VAC		
PROTECTION	OVERLOAD	105 ~ 125% rated output power		
		Protection type : Constant current limiting, unit will shut down o/p voltage after 5 sec. re-power on to recover		
	OVER VOLTAGE	14.7 ~ 17.5V	29.5 ~ 35V	57.6 ~ 67.2V
		Protection type : Shut down o/p voltage, re-power on to recover		
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down		
FUNCTION	OUTPUT VOLTAGE PROGRAMMABLE(PV)	Adjustment of output voltage is allowable to 40 ~ 115% of nominal output voltage. Please refer to the Function Manual.		
	CURRENT SHARING	Up to 8000W or (3+1) units. Please refer to the Function Manual.		
	AUXILIARY POWER	5V @ 0.3A, 12V @ 0.8A		
	REMOTE ON-OFF CONTROL	By electrical signal or dry contact Power ON:open Power OFF:short. Please refer to the Function Manual.		
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.5V. Please refer to the Function Manual.		
	DC OK SIGNAL	The isolated TTL signal out. Please refer to the Function Manual.		
ENVIRONMENT	WORKING TEMP.	-35 ~ +70℃ (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC (Note 6)	SAFETY STANDARDS	UL62368-1, CSA C22.2 No. 62368-1, TUV BS EN/EN62368-1, BSMI CNS15598-1, AS/NZS62368.1, BIS IS13252(Part1): 2010/IEC 60950-1:2005 (except 48V), EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
		Conducted	BS EN/EN55032 (CISPR32), CNS15936	Class B
		Radiated	BS EN/EN55032 (CISPR32), CNS15936	Class A
		Harmonic Current	BS EN/EN61000-3-2	-----
		Voltage Flicker	BS EN/EN61000-3-3	-----
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2, BSMI CNS13438		
		Parameter	**Standard**	**Test Level / Note**
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact
		Radiated	BS EN/EN61000-4-3	Level 3
		EFT / Burst	BS EN/EN61000-4-4	Level 3
		Surge	BS EN/EN61000-4-5	Level 4, 4KV/Line-Earth ; Level 3, 2KV/Line-Line
		Conducted	BS EN/EN61000-4-6	Level 3
		Magnetic Field	BS EN/EN61000-4-8	Level 4
		Voltage Dips and Interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods
OTHERS	MTBF	487.7K hrs min. Telcordia SR-332 (Bellcore) ; 42.9K hrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	295*127*41mm (L*W*H)		
	PACKING	1.95Kg; 6pcs/12.7Kg/1.15CUFT		

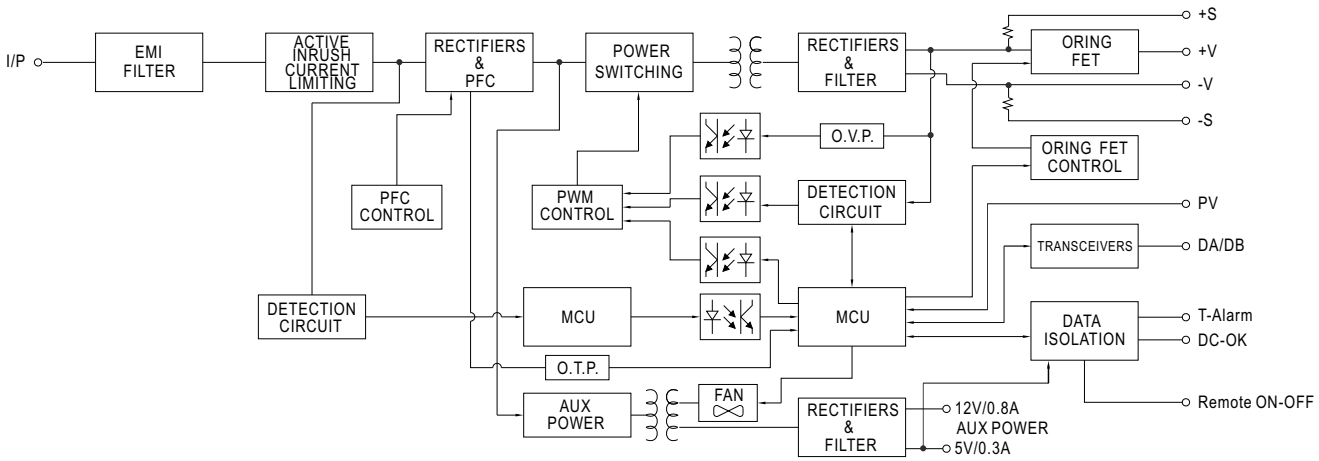
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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. Derating may be needed under low input voltages. Please check the derating curve for more details.
5. Please contact MEANWELL for 320~370VDC application.
6. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 720mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

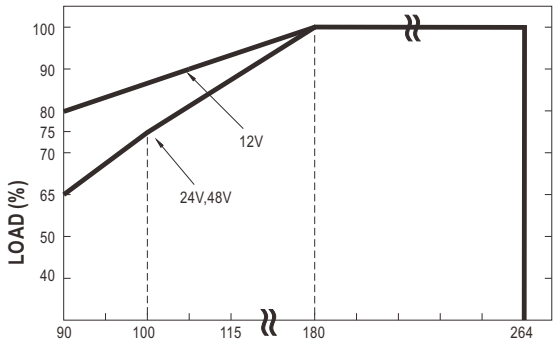
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

Block Diagram

PFC fosc : 110KHz
PWM fosc : 90KHz

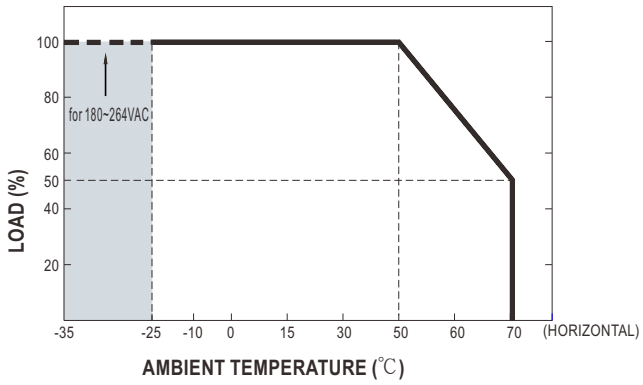


Static Characteristics

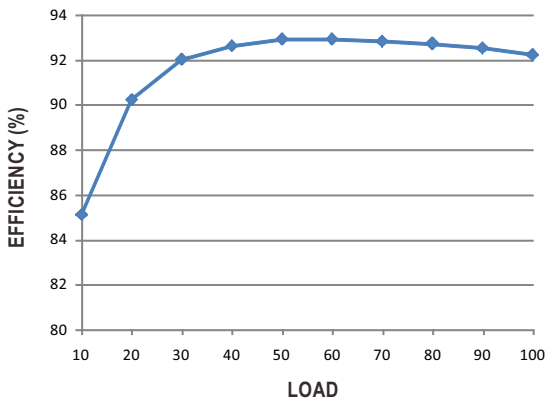


INPUT \ MODEL	12V	24V	48V
180~264VAC	1200W 100A	1920W 80A	2016W 42A
115VAC	1140W 95A	1536W 64A	1612.8W 33.6A
100VAC	1080W 90A	1440W 60A	1512W 31.5A
90VAC	960W 80A	1248W 52A	1310.4W 27.3A

Derating Curve



Efficiency vs Load (48V Model)

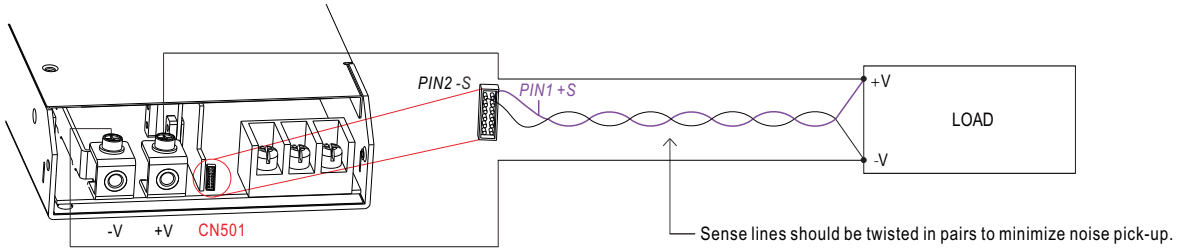


◎ The curve above is measured at 230VAC.

■ Function Manual

1. Remote Sense

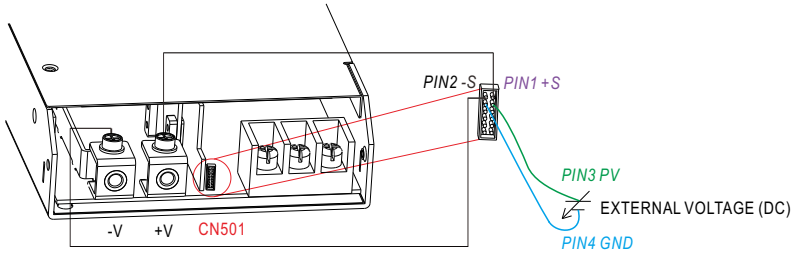
※ The Remote Sense compensates voltage drop on the load wiring up to 0.5V



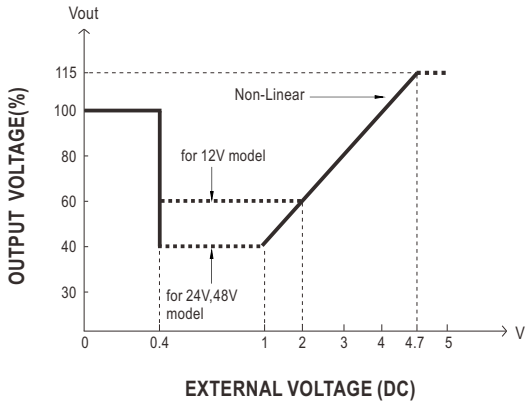
◎ The +*S* signal should be connected to the positive terminal of the load whereas -*S* signal to the negative terminal.

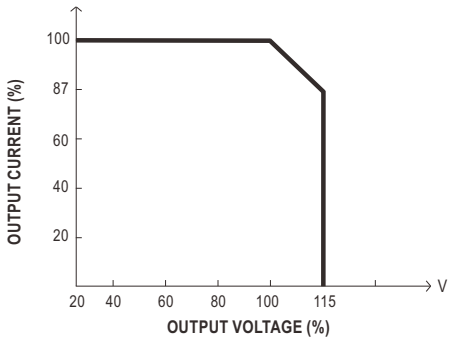
2. Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed to 40~115% of the nominal voltage by applying EXTERNAL VOLTAGE.



◎+*S* & +*V*, -*S* & -*V* also need to be connected on CN501.

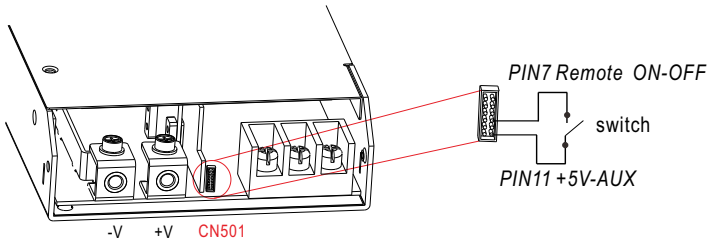




◎ The rated current should change with the Output Voltage Programming accordingly.

3. Remote ON-OFF Control

The power supply can be turned ON/OFF individually or along with other units by using the "Remote ON-OFF" function.



Between *Remote ON-OFF* and *+5V-AUX*	Power Supply Status
Switch Open	ON
Switch Short	OFF

4.Current Sharing with Remote Sense

RSP-2000 has the built-in active current sharing function and can be connected in parallel, up to 4 units, to provide higher output power as exhibited below :

※ The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

※ Difference of output voltages among parallel units should be less than 0.2V.

※ The total output current must not exceed the value determined by the following equation:
Maximum output current at parallel operation=(Rated current per unit)×(Number of unit)×0.9

※ Under parallel operation, the minimum output load should be greater than 5% of total output load; otherwise, it is likely that only one unit operates whereas other units may enter standby mode or their LED status indicators may not turn on.

※ When the total output current is less than 5% of the total rated current, or say (5% of Rated current per unit)×(Number of unit) the current shared among units may not be fully balanced.

※ CN502/CN504 Function pin connection

Parallel	PSU1		PSU2		PSU3		PSU4	
	CN502	CN504	CN502	CN504	CN502	CN504	CN502	CN504
1 unit	X	V	—	—	—	—	—	—
2 unit	V	V	V	V	—	—	—	—
3 unit	V	V	V	X	V	V	—	—
4 unit	V	V	V	X	V	X	V	V

◎V is CN502/CN504 connected to plug pin, X is CN502/CN504 not connected to plug pin.

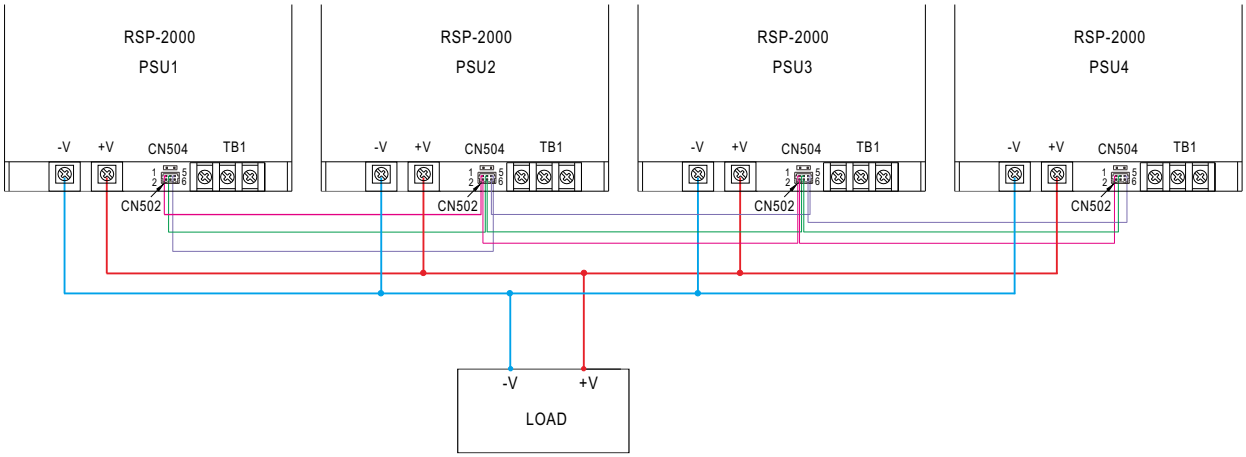
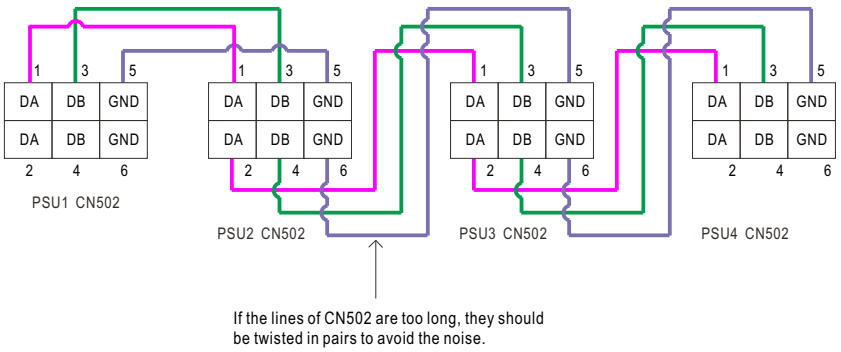


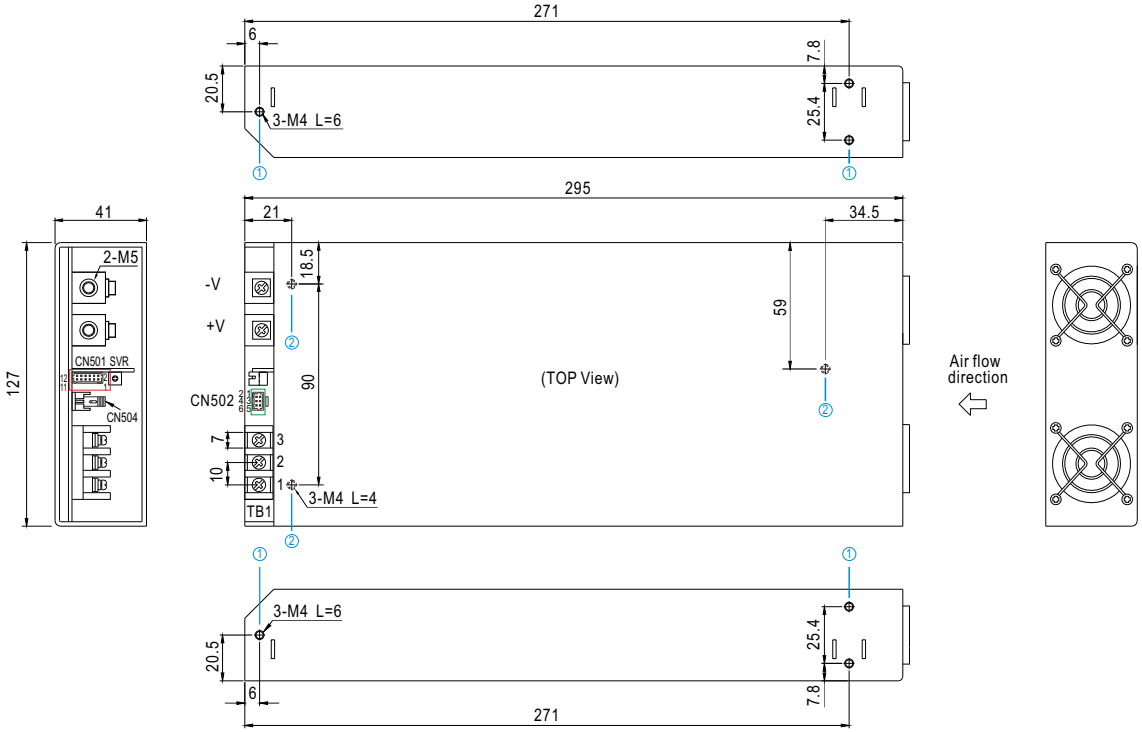
Fig 4.1



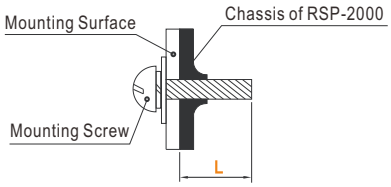
◎ DA,DB and GND are connected mutually in parallel.

■ Mechanical Specification

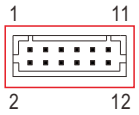
(Unit: mm , tolerance ±0.5mm) Case No. 952D



Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M4	6mm	7~10Kgf-cm
②	M4	4mm	7~10Kgf-cm



※Control Pin No. Assignment (CN501) : HRS DF11-12DP-2DS or equivalent



Mating Housing	HRS DF11-12DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1	+S	Positive sensing for remote sense.
2	-S	Negative sensing for remote sense.
3	PV	Connection for output voltage programming. (Note.1)
4	GND	This pin connect to the negative terminal(-V).
5	DC-OK	High (4.5 ~ 5.5V) : When the Vout ≦80%±6%. Low (0 ~ 0.5V) : When Vout ≧80%±6%. The maximum sourcing current is 10mA and only for output. (Note.2)
6	T-ALARM	High (4.5 ~ 5.5V) : When the internal temperature (TSW1 or TSW2 open) exceeds the limit of temperature alarm. Low (0 ~ 0.5V) : When the internal temperature (TSW1 or TSW2 short) under the limit temperature. The maximum sourcing current is 10mA and only for output. (Note.2)
7	Remote ON-OFF	The unit can turn the output on and off by electrical signal or dry contact between Remote *ON-OFF* and *+5V-AUX*. (Note.2) Short (4.5 ~ 5.5V) : Power OFF ; Open (0 ~ 0.5V) : Power ON ; The maximum input voltage is 5.5V.
8,9,10	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+V & -V).
11	+5V-AUX	Auxiliary voltage output, 4.5~5.5V, referenced to *GND-AUX*. 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.
12	+12V-AUX	Auxiliary voltage output, 10.6~13.2V, referenced to *GND-AUX*. The maximum load current is 0.8A. This output has the built-in "Oring diodes" and is not controlled by the Remote ON-OFF control.

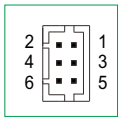
Note1: Non-isolated signal, referenced to the output terminals (-V).
Note2: Isolated signal, referenced to *GND-AUX*.

※LED Indicators & Corresponding Signal at Function Pins

Function	LED	Description	* Signal	Power Supply Output
DC-OK	GREEN	When output voltage ≧ 80% ± 5% of Vo rated.	0 ~ 0.5V	ON
DC-NG	RED	When output voltage ≦ 80% ± 5% of Vo rated.	4.5 ~ 5.5V	ON
T-OK	GREEN	When the internal temperature (TSW1 & TSW2 short) is within safe limit	0 ~ 0.5V	ON
T-ALARM	RED	When the internal temperature (TSW1 or TSW2 open) exceeds the limit of temperature alarm	4.5 ~ 5.5V	OFF

*Signal between function pin and "GND-AUX".

※Control Pin No. Assignment (CN502) : HRS DF11-6DP-2DSA or equivalent



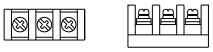
Mating Housing	HRS DF11-6DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1,2	DA	Differential digital signal for parallel control.
3,4	DB	Differential digital signal for parallel control.
5,6	GND	These pins connect to the negative terminal (-V).

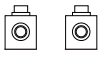
※Control Pin No. Assignment (CN504):

Pin No.	Function	Description
1,2	Terminal resistance	CN504 is the selector of terminal resistor that is designed for DA/DB signals and parallel control function.

※AC Input Terminal Pin No. Assignment

Pin No.	Assignment	Diagram	Maximum mounting torque
1	AC/N		18Kgf-cm
2	AC/L		
3	FG ⏚		

※DC Output Terminal Pin No. Assignment

Assignment	Diagram	Maximum mounting torque
+V, -V		10Kgf-cm

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

RSP-2400 series

2400W Power Supply with Single Output

Dimension					
L	*	W	*	H	
278	*	177.8	*	63.5(2U)	mm
10.9	*	7	*	2.5 (2U)	inch



User's Manual
Click Me

Parallel PFC R33100 RoHS UL62368-1 BS EN/EN62368-1 TPTC004 IEC62368-1 CB CE UKCA IS 13252

Industrial Automate Telecom Network EV

Features

- AC input 180~264VAC
- Built-in active PFC function
- High efficiency up to 91.5%
- Forced air cooling by built-in DC fan
- Output voltage programmable
- Active current sharing up to 7200W (2+1)
- Built-in remote ON-OFF control / remote sense / auxiliary power / power OK signal
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Optional conformal coating
- 5 years warranty

Applications

- Factory control or automation apparatus
- Test and measurement instrument
- Laser related machine
- Burn-in facility
- Digital broadcasting
- RF application

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RSP-2400 is a 2.4KW single output enclosed type AC/DC power supply. This series operates for 180~264VAC input voltage and offers the models with the DC output mostly demanded from the industry. Each model is cooled by the built-in fan with fan speed control, working for the temperature up to 70℃. Moreover, RSP-2400 provides vast design flexibility by equipping various built-in functions such as the output programming, active current sharing, remote ON-OFF control, auxiliary power, etc.

Model Encoding / Order Information

RSP - 2400 - 24

- 24 — Output voltage (12V/24V/48V)
- 2400 — Output wattage
- RSP — Series name

SPECIFICATION

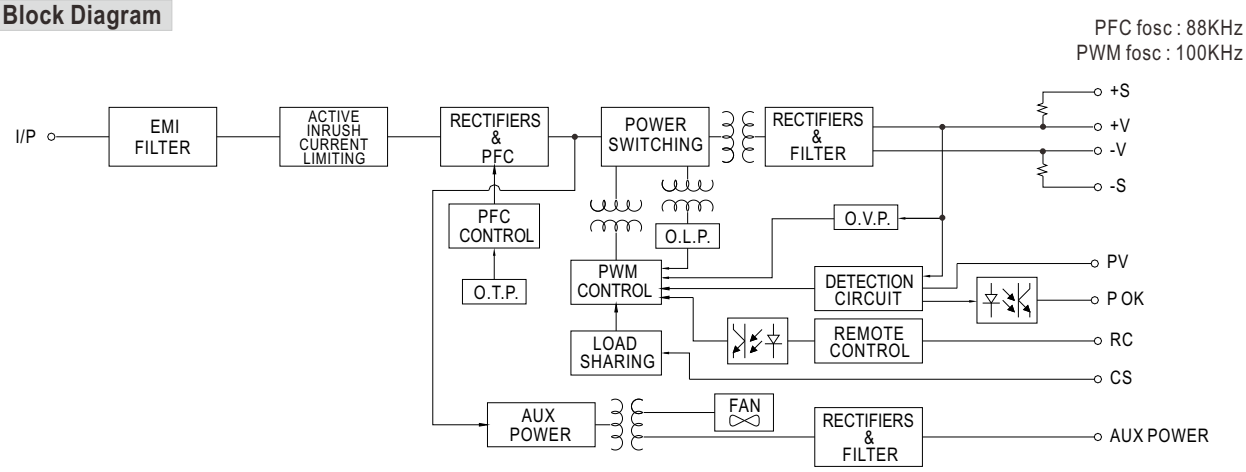
MODEL		RSP-2400-12	RSP-2400-24	RSP-2400-48
OUTPUT	DC VOLTAGE	12V	24V	48V
	RATED CURRENT	166.7A	100A	50A
	CURRENT RANGE	0 ~ 166.7A	0 ~ 100A	0 ~ 50A
	RATED POWER	2000.4W	2400W	2400W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	10.8 ~ 13.2V	22 ~ 28V	43 ~ 56V
	VOLTAGE TOLERANCE 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, 80ms at full load		
	HOLD UP TIME (Typ.)	12ms at full load		
INPUT	VOLTAGE RANGE	180 ~ 264VAC 254 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	0.95/230VAC at full load		
	EFFICIENCY (Typ.)	88%	90.5%	91.5%
	AC CURRENT (Typ.)	15.5A/180VAC 12A/230VAC		
	INRUSH CURRENT (Typ.)	60A/230VAC		
	LEAKAGE CURRENT	<2.0mA / 240VAC		
PROTECTION	OVERLOAD (OLP)	100 ~ 112% rated output power		
		User adjustable continuous constant current limiting or constant current limiting with delay shutdown after 5 seconds, re-power on to recover		
	OVER VOLTAGE	13.8 ~ 16.8V	28.8 ~ 33.6V	57.6 ~ 67.2V
		Protection type : Shut down o/p voltage, re-power on to recover		
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down		
FUNCTION	OUTPUT VOLTAGE PROGRAMMABLE(PV)	2.4 ~ 13.2V	4.8 ~ 28V	9.6 ~ 56V
		Please refer to the Function Manual.		
	CURRENT SHARING	Up to 7200W or (2+1) units. Please refer to the Function Manual.		
	AUXILIARY POWER	12V@0.1A(Only for Remote ON-OFF control)		
	REMOTE ON-OFF CONTROL	Please refer to the Function Manual		
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.25V. Please refer to the Function Manual.		
	ALARM SIGNAL OUTPUT	Power OK signal. Please refer to the Function Manual		
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.05%/℃ (0 ~ 50℃)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL62368-1, CSA C22.2 No. 62368-1, TUV BS EN/EN62368-1, BSMI CNS15598-1, AS/NZS62368.1,IS13252(Part1)/IEC60950-1, EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
		Conducted	BS EN/EN55032 (CISPR32), CNS15936	Class B
		Radiated	BS EN/EN55032 (CISPR32), CNS15936	Class A
		Harmonic Current	BS EN/EN61000-3-2	-----
		Voltage Flicker	BS EN/EN61000-3-3	-----
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2, BSMI CNS13438		
		Parameter	**Standard**	**Test Level / Note**
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact
		Radiated	BS EN/EN61000-4-3	Level 3
		EFT / Burst	BS EN/EN61000-4-4	Level 3
		Surge	BS EN/EN61000-4-5	Level 3, 2KV/Line-Earth ; Level 2, 1KV/Line-Line
		Conducted	BS EN/EN61000-4-6	Level 3
		Magnetic Field	BS EN/EN61000-4-8	Level 4
		Voltage Dips and Interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods
OTHERS	MTBF	692.3K hrs min. Telcordia SR-332 (Bellcore) ; 83.9K hrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	278*177.8*63.5mm (L*W*H)		
	PACKING	3.3Kg; 4pcs/14.2Kg/2.04CUFT		

NOTE

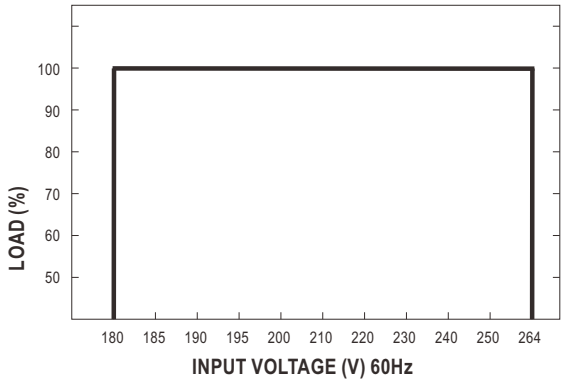
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 720mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
5. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Block Diagram

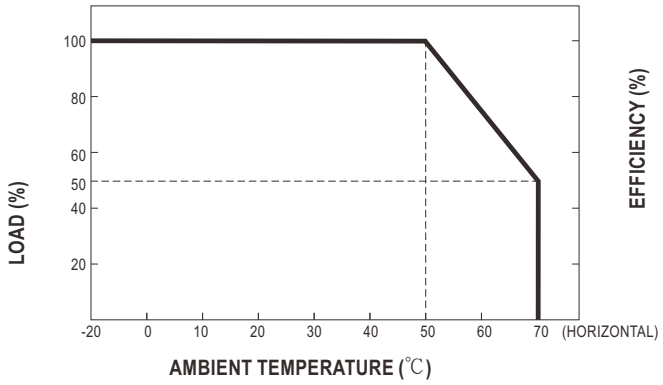


■ Static Characteristics



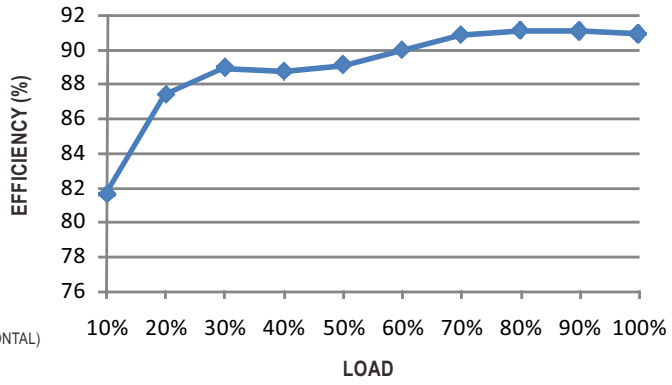
INPUT \ MODEL	12V	24V	48V
180~264VAC	2000.4W 166.7A	2400W 100A	2400W 50A

■ Derating Curve



◎ Load (%) typically represents the output power.
However, when the PV function is involved, Load (%) changes to indicate the percentage of the output current.
For example, with the PV function used for the RSP-2400-24, 80A corresponds to 80% of the load.

■ Efficiency vs Load (48V Model)

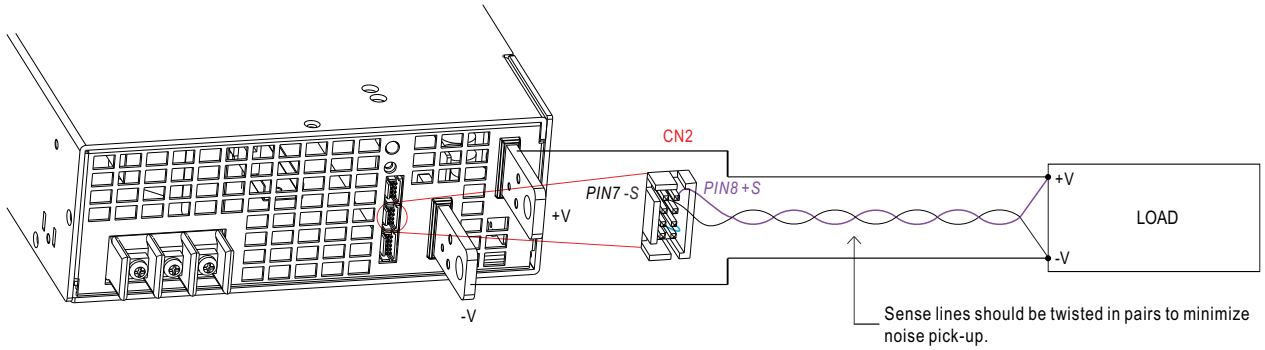


※ The curve above is measured at 230VAC.

■ Function Manual

1. Remote Sense

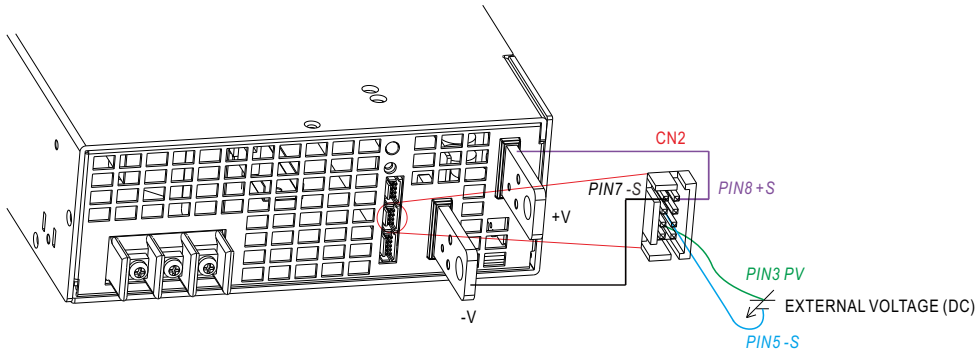
※ The Remote Sense compensates voltage drop on the load wiring up to 0.25V



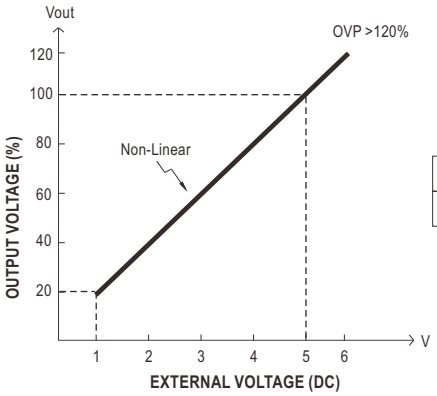
※ Caution: The power supply, by factory default(also the assumption for other sections), is shipped with, -S & -V on CN2, as well as +S & +V, shorted by connector. When activating the Remote Sense, the +S signal should be connected to the positive terminal of the load whereas -S signal to the negative terminal of the load.

2. Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

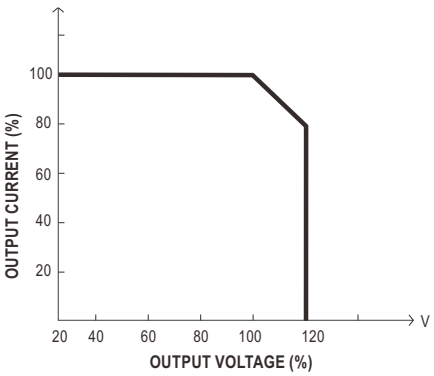
※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed to 20~110%(Typ.) of the nominal voltage by applying EXTERNAL VOLTAGE.



◎ Connecting an external DC source between *PV* & *-S* on CN2, and *+S* & *+V*, *-S* & *-V* also need to be connected as exhibited above.



MODEL	12V	24V	48V
PV Range	2.4 ~ 13.2V	4.8 ~ 28V	9.6 ~ 56V



◎ Please do not adopt PWM signal as the EXTERNAL VOLTAGE.

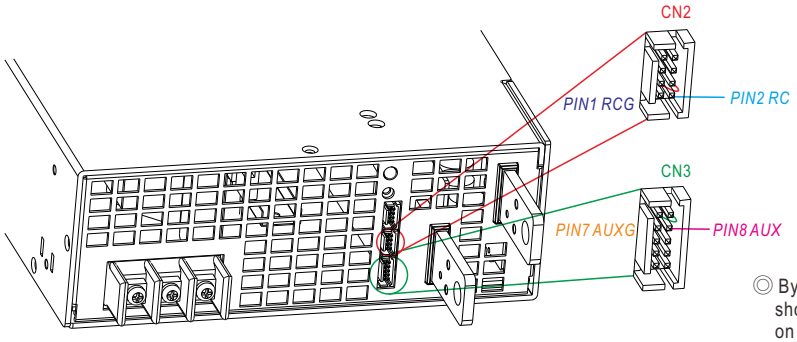
◎ The rated current should change with the Output Voltage Programming accordingly.

※ Caution: (1)By factory default, the Output Voltage Programming is not activated, and *PV(PIN3)* and *PS(PIN4)* of CN2 are shorted by connector. Whenever this function is not needed to activate, as assumed in other sections' diagrams, please keep *PV(PIN3)* and *PS(PIN4)* of CN2 shorted ; otherwise, the power supply will have no output.

(2)*PV(PIN3)* and *PS(PIN4)* of CN1 or CN2 must be disconnected if "Output Voltage Programming" function is used; otherwise, the internal electrical components may be damaged, and the power supply unit may thus be out of order.

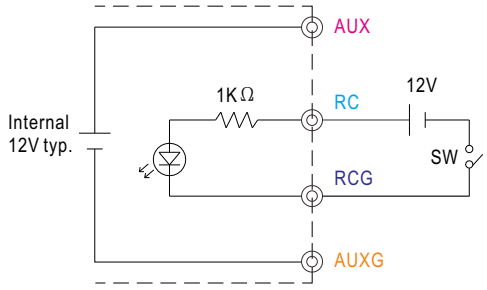
3.Remote ON-OFF

※ Remote ON-OFF is activated by the configuration with respect to CN1,CN2 and CN3 as shown in the following diagram.

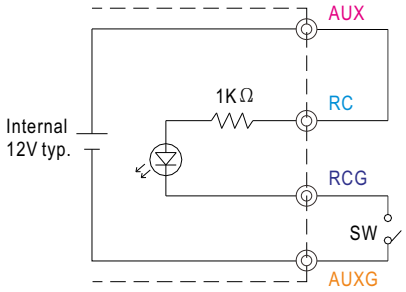


◎ By factory default, *PV(PIN3)* and *PS(PIN4)* on CN2 are shorted by connector; likewise, *OLP(PIN9)* and *OL-SD(PIN10)* on CN3 are shorted when shipped.

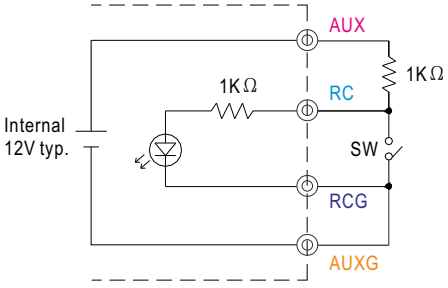
Example 3.2(A): Using external voltage source



Example 3.2(B): Using internal 12V auxiliary output



Example 3.2(C): Using internal 12V auxiliary output

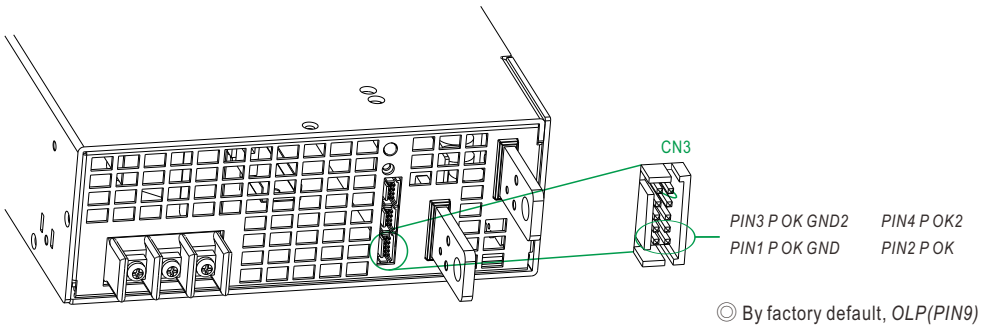


◎ Connection Method

		Example 3.2(A)	Example 3.2(B)	Example 3.2(C)
SW Logic	Power supply output ON	SW Open	SW Open	SW Close
	Power supply output OFF	SW Close	SW Close	SW Open

4.Alarm Signal Output

※ Alarm signal is sent out through "*P OK*" & "*P OK GND*" and *P OK2 & P OK GND2* pins on CN3. Please acknowledge an external voltage source is required for this function.



◎ By factory default, *OLP(PIN9)* and *OL-SD(PIN10)* on CN3 are shorted by connector when shipped.

Function	Description	Output of alarm(P OK, Relay Contact)	Output of alarm(P OK2, TTL Signal)
P OK	The signal is "Low" when the power supply is above 80% of the rated output voltage, or, say, Power OK	Low (0.5V max at 500mA)	Low (0.5V max at 10mA)
	The signal turns to be "High" when the power supply is under 80% of the rated output voltage, or, say, Power Fail	High or open (External applied voltage, 500mA max.)	High or open (External applied voltage, 10mA max.)

Table 4.1 Explanation of alarm

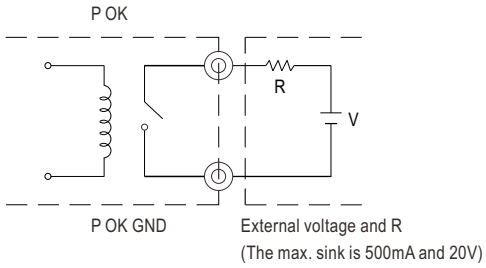


Fig. 4.1 Internal circuit of P OK (Relay, total is 10W)

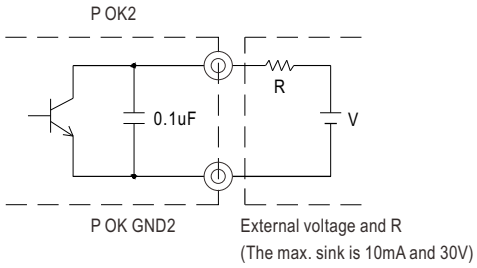


Fig. 4.2 Internal circuit of P OK2 (Open collector method)

5.Select Overload Protection Type

(1)Insert the shorting connector on CN3 that is shown in Fig 5.1, the Overload Protection Type will be "constant current limiting with delay shutdown after 5 seconds, re-power on to recover". This is the factory default.

(2)Remove the shorting connector on CN3 that is shown in Fig 5.2, the Overload Protection Type will be "continuous constant current limiting".

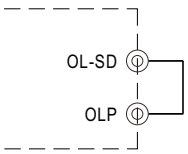


Fig. 5.1 Insert the CN3
Overload Protection Type : constant current limiting with delay shutdown after 5 seconds

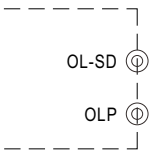


Fig. 5.2 Remove the CN3
Overload Protection Type : constant current limiting

6.Current Sharing with Remote Sense

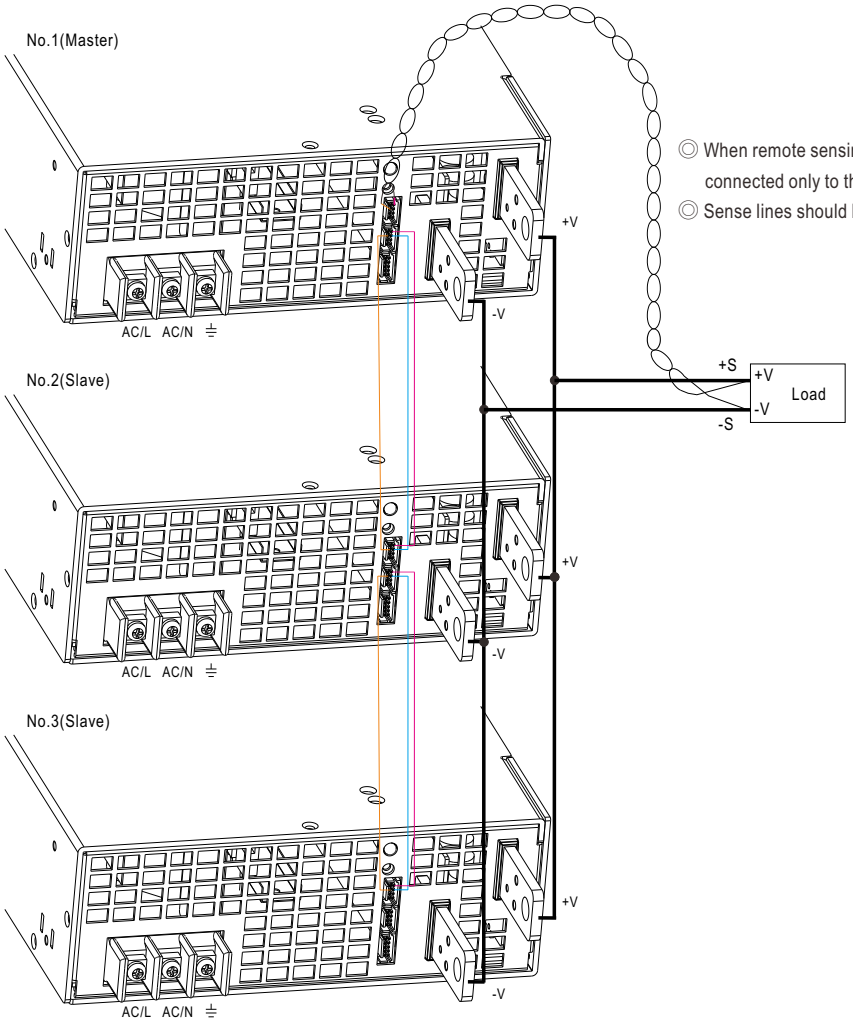
RSP-2400 has the built-in active current sharing function and can be connected in parallel, up to 3 units, to provide higher output power as exhibited below :

※ The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

※ Difference of output voltages among parallel units should be less than 0.2V.

※ The total output current must not exceed the value determined by the following equation:
Maximum output current at parallel operation=(Rated current per unit)×(Number of unit)×0.9

※ When the total output current is less than 3% of the total rated current, or say (3% of Rated current per unit)×(Number of unit) the current shared among units may not be fully balanced.



◎ When remote sensing is used in parallel operation, the sensing wire must be connected only to the master unit

◎ Sense lines should be twisted in pairs to minimize noise pick-up.

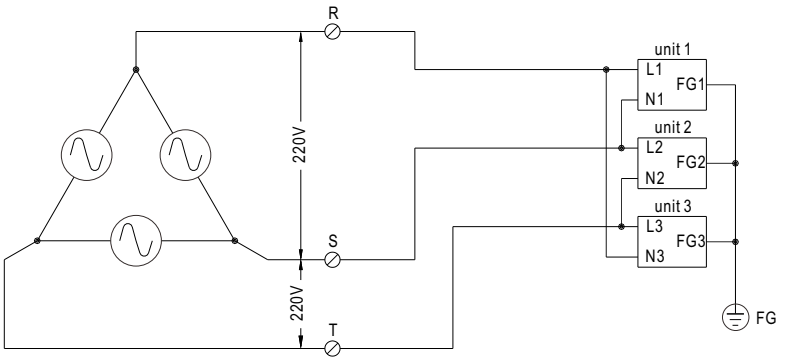
◎ *+S*,*-S* and *CS* on CN1 or CN2are connected mutually in parallel.

◎ Under parallel operation, the "output voltage programming" function is not available.

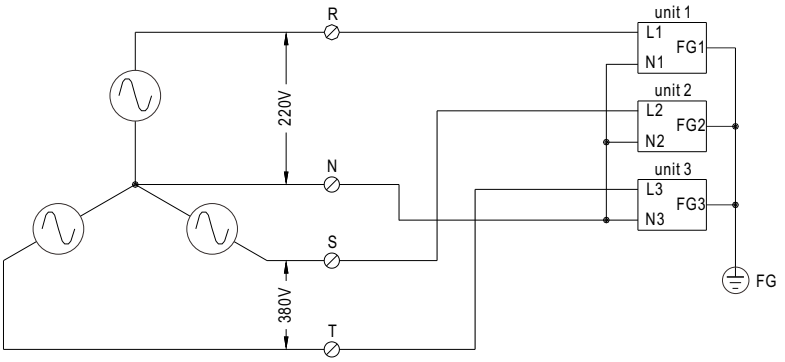
7.Three Phase Connect

Users can exploit three units of RSP-2400(unit 1 ,unit 2,unit 3) to work with 3 ψ power system. Please refer to following diagrams for configuration.

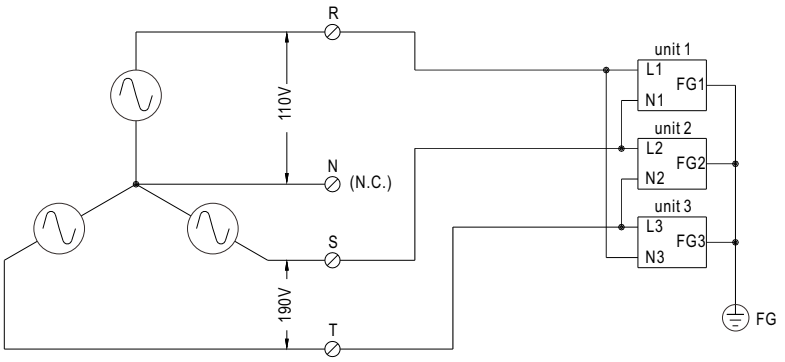
※FIG. A: 3 ψ 3 wire 220VAC SYSTEM



※FIG. B: 3 ψ 4 wire 220/380VAC SYSTEM



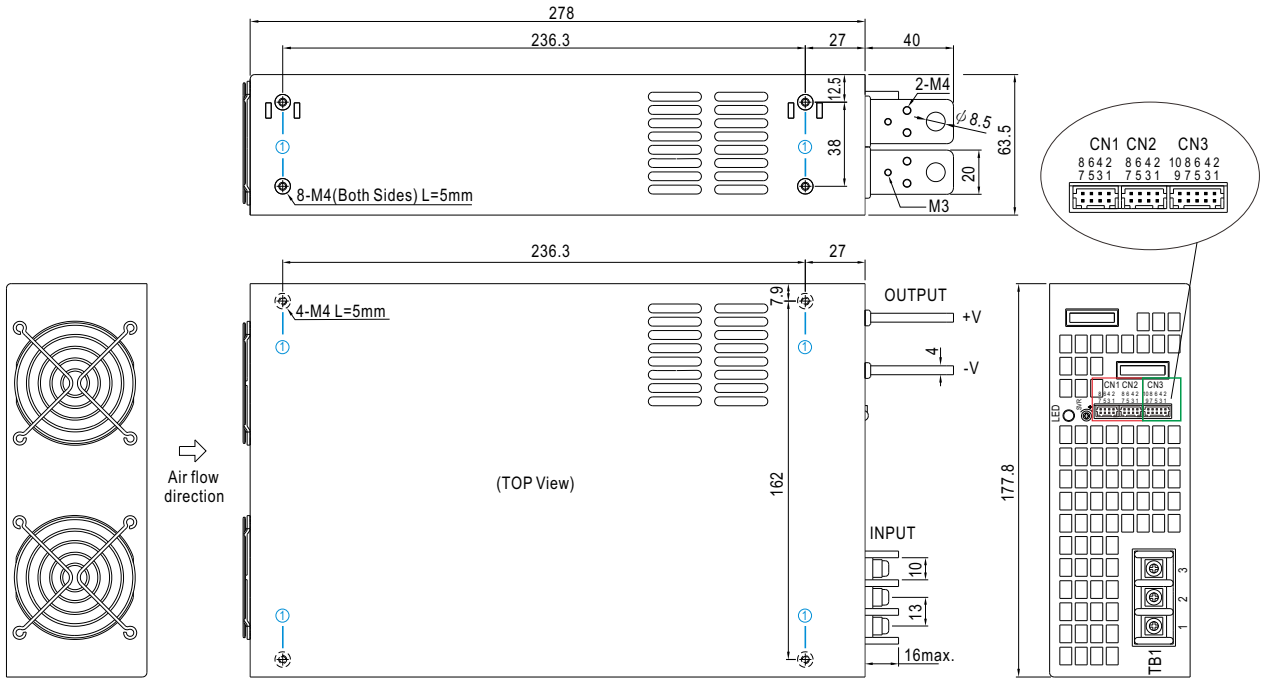
※FIG. C: 3 ψ 4 wire 190/110VAC SYSTEM



■ Mechanical Specification

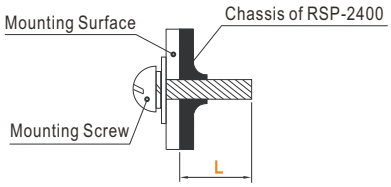
(Unit: mm , tolerance ±0.5mm)

Case No.982B

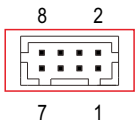


※ Mounting Instruction

Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M4	5mm	7~10Kgf-cm



※ Control Pin No. Assignment (CN1,CN2) : HRS DF11-8DP-2DS or equivalent

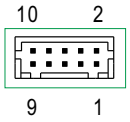


Mating Housing	HRS DF11-8DS or equivalent
Terminal	HRS DF11-**SC or equivalent

◎ CN1 and CN2 are connected internally.

Pin No.	Function	Description
1	RCG	Remote ON-OFF Ground
2	RC	Remote ON-OFF
3	PV	Connection for output voltage programming
4	PS	Reference Voltage Terminal
5,7	-S	Negative sensing for remote sense
6	CS(Current Share)	Current Share
8	+S	Postive sensing for remote sense

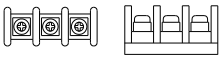
※Control Pin No. Assignment (CN3) : HRS DF11-10DP-2DS or equivalent



Mating Housing	HRS DF11-10DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1	P OK GND	Power OK Ground
2	P OK	Power OK Signal (Relay Contact)
3	P OK GND2	Power OK Ground
4	P OK2	Power OK Signal (TTL Signal)
5	RCG	Remote ON-OFF Ground
6	RC	Remote ON-OFF
7	AUXG	Auxiliary Ground
8	AUX	Auxiliary Output
9	OLP	Overload(OLP) type select
10	OL-SD	

※AC Input Terminal Pin No. Assignment

Pin No.	Assignment	Diagram	Maximum mounting torque
1	AC/L		18Kgf-cm
2	AC/N		
3	FG ⏚		

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

RSP-3000 series

3000W Power Supply with Single Output

Dimension

L	*	W	*	H	
278	*	177.8	*	63.5(2U)	mm
10.9	*	7	*	2.5 (2U)	inch



User's Manual

Click Me

Features

- AC input 180~264VAC
- Built-in active PFC function
- High efficiency up to 91.5%
- Forced air cooling by built-in DC fan
- Output voltage programmable
- Active current sharing up to 9000W (2+1)
- Built-in remote ON-OFF control / remote sense / auxiliary power / power OK signal
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Optional conformal coating
- 5 years warranty

Applications

- Factory control or automation apparatus
- Test and measurement instrument
- Laser related machine
- Burn-in facility
- Digital broadcasting
- RF application

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RSP-3000 is a 3KW single output enclosed type AC/DC power supply. This series operates for 180~264VAC input voltage and offers the models with the DC output mostly demanded from the industry. Each model is cooled by the built-in fan with fan speed control, working for the temperature up to 70℃. Moreover, RSP-3000 provides vast design flexibility by equipping various built-in functions such as the output programming, active current sharing, remote ON-OFF control, auxiliary power, etc.

Model Encoding / Order Information

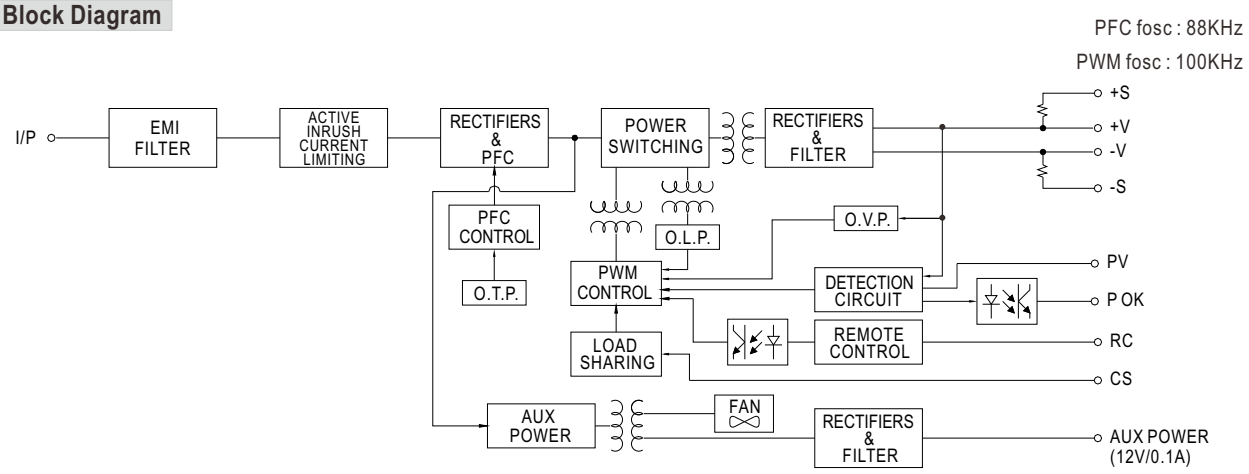
RSP - 3000 - 24

- 24: Output voltage (12V/24V/48V)
- 3000: Output wattage
- RSP: Series name

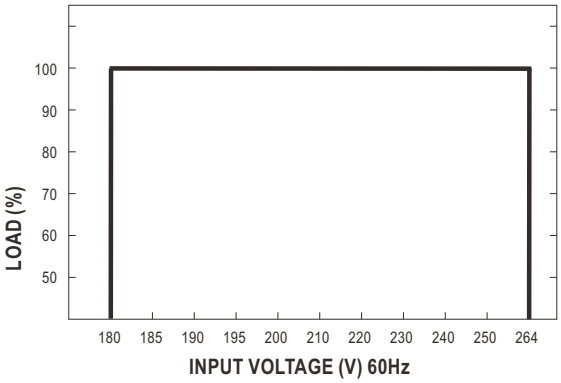
SPECIFICATION

MODEL		RSP-3000-12	RSP-3000-24	RSP-3000-48
OUTPUT	DC VOLTAGE	12V	24V	48V
	RATED CURRENT	200A	125A	62.5A
	CURRENT RANGE	0 ~ 200A	0 ~ 125A	0 ~ 62.5A
	RATED POWER	2400W	3000W	3000W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	10.8 ~ 13.2V	22 ~ 28V	43 ~ 56V
	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, 80ms at full load		
	HOLD UP TIME (Typ.)	10ms at full load		
INPUT	VOLTAGE RANGE	180 ~ 264VAC 254 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	0.95/230VAC at full load		
	EFFICIENCY (Typ.)	87.5%	90%	91.5%
	AC CURRENT (Typ.)	20A/180VAC 16A/230VAC		
	INRUSH CURRENT (Typ.)	60A/230VAC		
	LEAKAGE CURRENT	<2.0mA / 240VAC		
PROTECTION	OVERLOAD	100 ~ 112% rated output power		
		User adjustable continuous constant current limiting or constant current limiting with delay shutdown after 5 seconds, re-power on to recover		
	OVER VOLTAGE	13.8 ~ 16.8V	28.8 ~ 33.6V	57.6 ~ 67.2V
		Protection type : Shut down o/p voltage, re-power on to recover		
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down		
FUNCTION	OUTPUT VOLTAGE PROGRAMMABLE(PV)	2.4 ~ 13.2V	4.8 ~ 28V	9.6 ~ 56V
		Please refer to the Function Manual.		
	CURRENT SHARING	Up to 9000W or (2+1) units. Please refer to the Function Manual.		
	AUXILIARY POWER(AUX)	12V@0.1A(Only for Remote ON/OFF control)		
	REMOTE ON-OFF CONTROL	Please refer to the Function Manual		
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.25V. Please refer to the Function Manual.		
	ALARM SIGNAL OUTPUT	Power OK signal. Please refer to the Function Manual		
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.05%/℃ (0 ~ 50℃)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL62368-1, CSA C22.2 No. 62368-1, TUV BS EN/EN62368-1, BSMI CNS15598-1, AS/NZS62368.1, IS13252(Part1)/IEC60950-1, EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
		Conducted	BS EN/EN55032 (CISPR32), CNS15936	Class B
		Radiated	BS EN/EN55032 (CISPR32), CNS15936	Class A
		Harmonic Current	BS EN/EN61000-3-2	-----
		Voltage Flicker	BS EN/EN61000-3-3	-----
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2, BSMI CNS13438		
		Parameter	**Standard**	**Test Level / Note**
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact
		Radiated	BS EN/EN61000-4-3	Level 3
		EFT / Burst	BS EN/EN61000-4-4	Level 3
		Surge	BS EN/EN61000-4-5	Level 3, 2KV/Line-Earth ; Level 2, 1KV/Line-Line
		Conducted	BS EN/EN61000-4-6	Level 3
		Magnetic Field	BS EN/EN61000-4-8	Level 4
		Voltage Dips and Interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods
OTHERS	MTBF	677.3K hrs min. Telcordia SR-332 (Bellcore) ; 75.2K hrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	278*177.8*63.5mm (L*W*H)		
	PACKING	4Kg; 4pcs/16Kg/2.04CUFT		
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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. All the EMC tests are been executed by mounting the unit on a 720mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf) 5. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx			

■ Block Diagram

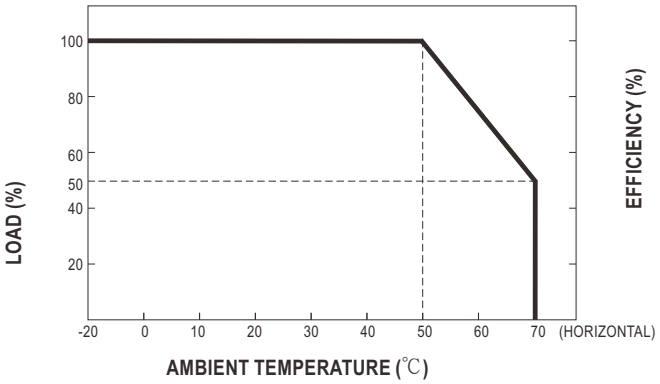


■ Static Characteristics



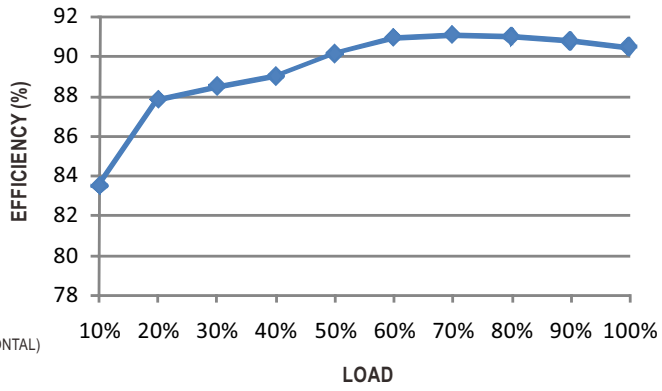
INPUT \ MODEL	12V	24V	48V
180~264VAC	2400W 200A	3000W 125A	3000W 62.5A

■ Derating Curve



◎ Load (%) typically represents the output power.
However, when the PV function is involved, Load (%) changes to indicate the percentage of the output current.
For example, with the PV function used for the RSP-3000-24, 100A corresponds to 80% of the load.

■ Efficiency vs Load (48V Model)

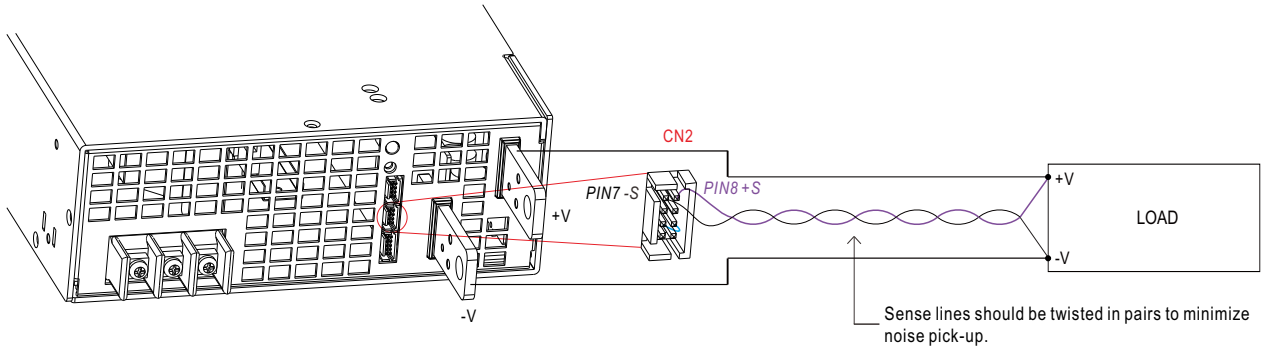


※ The curve above is measured at 230VAC.

■ Function Manual

1. Remote Sense

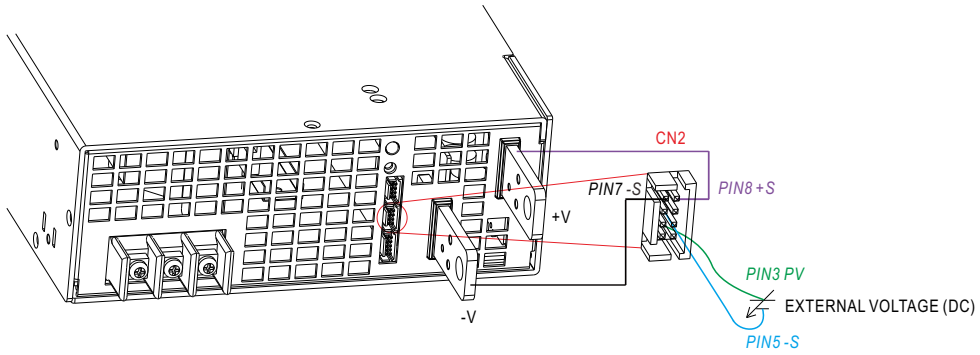
※ The Remote Sense compensates voltage drop on the load wiring up to 0.25V



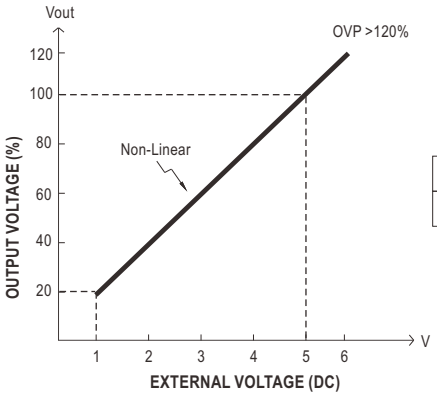
※ Caution: The power supply, by factory default(also the assumption for other sections), is shipped with, -S & -V on CN2, as well as +S & +V, shorted by connector. When activating the Remote Sense, the +S signal should be connected to the positive terminal of the load whereas -S signal to the negative terminal of the load.

2. Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

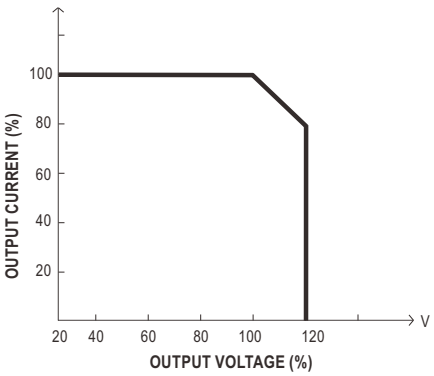
※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed to 20~110%(Typ.) of the nominal voltage by applying EXTERNAL VOLTAGE.



◎ Connecting an external DC source between *PV* & *-S* on CN2, and *+S* & *+V*, *-S* & *-V* also need to be connected.



MODEL	12V	24V	48V
PV Range	2.4 ~ 13.2V	4.8 ~ 28V	9.6 ~ 56V



◎ Please do not adopt PWM signal as the EXTERNAL VOLTAGE.

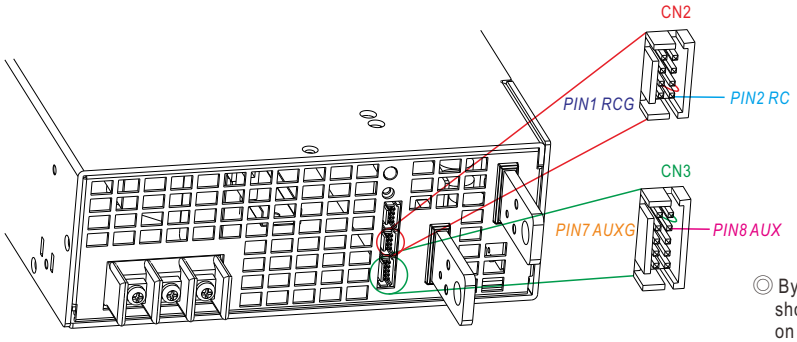
◎ The rated current should change with the Output Voltage Programming accordingly.

※ Caution: (1)By factory default, the Output Voltage Programming is not activated, and *PV(PIN3)* and *PS(PIN4)* of CN2 are shorted by connector. Whenever this function is not needed to activate, as assumed in other sections' diagrams, please keep *PV(PIN3)* and *PS(PIN4)* of CN2 shorted ; otherwise, the power supply will have no output.

(2)*PV(PIN3)* and *PS(PIN4)* of CN1 or CN2 must be disconnected if "Output Voltage Programming" function is used; otherwise, the internal electrical components may be damaged, and the power supply unit may thus be out of order.

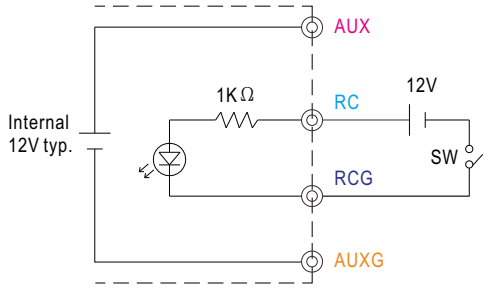
3.Remote ON-OFF

※ Remote ON-OFF is activated by the configuration with respect to CN1,CN2 and CN3 as shown in the following diagram.

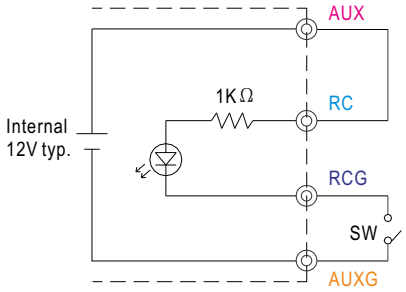


◎ By factory default, *PV(PIN3)* and *PS(PIN4)* on CN2 are shorted by connector; likewise, *OLP(PIN9)* and *OL-SD(PIN10)* on CN3 are shorted when shipped.

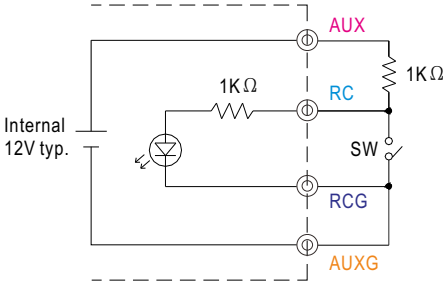
Example 3.2(A): Using external voltage source



Example 3.2(B): Using internal 12V auxiliary output



Example 3.2(C): Using internal 12V auxiliary output

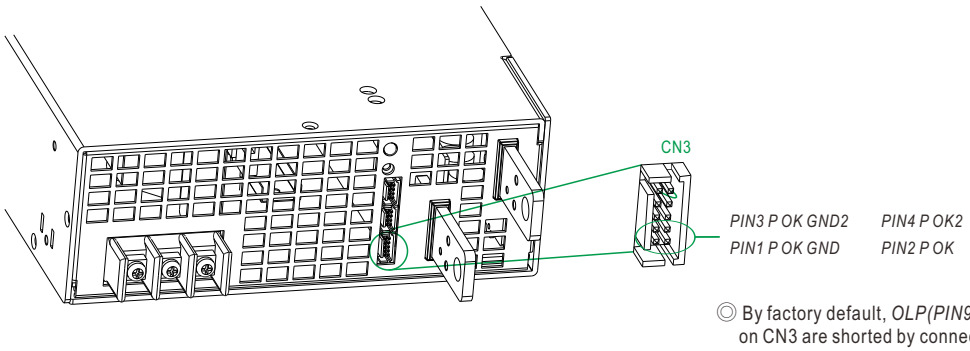


◎ Connection Method

		Example 3.2(A)	Example 3.2(B)	Example 3.2(C)
SW Logic	Power supply output ON	SW Open	SW Open	SW Close
	Power supply output OFF	SW Close	SW Close	SW Open

4.Alarm Signal Output

※ Alarm signal is sent out through "*P OK*" & "*P OK GND*" and *P OK2 & P OK GND2* pins on CN3. Please acknowledge an external voltage source is required for this function.



◎ By factory default, *OLP(PIN9)* and *OL-SD(PIN10)* on CN3 are shorted by connector when shipped.

Function	Description	Output of alarm(P OK, Relay Contact)	Output of alarm(P OK2, TTL Signal)
P OK	The signal is "Low" when the power supply is above 80% of the rated output voltage, or, say, Power OK	Low (0.5V max at 500mA)	Low (0.5V max at 10mA)
	The signal turns to be "High" when the power supply is under 80% of the rated output voltage, or, say, Power Fail	High or open (External applied voltage, 500mA max.)	High or open (External applied voltage, 10mA max.)

Table 3.1 Explanation of alarm

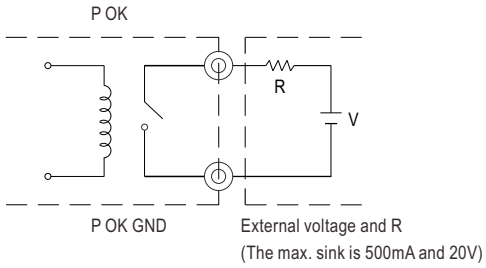


Fig. 4.2 Internal circuit of P OK (Relay, total is 10W)

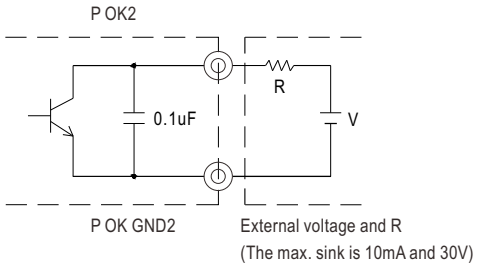


Fig. 4.3 Internal circuit of P OK2 (Open collector method)

5.Select Overload Protection Type

(1)Insert the shorting connector on CN3 that is shown in Fig 5.2, the Overload Protection Type will be "constant current limiting with delay shutdown after 5 seconds, re-power on to recover". This is the factory default.

(2)Remove the shorting connector on CN3 that is shown in Fig 5.1, the Overload Protection Type will be "continuous constant current limiting".

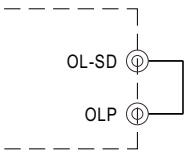


Fig. 5.1 Insert the CN3
Overload Protection Type : constant current limiting with delay shutdown after 5 seconds

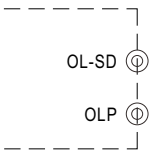


Fig. 5.2 Remove the CN3
Overload Protection Type : constant current limiting

6.Current Sharing with Remote Sense

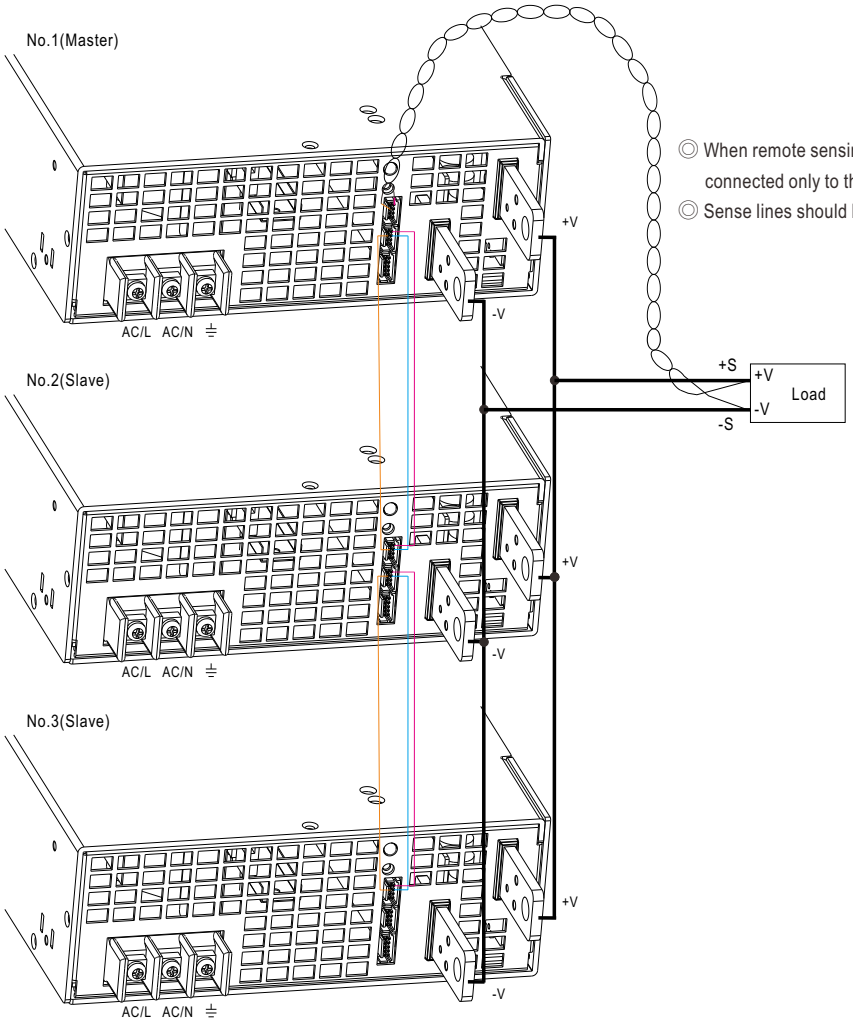
RSP-3000 has the built-in active current sharing function and can be connected in parallel, up to 3 units, to provide higher output power as exhibited below :

※ The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

※ Difference of output voltages among parallel units should be less than 0.2V.

※ The total output current must not exceed the value determined by the following equation:
Maximum output current at parallel operation=(Rated current per unit)×(Number of unit)×0.9

※ When the total output current is less than 3% of the total rated current, or say (3% of Rated current per unit)×(Number of unit) the current shared among units may not be fully balanced.



◎ When remote sensing is used in parallel operation, the sensing wire must be connected only to the master unit

◎ Sense lines should be twisted in pairs to minimize noise pick-up.

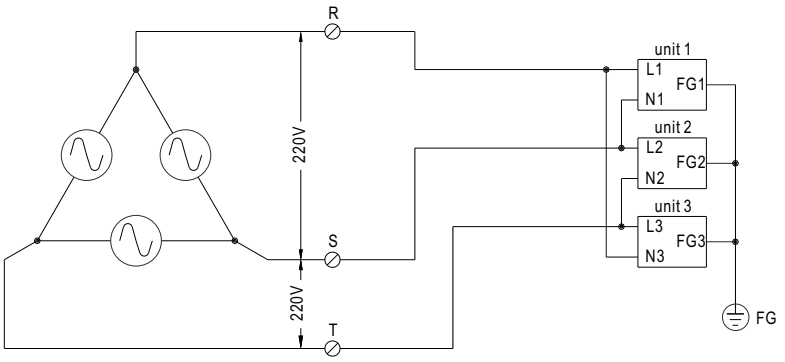
◎ +S,-S and CS on CN1 or CN2are connected mutually in parallel.

◎ Under parallel operation, the "output voltage programming" function is not available.

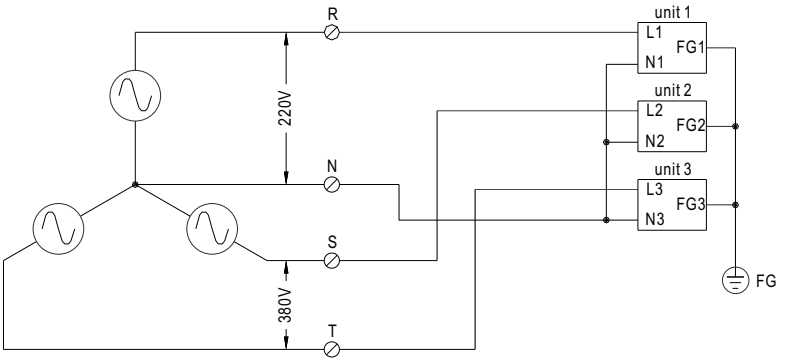
7.Three Phase Connect

Users can exploit three units of RSP-3000(unit 1 ,unit 2,unit 3) to work with 3 ψ power system. Please refer to following diagrams for configuration.

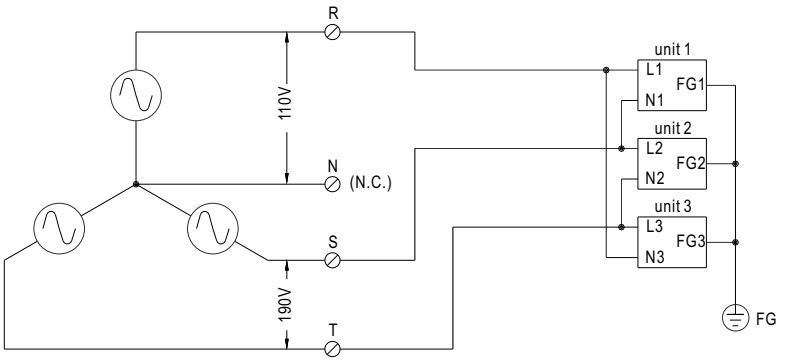
■ FIG. A: 3 ψ 3W 220VAC SYSTEM



■ FIG. B: 3 ψ 4W 220/380VAC SYSTEM



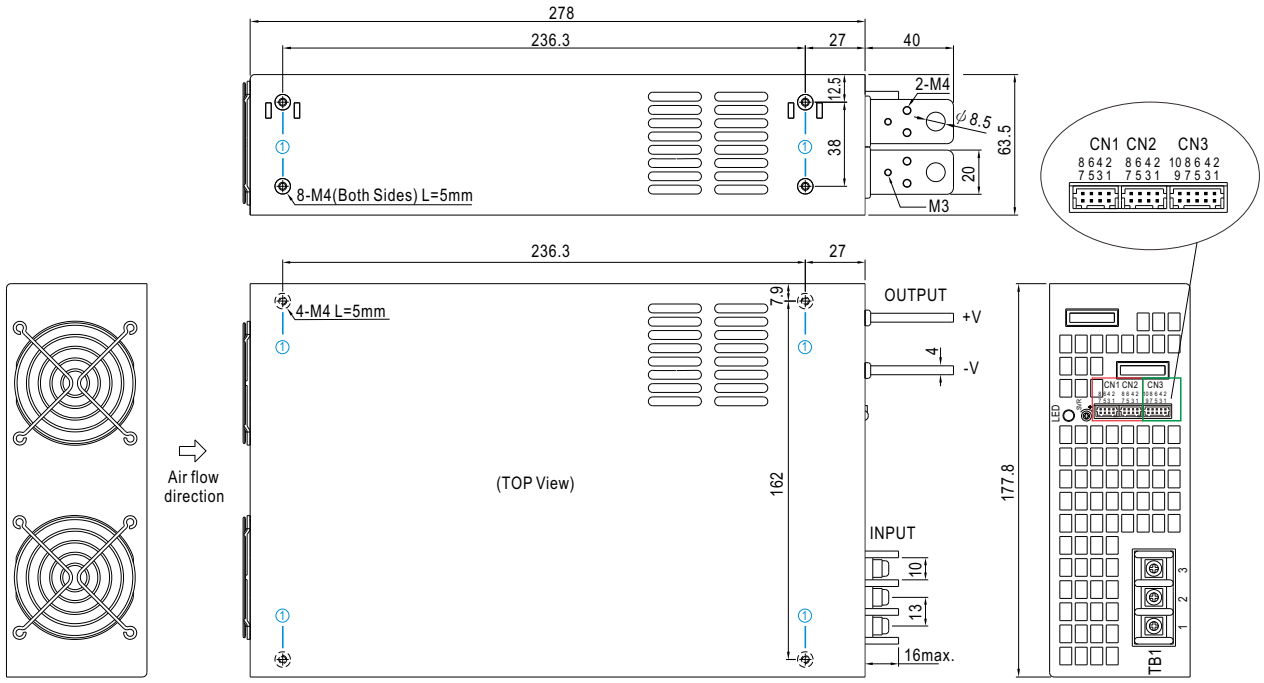
■ FIG. C: 3 ψ 4W 190/110VAC SYSTEM



■ Mechanical Specification

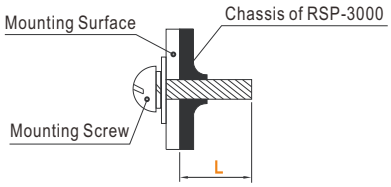
(Unit: mm , tolerance ±0.5mm)

Case No.982B

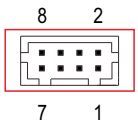


※ Mounting Instruction

Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M4	5mm	7~10Kgf-cm



※ Control Pin No. Assignment (CN1,CN2) : HRS DF11-8DP-2DS or equivalent

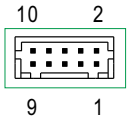


Mating Housing	HRS DF11-8DS or equivalent
Terminal	HRS DF11-**SC or equivalent

◎ CN1 and CN2 are connected internally.

Pin No.	Function	Description
1	RCG	Remote ON-OFF Ground
2	RC	Remote ON-OFF
3	PV	Connection for output voltage programming
4	PS	Reference Voltage Terminal
5,7	-S	Negative sensing for remote sense
6	CS(Current Share)	Current Share
8	+S	Postive sensing for remote sense

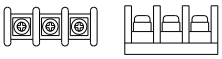
※Control Pin No. Assignment (CN3) : HRS DF11-10DP-2DS or equivalent



Mating Housing	HRS DF11-10DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1	P OK GND	Power OK Ground
2	P OK	Power OK Signal (Relay Contact)
3	P OK GND2	Power OK Ground
4	P OK2	Power OK Signal (TTL Signal)
5	RCG	Remote ON-OFF Ground
6	RC	Remote ON-OFF
7	AUXG	Auxiliary Ground
8	AUX	Auxiliary Output
9	OLP	Overload(OLP) type select
10	OL-SD	

※AC Input Terminal Pin No. Assignment

Pin No.	Assignment	Diagram	Maximum mounting torque
1	AC/L		18Kgf-cm
2	AC/N		
3	FG ⏚		

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html