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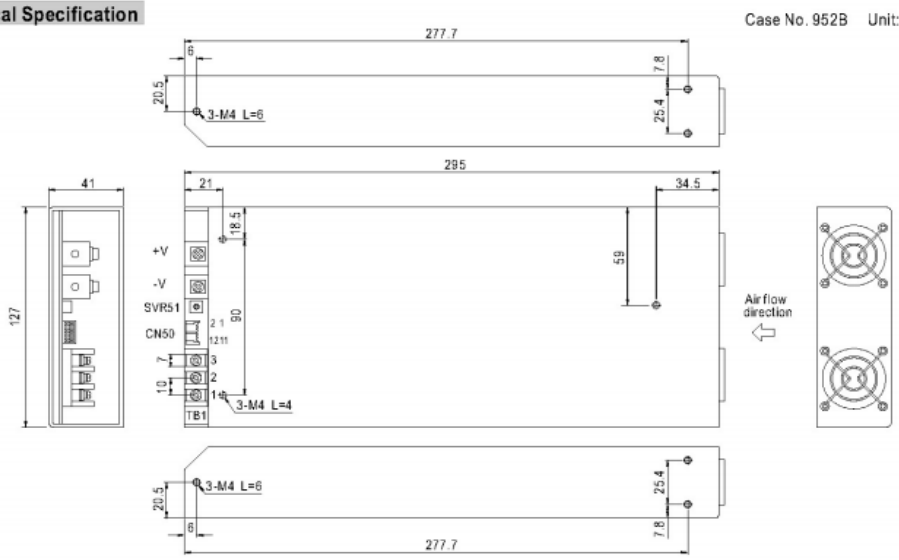
RS 720W, 1 Output, Embedded Switch Mode Power Supply (SMPS), 12V dc, 60A

RS Stock number 151-379

■ Mechanical Specification

Case No. 952B Unit:mm



AC Input Terminal Pin. No. Assignment

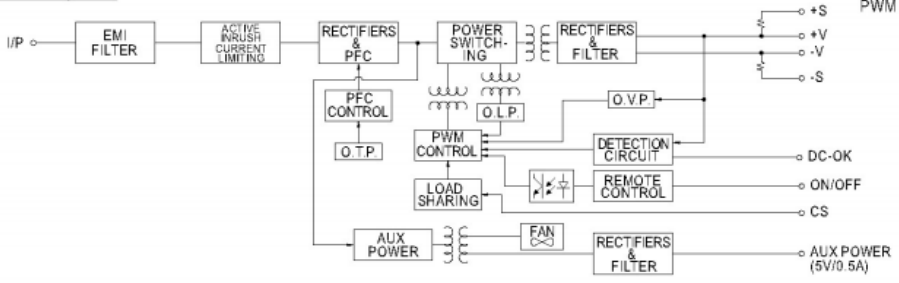
Pin No.	Assignment
1	AC/N
2	AC/L
3	FG ⏚

Control pin number assignment (CN50) : JST B12B-PHDSS or equivalent

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	+S	5	DC-OK	9	Vcl	JST PHDR-12VS or equivalent	JST SPHD-002T-P0.5 or equivalent
2	-S	6	ON/OFF	10	Vca		
3	G-AUX	7	CS	11,12	GND		
4	5V-AUX	8	Vco				

■ Block Diagram

PFC fosc : 110KHz
PWM fosc : 90KHz



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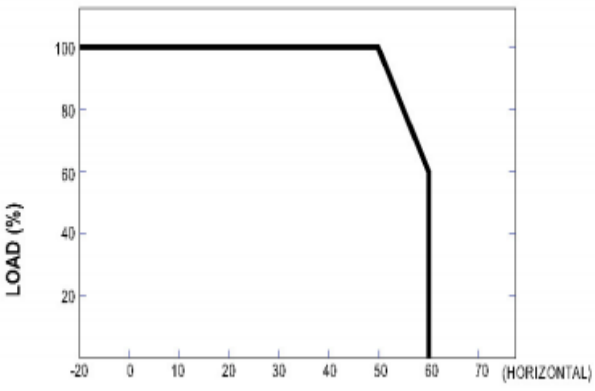
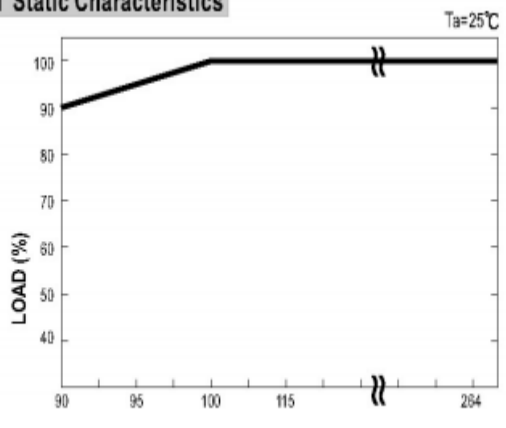
■ Derating Curve



■ Static Characteristics



■ Function Description of CN50

Pin No.	Function	Description
1	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V.
2	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V.
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	ON/OFF	Turns the output on and off by electrical or dry contact between pin 6 (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 trim function is not used.
9	Vci	Connect to external DC voltage source for output voltage triming, referenced to pin 2 (-S). Output voltage can be trimmed between 40 ~ 110% of the rated output voltage.
10	Vca	Connect to external resistor (1/8W) for output voltage triming. Output voltage can be trimmed between 40 ~ 110% of the rated output voltage. Please refer to function manual for details.
11,12	GND	These pins connect to the negative terminal (-V). Return for DC_OK Signal output.

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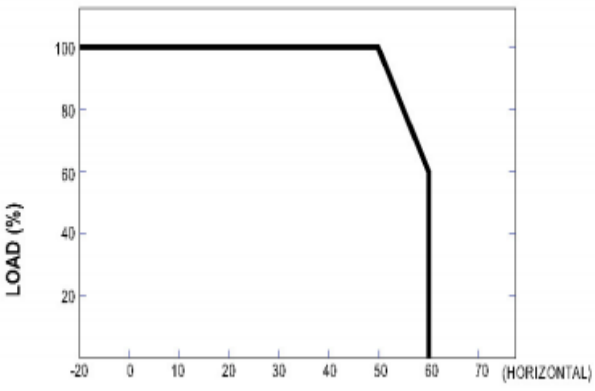

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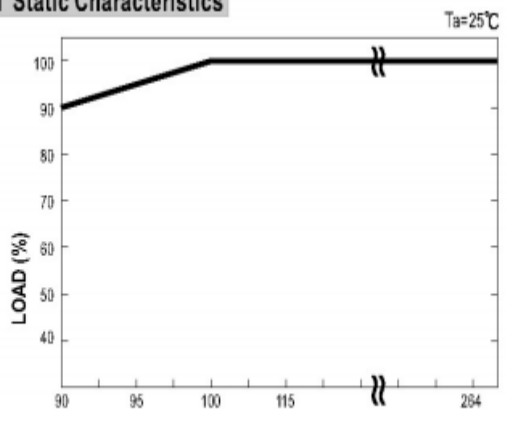

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■ Function Manual

1."Remote ON/OFF" and "Output voltage trim" functions are not used.

The power supply unit will have no output if the shorting connector (accessory comes along with the PSU) is not assembled. It contains two shorting wires : one is from ON/OFF (pin6) to -S (pin2) and the other is from Vco (pin8) to Vca (pin10).

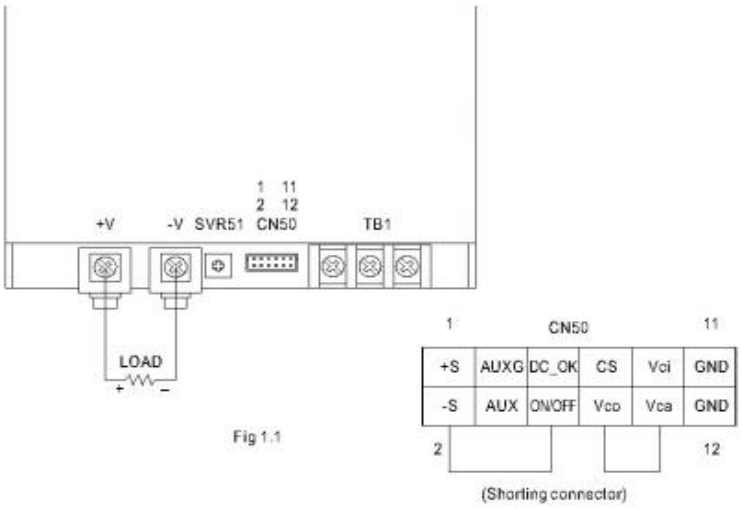

Fig 1.1

2.Remote ON/OFF

The PSU can be turned ON/OFF by using the "Remote ON/OFF" function

Between ON/OFF (pin6) and -S(pin2)	Output Status
SW ON (Short)	ON
SW OFF (Open)	OFF

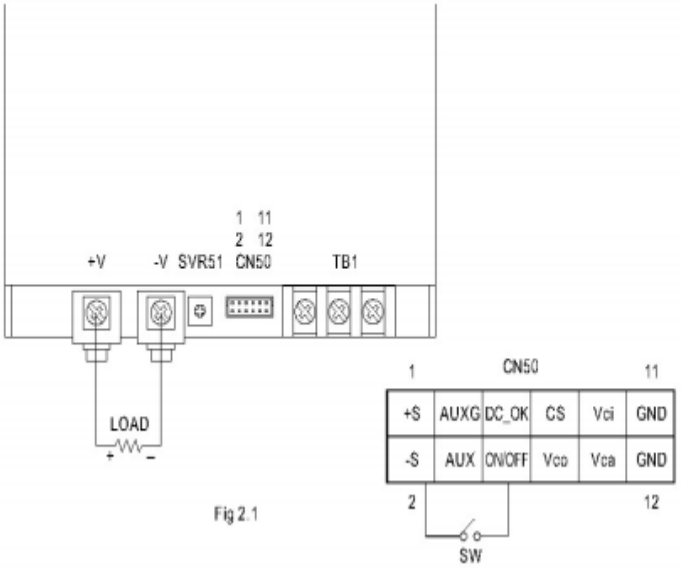

Fig 2.1

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3.DC_OK signal

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

3-1 Sink current :

The maximum sink current is 10mA and the maximum external voltage is 5.6V.

3-2 TTL voltage signal :

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

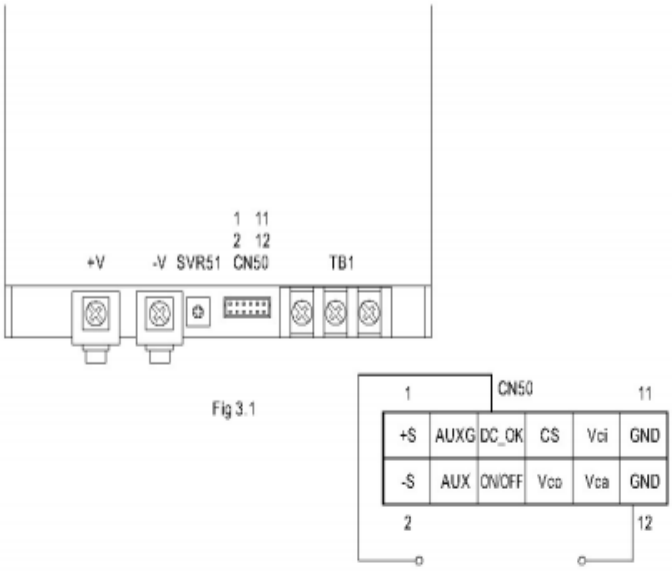

Fig 3.1

4.Remote Sense

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

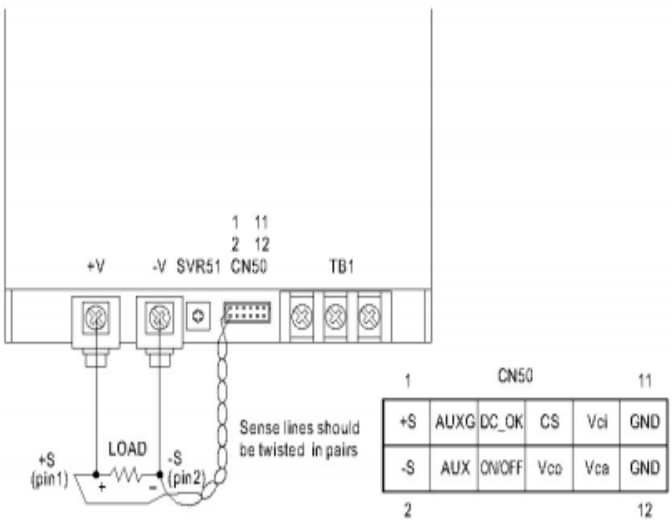

Fig 4.1

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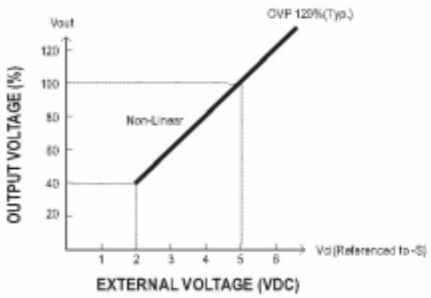
5.Output Voltage TRIM

Output voltage of RSP-1000 can be trimmed between 40% ~ 110% of its rated value by the following methods :

(1)Using external voltage source between "Vci"(pin9) and "-S"(pin2) that is shown in Fig5.1



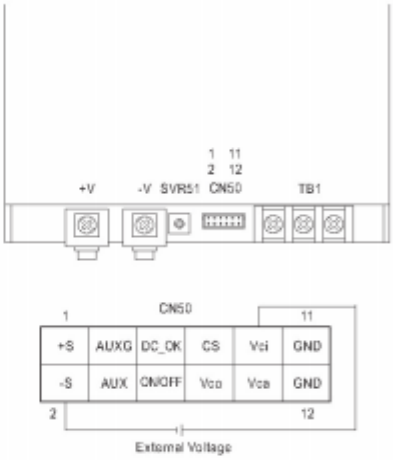
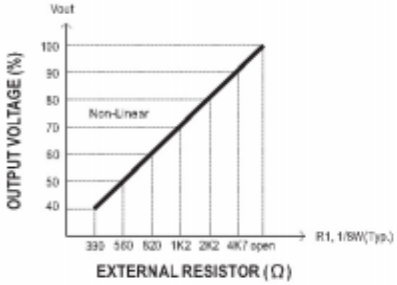


Fig 5.1

(2)Connecting a resistor externally that in shown in Fig 5.2 & Fig 5.3

(A) O/P voltage goes down



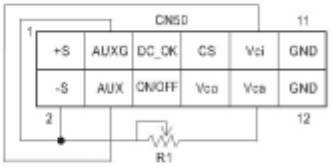
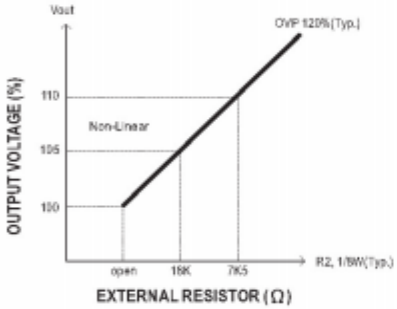


Fig 5.2

(B)O/P voltage goes up



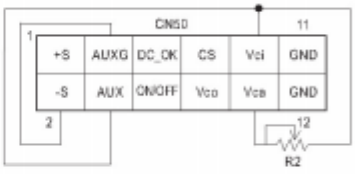


Fig 5.3

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6.Current Sharing with Remote Sensing

RSP-1000 has the built-in active current sharing function and can be connected in parallel to provide higher output power :

(1)Parallel operation is available by connecting the units shown as below.
(+S,-S and CS are connected mutually in parallel).

(2)Difference of output voltages among parallel units should be less than 2%.

(3)The total output current must not exceed the value determined by the following equation.
(output current at parallel operation)=(Rated current per unit)x(Number of unit)x0.9

(4)In parallel operation 3 units is the maximum, please consult the manufacture for other applications.

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

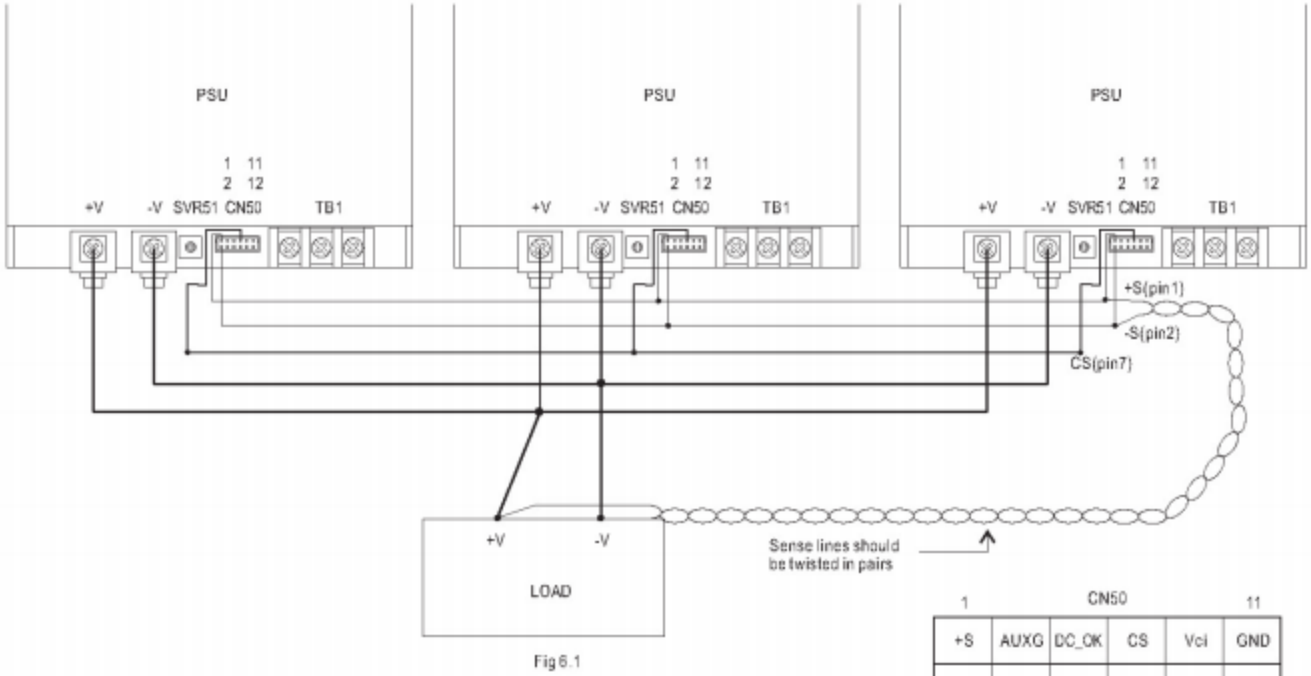

Fig 6.1

Note : In parallel connection, maybe only one unit (master) operate if the total output load is less than 5% of rated load condition.
The other PSUs (slaves) may go into standby mode and their output LEDs will not turn on.

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