



300W Enclosed type single output power supply > HRPG-300



- Features :
 - Universal AC input / Full range
 - Built-in active PFC function, PF>0.95
 - High efficiency up to 89%
 - Withstand 300VAC surge input for 5 seconds
 - Protections: Short circuit / Overload / Over voltage / Over temperature
 - Built-in constant current limiting circuit
 - 1U low profile 41mm
 - Built-in cooling fan ON-OFF control
 - Built-in DC OK signal
 - Built-in remote ON-OFF control
 - Standby 5V@0.3A
 - Built-in remote sense function
 - No load power consumption<0.5W (Note.6)
 - 5 years warranty



SPECIFICATION

MODEL	HRPG-300-3.3	HRPG-300-5	HRPG-300-7.5	HRPG-300-12	HRPG-300-15	HRPG-300-24	HRPG-300-36	HRPG-300-48		
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	15V	24V	36V	48V	
	RATED CURRENT	60A	60A	40A	27A	22A	14A	9A	7A	
	CURRENT RANGE	0 ~ 60A	0 ~ 60A	0 ~ 40A	0 ~ 27A	0 ~ 22A	0 ~ 14A	0 ~ 9A	0 ~ 7A	
	RATED POWER	198W	300W	300W	324W	330W	336W	324W	336W	
	RIPPLE & NOISE (max.) Note.2	80mVp-p	90mVp-p	100mVp-p	120mVp-p	150mVp-p	150mVp-p	250mVp-p	250mVp-p	
	VOLTAGE ADJ. RANGE	2.8 ~ 3.8V	4.3 ~ 5.8V	6.8 ~ 9V	10.2 ~ 13.8V	13.5 ~ 18V	21.6 ~ 28.8V	28.8 ~ 39.6V	40.8 ~ 55.2V	
	VOLTAGE TOLERANCE Note.3	± 2.5%	± 2.0%	± 2.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	
	LINE REGULATION	± 0.5%	± 0.5%	± 0.5%	± 0.3%	± 0.3%	± 0.2%	± 0.2%	± 0.2%	
	LOAD REGULATION	± 1.0%	± 1.0%	± 1.0%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	
	SETUP, RISE TIME	1000ms, 50ms/230VAC		2500ms, 50ms/115VAC at full load						
HOLD UP TIME (Typ.)	16ms/230VAC		16ms/115VAC at full load							
INPUT	VOLTAGE RANGE Note.5	85 ~ 264VAC		120 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF>0.95/230VAC		PF>0.99/115VAC at full load						
	EFFICIENCY (Typ.)	80%	82%	86%	88%	88%	87%	88%	89%	
	AC CURRENT (Typ.)	3.5A/115VAC		1.8A/230VAC						
	INRUSH CURRENT (Typ.)	35A/115VAC		70A/230VAC						
	LEAKAGE CURRENT	<1.2mA / 240VAC								
PROTECTION	OVERLOAD	105 ~ 135% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed								
	OVER VOLTAGE	3.96 ~ 4.62V	6 ~ 7V	9.4 ~ 10.9V	14.4 ~ 16.8V	18.8 ~ 21.8V	30 ~ 34.8V	41.4 ~ 48.6V	57.6 ~ 67.2V	
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down								
FUNCTION	5V STANDBY	5VSB : 5V@0.3A ; tolerance ±5%, ripple : 50mVp-p(max.)								
	DC OK SIGNAL	PSU turns on : 3.3 ~ 5.6V ; PSU turns off : 0 ~ 1V								
	REMOTE CONTROL	RC+ / RC- : 4 ~ 10V or open = power on ; 0 ~ 0.8V or short = power off								
	FAN CONTROL (Typ.)	Load 35±15% or RTH2≥50°C Fan on								
ENVIRONMENT	WORKING TEMP.	-40 ~ +70°C (Refer to "Derating Curve")								
	WORKING HUMIDITY	20 ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C , 10 ~ 95% RH								
	TEMP. COEFFICIENT	± 0.03%/°C (0 ~ 50°C)								
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes								
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL62368-1, TUV EN62368-1, 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°C / 70% RH								
	EMC EMISSION	Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020								
OTHERS	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-2, heavy industry level, criteria A, EAC TP TC 020								
	MTBF	176K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	199*105*41mm (L*W*H)								
NOTE	PACKING	0.95Kg;15pcs/15.3Kg/0.79CUFT								
		1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. 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." 5. Derating may be needed under low input voltages. Please check the derating curve for more details. 6. No load power consumption<0.5W when RC- & RC+ (CN100 pin4,6) 0 ~ 0.8V or short. 7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).								



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Mechanical Specification

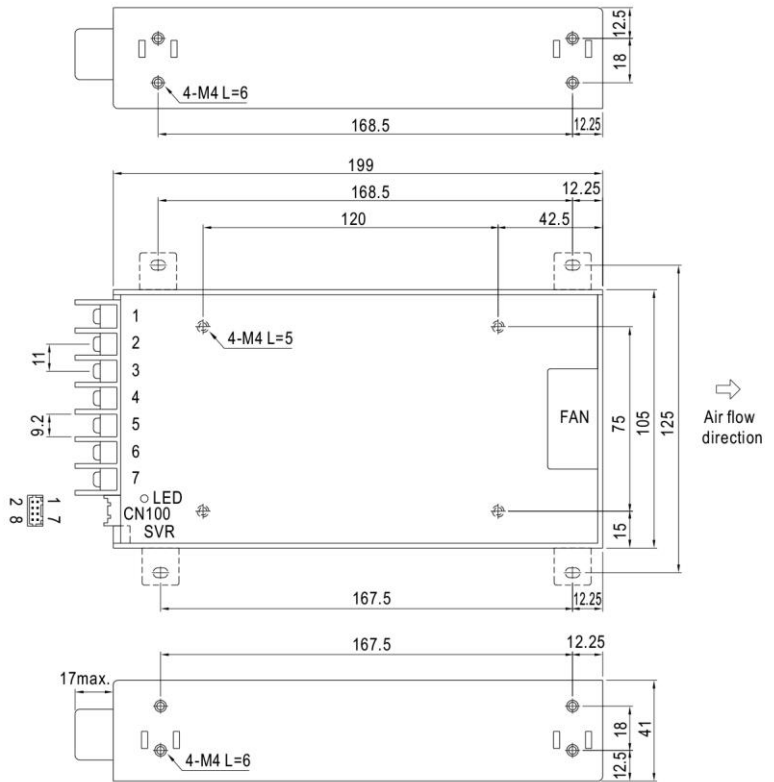
Case No.980A Unit:mm

Terminal Pin No. Assignment

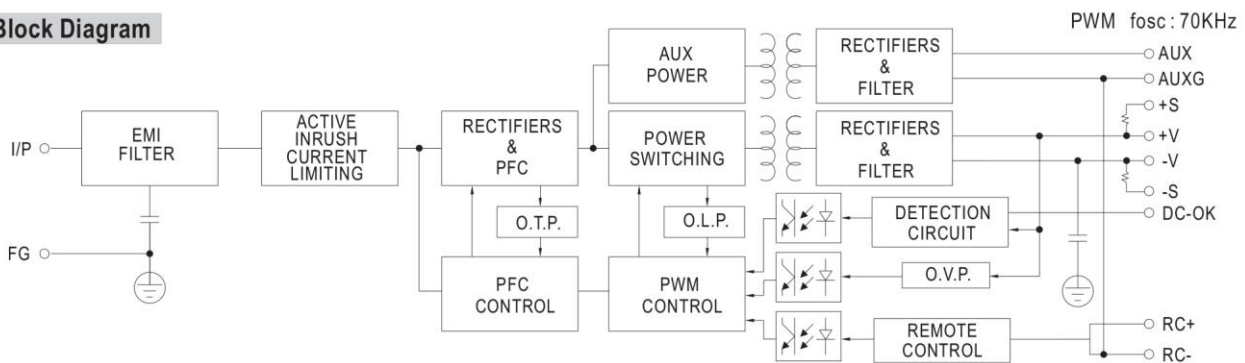
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4,5	DC OUTPUT -V
2	AC/N	6,7	DC OUTPUT +V
3	FG \perp		

Connector Pin No. Assignment (CN100) :
 HRS DF11-8DP-2DS or equivalent

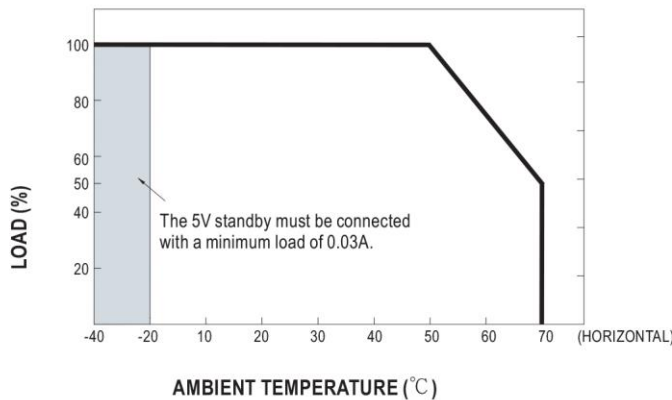
Pin No.	Assignment	Mating Housing	Terminal
1	AUX	HRS DF11-8DS or equivalent	HRS DF11-8SC or equivalent
2	AUXG		
3	DC-OK		
4	RC-		
5	GND		
6	RC+		
7	+S		
8	-S		



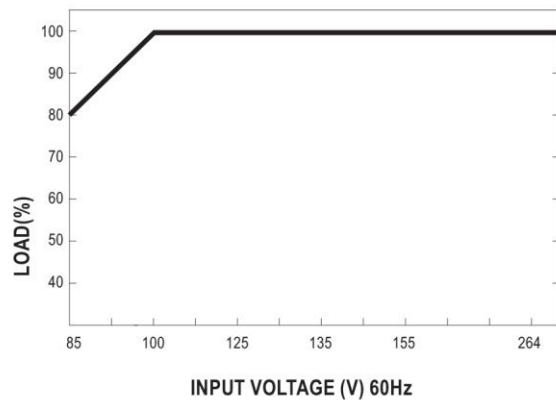
Block Diagram



Derating Curve



Output Derating VS Input Voltage



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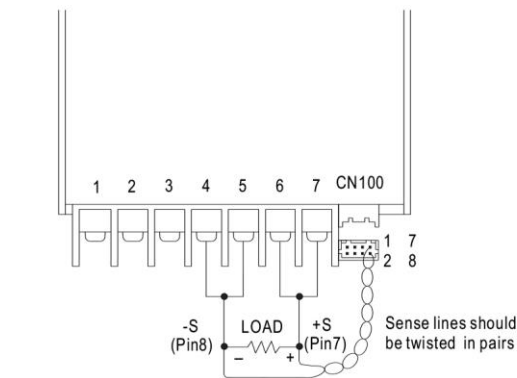
Function Description of CN100

Pin No.	Function	Description
1	AUX	Auxiliary voltage output, 4.75~5.25V, reference to pin 2(AUXG). The maximum load current is 0.3A. This output is not controlled by the "remote ON/OFF control".
2	AUXG	Auxiliary voltage output ground. The signal return is isolated from the output terminals (+V & -V).
3	DC-OK	DC-OK signal is a TTL level signal, referenced to pin5(DC-OK GND). High when PSU turns on.
4	RC-	Remote control ground.
5	GND	This pin connects to the negative terminal(-V). Return for DC-OK signal output.
6	RC+	Turns the output on and off by electrical or dry contact between pin 4 (RC-), Short: Power OFF, Open: Power ON.
7	+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.
8	-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.

Function Manual

1. Remote Sense

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



CN100

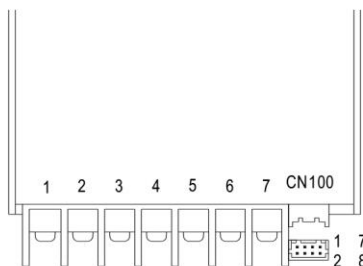
1	AUX	DC-OK	GND	+S	7
2	AUXG	RC-	RC+	-S	8

Fig 1.1

2. DC-OK Signal

DC-OK signal is a TTL level signal. High when PSU turns on.

Between DC-OK(pin3) and GND(pin5)	Output Status
3.3 ~ 5.6V	ON
0 ~ 1V	OFF



CN100

1	AUX	DC-OK	GND	+S	7
2	AUXG	RC-	RC+	-S	8

Fig 2.1



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3.Remote Control

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

Between RC+(pin6) and RC-(pin4)	Output Status
SW ON (Short)	OFF
SW OFF (Open)	ON

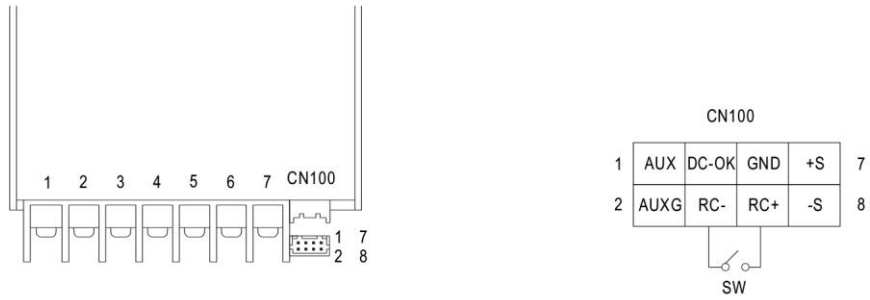


Fig 3.1