



200W Single Output with PFC Function

HSP-200 series



■ Features :

- Universal AC input / Full range
- Built-in active PFC function
- Low leakage current < 1.0mA
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Low profile: 31mm
- Conformal coated
- LED indicator for power on
- 3 years warranty

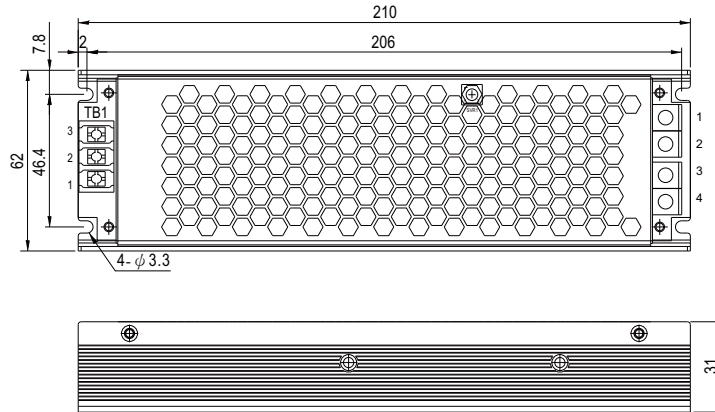


SPECIFICATION

MODEL		HSP-200-4.2	HSP-200-5
OUTPUT	DC VOLTAGE	4.2V	5V
	RATED CURRENT	40A	40A
	CURRENT RANGE	0 ~ 40A	0 ~ 40A
	RATED POWER (convection)	168W	200W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	3.6~4.4V	4.5~5.5V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%
	SETUP, RISE TIME	2000ms, 200ms/230VAC 3000ms, 200ms/115VAC 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.)	PF ≥ 0.95/230VAC PF ≥ 0.98/115VAC at full load	
	EFFICIENCY (Typ.)	88%	88.5%
	AC CURRENT (Typ.)	2.5A/115VAC 1.5A/230VAC	3.0A/115VAC 2.0A/230VAC
	INRUSH CURRENT (Typ.)	Cold start 70A/230VAC	
LEAKAGE CURRENT	< 1.0mA / 240VAC		
PROTECTION	OVERLOAD	110~140% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed	
	SHORT CIRCUIT	Protection type : Hiccup mode, recovers automatically after fault condition is removed	
	OVER VOLTAGE	4.6 ~ 5.4V Protection type : Hiccup mode, recovers automatically after fault condition is removed	5.6 ~ 7.0V
	OVER TEMPERATURE	Shut down O/P voltage, recovers automatically after fault condition is removed	
ENVIRONMENT	WORKING TEMP.	-30 ~ +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 ~ 60°C)	
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes	
SAFETY & EMC (Note 5)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved	
	WITHSTAND VOLTAGE	I/P-O/P: 3.0KVAC 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 EN55022 (CISPR22) Class B, EN61000-3-3	
EMC IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; EN55024, light industry level (surge 4KV), criteria A		
OTHERS	MTBF	204K hrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	210*62*31mm (L*W*H)	
	PACKING	0.52kg; 20pcs/ 11.4kg/0.76CUFT	
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : line regulation and load regulation. 4. Derating may be needed under low input voltages. Please check the static characteristics for more details. 5. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time. 6. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.		

■ Mechanical Specification

CASE NO.: 232B Unit:mm



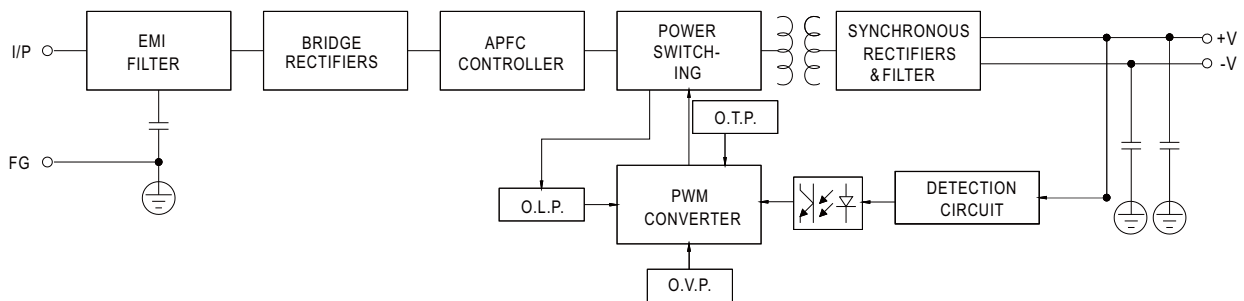
AC Input Terminal(TB1) pin NO. Assignment

Pin No.	Assignment	Terminal
1	AC/L	DG28C-B-03P
2	AC/N	
3	⊥	

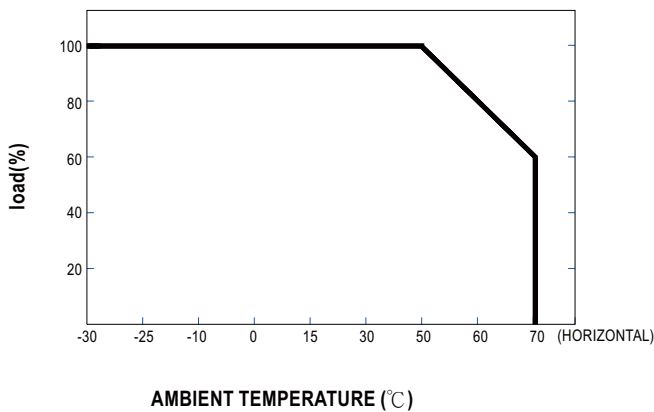
DC Output Terminal pin NO. Assignment

Pin No.	Assignment	Terminal
1,2	-V	K14-20A(H)
3,4	+V	

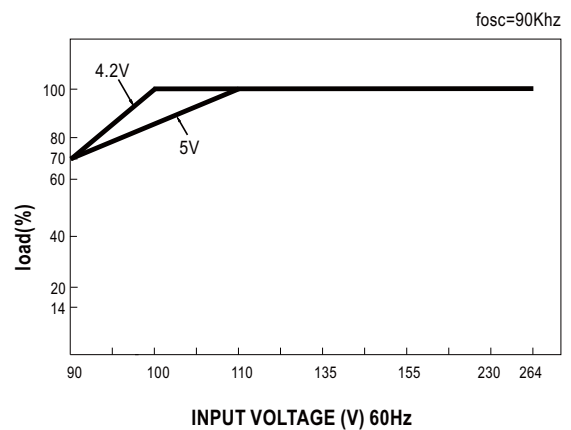
■ Block Diagram



■ Derating Curve



■ Static Characteristics





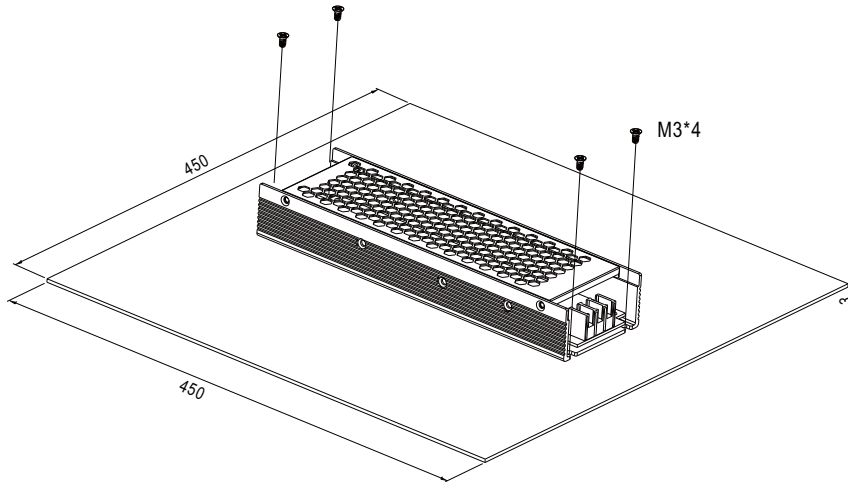
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■ Installation

1. Operate with additional aluminum plate

In order to meet the "Derating Curve" and the "Static Characteristics", HSP-200 series must be installed onto an aluminum plate (or the cabinet of the same size) on the bottom. The size of the suggested aluminum plate is shown as below. And for optimizing thermal performance, the aluminum plate must have an even and smooth surface (or coated with thermal grease), and HSP-200 series must be firmly mounted at the center of the aluminum plate.



2. For heat dissipation, at least 5cm installation distance around the PSU should be kept, shown as below:

