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200W Enclosed type single output power supply > HRPG-200



■ 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
- Cooling by free air convection
- Built-in constant current limiting circuit
- 1U low profile 38mm
- 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

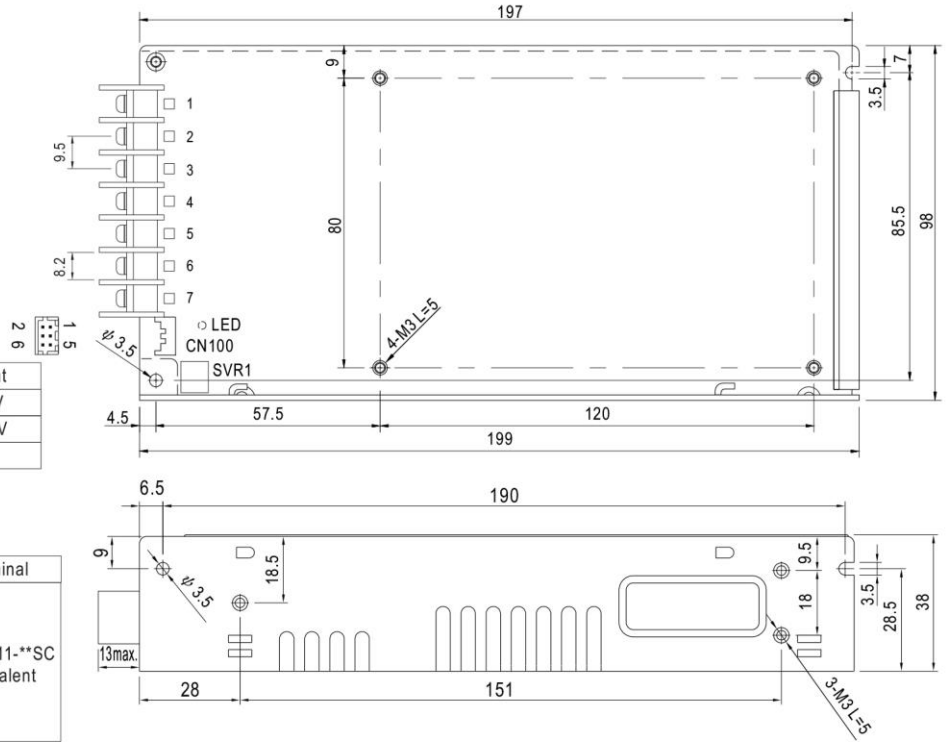
| MODEL | HRPG-200-3.3 | HRPG-200-5 | HRPG-200-7.5 | HRPG-200-12 | HRPG-200-15 | HRPG-200-24 | HRPG-200-36 | HRPG-200-48 | | |
|-----------------------|------------------------------|---|--------------------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--|
| OUTPUT | DC VOLTAGE | 3.3V | 5V | 7.5V | 12V | 15V | 24V | 36V | 48V | |
| | RATED CURRENT | 40A | 35A | 26.7A | 16.7A | 13.4A | 8.4A | 5.7A | 4.3A | |
| | CURRENT RANGE | 0 ~ 40A | 0 ~ 35A | 0 ~ 26.7A | 0 ~ 16.7A | 0 ~ 13.4A | 0 ~ 8.4A | 0 ~ 5.7A | 0 ~ 4.3A | |
| | RATED POWER | 132W | 175W | 200.3W | 200.4W | 201W | 201.6W | 205.2W | 206.4W | |
| | 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 | ±2.0% | ±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 | ±1.5% | ±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% | 84% | 86% | 88% | 88% | 88% | 89% | 89% | |
| | AC CURRENT (Typ.) | 2.1A/115VAC | | 1.1A/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 Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | |
| FUNCTION | 5V STANDBY | 5VSB : 5V@0.3A ; tolerance ±5%, ripple : 50mVp-p(max.) | | | | | | | | |
| | REMOTE CONTROL | RC+/RC- : 4 ~ 10V or open = power on ; 0 ~ 0.8V or short = power off | | | | | | | | |
| 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, heavy industry level, criteria A, EAC TP TC 020 | | | | | | | | |
| | MTBF | 189.1K hrs min. MIL-HDBK-217F (25°C) | | | | | | | | |
| | DIMENSION | 199*98*38mm (L*W*H) | | | | | | | | |
| NOTE | PACKING | 0.77Kg; 18pcs/14.9Kg/0.87CUFT | | | | | | | | |
| | NOTE | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. 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 pin1,2) 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.902E Unit:mm



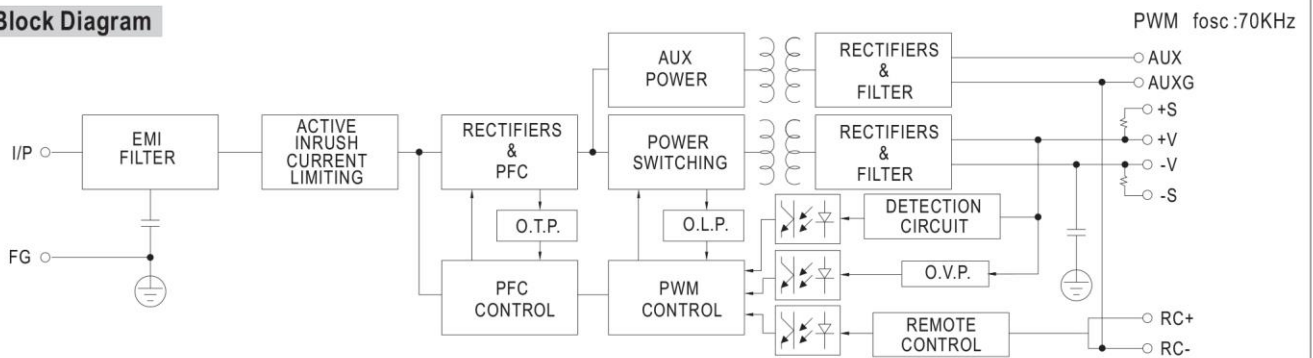
Terminal Pin No. Assignment

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

Connector Pin No. Assignment (CN100) :
 HRS DF11-6DP-2DS or equivalent

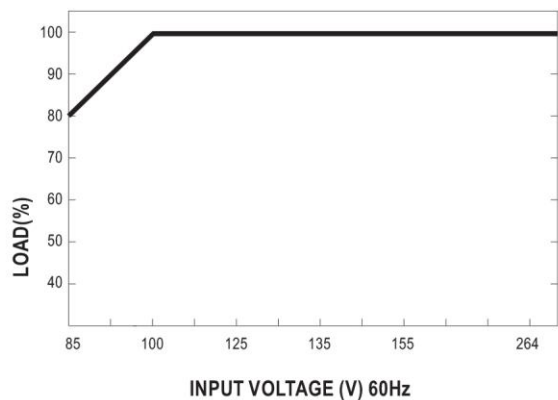
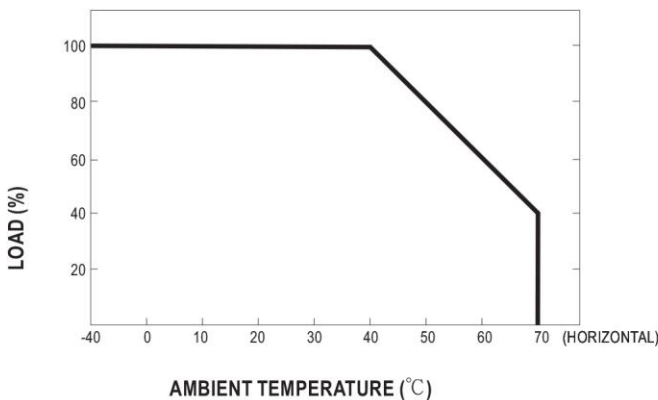
| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|----------------------------|-----------------------------|
| 1 | RC+ | HRS DF11-6DS or equivalent | HRS DF11-**SC or equivalent |
| 2 | RC- | | |
| 3 | AUX | | |
| 4 | AUXG | | |
| 5 | +S | | |
| 6 | -S | | |

Block Diagram



Derating Curve

Output Derating VS Input Voltage



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Function Description of CN100

| Pin No. | Function | Description |
|---------|----------|---|
| 1 | RC+ | Turns the output on and off by electrical or dry contact between pin 2 (RC-). Short: Power OFF, Open: Power ON. |
| 2 | RC- | Remote control ground. |
| 3 | AUX | Auxiliary voltage output, 4.75~5.25V, reference to pin 4(AUXG). The maximum load current is 0.3A. This output is not controlled by the "remote ON/OFF control". |
| 4 | AUXG | Auxiliary voltage output ground. The signal return is isolated from the output terminals (+V & -V). |
| 5 | +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. |
| 6 | -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 Control

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

| Between RC-(pin2) and RC+(pin1) | Output Status |
|---------------------------------|---------------|
| SW ON (Short) | OFF |
| SW OFF (Open) | ON |

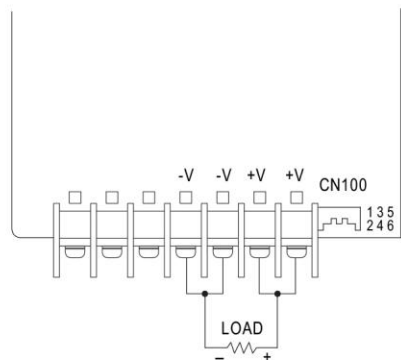
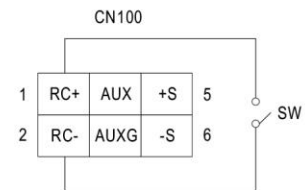


Fig 1.1



2. Remote Sense

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

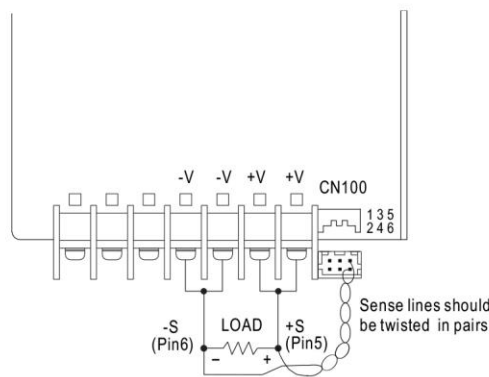


Fig 2.1

