



## 100W Single Output with PFC Function

# HRP-100 series



### ■ Features :

- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 90%
- Withstand 300VAC surge input for 5 seconds
- Protections: Short circuit / Overload / Over voltage
- Protections: Over temperature (optional)
- Cooling by free air convection
- 1U low profile 38mm
- Built-in remote ON-OFF control
- No load power consumption<0.5W
- All using 105°C long life electrolytic capacitors
- 5 years warranty



UL62368-1

EN62368-1

TPTC004 IEC62368-1

### SPECIFICATION

| MODEL                    |                                             | HRP-100-3.3                                                                                                                                                             | HRP-100-5   | HRP-100-7.5 | HRP-100-12   | HRP-100-15   | HRP-100-24   | HRP-100-36   | HRP-100-48   |
|--------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| OUTPUT                   | DC VOLTAGE                                  | 3.3V                                                                                                                                                                    | 5V          | 7.5V        | 12V          | 15V          | 24V          | 36V          | 48V          |
|                          | RATED CURRENT                               | 20A                                                                                                                                                                     | 17A         | 13.5A       | 8.5A         | 7A           | 4.5A         | 2.9A         | 2.2A         |
|                          | CURRENT RANGE                               | 0 ~ 20A                                                                                                                                                                 | 0 ~ 17A     | 0 ~ 13.5A   | 0 ~ 8.5A     | 0 ~ 7A       | 0 ~ 4.5A     | 0 ~ 2.9A     | 0 ~ 2.2A     |
|                          | RATED POWER                                 | 66W                                                                                                                                                                     | 85W         | 101.3W      | 102W         | 105W         | 108W         | 104.4W       | 105.6W       |
|                          | RIPPLE & NOISE (max.) <small>Note.2</small> | 80mVp-p                                                                                                                                                                 | 80mVp-p     | 100mVp-p    | 120mVp-p     | 150mVp-p     | 150mVp-p     | 200mVp-p     | 240mVp-p     |
|                          | VOLTAGE ADJ. RANGE                          | 3.1 ~ 3.8V                                                                                                                                                              | 4.75 ~ 5.8V | 7.1 ~ 9V    | 11.4 ~ 13.8V | 14.25 ~ 18V  | 22.8 ~ 28.8V | 34.2 ~ 39.6V | 45.6 ~ 55.2V |
|                          | VOLTAGE TOLERANCE <small>Note.3</small>     | +2.5,-3.5%                                                                                                                                                              | ±2.5%       | ±2.5%       | ±1.5%        | ±1.5%        | ±1.5%        | ±1.5%        | ±1.5%        |
|                          | LINE REGULATION                             | ±0.5%                                                                                                                                                                   | ±0.5%       | ±0.5%       | ±0.3%        | ±0.3%        | ±0.2%        | ±0.2%        | ±0.2%        |
|                          | LOAD REGULATION                             | ±2.0%                                                                                                                                                                   | ±2.0%       | ±1.5%       | ±0.8%        | ±0.8%        | ±0.5%        | ±0.5%        | ±0.5%        |
|                          | SETUP, RISE TIME                            | 2500ms, 100ms/230VAC      2500ms, 100ms/115VAC at full load                                                                                                             |             |             |              |              |              |              |              |
| HOLD UP TIME (Typ.)      | 50ms/230VAC      20ms/115VAC at full load   |                                                                                                                                                                         |             |             |              |              |              |              |              |
| INPUT                    | VOLTAGE RANGE <small>Note.5</small>         | 85 ~ 264VAC      120 ~ 370VDC                                                                                                                                           |             |             |              |              |              |              |              |
|                          | FREQUENCY RANGE                             | 47 ~ 63Hz                                                                                                                                                               |             |             |              |              |              |              |              |
|                          | POWER FACTOR (Typ.)                         | PF>0.95/230VAC      PF>0.98/115VAC at full load                                                                                                                         |             |             |              |              |              |              |              |
|                          | EFFICIENCY (Typ.)                           | 78%                                                                                                                                                                     | 83%         | 84%         | 87.5%        | 88%          | 88.5%        | 89%          | 90%          |
|                          | AC CURRENT (Typ.)                           | 1.1A/115VAC      0.6A/230VAC                                                                                                                                            |             |             |              |              |              |              |              |
|                          | INRUSH CURRENT (Typ.)                       | 35A/115VAC      65A/230VAC                                                                                                                                              |             |             |              |              |              |              |              |
|                          | LEAKAGE CURRENT                             | <1mA / 240VAC                                                                                                                                                           |             |             |              |              |              |              |              |
| PROTECTION               | OVERLOAD                                    | 105 ~ 135% rated output power<br>Protection type : Constant current limiting for Vo=50 ~ 100% of rated voltage, 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 |
|                          |                                             | 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                 | REMOTE CONTROL                              | RC+/RC- : 0 ~ 0.8V= power on ; 4 ~ 10V = power off                                                                                                                      |             |             |              |              |              |              |              |
| ENVIRONMENT              | WORKING TEMP.                               | -40 ~ +60℃ (Refer to "Derating Curve")                                                                                                                                  |             |             |              |              |              |              |              |
|                          | WORKING HUMIDITY                            | 20 ~ 90% RH non-condensing                                                                                                                                              |             |             |              |              |              |              |              |
|                          | STORAGE TEMP., HUMIDITY                     | -40 ~ +85℃, 10 ~ 95% RH                                                                                                                                                 |             |             |              |              |              |              |              |
|                          | TEMP. COEFFICIENT                           | ±0.04%/℃ (0 ~ 50℃ )                                                                                                                                                     |             |             |              |              |              |              |              |
|                          | VIBRATION                                   | 10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes                                                                                                            |             |             |              |              |              |              |              |
| SAFETY & EMC<br>(Note 4) | SAFETY STANDARDS                            | UL62368-1,TUV EN62368-1, 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                                | Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020                                                                                                  |             |             |              |              |              |              |              |
|                          | 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                                                           |             |             |              |              |              |              |              |
| OTHERS                   | MTBF                                        | 295.7K hrs min.      MIL-HDBK-217F (25℃)                                                                                                                                |             |             |              |              |              |              |              |
|                          | DIMENSION                                   | 159*97*38mm (L*W*H)                                                                                                                                                     |             |             |              |              |              |              |              |
|                          | PACKING                                     | 0.56Kg; 24pcs/15Kg/0.76CUFT                                                                                                                                             |             |             |              |              |              |              |              |

## Mechanical Specification

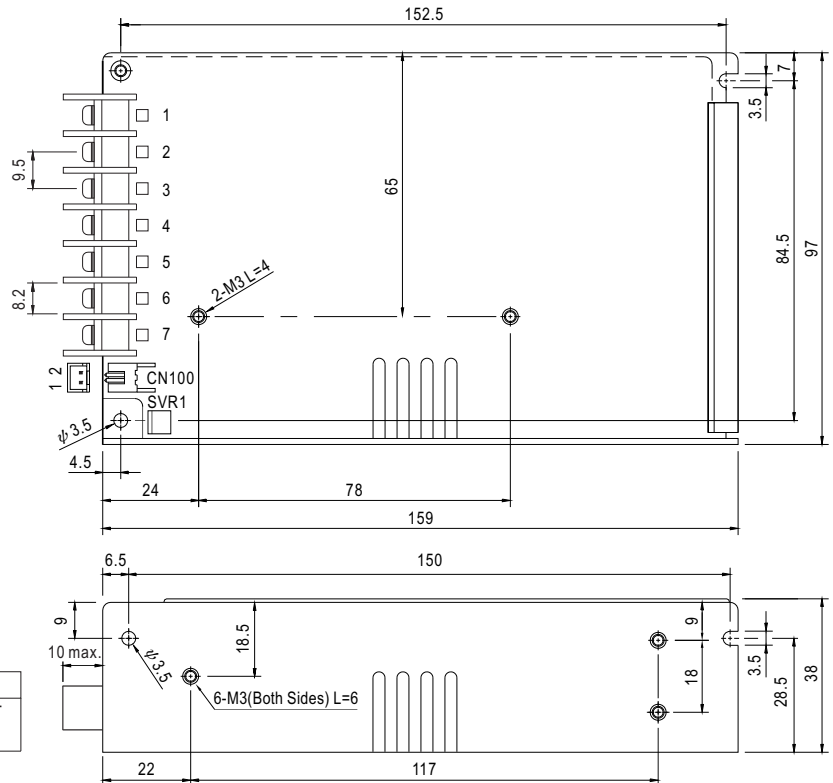
Case No.901I Unit:mm

Terminal Pin No. Assignment

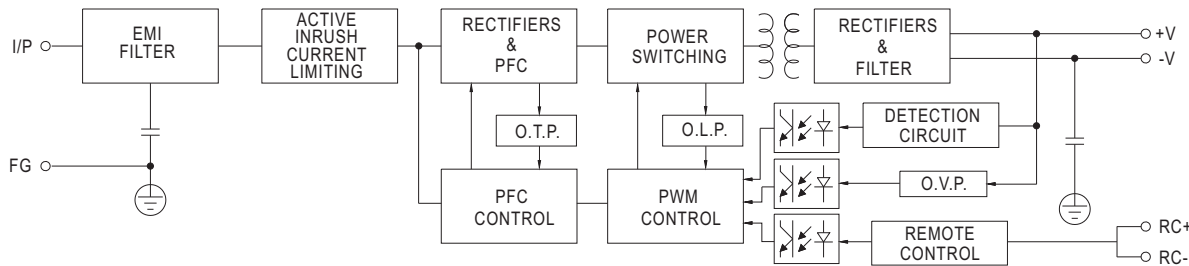
| Pin No. | Assignment | Pin No. | Assignment   |
|---------|------------|---------|--------------|
| 1       | AC/L       | 4,5     | DC OUTPUT -V |
| 2       | AC/N       | 6,7     | DC OUTPUT +V |
| 3       | FG         |         |              |

Remote ON/OFF (CN100) : JST B-XH or equivalent

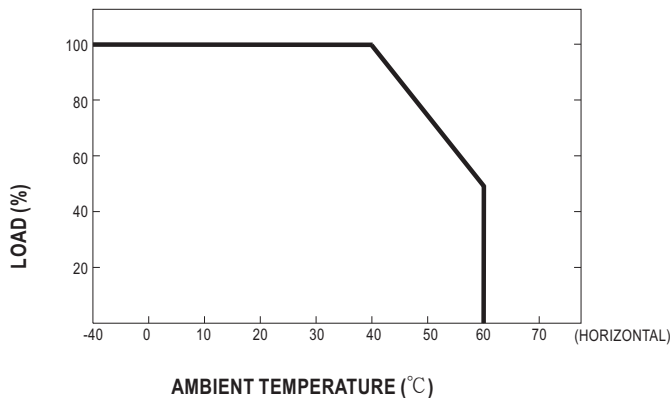
| Pin No. | Assignment | Mating Housing        | Terminal                   |
|---------|------------|-----------------------|----------------------------|
| 1       | RC-        | JST XHP or equivalent | JST SXH-001T or equivalent |
| 2       | RC+        |                       |                            |



## Block Diagram



## Derating Curve



## Output Derating VS Input Voltage

