



## 200W Slim Type with PFC Switching Power Supply

## UHP-200 series



User's Manual



Video



### Features

- Slim and Low profile (26mm)
- Fanless design, 200W convection
- Withstand 300VAC surge input for 5 seconds
- Built-in active PFC function
- -30~+70°C working temperature
- Protections: Short circuit / Overload / Over voltage / Over temperature
- DC OK active signal and redundant function(option)
- Operating altitude up to 5000 meter (Note.5)
- LED indicator for power on
- 3 years warranty

### Applications

- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus
- Household appliances
- LED display application
- Power Source Equipment for PoE(55V model)

### GTIN CODE

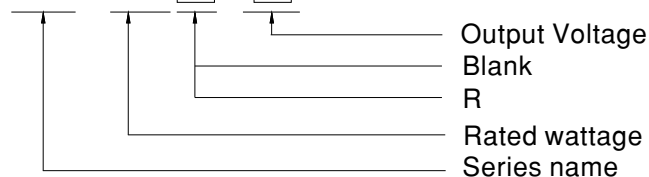
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

### Description

UHP-200 series is a 200W single-output slim type power supply with 26mm of low profile design. Adopting the full range 90~264VAC input, the entire series provides an output voltage line of 3.3V, 4.2V, 5V, 12V, 15V, 24V, 36V, 48V and 55V. In addition to the high efficiency up to 94%, that the whole series operates from -30°C ~ 70°C under air convection without fan. UHP-200 has the complete protection functions and 5G anti-vibration capability; It is complied with the international safety regulations such as TUV BS EN/EN62368-1, BS EN/EN60335-1, UL 62368-1 and GB4943. UHP-200 series serves as a high performance power supply solution for various industrial applications.

### Model Encoding

UHP - 200   - 5



| Type  | Description                                          | Note     |
|-------|------------------------------------------------------|----------|
| Blank | Enclosed                                             | In Stock |
| R     | Built-in DC OK active signal and redundant function. | In Stock |



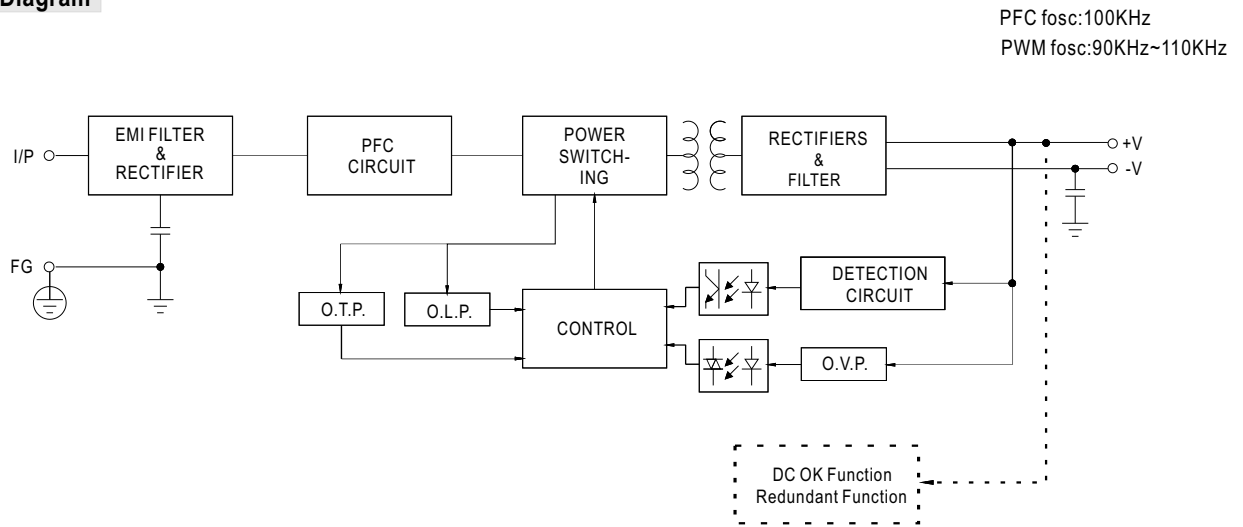
## 200W Slim Type with PFC Switching Power Supply

## UHP-200 series

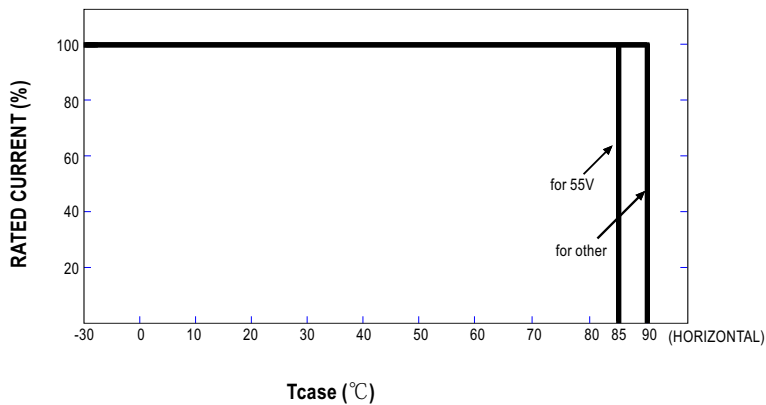
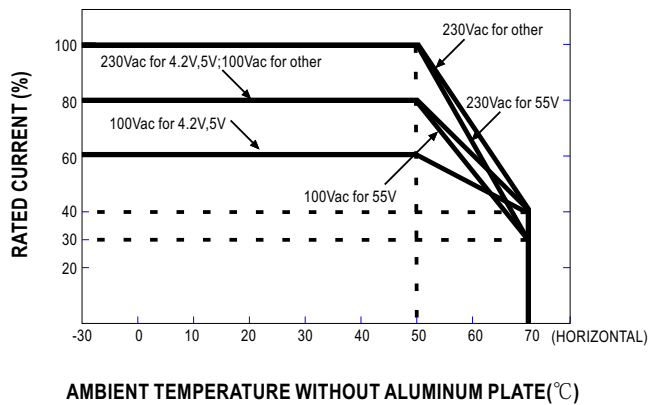
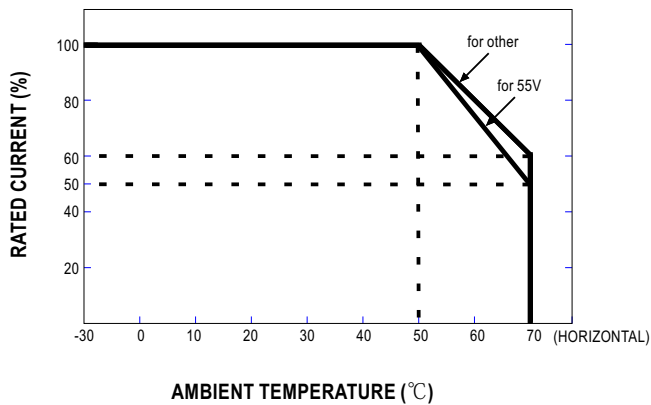
## SPECIFICATION

| MODEL                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | UHP-200□-3.3                                                                                                                                                                                                      | UHP-200□-4.2 | UHP-200□-5   | UHP-200□-12  | UHP-200□-15  | UHP-200□-24  | UHP-200□-36 | UHP-200□-48  | UHP-200□-55 |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|-------------|
| OUTPUT                | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3.3V                                                                                                                                                                                                              | 4.2V         | 5V           | 12V          | 15V          | 24V          | 36V         | 48V          | 55V         |
|                       | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 40A                                                                                                                                                                                                               | 40A          | 40A          | 16.7A        | 13.4A        | 8.4A         | 5.6A        | 4.2A         | 3.6A        |
|                       | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 132W                                                                                                                                                                                                              | 168W         | 200W         | 200.4W       | 201W         | 201.6W       | 201.6W      | 201.6W       | 201.6W      |
|                       | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 150mVp-p                                                                                                                                                                                                          | 150mVp-p     | 200mVp-p     | 240mVp-p     | 240mVp-p     | 240mVp-p     | 240mVp-p    | 300mVp-p     | 360mVp-p    |
|                       | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3.2~3.5V                                                                                                                                                                                                          | 3.6~4.4V     | 4.5~5.5V     | 11.4~12.6V   | 14.3~15.8V   | 22.8~25.2V   | 34.2~37.8V  | 45.6~50.4V   | 45~58V      |
|                       | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ±2.0%                                                                                                                                                                                                             | ±2.0%        | ±2.0%        | ±1.0%        | ±1.0%        | ±1.0%        | ±1.0%       | ±1.0%        | ±1.0%       |
|                       | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ±0.5%                                                                                                                                                                                                             | ±0.5%        | ±0.5%        | ±0.3%        | ±0.3%        | ±0.3%        | ±0.3%       | ±0.3%        | ±0.3%       |
|                       | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ±1.0%                                                                                                                                                                                                             | ±1.0%        | ±1.0%        | ±0.5%        | ±0.5%        | ±0.5%        | ±0.5%       | ±0.5%        | ±0.5%       |
|                       | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2000ms, 80ms/230VAC; 3000ms, 80ms/115VAC at full load;550ms/230VAC for 55V setup time                                                                                                                             |              |              |              |              |              |             |              |             |
|                       | HOLD UP TIME (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 10ms/230VAC 10ms/115VAC                                                                                                                                                                                           |              |              |              |              |              |             |              |             |
| INPUT                 | VOLTAGE RANGE Note.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 90 ~ 264VAC 127 ~ 370VDC                                                                                                                                                                                          |              |              |              |              |              |             |              |             |
|                       | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 47 ~ 63Hz                                                                                                                                                                                                         |              |              |              |              |              |             |              |             |
|                       | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | PF≥0.94/230VAC PF≥0.98/115VAC at full load                                                                                                                                                                        |              |              |              |              |              |             |              |             |
|                       | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 89%                                                                                                                                                                                                               | 90%          | 91%          | 93%          | 94%          | 94%          | 94%         | 94%          | 94%         |
|                       | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2.2A/115VAC 1.1A/230VAC                                                                                                                                                                                           |              |              |              |              |              |             |              |             |
|                       | INRUSH CURRENT (Typ.)Note.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Cold start 40A/115VAC 80A/230VAC                                                                                                                                                                                  |              |              |              |              |              |             |              |             |
|                       | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <0.75mA / 240VAC                                                                                                                                                                                                  |              |              |              |              |              |             |              |             |
| PROTECTION            | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 110~140% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed                                                                                             |              |              |              |              |              |             |              |             |
|                       | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.8~ 4.6V                                                                                                                                                                                                         | 4.62 ~ 5.46V | 5.75 ~ 6.75V | 13.2 ~ 15.6V | 16.5 ~ 19.5V | 26.4 ~ 31.2V | 39.6 ~46.8V | 52.8 ~ 62.4V | 60 ~ 69V    |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Protection type : Shut down O/P voltage, re-power on to recover                                                                                                                                                   |              |              |              |              |              |             |              |             |
|                       | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Protection type : Shut down O/P voltage or Hiccup mode, recovers automatically after temperature goes down                                                                                                        |              |              |              |              |              |             |              |             |
| FUNCTION              | DC OK SIGNAL(Optional)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Contact rating(max.):15Vdc/10mA resistive load                                                                                                                                                                    |              |              |              |              |              |             |              |             |
|                       | REDUNDANT(Optional)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | For parallel connection protection:For parallel applications, when one PSU can not work , the another one will be automatically enabled. This can prevent the system crash, and provide the reliability of system |              |              |              |              |              |             |              |             |
| ENVIRONMENT           | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -30 ~ +70℃ (Refer to "Derating Curve")                                                                                                                                                                            |              |              |              |              |              |             |              |             |
|                       | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 20 ~ 95% RH non-condensing                                                                                                                                                                                        |              |              |              |              |              |             |              |             |
|                       | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | -40 ~ +85℃, 10 ~ 95% RH non-condensing                                                                                                                                                                            |              |              |              |              |              |             |              |             |
|                       | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ±0.03%/℃ (0 ~ 50℃ )                                                                                                                                                                                               |              |              |              |              |              |             |              |             |
|                       | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes                                                                                                                                                      |              |              |              |              |              |             |              |             |
| SAFETY & EMC (Note.6) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | UL 62368-1,TUV BS EN/EN62368-1,BS EN/EN60335-1(Except for 55V), CCC GB4943, EAC TP TC 004, BS EN/EN61558-1,BS EN/EN61558-2-16,BSMI CNS14336-1 approved                                                            |              |              |              |              |              |             |              |             |
|                       | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.25KVAC                                                                                                                                                                     |              |              |              |              |              |             |              |             |
|                       | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | I/P-O/P, I/P-FG,O/P-FG:100M Ohms/500VDC/25℃ / 70%RH                                                                                                                                                               |              |              |              |              |              |             |              |             |
|                       | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compliance to BS EN/EN55032,GB9254,Class B, BS EN/EN55014,BS EN/EN61000-3-2,-3,EAC TP TC 020,BSMI CNS13438                                                                                                        |              |              |              |              |              |             |              |             |
|                       | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11;BS EN/EN61000-6-2 (BS EN/EN50082-2),BS EN/EN55035, heavy industry level ,EAC TP TC 020                                                                               |              |              |              |              |              |             |              |             |
| OTHERS                | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2472.1 K hrs min. Telcordia SR-332 (Bellcore) ; 257.0K hrs min. MIL-HDBK-217F (25℃)                                                                                                                               |              |              |              |              |              |             |              |             |
|                       | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 194*55*26mm (L*W*H)                                                                                                                                                                                               |              |              |              |              |              |             |              |             |
|                       | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.468kg;24pcs/12.2kg/0.49CUFT                                                                                                                                                                                     |              |              |              |              |              |             |              |             |
| NOTE                  | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance :includes set up tolerance, line regulation and load regulation.<br>4. Derating may be needed under low input voltages. Please check the derating curve for more details.<br>5. The ambient temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m(6500ft)<br>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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)<br>7. R type efficiency slightly less than the Blank type, according to the actual measurement.<br>8. Inrush current parameter has 10% tolerance .<br>9. RCM is on voluntary basis and meets relevant IEC or AS/NZS standards complying with AS/NZS 4417.1.<br>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx |                                                                                                                                                                                                                   |              |              |              |              |              |             |              |             |

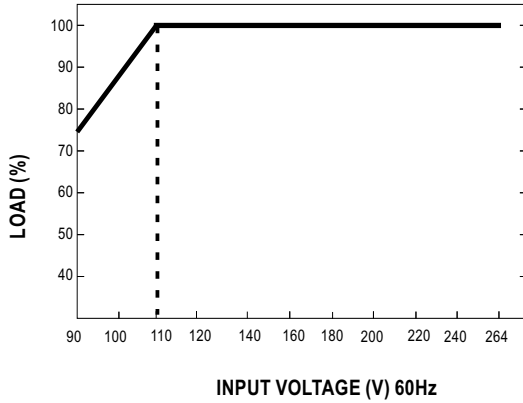
## Block Diagram



## Derating Curve



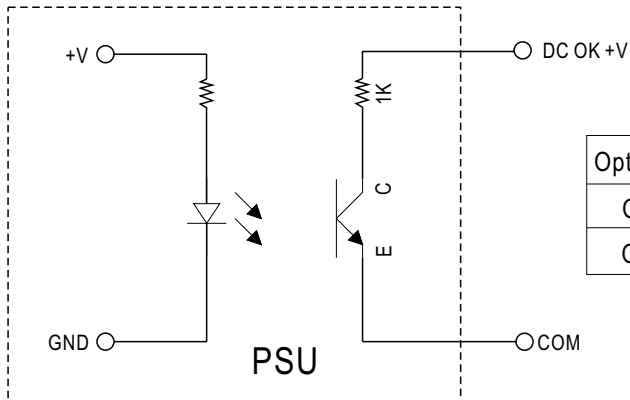
## ■ STATIC CHARACTERISTIC



## ■ Function Manual

### 1.DC\_OK Signal

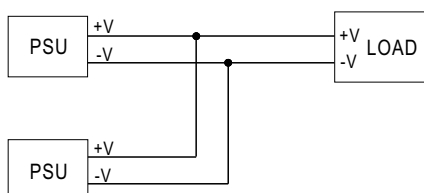
DC\_OK is a collector shorted signal. It is used by an optocoupler in the power supply which indicates the output status of the power supply as exhibited below.



|                                |                           |         |
|--------------------------------|---------------------------|---------|
| Optocoupler C-E Pin Conduction | PSU turns on              | DC ok   |
| Optocoupler C-E Pin Open       | PSU turns off             | DC fail |
| Optocoupler Rating(max.)       | 15Vdc/10mA resistive load |         |

### 2.Redundant function

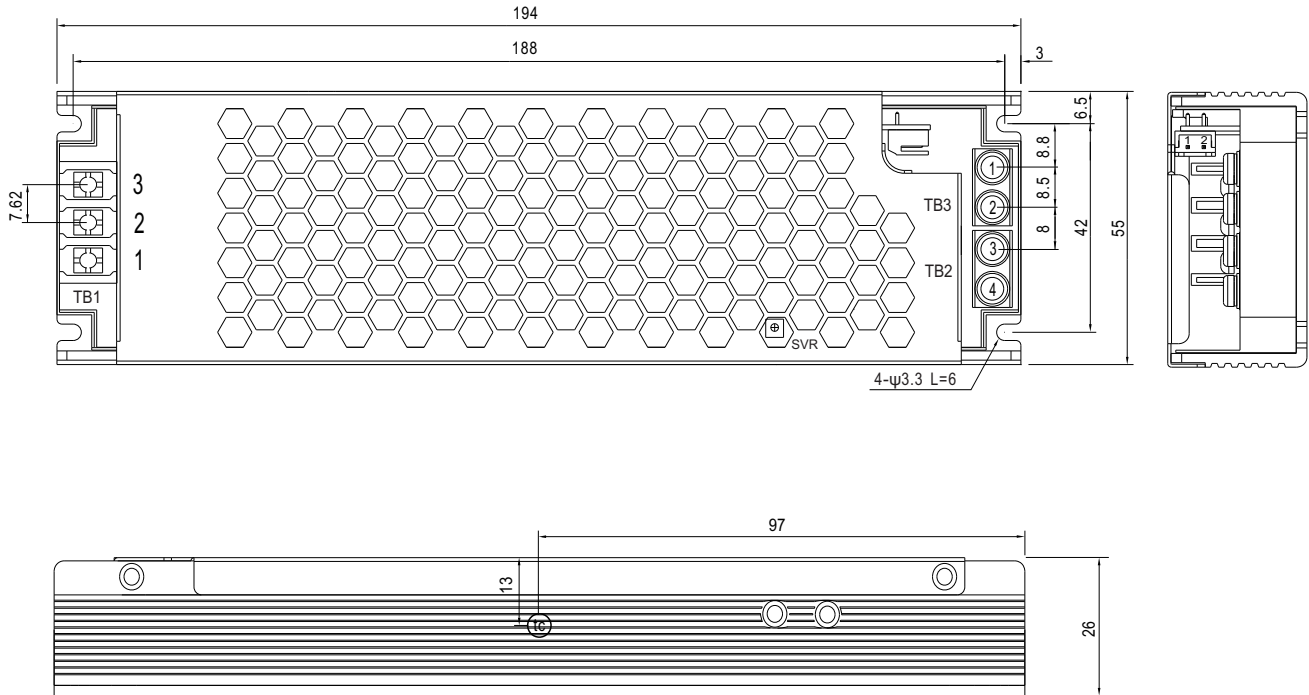
- (1) UHP-200R is built-in redundant function and can be connected 2 units in parallel .
- (2) When in parallel operation the maximum load should not be greater than the rated power of any PSU.



## Mechanical Specification

CASE NO.:249B

Unit:mm



•  $T_c$  : Max. Case Temperature

AC Input Terminal(TB1) pin NO. Assignment

| Pin No. | Assignment | Terminal                | Max mounting torque |
|---------|------------|-------------------------|---------------------|
| 1       | AC/L       | (DEGSON)<br>DG28C-B-03P | 5Kgf-cm             |
| 2       | AC/N       |                         |                     |
| 3       | $\perp$    |                         |                     |

DC Output Terminal(TB2,TB3) pin NO. Assignment

| Pin No. | Assignment | Terminal               | Max mounting torque |
|---------|------------|------------------------|---------------------|
| 1,2     | -V         | (MW)<br>TB-HTP-200-40A | 8Kgf-cm             |
| 3,4     | +V         |                        |                     |

DC OK Connector(CN10):JST B2B-PH-K-S or equivalent

| Pin No. | Assignment | Mating Housing             | Terminal                            |
|---------|------------|----------------------------|-------------------------------------|
| 1       | DC COM     | JST PHR-2<br>or equivalent | JST SPH-002T-P0.5S<br>or equivalent |
| 2       | DC OK +V   |                            |                                     |

**■ Installation****1. Operate with additional aluminum plate**

In order to meet the "Derating Curve" and the "Static Characteristics", UHP-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 UHP-200 series must be firmly mounted at the center of the aluminum plate.

