



750W Slim Type with PFC Switching Supply

**UHP-750** series



## ■ Features

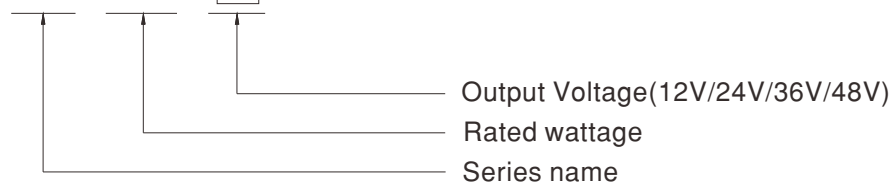
- Slim and Low profile (41mm)
- Fanless and conduction-cooled design
- Withstand 300VAC surge input for 5 seconds
- Built-in active PFC function
- -30~+70°C working temperature
- Protections: Short circuit / Overload / Over voltage / Over temperature
- DC OK relay contact
- Operating altitude up to 5000 meter (Note.6)
- LED indicator for power on
- 3 years warranty

## ■ Description

UHP-750 series is a 750W single-output slim type power supply with 41mm of low profile design. Adopting the full range 90~264VAC input, the entire series provides an output voltage line of 12V, 24V, 36V and 48V. In addition to the high efficiency up to 95%, that the whole series operates from -30°C ~ 70°C under air convection without fan. UHP-750 has the complete protection functions and 5G anti-vibration capability; It is complied with the international safety regulations such as TUV EN62368-1 and UL62368-1. and the design refers to EN61558-1 and EN60335-1. UHP-750 series serves as a high performance power supply solution for various industrial applications.

## ■ Model Encoding

**UHP - 750 - 12**



## ■ Certificates

- Safety: UL/EN62368-1
- EMC: EN 55032 / 55024

## ■ Applications

- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments, equipment or apparatus
- Household appliances



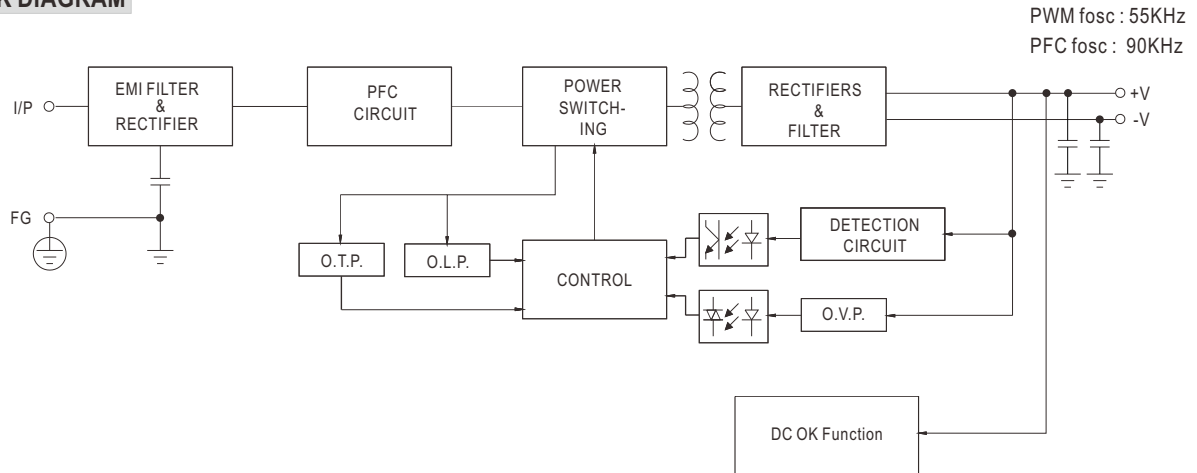
750W Slim Type with PFC Switching Supply

UHP-750 series

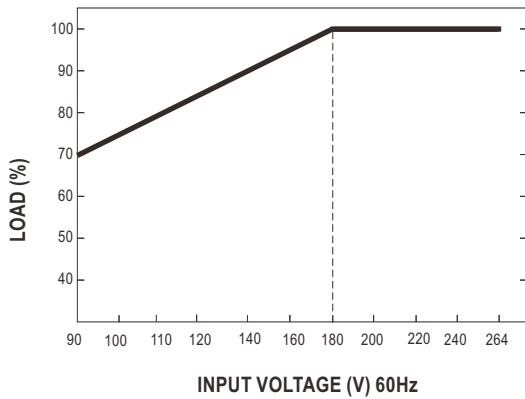
## SPECIFICATION

| MODEL                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | UHP-750-12                                                                                                           | UHP-750-24        | UHP-750-36 | UHP-750-48                                                               |  |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|------------|--------------------------------------------------------------------------|--|
| OUTPUT                   | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12V                                                                                                                  | 24V               | 36V        | 48V                                                                      |  |
|                          | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 60A                                                                                                                  | 31.3A             | 20.9A      | 15.7A                                                                    |  |
|                          | RATED POWER(convection)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 720W                                                                                                                 | 751.2W            | 752.4W     | 753.6W                                                                   |  |
|                          | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 150mVp-p                                                                                                             | 200mVp-p          | 250mVp-p   | 250mVp-p                                                                 |  |
|                          | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 12~14.4V                                                                                                             | 24~28.8V          | 36~43.2V   | 48~57.6V                                                                 |  |
|                          | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ±1.0%                                                                                                                | ±1.0%             | ±1.0%      | ±1.0%                                                                    |  |
|                          | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ±0.5%                                                                                                                | ±0.5%             | ±0.5%      | ±0.5%                                                                    |  |
|                          | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ±0.5%                                                                                                                | ±0.5%             | ±0.5%      | ±0.5%                                                                    |  |
|                          | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1000ms, 50ms/230VAC      1000ms,50ms/115VAC at full load                                                             |                   |            |                                                                          |  |
|                          | HOLD UP TIME (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 12ms/230VAC      12ms/115VAC                                                                                         |                   |            |                                                                          |  |
| INPUT                    | VOLTAGE RANGE Note.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 90 ~ 264VAC      127 ~ 370VDC                                                                                        |                   |            |                                                                          |  |
|                          | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 47 ~ 63Hz                                                                                                            |                   |            |                                                                          |  |
|                          | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PF ≥0.95/230VAC    PF ≥0.99/115VAC at full load                                                                      |                   |            |                                                                          |  |
|                          | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 93.5%                                                                                                                | 95%               | 95%        | 95%                                                                      |  |
|                          | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 7.5A/115VAC      3.8A/230VAC                                                                                         |                   |            |                                                                          |  |
|                          | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cold start 20A/115VAC      40A/230VAC                                                                                |                   |            |                                                                          |  |
|                          | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <0.75mA / 240VAC                                                                                                     |                   |            |                                                                          |  |
| PROTECTION               | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 105~125% rated output power<br>Protection type: Hiccup mode, recovers automatically after fault condition is removed |                   |            |                                                                          |  |
|                          | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 14.5 ~ 16V                                                                                                           | 29 ~ 33V          | 43.5 ~ 49V | 59 ~ 66V                                                                 |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Protection type: Shut down O/P voltage, re-power on to recover                                                       |                   |            |                                                                          |  |
|                          | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Protection type: Shut down O/P voltage, recovers automatically after temperature goes down                           |                   |            |                                                                          |  |
| FUNCTION                 | DC-OK SIGNAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Contact rating(max.): 30Vdc/1A resistive load                                                                        |                   |            |                                                                          |  |
| ENVIRONMENT              | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | -30 ~ +70℃ (Refer to "Derating Curve")                                                                               |                   |            |                                                                          |  |
|                          | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 20 ~ 90% 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<br>(Note.5) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | UL62368-1, TUV EN62368-1, EAC TP TC 004 approved; Design refer to EN61558-1, EN60335-1                               |                   |            |                                                                          |  |
|                          | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Parameter                                                                                                            | Standard          |            | Test Level / Note                                                        |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Conducted                                                                                                            | EN55032 (CISPR32) |            | Class B                                                                  |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Radiated                                                                                                             | EN55032 (CISPR32) |            | Class B                                                                  |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Harmonic Current                                                                                                     | EN61000-3-2       |            | Class A                                                                  |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Voltage Flicker                                                                                                      | EN61000-3-3       |            | -----                                                                    |  |
|                          | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EN55024 , EN61000-6-2                                                                                                |                   |            |                                                                          |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Parameter                                                                                                            | Standard          |            | Test Level / Note                                                        |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ESD                                                                                                                  | EN61000-4-2       |            | Level 3, 8KV air ; Level 2, 4KV contact                                  |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Radiated                                                                                                             | EN61000-4-3       |            | Level 3                                                                  |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EFT / Burst                                                                                                          | EN61000-4-4       |            | Level 3                                                                  |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Surge                                                                                                                | EN61000-6-2       |            | 2KV/Line-Line 4KV/Line-Earth                                             |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Conducted                                                                                                            | EN61000-4-6       |            | Level 3                                                                  |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Magnetic Field                                                                                                       | EN61000-4-8       |            | Level 4                                                                  |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Voltage Dips and Interruptions                                                                                       | EN61000-4-11      |            | >95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods |  |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 279.97K hrs min.      Telcordia SR-332 (Bellcore); 104.86K hrs min.      MIL-HDBK-217F (25℃)                         |                   |            |                                                                          |  |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 237*100*41mm (L*W*H)                                                                                                 |                   |            |                                                                          |  |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.4kg; 10pcs/15kg/0.8CUFT                                                                                            |                   |            |                                                                          |  |
| 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 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." (as available on http://www.meanwell.com)<br>6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). |                                                                                                                      |                   |            |                                                                          |  |

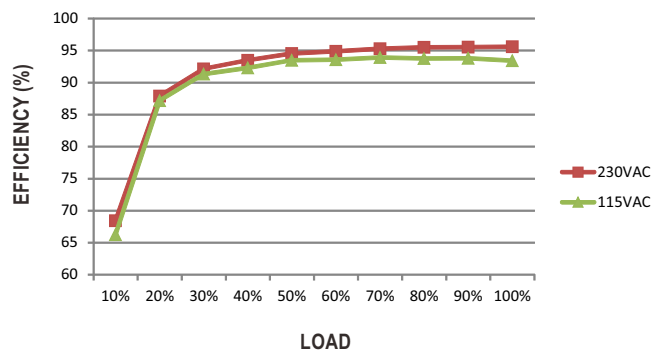
## BLOCK DIAGRAM



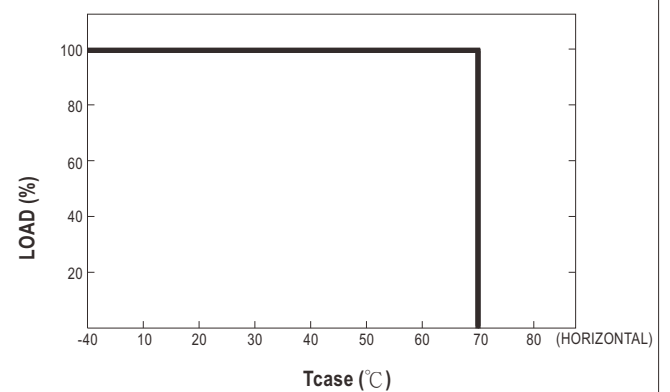
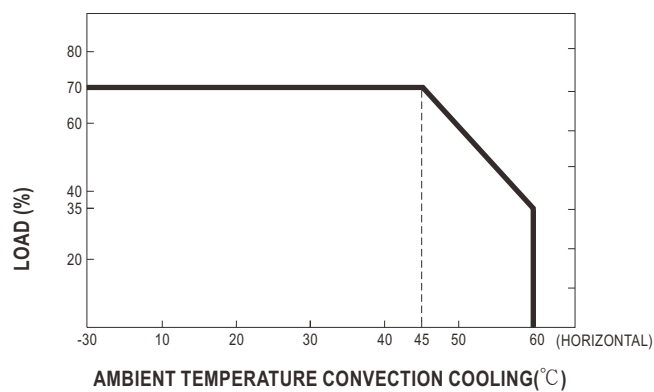
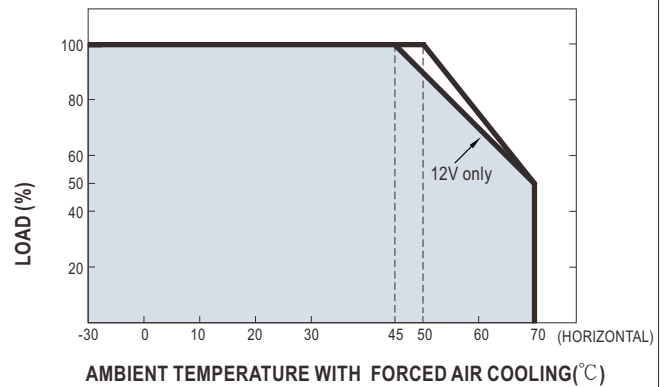
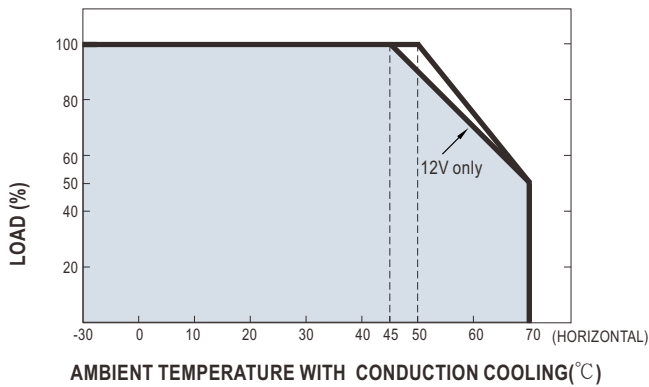
## STATIC CHARACTERISTIC



## EFFICIENCY VS LOAD (48V MODEL)



## DERATING CURVE

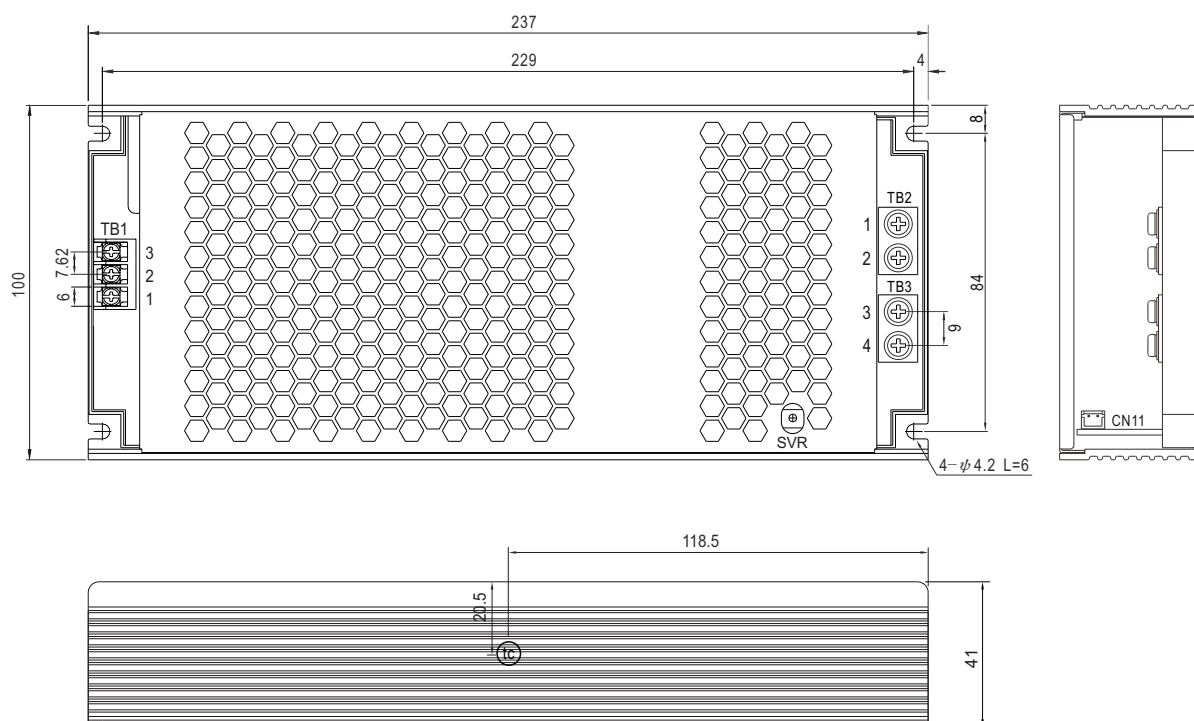


## DC OK RELAY CONTACT

|                      |                         |
|----------------------|-------------------------|
| Contact Close        | PSU turns on/DC ok      |
| Contact Open         | PSU turns off/DC fail   |
| Contact Rating(max.) | 30Vdc/1A resistive load |

## MECHANICAL SPECIFICATION

Case No.270B Unit:mm



AC Input Terminal(TB1) pin NO. Assignment

| Pin No. | Assignment | Terminal            | Max mounting torque |
|---------|------------|---------------------|---------------------|
| 1       | AC/L       | DECA<br>T21-EM10-03 | 5Kgf-cm             |
| 2       | AC/N       |                     |                     |
| 3       | ⏏          |                     |                     |

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

| Pin No. | Assignment | Terminal    | Max mounting torque |
|---------|------------|-------------|---------------------|
| 1,2     | +V         | (MW)        | 8Kgf-cm             |
| 3,4     | -V         | NEL-400-02P |                     |

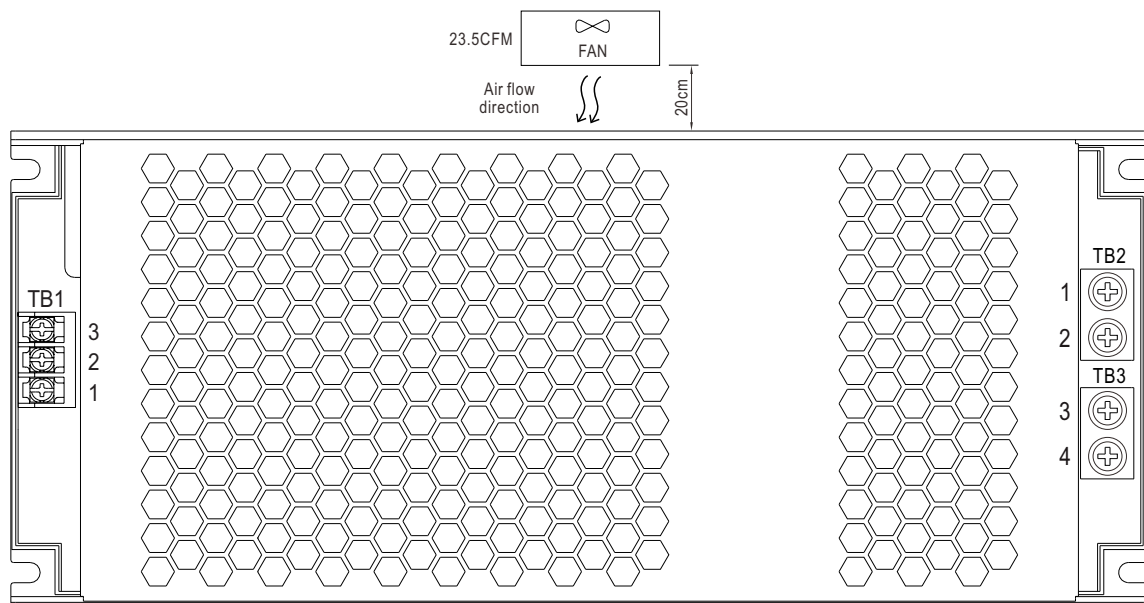
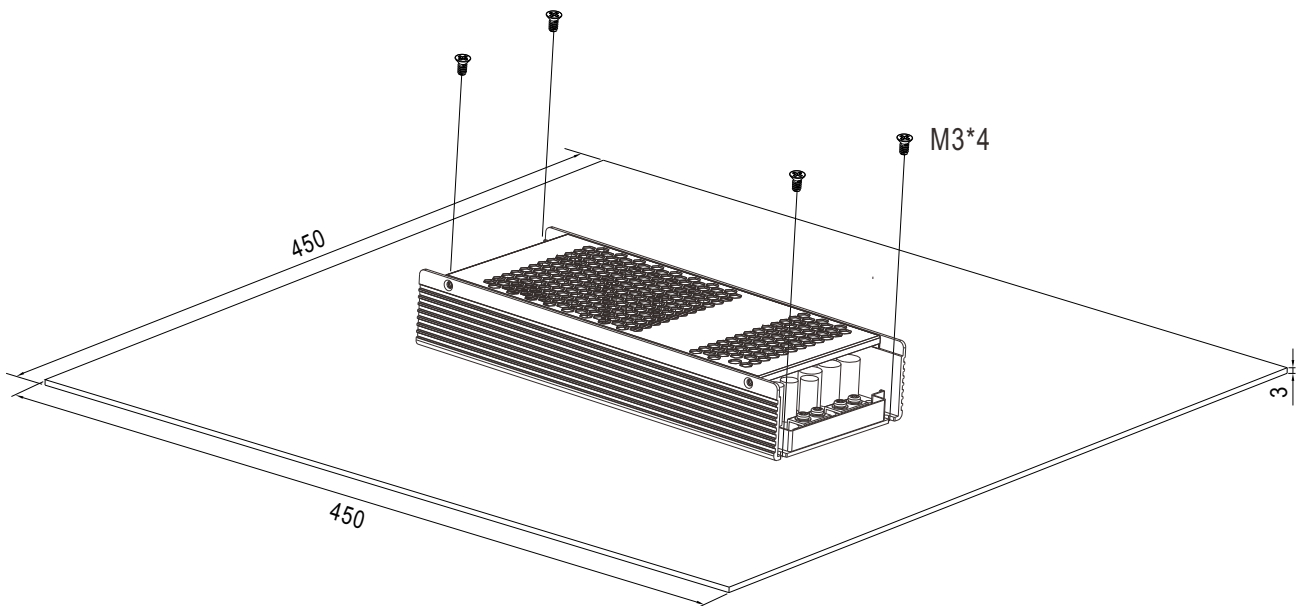
DC OK Connector(CN11):JST S2B-PH-KL or equivalent

| Pin No. | Assignment | Mating Housing             | Terminal                            |
|---------|------------|----------------------------|-------------------------------------|
| 1       | DC COM1    | JST PHR-2<br>or equivalent | JST SPH-002T-P0.5S<br>or equivalent |
| 2       | DC COM2    |                            |                                     |

## Operate with additional aluminum plate and fan

In order to meet the "Derating Curve" and the "Static Characteristics", UHP-750 series can be installed onto an aluminum plate (or the cabinet of the same size) on the bottom or apply forced air cooled solution. The size of the suggested aluminum plate and configuration of fan are 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-750 series must be firmly mounted at the center of the aluminum plate.

unit:mm



## ■ INSTALLATION MANUAL

Please refer to : <http://www.meanwell.com/manual.html>