



# 150W Triple Output with PFC Function

# TP-150 series



### Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.94
- Protections:Short circuit/Over load/Over voltage
- Forced air cooling by built-in DC fan
- Fixed switching frequency at 100KHz(Optional)
- 3 years warranty

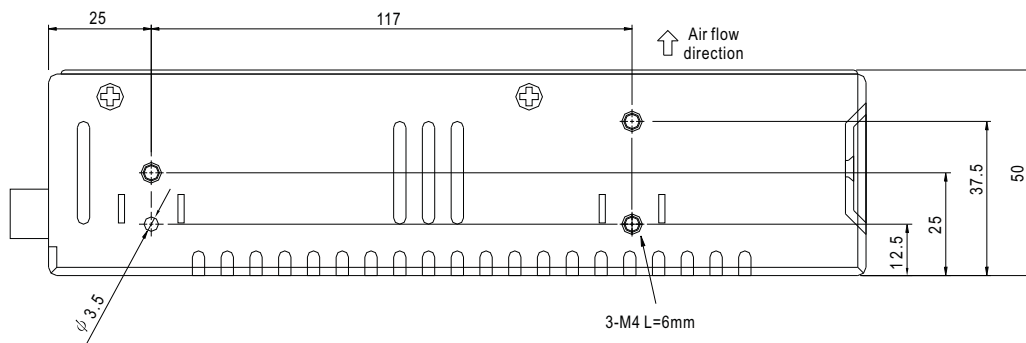
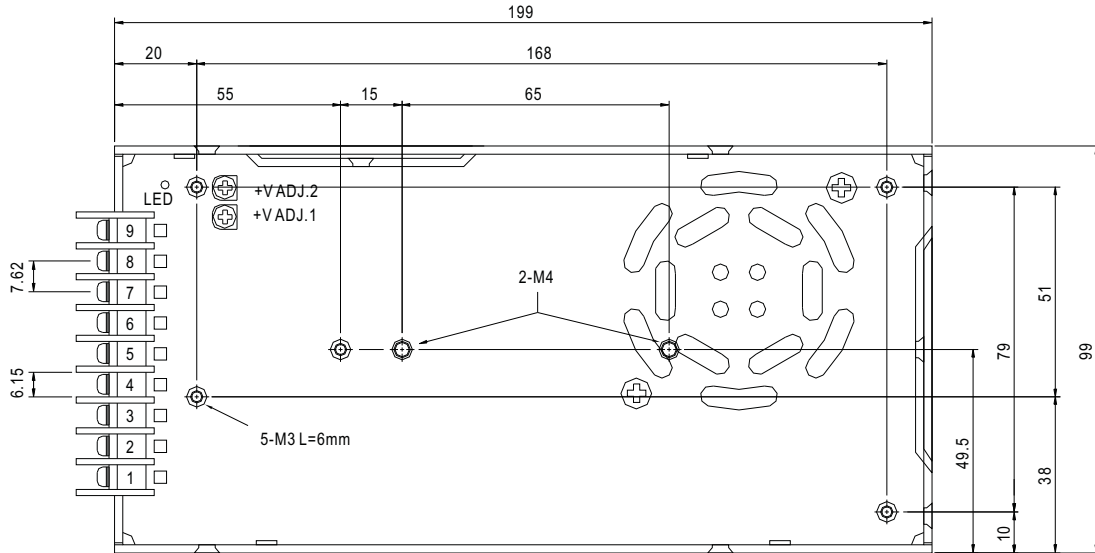


### SPECIFICATION

| MODEL                  |   | TP-150A   |          |              | TP-150B                     |          |          | TP-150C  |          |          | TP-150D  |          |          |          |
|------------------------|---|---|----------|--------------|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| OUTPUT                 | DC VOLTAGE  | 5V  | 12V      | -5V          | 5V                          | 12V      | -12V     | 5V       | 15V      | -15V     | 5V       | 24V      | 12V      |          |
|                        | RATED CURRENT   | 15A   | 6A       | 0.6A         | 15A                         | 5.5A     | 0.6A     | 15A      | 4.5A     | 0.6A     | 15A      | 3A       | 0.6A     |          |
|                        | CURRENT RANGE   | 2 ~ 20A   | 0.4 ~ 7A | 0 ~ 1A       | 2 ~ 20A                     | 0.4 ~ 7A | 0 ~ 1A   | 2 ~ 20A  | 0.4 ~ 6A | 0 ~ 1A   | 2 ~ 20A  | 0.4 ~ 4A | 0 ~ 1A   |          |
|                        | RATED POWER   | 150W  |          |              | 148.2W                      |          |          | 151.5W   |          |          | 154.2W   |          |          |          |
|                        | RIPPLE & NOISE (max.) Note.2  | 100mVp-p  | 120mVp-p | 100mVp-p     | 100mVp-p                    | 120mVp-p | 100mVp-p | 100mVp-p | 150mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 150mVp-p | 100mVp-p |
|                        | VOLTAGE ADJ. RANGE  | CH1: 4.75 ~ 5.5V  |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | VOLTAGE TOLERANCE Note.3  | ±3.0%   | ±8.0%    | ±6.0%        | ±3.0%                       | ±8.0%    | ±6.0%    | ±3.0%    | +10,-6%  | ±6.0%    | ±3.0%    | ±8.0%    | ±6.0%    |          |
|                        | LINE REGULATION   | ±1.0%   | ±1.0%    | ±1.0%        | ±1.0%                       | ±1.0%    | ±1.0%    | ±1.0%    | ±1.0%    | ±1.0%    | ±1.0%    | ±1.0%    | ±1.0%    | ±1.0%    |
|                        | LOAD REGULATION   | ±3.0%   | ±6.0%    | ±4.0%        | ±3.0%                       | ±6.0%    | ±4.0%    | ±3.0%    | ±6.0%    | ±4.0%    | ±3.0%    | ±6.0%    | ±4.0%    |          |
| SETUP, RISE, HOLD TIME | 800ms, 60ms, 20ms/230VAC      800ms, 60ms, 20ms/115VAC at full load   |   |          |              |                             |          |          |          |          |          |          |          |          |          |
| INPUT                  | VOLTAGE RANGE   | 90 ~ 264VAC   |          | 127 ~ 370VDC |                             |          |          |          |          |          |          |          |          |          |
|                        | FREQUENCY RANGE   | 47 ~ 63Hz   |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | POWER FACTOR  | PF>0.94/230VAC  |          |              | PF>0.98/115VAC at full load |          |          |          |          |          |          |          |          |          |
|                        | EFFICIENCY (Typ.)   | 75%   |          |              | 77%                         |          |          | 77%      |          |          | 78%      |          |          |          |
|                        | AC CURRENT  | 2.5A/115VAC   |          | 1.2A/230VAC  |                             |          |          |          |          |          |          |          |          |          |
|                        | INRUSH CURRENT (max.)   | COLD START ≤45A/230V  |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | LEAKAGE CURRENT   | <3.5mA / 240VAC   |          |              |                             |          |          |          |          |          |          |          |          |          |
| PROTECTION             | OVER LOAD   | 105 ~ 150% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | OVER VOLTAGE  | 5.75 ~ 6.75V on +5V<br>Protection type : Shut down o/p voltage, re-power on to recover                                  |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | OVER TEMPERATURE(OPTION)  | 95°C ±5°C (TSW1)<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down         |          |              |                             |          |          |          |          |          |          |          |          |          |
| ENVIRONMENT            | WORKING TEMP.   | -10 ~ +60°C (Refer to output load derating curve)   |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | WORKING HUMIDITY  | 20 ~ 90% RH non-condensing  |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | STORAGE TEMP., HUMIDITY   | -20 ~ +85°C, 10 ~ 95% RH  |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | TEMP. COEFFICIENT   | ±0.03%/°C (0~50°C)  |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | VIBRATION   | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes  |          |              |                             |          |          |          |          |          |          |          |          |          |
| SAFETY & EMC (Note 4)  | SAFETY STANDARDS  | UL1950, TUV EN60950 Approved  |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | WITHSTAND VOLTAGE   | I/P-O/P:3KVAC    I/P-FG:1.5KVAC    O/P-FG:0.5KVAC 1min.   |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | ISOLATION RESISTANCE  | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC  |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | EMI CONDUCTION & RADIATION  | Compliance to EN55022 (CISPR22) Class B   |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | HARMONIC CURRENT  | Compliance to EN61000-3-2,-3  |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | EMS IMMUNITY  | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A                             |          |              |                             |          |          |          |          |          |          |          |          |          |
| OTHERS                 | MTBF  | 161.6K hrs min.    MIL-HDBK-217F (25°C)   |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | DIMENSION   | 199*99*50mm (L*W*H)   |          |              |                             |          |          |          |          |          |          |          |          |          |
|                        | PACKING   | 0.8Kg; 20pcs/16Kg/1.28CUFT  |          |              |                             |          |          |          |          |          |          |          |          |          |
| NOTE                   | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. |   |          |              |                             |          |          |          |          |          |          |          |          |          |

■ Mechanical Specification

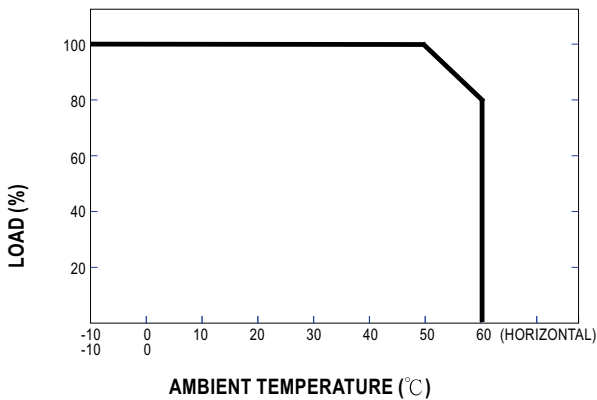
Case No. 916B Unit:mm



Terminal Pin No. Assignment :

| Pin No. | Assignment | Pin No. | Assignment   | Pin No. | Assignment    |
|---------|------------|---------|--------------|---------|---------------|
| 1       | AC/L       | 4       | DC OUTPUT V3 | 8,9     | DC OUTPUT COM |
| 2       | AC/N       | 5       | DC OUTPUT V2 |         |               |
| 3       | FG $\perp$ | 6,7     | DC OUTPUT V1 |         |               |

■ Derating Curve



■ Output Derating VS Input Voltage

