



120W Level VI Desktop Type Power Supply

ENP-120 series

User's Manual



## ■ Features

- Universal AC input / Full range
- Built-in active PFC function
- Energy efficiency Level VI
- No load power consumption <0.15W
- Comply with EISA 2007/DoE, NRCan and EU ErP
- 125% peak load capability
- Fanless design, cooling by free air convection
- Protection: Short circuit / Overload / Over voltage / Over temperature
- 3 years warranty

## ■ Applications

- Land mobile radio system
- Surveillance system
- TV antenna facility

## ■ Description

ENP-120 series is a 120W desktop type power supply working perfectly for communication related applications. Observing the standard 7" width size in the land mobile radio field, it provides the most frequently used voltage in the communication field. With the rugged mechanical design along with the high efficiency circuitry, it operates for the ambient temperature range -30°C ~ +70°C under free air convection.

## ■ Model Encoding

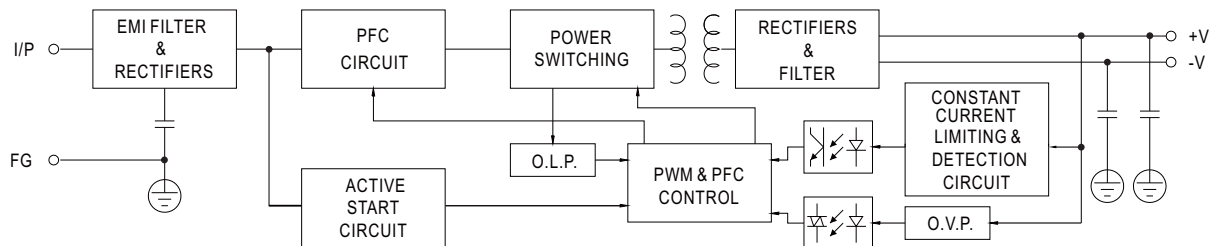
ENP - 120 - 24

Nominal voltage  
Rated wattage  
Series name

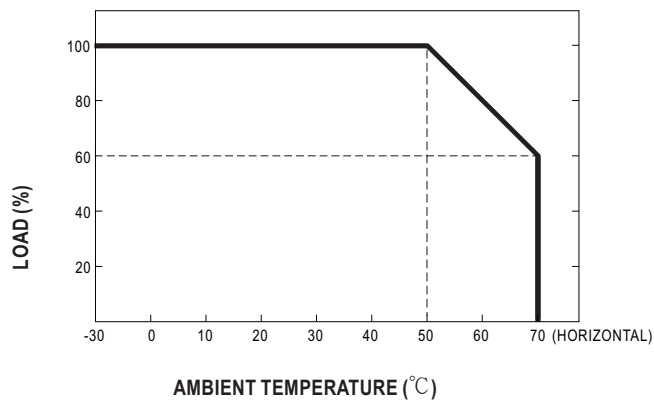
**SPECIFICATION**

| MODEL                          |   |   | ENP-120-12   | ENP-120-24   | ENP-120-48                                     |
|--------------------------------|---|---|--|--|--|
| OUTPUT                         | DC VOLTAGE  |   | 13.8V  | 27.6V  | 55.2V  |
|                                | RATED CURRENT   |   | 8.7A   | 4.3A   | 2.2A   |
|                                | CURRENT   | RATED   | 0 ~ 8.7A   | 0 ~ 4.3A   | 0 ~ 2.2A                                       |
|                                |   | PEAK     Note.2   | 10.9A  | 5.38A  | 2.75A  |
|                                | WATTAGE   | RATED   | 120W   | 119W   | 121W   |
|                                |   | PEAK     Note.2   | 150.4W   | 148.5W   | 151.8W   |
|                                | RIPPLE & NOISE (max.)   Note.3  |   | 150mVp-p   | 150mVp-p   | 350mVp-p                                       |
|                                | VOLTAGE ADJ. RANGE  |   | 11.5 ~ 15V   | 23.5 ~ 30V   | 47.5 ~ 58.8V                                   |
|                                | VOLTAGE TOLERANCE   Note.4  |   | ± 1.0%   | ± 1.0%   | ± 1.0%   |
|                                | LINE REGULATION     Note.5  |   | ± 0.5%   | ± 0.5%   | ± 0.5%   |
|                                | LOAD REGULATION     Note.6  |   | ± 2.0%   | ± 1.0%   | ± 0.5%   |
| INPUT                          | SETUP, RISE TIME     Note.7   |   | 1000ms, 100ms at full load   |  |  |
|                                | HOLD UP TIME (Typ.)   |   | 20ms at full load  |  |  |
|                                | VOLTAGE RANGE     Note.8  |   | 90 ~ 264VAC     127 ~ 370VDC   |  |  |
|                                | FREQUENCY RANGE   |   | 47 ~ 63Hz  |  |  |
|                                | POWER FACTOR (Typ.)   |   | PF>0.98/115VAC, PF>0.95/230VAC at full load  |  |  |
|                                | EFFICIENCY (Typ.)   |   | 89.5%  | 91%  | 91.5%  |
|                                | AC CURRENT (Typ.)   |   | 1.25A/115VAC     0.63A/230VAC  |  |  |
|                                | INRUSH CURRENT (Typ.)   |   | COLD START 65A at 230VAC   |  |  |
|                                | LEAKAGE CURRENT   |   | <3.5mA / 240VAC  |  |  |
|                                | NO LOAD POWER CONSUMPTION   |   | <0.15W   |  |  |
| PROTECTION                     | SHORT CIRCUIT   |   | Protection type : Constant current limiting, recovers automatically after fault condition is removed   |  |  |
|                                | OVERLOAD  |   | Normally works within 110 ~ 125% rated output power for more than 3 seconds and switches to constant current limiting, with auto-recovery after the peak load condition is removed |  |  |
|                                |   |   | Constant current limiting, if >125% rated power, with auto-recovery after the overload condition is removed  |  |  |
|                                | OVER VOLTAGE  |   | 15.5 ~ 18.2V   | 31 ~ 36.5V   | 62.1 ~ 72.9V                                   |
|                                |   |   | Protection type : Shut down o/p voltage, re-power on to recover  |  |  |
| OVER TEMPERATURE               |   | Shut down O/P voltage, recovers automatically after temperature goes down |  |  |  |
| 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   |   | ±0.05%/℃ (0 ~ 50℃ )  |  |  |
|                                | VIBRATION   |   | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes   |  |  |
| SAFETY & EMC<br>(Note 9)       | SAFETY STANDARDS  |   | IEC62368-1, UL62368-1, EAC TP TC 004 approved; Meet BS EN/EN62368-1  |  |  |
|                                | 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  | BS EN/EN55032 (CISPR32) / FCC PART15 (CISPR22)                           | Class B  |
|                                |   |   | Radiated   | BS EN/EN55032 (CISPR32) / FCC PART15 (CISPR22)                           | Class B  |
|                                |   |   | Harmonic Current   | BS EN/EN61000-3-2  | -----  |
|                                |   |   | Voltage Flicker  | BS EN/EN61000-3-3  | -----  |
|                                | EMC IMMUNITY  |   | BS EN/EN55024  |  |  |
|                                |   |   | Parameter  | Standard   | Test Level / Note                              |
|                                |   |   | ESD  | BS EN/EN61000-4-2  | Level 3, 8KV air ; Level 2, 4KV contact        |
|                                |   |   | Radiated   | BS EN/EN61000-4-3  | Level 2, 3V/m                                  |
|                                |   |   | EFT / Burst  | BS EN/EN61000-4-4  | Level 2, 1KV                                   |
|                                |   |   | Surge  | BS EN/EN61000-4-5  | Level 2, 1KV/Line-Line,Level 3, 2KV/Line-Earth |
| Conducted                      |   |   | BS EN/EN61000-4-6  | Level 2, 3Vrms   |  |
| Magnetic Field                 |   |   | BS EN/EN61000-4-8  | Level 1, 1A/m  |  |
| Voltage Dips and Interruptions |   |   | BS EN/EN61000-4-11   | >95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods |  |
| OTHERS                         | MTBF  |   | 257K hrs min.     MIL-HDBK-217F (25℃)  |  |  |
|                                | DIMENSION   |   | 192*178*45.5mm (L*W*H)   |  |  |
|                                | PACKING   |   | 0.98Kg; 10pcs/10.8Kg /1.38CUFT   |  |  |
| NOTE                           | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Peak current or peak power up to 3 seconds is provided.<br>3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>4. Tolerance : includes set up tolerance, line regulation and load regulation.<br>5. Line regulation is measured from low line to high line at rated load.<br>6. Load regulation is measured from 0% to 100% rated load.<br>7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply very quickly may lead to increase of the set up time.<br>8. Derating may be needed under low input voltages. Please check the derating curve for more details.<br>9. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."<br>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> )<br>10. 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).<br>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a> |   |  |  |  |

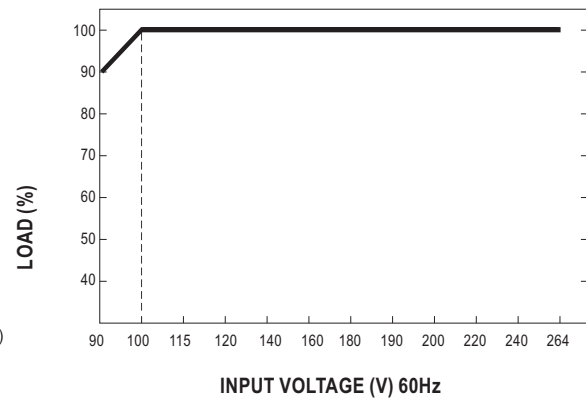
## ■ Block Diagram



## ■ Derating Curve

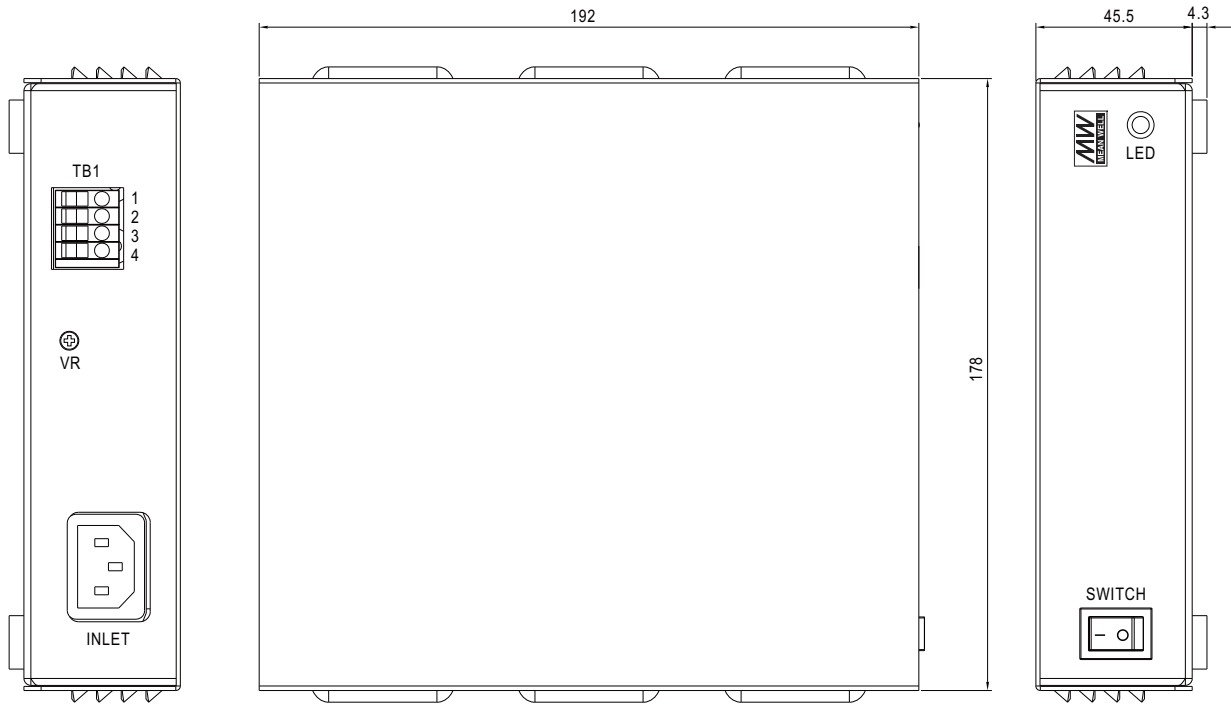


## ■ Static Characteristics



## Mechanical Specification

Case No. 252A Unit:mm



### Terminal Pin No. Assignment (TB1):

| Pin No. | Assignment |
|---------|------------|
| 1,2     | +V         |
| 3,4     | -V         |

Note: Please use wires with a cross section of 0.5 - 4.0 mm<sup>2</sup> (12~20AWG) for connection.  
Recommended wires strip length is 9 mm and screw torque is 4.0 lb-inch (0.4~0.5Nm).

## Installation Manual

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