



E-Star Power Development Co., Ltd. (E-STAR)

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22069, Taiwan (R.O.C.)

Phone : 886-2-2957 5580 Fax : 886-2-2957 7473

## 120W Desktop power supply < ENP-120



### ■ 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





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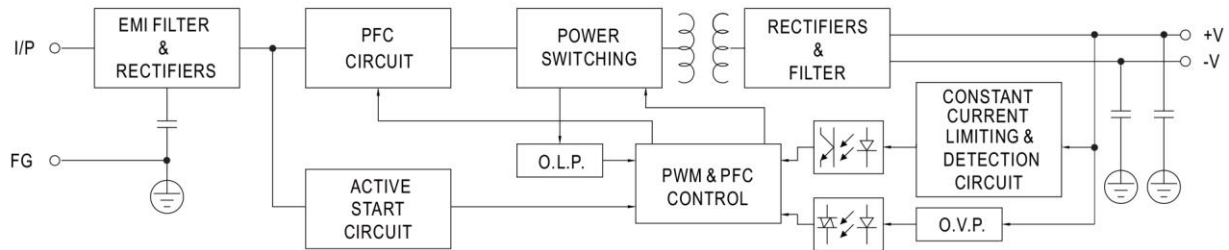
**SPECIFICATION**

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%		
SETUP, RISE TIME Note.7	1000ms, 100ms at full load				
HOLD UP TIME (Typ.)	20ms at full load				
INPUT	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	
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover Shut down O/P voltage, recovers automatically after temperature goes down			
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")			
	WORKING HUMIDITY	20 ~ 95% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing			
	TEMP. COEFFICIENT	± 0.05%/°C (0 ~ 50°C)			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes			
SAFETY & EMC (Note 9)	SAFETY STANDARDS	IEC62368-1, UL62368-1, EAC TP TC 004 approved			
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC			
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH			
	EMC EMISSION	Parameter	Standard	Test Level / Note	
		Conducted	EN55032 (CISPR32) / FCC PART15 (CISPR22)	Class B	
		Radiated	EN55032 (CISPR32) / FCC PART15 (CISPR22)	Class B	
		Harmonic Current	EN61000-3-2	-----	
	Voltage Flicker	EN61000-3-3	-----		
	EMC IMMUNITY	EN55024			
		Parameter	Standard	Test Level / Note	
ESD		EN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact		
Radiated		EN61000-4-3	Level 2, 3V/m		
EFT / Burst		EN61000-4-4	Level 2, 1KV		
Surge		EN61000-4-5	Level 2, 1KV/Line-Line, Level 3, 2KV/Line-Earth		
Conducted		EN61000-4-6	Level 2, 3Vrms		
Magnetic Field	EN61000-4-8	Level 1, 1A/m			
Voltage Dips and Interruptions	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°C)			
	DIMENSION	192*178*45.5mm (L*W*H)			
	PACKING	0.98Kg; 10pcs/10.8Kg / 1.38CUFT			
NOTE	<ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>Peak current or peak power up to 3 seconds is provided.</li> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>Line regulation is measured from low line to high line at rated load.</li> <li>Load regulation is measured from 0% to 100% rated load.</li> <li>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.</li> <li>Derating may be needed under low input voltages. Please check the derating curve for more details.</li> <li>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."</li> <li>The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> </ol>				

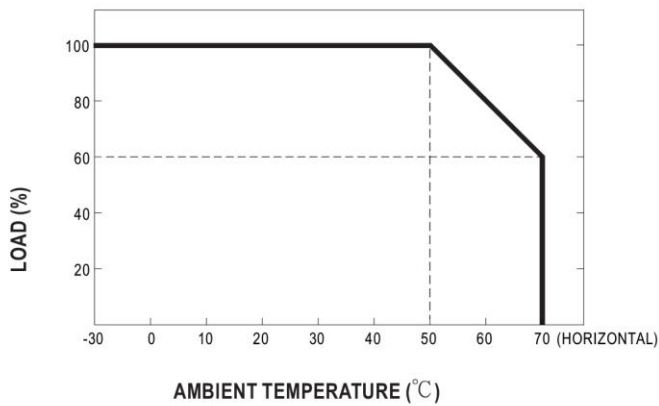


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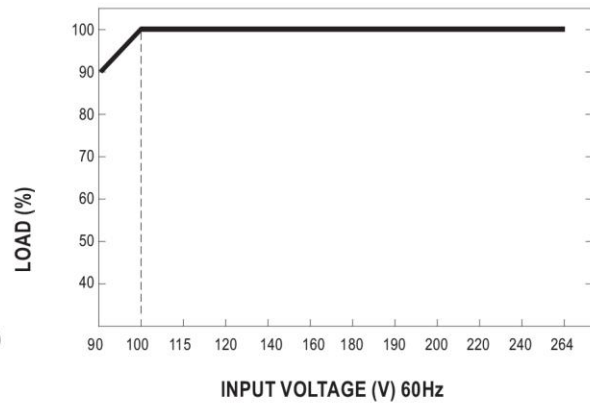
**Block Diagram**



**Derating Curve**



**Static Characteristics**





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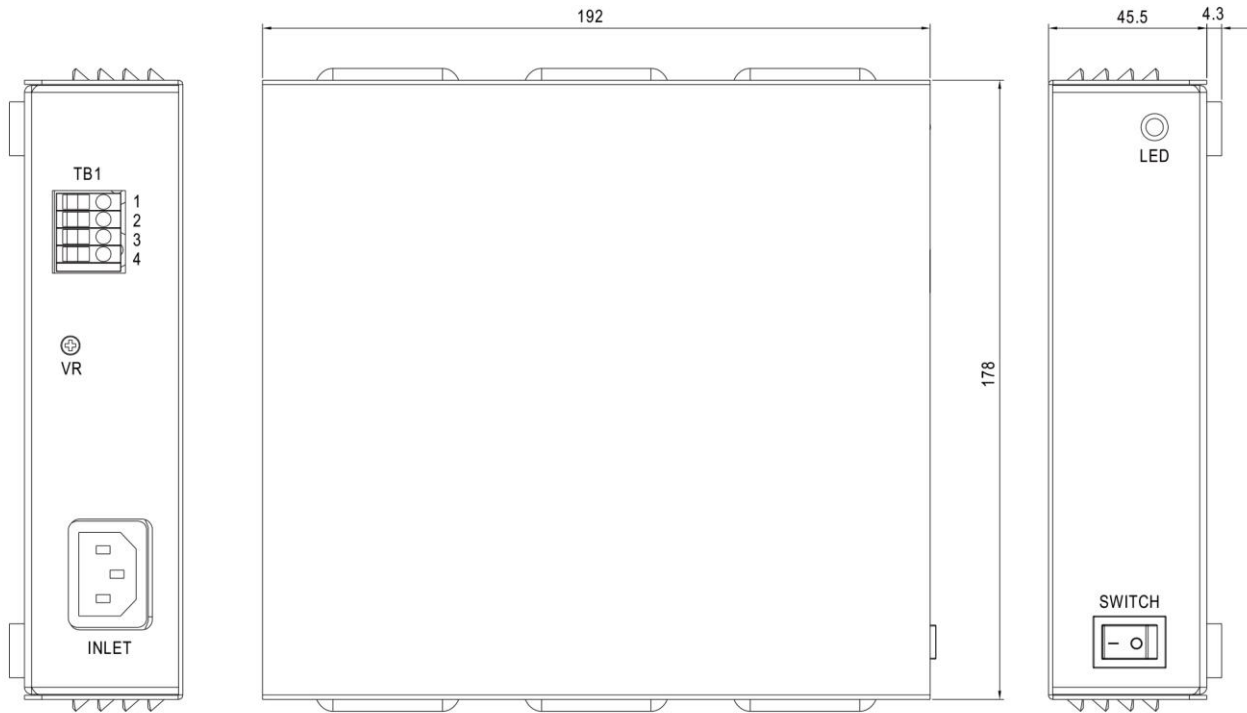
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■ Mechanical Specification

Case No. 252A Unit:mm



Terminal Pin No. Assignment (TB1):

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