

### ■ Features

- 3"x2" Compact Size
- 120W convection, 150W peak (10sec.)
- EMI for both Class I & Class II configuration
- -30~+85°C wide range operating temperature
- No load power consumption<0.3W
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Operating altitude up to 5000 meters (Note.5)
- 3 years warranty

### ■ Applications

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

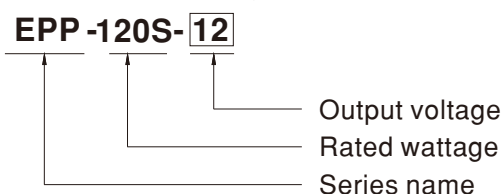
### ■ GTIN CODE

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

### ■ Description

EPP-120S is a 120W highly reliable green PCB type power supply with a high power density on the 3" by 2" footprint. It accepts 80~264VAC input and offers various output voltages between 12V and 48V. The working efficiency is up to 94% and the extremely low no load power consumption is down below 0.3W. EPP-120S is able to be used for both Class I (with FG) and Class II (no FG) system design. EPP-120S has the complete protection functions; it is complied with the international safety regulations such as TUV BS EN/EN62368-1, BS EN/EN60335-1, UL62368-1 and IEC62368-1. EPP-120S series serves as a high price-to-performance power supply solution for various industrial applications.

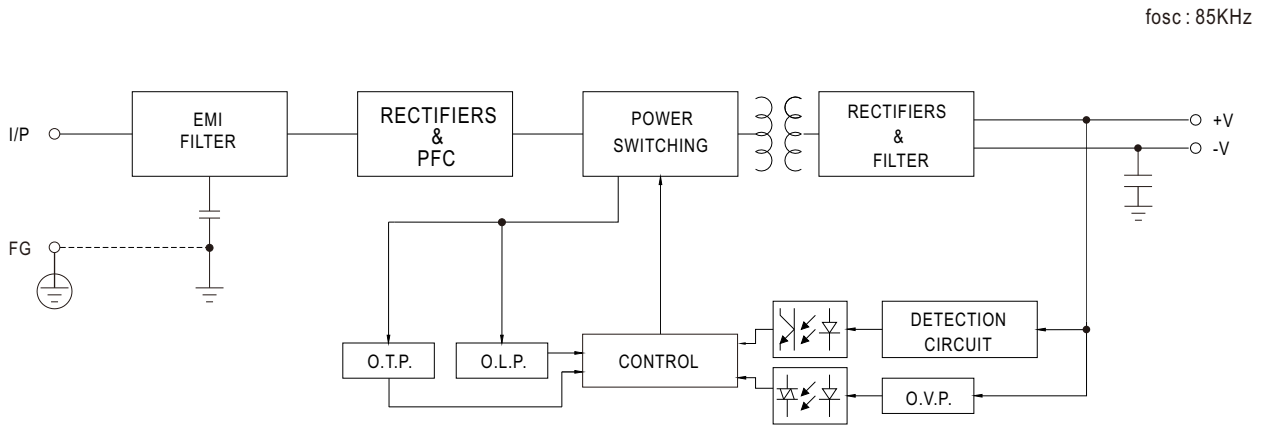
### ■ Model Encoding



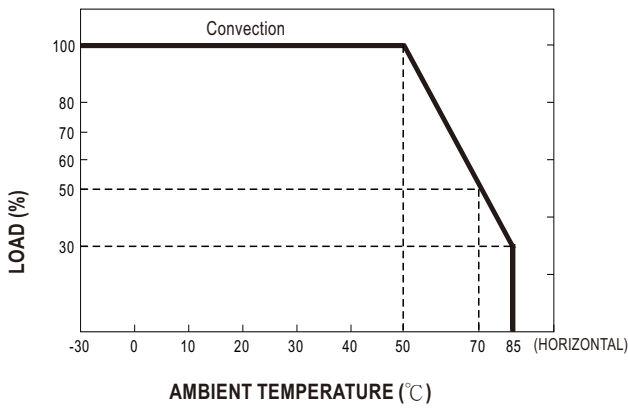
**SPECIFICATION**

| MODEL                     | EPP-120S-12   |   | EPP-120S-15                     |                             | EPP-120S-24  |  | EPP-120S-27                            |              | EPP-120S-48 |              |        |  |
|---------------------------|---|---|---------------------------------|-----------------------------|--|--|--|--------------|-------------|--------------|--------|--|
| OUTPUT                    | DC VOLTAGE  | 12V   |                                 | 15V                         |  | 24V  |  | 27V          |             | 48V          |        |  |
|                           | CURRENT   | Peak(10 sec.)   | 11.8A                           |                             | 9.5A   |  | 6.25A                                  |              | 5.55A       |              | 3.125A |  |
|                           |   | Convection  | 9.5A                            |                             | 7.6A   |  | 5A                                     |              | 4.44A       |              | 2.5A   |  |
|                           | RATED POWER   | Peak(10 sec.)   | 141.6W                          |                             | 142.5W   |  | 150W                                   |              | 149.8W      |              | 150W   |  |
|                           |   | Convection  | 114W                            |                             | 114W   |  | 120W                                   |              | 119.9W      |              | 120W   |  |
|                           | RIPPLE & NOISE (max.) Note.2  | 100mVp-p  |                                 | 120mVp-p                    |  | 150mVp-p   |  | 150mVp-p     |             | 200mVp-p     |        |  |
|                           | VOLTAGE ADJ. RANGE  | 11.4~12.6V  |                                 | 14.3~15.8V                  |  | 22.8~25.2V   |  | 25.6 ~ 28.4V |             | 45.6 ~50.4V  |        |  |
|                           | VOLTAGE TOLERANCE Note.3  | ±2.0%   |                                 | ±2%                         |  | ±1.0%  |  | ±1.0%        |             | ±1.0%        |        |  |
|                           | LINE REGULATION   | ±0.5%   |                                 | ±0.5%                       |  | ±0.5%  |  | ±0.5%        |             | ±0.5%        |        |  |
|                           | LOAD REGULATION   | ±1.0%   |                                 | ±1.0%                       |  | ±1.0%  |  | ±1.0%        |             | ±1.0%        |        |  |
| SETUP, RISE TIME          | 600ms, 30ms/230VAC  |   | 600ms, 30ms/115VAC at full load |                             |  |  |  |              |             |              |        |  |
| HOLD UP TIME (Typ.)       | 15ms/230VAC   |   | 15ms/115VAC at full load        |                             |  |  |  |              |             |              |        |  |
| INPUT                     | VOLTAGE RANGE Note.4  | 80 ~ 264VAC   |                                 | 113 ~ 370VDC                |  |  |  |              |             |              |        |  |
|                           | FREQUENCY RANGE   | 47 ~ 63Hz   |                                 |                             |  |  |  |              |             |              |        |  |
|                           | POWER FACTOR  | PF>0.94/230VAC  |                                 | PF>0.98/115VAC at full load |  |  |  |              |             |              |        |  |
|                           | EFFICIENCY (Typ.)   | 91%   |                                 | 92%                         |  | 93%  |  | 94%          |             | 93.5%        |        |  |
|                           | AC CURRENT (Typ.)   | 2.3A/115VAC   |                                 | 1.1A/230VAC                 |  |  |  |              |             |              |        |  |
|                           | INRUSH CURRENT (Typ.)   | COLD START 30A/115VAC   |                                 | 60A/230VAC                  |  |  |  |              |             |              |        |  |
|                           | LEAKAGE CURRENT   | <0.75mA / 240VAC  |                                 |                             |  |  |  |              |             |              |        |  |
| PROTECTION                | OVERLOAD  | 130~160% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |                                 |                             |  |  |  |              |             |              |        |  |
|                           | OVER VOLTAGE  | 13.2 ~ 15.6V  |                                 | 16.5 ~ 19.5V                |  | 26.4 ~ 31.2V   |  | 29.7 ~ 35V   |             | 52.8 ~ 62.4V |        |  |
|                           | OVER TEMPERATURE  | Protection type : Shut down o/p voltage, recovers automatically after temperature goes down                           |                                 |                             |  |  |  |              |             |              |        |  |
| ENVIRONMENT               | WORKING TEMP.   | -30 ~ +85°C (Refer to "Derating Curve")   |                                 |                             |  |  |  |              |             |              |        |  |
|                           | WORKING HUMIDITY  | 20 ~ 90% RH non-condensing  |                                 |                             |  |  |  |              |             |              |        |  |
|                           | STORAGE TEMP.   | -40 ~ +85°C   |                                 |                             |  |  |  |              |             |              |        |  |
|                           | TEMP. COEFFICIENT   | ±0.03%/°C (0 ~ 50°C)  |                                 |                             |  |  |  |              |             |              |        |  |
|                           | VIBRATION   | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes  |                                 |                             |  |  |  |              |             |              |        |  |
|                           | OPERATING ALTITUDE (Note.5)   | 5000 meters   |                                 |                             |  |  |  |              |             |              |        |  |
| SAFETY & EMC (Note 6)     | SAFETY STANDARDS  | UL62368-1, TUV BS EN/EN62368-1, BS EN/EN60335-1, IEC62368-1, CCC GB4943.1, EAC TP TC 004 approved                     |                                 |                             |  |  |  |              |             |              |        |  |
|                           | WITHSTAND VOLTAGE   | I/P-O/P:4KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC   |                                 |                             |  |  |  |              |             |              |        |  |
|                           | ISOLATION RESISTANCE  | I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC / 25°C / 70% RH   |                                 |                             |  |  |  |              |             |              |        |  |
|                           | EMC EMISSION  | GB9254.1 Class B, GB17625 Class A   |                                 |                             |  |  |  |              |             |              |        |  |
|                           |   | Parameter   | Standard                        |                             |  |  | Test Level / Note                      |              |             |              |        |  |
|                           |   | Conducted emission  | BS EN/EN55032 (CISPR32)         |                             |  |  | Class B                                |              |             |              |        |  |
|                           |   | Radiated emission   | BS EN/EN55032 (CISPR32)         |                             |  |  | Class I : Class B , Class II : Class A |              |             |              |        |  |
|                           |   | Harmonic current  | BS EN/EN61000-3-2               |                             |  |  | Class A                                |              |             |              |        |  |
|                           | Voltage flicker   | BS EN/EN61000-3-3   |                                 |                             |  | -----  |  |              |             |              |        |  |
|                           | EMC IMMUNITY  | BS EN/EN55035, BS EN/EN61000-6-2  |                                 |                             |  |  |  |              |             |              |        |  |
| Parameter                 |   | Standard  |                                 |                             |  | Test Level / Note  |  |              |             |              |        |  |
| ESD                       |   | BS EN/EN61000-4-2   |                                 |                             |  | Level 3, 8KV air ; Level 3, 4KV contact                              |  |              |             |              |        |  |
| RF field susceptibility   |   | BS EN/EN61000-4-3   |                                 |                             |  | Level 3, 10V/m( 80MHz~2.7GHz )<br>Table 9, 9~28V/m( 385MHz~5.78GHz ) |  |              |             |              |        |  |
| EFT bursts                |   | BS EN/EN61000-4-4   |                                 |                             |  | Level 3, 2KV   |  |              |             |              |        |  |
| Surge susceptibility      |   | BS EN/EN61000-4-5   |                                 |                             |  | Level 4, 4KV/Line-FG; 2KV/Line-Line                                  |  |              |             |              |        |  |
| Conducted susceptibility  |   | BS EN/EN61000-4-6   |                                 |                             |  | Level 3, 10V   |  |              |             |              |        |  |
| Magnetic field immunity   |   | BS EN/EN61000-4-8   |                                 |                             |  | Level 4, 30A/m   |  |              |             |              |        |  |
| Voltage dip, interruption | BS EN/EN61000-4-11  |   |                                 |                             | 95% dip 0.5 periods, 30% dip 25 periods, 95% interruptions 250 periods |  |  |              |             |              |        |  |
| OTHERS                    | MTBF  | 4071.1K hrs min. Telcordia SR-332 (Bellcore) ; 470.2K hrs min. MIL-HDBK-217F (25°C)                                   |                                 |                             |  |  |  |              |             |              |        |  |
|                           | DIMENSION   | 76.2*50.8*28mm (L*W*H) or 3" * 2" * 1.1" inch   |                                 |                             |  |  |  |              |             |              |        |  |
|                           | PACKING   | 0.13Kg; 100pcs/14Kg/1.13CUFT  |                                 |                             |  |  |  |              |             |              |        |  |
| NOTE                      | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F &amp; 47 μ F parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Derating may be needed under low input voltages. Please check the derating curve for more details.</p> <p>5. 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).</p> <p>6. 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 <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a> )</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p> |   |                                 |                             |  |  |  |              |             |              |        |  |

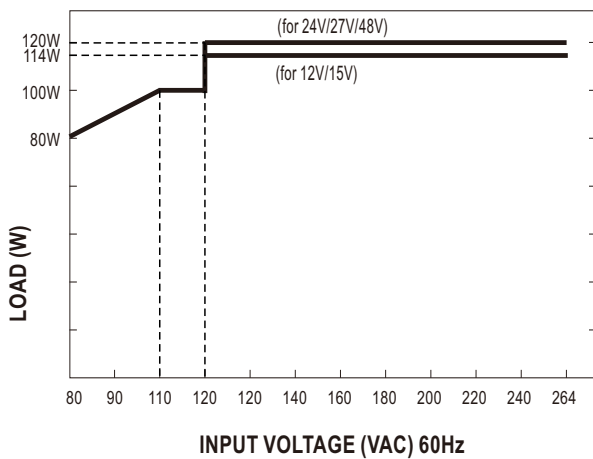
■ Block Diagram



■ Derating Curve

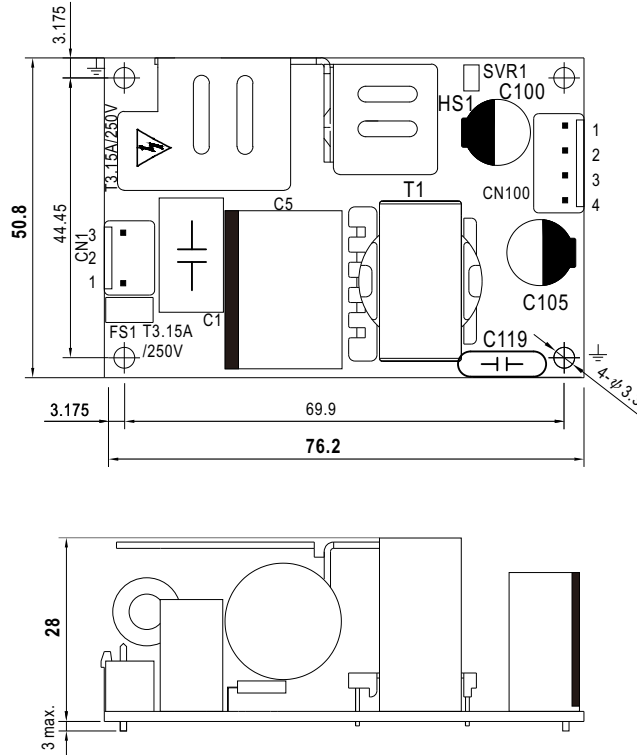


■ Output Derating VS Input Voltage



**Mechanical Specification**

(Unit: mm , tolerance ± 1mm)



AC Input Connector (CN1) : JST B3P-VH or equivalent

| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1       | AC/L       | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2       | No Pin     |                       |                                |
| 3       | AC/N       |                       |                                |

DC Output Connector (CN100) : JST B4P-VH or equivalent

| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1,2     | +V         | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 3,4     | -V         |                       |                                |

1.HS1 must have safety isolation distance with system case.

※Note :

- 1.EPP-120S model delivers EMI Class B for both conducted emission and radiated emission for the power supply, when configured into Class I (with FG) system.
- 2.EPP-120S model delivers EMI Class B conducted emission and Class A radiated emission with King Core K5B RC (12\*15\*7) in output cable for the power supply when configured into Class II (no FG) system.

**Installation Manual**

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