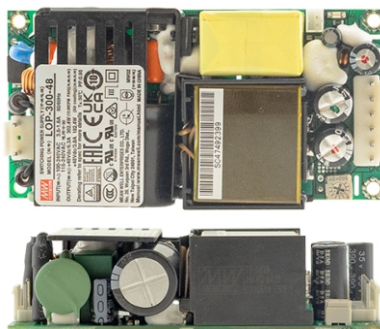




Наличие и актуальные цены на

**LOP-300-12**

<https://www.mean-well.ru/store/LOP-300-12/>



User's Manual



## Features

- MEAN WELL Patent Number: ZL 202223277512.1
- 4"x2" compact size with **low profile (25.4mm)**
- 80~264Vac input with PFC, No load power consumption<0.5W
- **Global certificates in multi-fields**  
(ITE 62368-1, Medical 60601-1, Household 60335-1, Industrial 61558-1/-2-16)
- **150%peak** load @ 3s
- **180W** convection, **300W** with FAN **10.98CFM** forced-cooled
- Suitable for **Class I** or **Class II** installations
- Over voltage category **III (OVC III)**
- **-40 ~ +80°C** wide range operation temperature
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Extremely low leakage current, **2 x MOPP**, suitable for **BF** medical applications
- Operating altitude up to **5000 meters**
- Built-in 12V/0.5A for external FAN
- 3 years warranty

## Description

The LOP-300 is a 300W highly reliable, energy-efficient, low-profile open frame type power supply. With a high power density of 37.5W/in<sup>3</sup> within the standard size of 4" x 2", it features a universal input voltage range of 80~264VAC, making it suitable for global applications. The series offers a comprehensive selection of standard voltages, including 12V/15V/18V/24V/27V/30V/36V/48V/54V, and comes in a complete range of models.

The main features of the LOP-300 include: low standby power (<0.5W), high efficiency (up to 94%), capable of providing 180W under natural air cooling and 300W with an additional fan. It has a 150% @ 3 seconds overload capacity, a wide operating temperature range of -40 to +80°C, compliance with OVCIII, suitable for Class I (with FG) or Class II (without FG) systems. The product has obtained multiple safety certifications, including 62368-1/60601-1/61558-1/60335-1, and is designed to meet 2xMOPP and extremely low touch leakage current <70  $\mu$ A, making it suitable for BF class medical devices. With high product safety and excellent EMC performance, it is versatile and applicable in various fields such as ITE, medical, industrial control, home automation and more. It is a cost-effective slim open frame type power supply.

## Model Encoding

**LOP - 300 - 12**

Output voltage (12V/15V/18V/24V/27V/30V/36V/48V/54V)  
Rated wattage  
Series name

## Applications

- Industrial automation machinery/ control system
- Security system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus
- Network equipment
- Telecom devices
- Power sourcing equipment of PoE
- Home automation
- Medical devices

## GTIN CODE

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



## 300W 4"x2" Low Profile Open Frame Power Supply

## LOP-300 series

## SPECIFICATION

| MODEL       |                                     | LOP-300-12                                                                                                                          | LOP-300-15   | LOP-300-18   | LOP-300-24   | LOP-300-27   | LOP-300-30  | LOP-300-36   | LOP-300-48   | LOP-300-54   |
|-------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|
| OUTPUT      | DC VOLTAGE                          | 12V                                                                                                                                 | 15V          | 18V          | 24V          | 27V          | 30V         | 36V          | 48V          | 54V          |
|             | CURRENT                             | Peak(3sec.)                                                                                                                         | 37.5A        | 30A          | 25A          | 18.8A        | 16.7A       | 15A          | 12.5A        | 9.4A         |
|             |                                     | 10.98CFM                                                                                                                            | 25A          | 20A          | 16.7A        | 12.5A        | 11.1A       | 10A          | 8.3A         | 6.3A         |
|             |                                     | Convection                                                                                                                          | 15A          | 12A          | 10A          | 7.5A         | 6.7A        | 6A           | 5A           | 3.8A         |
|             | RATED POWER                         | Peak(3sec.)                                                                                                                         | 450W         | 450W         | 450W         | 450W         | 450W        | 450W         | 450W         | 450W         |
|             |                                     | 10.98CFM                                                                                                                            | 300W         | 300W         | 300.6W       | 300W         | 299.7W      | 300W         | 299.8W       | 302.4W       |
|             |                                     | Convection                                                                                                                          | 180W         | 180W         | 180W         | 180W         | 180.9W      | 180W         | 180W         | 182.4W       |
|             | RIPPLE & NOISE (max.)<br>Note.2     | 120mVp-p                                                                                                                            | 150mVp-p     | 180mVp-p     | 200mVp-p     | 200mVp-p     | 250mVp-p    | 250mVp-p     | 250mVp-p     | 250mVp-p     |
|             | VOLTAGE ADJ. RANGE<br>(MAIN OUTPUT) | 11.4~12.6V                                                                                                                          | 14.3~15.8V   | 17.1~18.9V   | 22.8~25.2V   | 25.6 ~ 28.4V | 28.5 ~31.5V | 34.2 ~37.8V  | 45.6 ~50.4V  | 52 ~58V      |
|             | VOLTAGE TOLERANCE<br>Note.3         | ±3.0%                                                                                                                               | ±3.0%        | ±3.0%        | ±2.0%        | ±1.0%        | ±1.0%       | ±1.0%        | ±1.0%        | ±1.0%        |
|             | LINE REGULATION                     | ±0.5%                                                                                                                               | ±0.5%        | ±0.5%        | ±0.5%        | ±0.5%        | ±0.5%       | ±0.5%        | ±0.5%        | ±0.5%        |
|             | LOAD REGULATION                     | ±1.0%                                                                                                                               | ±1.0%        | ±1.0%        | ±1.0%        | ±1.0%        | ±1.0%       | ±1.0%        | ±1.0%        | ±1.0%        |
|             | SETUP, RISE TIME                    | 1000ms, 30ms/230VAC      1500ms, 30ms/115VAC at full load                                                                           |              |              |              |              |             |              |              |              |
|             | HOLD UP TIME (Typ.)                 | 16ms@180W load , 8ms@300W load                                                                                                      |              |              |              |              |             |              |              |              |
| INPUT       | VOLTAGE RANGE Note.4                | 80 ~ 264VAC      113 ~ 370VDC                                                                                                       |              |              |              |              |             |              |              |              |
|             | FREQUENCY RANGE                     | 47 ~ 63Hz                                                                                                                           |              |              |              |              |             |              |              |              |
|             | POWER FACTOR                        | PF>0.95/230VAC PF>0.98/115VAC at full load                                                                                          |              |              |              |              |             |              |              |              |
|             | EFFICIENCY (Typ.)                   | 92.5%                                                                                                                               | 93%          | 93.5%        | 93%          | 93%          | 93%         | 94%          | 94%          | 94%          |
|             | AC CURRENT (Typ.)                   | 3.5A/115VAC    1.8A/230VAC                                                                                                          |              |              |              |              |             |              |              |              |
|             | INRUSH CURRENT (Typ.)               | COLD START 40A/115VAC      80A/230VAC                                                                                               |              |              |              |              |             |              |              |              |
|             | LEAKAGE CURRENT                     | Earth leakage current < 500 $\mu$ A(rms) @ 264VAC , touch current < 70 $\mu$ A(rms) @ 264VAC                                        |              |              |              |              |             |              |              |              |
| PROTECTION  | OVERLOAD                            | 105 ~ 150% rated output power, Protection type : Hiccup after 3 sec, recovers automatically(3 sec) after fault condition is removed |              |              |              |              |             |              |              |              |
|             | OVER VOLTAGE                        | 13.2 ~ 15.6V                                                                                                                        | 16.5 ~ 19.5V | 19.8 ~ 23.4V | 26.4 ~ 31.2V | 29.7 ~ 35.1V | 33 ~ 39V    | 39.6 ~ 46.8V | 52.8 ~ 62.4V | 59.4 ~ 67.5V |
|             | OVER TEMPERATURE                    | Protection type : Shut down o/p voltage, recovers automatically after temperature goes down or re-power on to recover               |              |              |              |              |             |              |              |              |
| FUNCTION    | EXTERNAL FAN SUPPLY                 | 12V@0.5A for driving a fan (10.98CFM) / 12V@0.1A without fan cooling ;<br>Tolerance -20% ~ +15% at main output 20% rated current    |              |              |              |              |             |              |              |              |
| ENVIRONMENT | WORKING TEMP.                       | -40 ~ +80°C (Refer to "Derating Curve")                                                                                             |              |              |              |              |             |              |              |              |
|             | WORKING HUMIDITY                    | 20 ~ 90% RH non-condensing                                                                                                          |              |              |              |              |             |              |              |              |
|             | STORAGE TEMP., HUMIDITY             | -40 ~ +85°C, 10 ~ 95% RH non-condensing                                                                                             |              |              |              |              |             |              |              |              |
|             | TEMP. COEFFICIENT                   | ±0.03%/°C (0 ~ 50°C)                                                                                                                |              |              |              |              |             |              |              |              |
|             | VIBRATION                           | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                        |              |              |              |              |             |              |              |              |



## 300W 4"x2" Low Profile Open Frame Power Supply

## LOP-300 series

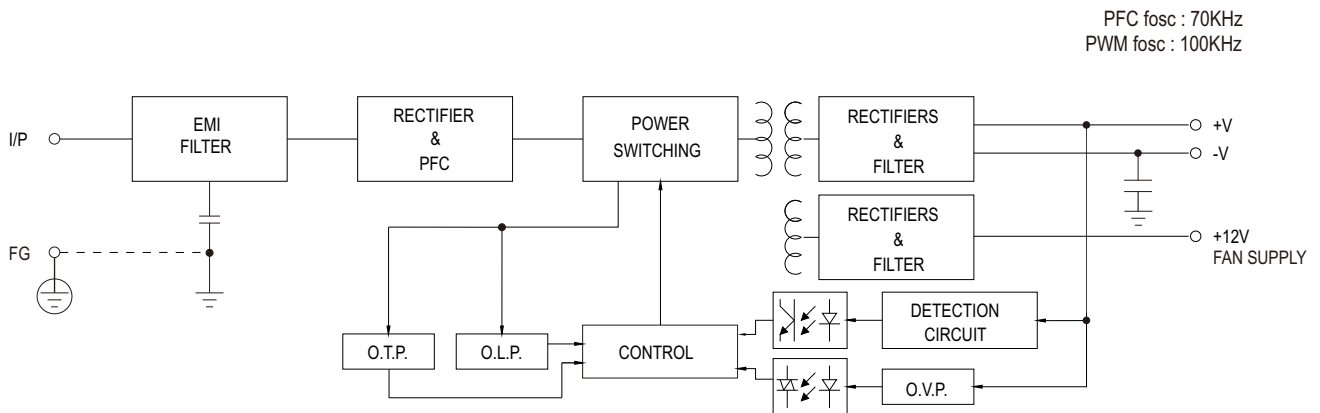
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |                                                  |                                                                                                  |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------|
| SAFETY & EMC<br>(Note 5) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CB IEC62368-1, IEC60335-1, IEC61558-1/-2-16, IEC60601-1;<br>TUV BS EN/EN62368-1, BS EN/EN60335-1, BS EN/EN61558-1/-2-16, BS EN/EN60601-1(3.2 Version);<br>UL UL62368-1, ANSI / AAMI ES60601-1(3.2 Version) ;<br>CCC GB4943.1 ; RCM AS/NZS 61558-1/-2-16; EAC TPTC 004 approved. |                                                  |                                                                                                  |
|                          | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Primary-Secondary: 2xMOPP, Primary-Earth:1xMOPP, Secondary-Earth:1xMOPP                                                                                                                                                                                                         |                                                  |                                                                                                  |
|                          | OVER VOLTAGE CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IEC/EN 61558-1/-2-16(OVC III, altitude up to 2000M )<br>IEC/EN/UL 62368-1 (OVC II, altitude up to 5000M )<br>IEC/EN 60335-1 (OVC II, altitude up to 5000M )<br>IEC/EN 60601-1 (OVC II, altitude up to 4000M )                                                                   |                                                  |                                                                                                  |
|                          | PROTECTIVE EXTRA-LOW VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | IEC/EN61558-2-16 (SELV, 12~48V )<br>IEC/EN/UL 62368-1 (SELV / ES1, 12~48V )                                                                                                                                                                                                     |                                                  |                                                                                                  |
|                          | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Parameter                                                                                                                                                                                                                                                                       | Standard                                         | Test Level / Note                                                                                |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Conducted & Radiated                                                                                                                                                                                                                                                            | BS EN/EN55032(CISPR32)<br>BS EN/EN55011(CISPR11) | Class I : Class B , Class II : Class A                                                           |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 | BS EN/EN55014(CISPR32)                           | Class I : Class B                                                                                |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 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 4, 15KV air ; Level 4, 8KV contact                                                         |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Radiated Susceptibility                                                                                                                                                                                                                                                         | BS EN/EN61000-4-3                                | Level 3, 10V/m( 80MHz~2.7GHz )<br>Table 9, 9~28V/m( 385MHz~5.78GHz )                             |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | EFT/Burest                                                                                                                                                                                                                                                                      | BS EN/EN61000-4-4                                | Level 3, 2KV                                                                                     |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Surge                                                                                                                                                                                                                                                                           | BS EN/EN61000-4-5                                | Level 4, 4KV/Line-FG ; 2KV/Line-Line                                                             |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Conducted                                                                                                                                                                                                                                                                       | BS EN/EN61000-4-6                                | Level 3, 10V                                                                                     |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Magnetic Field                                                                                                                                                                                                                                                                  | BS EN/EN61000-4-8                                | Level 4, 30A/m                                                                                   |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Voltage Dips and interruptions                                                                                                                                                                                                                                                  | BS EN/EN61000-4-11                               | >95% dip 0. 5 periods, 100% dip 1 periods, 30% dip 25 periods,<br>>95% interruptions 250 periods |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2805.6K hrs min. Telcordia SR-332 (Bellcore) ; 384.4K hrs min. MIL-HDBK-217F (25°C)                                                                                                                                                                                             |                                                  |                                                                                                  |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 101.6*50.8* 25.4mm (L*W*H)                                                                                                                                                                                                                                                      |                                                  |                                                                                                  |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.21Kg; 36pcs/10Kg/0.95CUFT                                                                                                                                                                                                                                                     |                                                  |                                                                                                  |
| 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 0.1 μF & 47μF 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 <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a> )<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> |                                                                                                                                                                                                                                                                                 |                                                  |                                                                                                  |



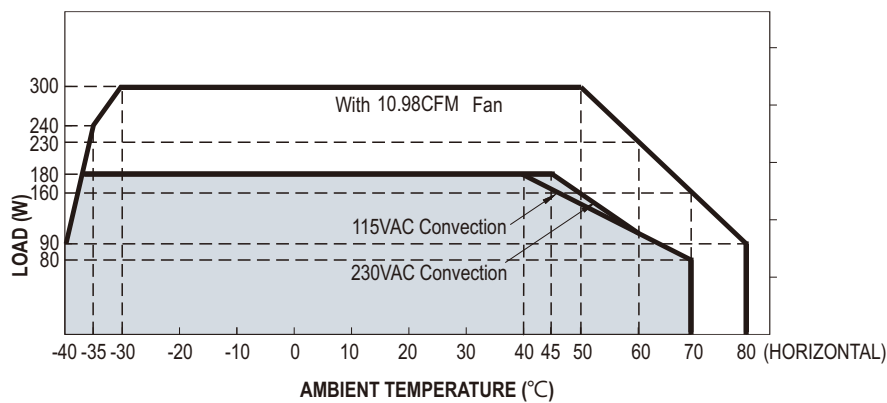
## 300W 4"x2" Low Profile Open Frame Power Supply

## LOP-300 series

### Block Diagram

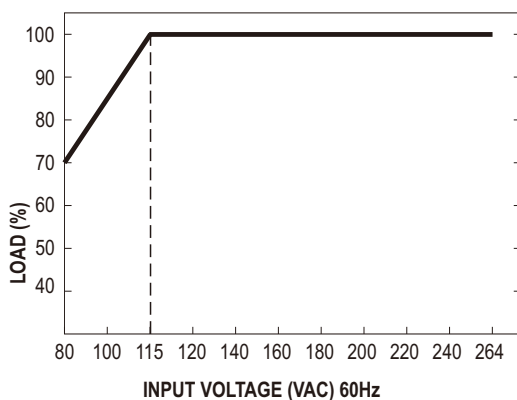


### Derating Curve



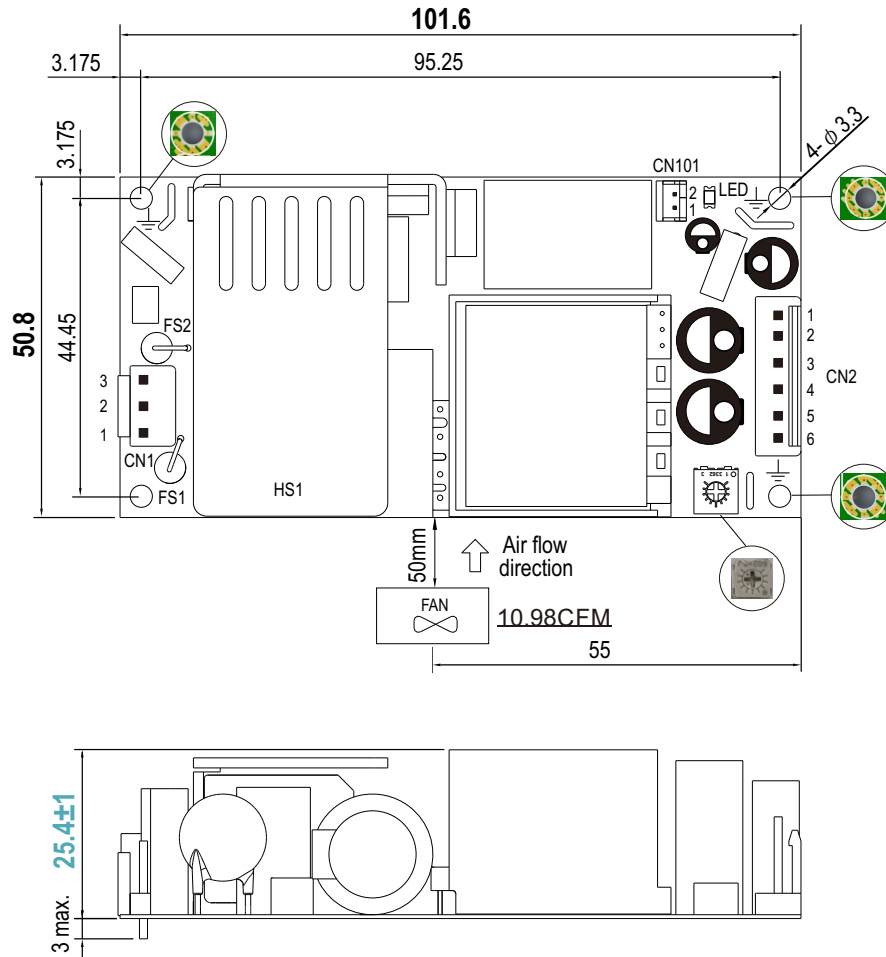
| Cooling                        | Max. Output Power |
|--------------------------------|-------------------|
| Free air convection            | 180W              |
| Force-cooled with external Fan | 300W              |

### Output Derating VS Input Voltage



## Mechanical Specification

(Unit: mm , tolerance  $\pm 1$ mm)



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 (CN2) : JST B6P-VH or equivalent

| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1,2,3   | +V         | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 4,5,6   | -V         |                       |                                |

FAN Connector(CN101) : JSTB2B-PH-K-S or equivalent

| Pin No. | Assignment | Mating Housing          | Terminal                         |
|---------|------------|-------------------------|----------------------------------|
| 1       | +12Vaux    | JST PHR-2 or equivalent | JST SPH-002T-P0.5S or equivalent |
| 2       | DC COM     |                         |                                  |

Note:

Class I System: Mounting holes marked with  $\perp$  have to be connected to safety earth.

Class II System: Unnecessary to connect with safety earth.

## Installation Manual

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