



EN61558-1  
EN61558-2-16

IS 13252(Part 1)



R-41179035  
www.bis.gov.in  
(except for 48V)



R33100  
RoHS



Note 7



TPTC004



IEC62368-1  
IEC61558-1  
IEC61558-2-16



UL62368-1



Note 6



ECO



Automate



Industrial



Security



Network



Telecom

## Features

- AC input range selectable by switch
- Withstand 300VAC surge input for 5 second
- Up to 200% peak power capability
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling
- Built-in cooling Fan ON-OFF control
- Compliance to IEC/BS EN/EN61558-1 and 62368-1
- Withstand 5G vibration test
- Over voltage category III(OVC III)
- High operating temperature up to 65°C
- Operating altitude up to 2000 meters
- 3 years warranty

## Description

LRS-600N2 series is a 600W single-output enclosed type power supply with 41mm of low profile design. Adopting the input of 115VAC or 230VAC (select by switch), the entire series provides an output voltage line of 12V, 24V, 36V and 48V. In addition to the high efficiency up to 92%, with the built-in long life fan LRS-600N2 can work under -20~+65°C with full load. LRS-600N2 has the complete protection functions and 5G anti-vibration capability; It is complied with complete international safety regulations. LRS-600N2 series serves as a high price-to-performance power supply solution for various industrial applications. Moreover, LRS-600N2 can provide 200% short-duration peak power for motor applications and electromechanical loads requiring much higher power during start-up.

## Model Encoding

LRS - 600 N2 - 24

Output voltage(12/24/36/48V)  
2 times peak power  
Output power  
Series name

## Applications

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

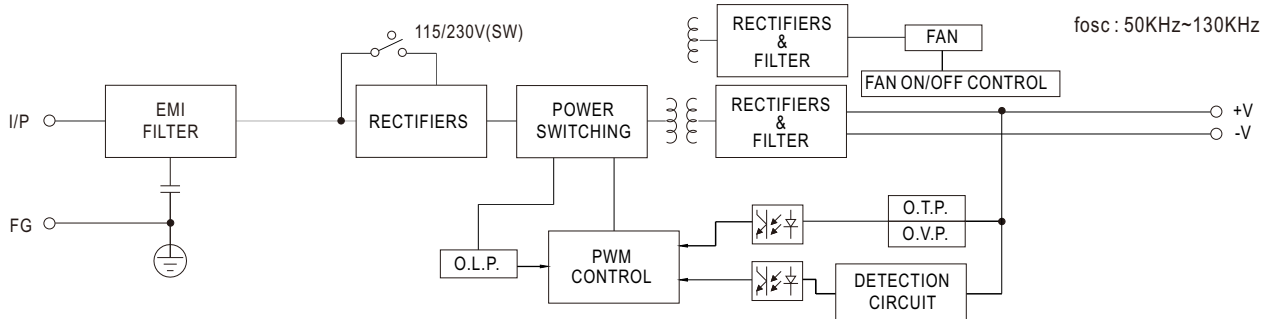
## GTIN CODE

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

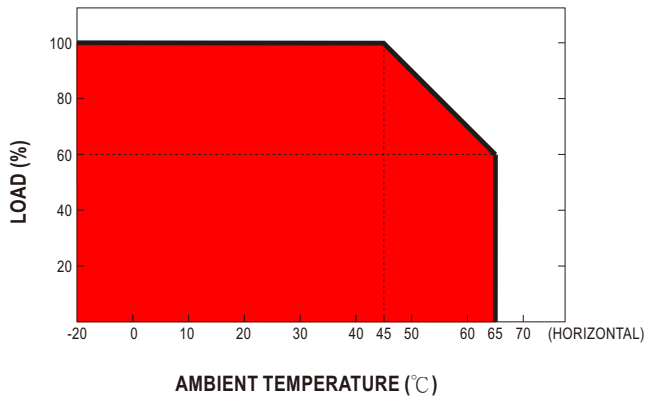
**SPECIFICATION**

| MODEL                  |                              | LRS-600N2-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | LRS-600N2-24 | LRS-600N2-36 | LRS-600N2-48 |
|------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|
| OUTPUT                 | DC VOLTAGE                   | 12V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 24V          | 36V          | 48V          |
|                        | RATED CURRENT                | 50A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 25A          | 16.6A        | 12.5A        |
|                        | CURRENT RANGE                | 0 ~ 50A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0 ~ 25A      | 0 ~ 16.6A    | 0 ~ 12.5A    |
|                        | RATED POWER                  | 600W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 600W         | 597.6W       | 600W         |
|                        | RIPPLE & NOISE (max.) Note.2 | 200mVp-p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 240mVp-p     | 360mVp-p     | 360mVp-p     |
|                        | VOLTAGE ADJ. RANGE Note.3    | 11.4 ~ 13.2V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 22.8 ~ 26.4V | 34.2 ~ 39.6V | 45.6 ~ 52.8V |
|                        | VOLTAGE TOLERANCE            | ± 1.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ± 1.0%       | ± 1.0%       | ± 1.0%       |
|                        | LINE REGULATION              | ± 0.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ± 0.5%       | ± 0.5%       | ± 0.5%       |
|                        | LOAD REGULATION              | ± 1.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ± 0.5%       | ± 0.5%       | ± 0.5%       |
|                        | SETUP, RISE TIME Note.4      | 1300ms, 50ms/230VAC    1300ms, 50ms/115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |              |              |
|                        | HOLD UP TIME (Typ.)          | 20ms/230VAC    16ms/115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |              |              |
| INPUT                  | VOLTAGE RANGE                | 90 ~ 132VAC / 180 ~ 264VAC by switch    255 ~ 370VDC (switch on 230VAC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |              |              |
|                        | FREQUENCY RANGE              | 47 ~ 63Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |              |              |
|                        | EFFICIENCY (Typ.)            | 90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 91%          | 92%          | 92%          |
|                        | AC CURRENT (Typ.)            | 12A/115VAC    7.5A/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |              |              |
|                        | INRUSH CURRENT (Typ.)        | 35A/115VAC    60A/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |              |              |
|                        | LEAKAGE CURRENT              | <2mA / 240VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |              |              |
| PROTECTION<br>(Note.5) | OVER LOAD                    | Output power >105% rated for more than 5 seconds then shut down o/p voltage, re-power on to recover<br>Constant current limiting for output power >200% rated for more than 5 seconds and then shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |              |              |
|                        | OVER VOLTAGE                 | 13.8 ~ 16.2V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 27.6 ~ 32.4V | 41.4 ~ 48.6V | 55.2 ~ 64.8V |
|                        |                              | Protection type : Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |              |              |
|                        | OVER TEMPERATURE             | Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |              |              |
| FUNCTION               | FAN ON/OFF CONTROL (Typ.)    | RTH3 ≥ 50°C FAN ON, ≤ 40°C FAN OFF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |              |              |
| ENVIRONMENT            | WORKING TEMP.                | -20 ~ +65°C (Refer to "Derating Curve")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |              |              |
|                        | WORKING HUMIDITY             | 20 ~ 90% RH non-condensing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |              |              |
|                        | STORAGE TEMP., HUMIDITY      | -40 ~ +85°C, 10 ~ 95% RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |              |              |
|                        | TEMP. COEFFICIENT            | ± 0.03%/°C (0 ~ 50°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |              |              |
|                        | VIBRATION                    | 10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |              |              |
|                        | OVER VOLTAGE CATEGORY        | III : According to EN61558, EN50178, EN60664-1, EN62477-1; altitude up to 2000 meters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |              |              |
| SAFETY                 | SAFETY STANDARDS             | BS IEC/UL 62368-1, EAC TP TC 004, BIS IS13252(Part1):2010/IEC60950-1:2005(except for 48V), BSMI CNS15598-1, GB 4943.1, BS EN/EN61558-1, BS EN/EN61558-2-16, design refer to AS/NZS61558.1/2.16, AS/NZS62368.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |              |              |
|                        | WITHSTAND VOLTAGE            | I/P-O/P: 3.75KVAC    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                 | Compliance to EAC TP TC 020, BSMI CNS15936                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |              |              |
|                        | EMC IMMUNITY                 | Compliance to EAC TP TC 020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |              |              |
| OTHERS                 | MTBF                         | 1336.2K hrs min. Telcordia SR-332(Bellcore) ; 230.8 K hrs min. MIL-HDBK-217F (25°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |              |              |
|                        | DIMENSION                    | 225*124*41mm (L*W*H)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |              |              |
|                        | PACKING                      | 0.95Kg/12pcs/12.4Kg/0.77CUFT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |              |              |
| 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>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>Voltage adjustment can only be operated within the input range of 100~120VAC or 200~240VAC.<br/>If the voltage adjustment is performed outside this range, it may cause abnormal output.</li> <li>Length of set up time is measured at cold start. Turning the power supply on/off frequently may lead to increase of the set up time.</li> <li>Once protections are triggered, 4min(Typ.) of cold down time is required before restart.</li> <li>This power supply does not meet the harmonic current requirements outlined by EN61000-3-2. Please do not use this power supply under the following conditions: <ol style="list-style-type: none"> <li>the end-devices is used within the European Union, and</li> <li>the end-devices is connected to public mains supply with 220Vac or greater rated nominal voltage, and</li> <li>the power supply is: <ul style="list-style-type: none"> <li>installed in end-devices with average or continuous input power greater than 75W, or</li> <li>belong to part of a lighting system</li> </ul> </li> </ol> Exception:<br/>Power supplies used within the following end-devices do not need to fulfill EN61000-3-2 <ol style="list-style-type: none"> <li>professional equipment with a total rated input power greater than 1000W;</li> <li>symmetrically controlled heating elements with a rated power less than or equal to 200W</li> </ol> </li> <li>RCM is on voluntary basis and meets relevant IEC or AS/NZS standards complying with AS/NZS 4417.1</li> </ol> <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> |              |              |              |

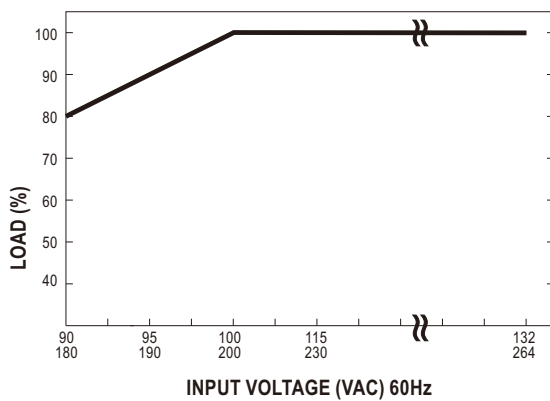
### ■ Block Diagram



### ■ Derating Curve



### ■ Static Characteristics



## Function Manual

### 1. Peak Power

$$P_{av} = \frac{P_{pk} \times t + P_{npk} \times (T-t)}{T} \leq P_{rated}$$

$$\text{Duty} = \frac{t}{T} \times 100\% \leq 35\%$$

$$t \leq 5 \text{ sec}$$

$P_{av}$  : Average output power (W)

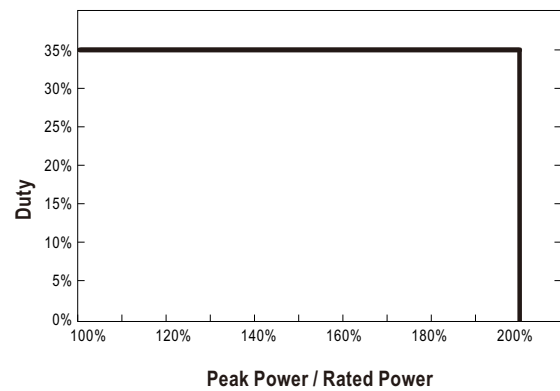
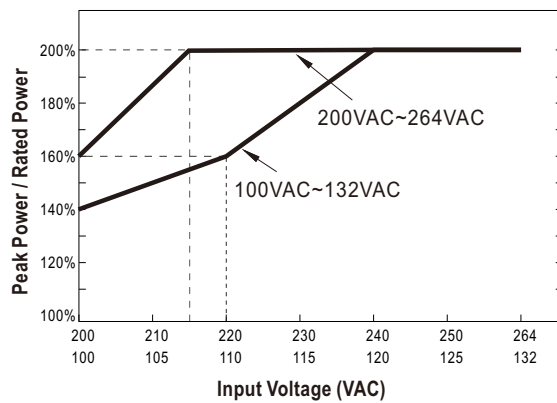
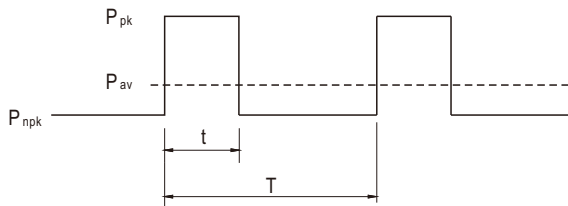
$P_{pk}$  : Peak output power (W)

$P_{npk}$  : Non-peak output power (W)

$P_{rated}$  : Rated output power (W)

$t$  : Peak power width (sec)

$T$  : Period (sec)



#### For example (24V model)

$V_{in}=220\text{VAC}$ ,  $\text{Duty}_{\text{max}}=10\%$

$P_{av}=P_{rated}=600\text{W}$

$P_{pk}=1000\text{W}$

$t \leq 5\text{sec}$

$$T \geq \frac{5\text{sec}}{10\%} = 50\text{sec}$$

$$P_{npk} \leq \frac{TP_{av} - tP_{pk}}{T-t} = 555.5\text{W}$$



## 600W Single Output High Peak Power Supply

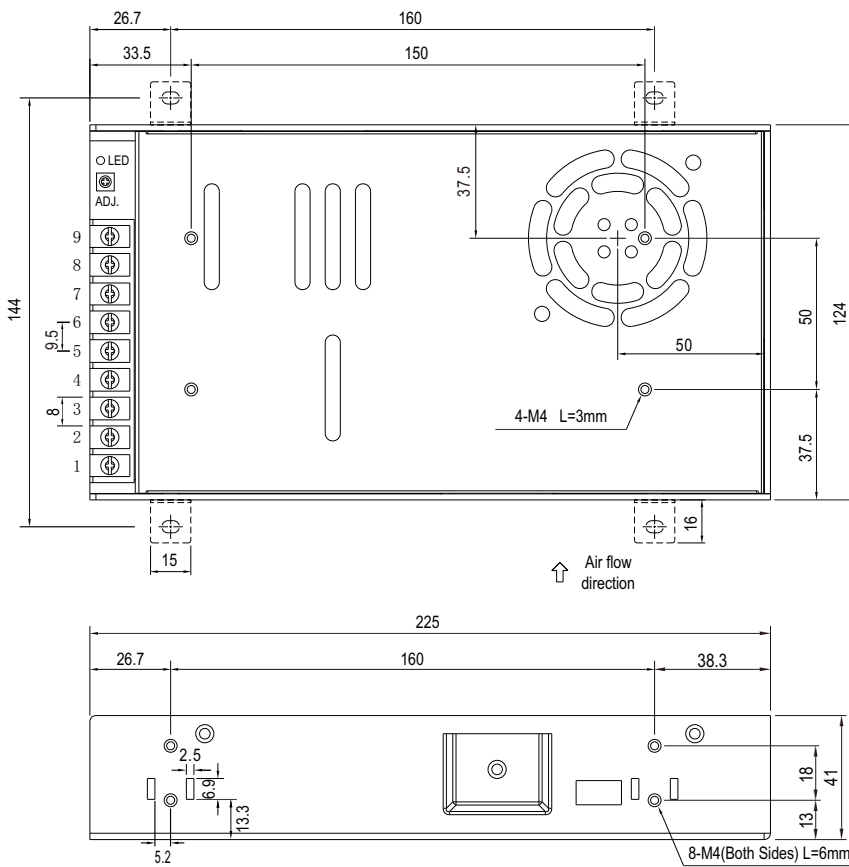
# LRS-600N2 series

### Mechanical Specification

Case No. 292

Unit:mm

Tolerance:±1



Terminal Pin No. Assignment :

| Pin No. | Assignment | Pin No. | Assignment   |
|---------|------------|---------|--------------|
| 1       | AC/L       | 4~6     | DC OUTPUT -V |
| 2       | AC/N       | 7~9     | DC OUTPUT +V |
| 3       | FG $\perp$ |         |              |

### Installation Manual

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