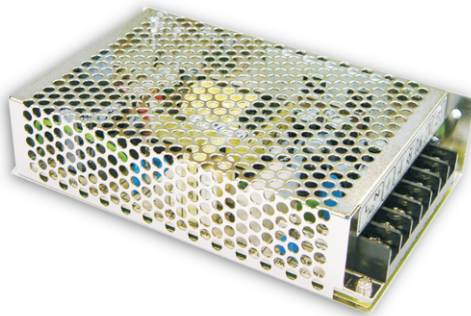




## 100W Single Output Switching Power Supply

## NES-100 series



### ■ Features :

- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- 2 years warranty



### SPECIFICATION

| MODEL                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NES-100-5                                                                                                               | NES-100-7.5 | NES-100-9    | NES-100-12   | NES-100-15     | NES-100-24   | NES-100-48   |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------|--------------|--------------|----------------|--------------|--------------|
| OUTPUT                   | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5V                                                                                                                      | 7.5V        | 9V           | 12V          | 15V            | 24V          | 48V          |
|                          | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 20A                                                                                                                     | 13.6A       | 11.2A        | 8.5A         | 7A             | 4.5A         | 2.3A         |
|                          | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0 ~ 20A                                                                                                                 | 0 ~ 13.6A   | 0 ~ 11.2A    | 0 ~ 8.5A     | 0 ~ 7A         | 0 ~ 4.5A     | 0 ~ 2.3A     |
|                          | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 100W                                                                                                                    | 102W        | 100.8W       | 102W         | 105W           | 108W         | 110.4W       |
|                          | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 80mVp-p                                                                                                                 | 120mVp-p    | 120mVp-p     | 120mVp-p     | 120mVp-p       | 120mVp-p     | 150mVp-p     |
|                          | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4.75 ~ 5.5V                                                                                                             | 7.13 ~ 8.3V | 8.55 ~ 9.9V  | 11.4 ~ 13.2V | 14.25 ~ 16.5V  | 22.8 ~ 26.4V | 45.6 ~ 52.8V |
|                          | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ±2.0%                                                                                                                   | ±1.0%       | ±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%        |
|                          | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±0.5%                                                                                                                   | ±0.5%       | ±0.5%        | ±0.5%        | ±0.5%          | ±0.5%        | ±0.5%        |
|                          | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 500ms, 20ms/230VAC      500ms, 20ms/115VAC at full load                                                                 |             |              |              |                |              |              |
| HOLD TIME (Typ.)         | 30ms/230VAC      25ms/115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                         |             |              |              |                |              |              |
| INPUT                    | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 85 ~ 132VAC / 176 ~ 264VAC selected by switch      248 ~ 373VDC                                                         |             |              |              |                |              |              |
|                          | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 47 ~ 63Hz                                                                                                               |             |              |              |                |              |              |
|                          | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 80%                                                                                                                     | 81%         | 81%          | 83%          | 84%            | 86%          | 86%          |
|                          | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2A/115VAC      1.2A/230VAC                                                                                              |             |              |              |                |              |              |
|                          | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | COLD START 36A                                                                                                          |             |              |              |                |              |              |
|                          | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <2mA/ 240VAC                                                                                                            |             |              |              |                |              |              |
| PROTECTION               | OVER LOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 110 ~ 150% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |             |              |              |                |              |              |
|                          | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5.75 ~ 6.75V                                                                                                            | 8.6 ~ 10.1V | 10.4 ~ 12.2V | 13.8 ~ 16.2V | 17.25 ~ 20.25V | 27.6 ~ 32.4V | 55.2 ~ 64.8V |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Protection type : Hiccup mode, recovers automatically after fault condition is removed                                  |             |              |              |                |              |              |
| ENVIRONMENT              | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -20 ~ +60℃ (Refer to output load derating curve)                                                                        |             |              |              |                |              |              |
|                          | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 20 ~ 90% RH non-condensing                                                                                              |             |              |              |                |              |              |
|                          | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -40 ~ +85℃, 10 ~ 95% RH                                                                                                 |             |              |              |                |              |              |
|                          | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±0.03%/℃ (0 ~ 50℃)                                                                                                      |             |              |              |                |              |              |
|                          | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes                                                 |             |              |              |                |              |              |
| SAFETY & EMC<br>(Note 4) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | UL60950-1 Approved, CB Approved by TUV(Design refer to IEC 60950-1)                                                     |             |              |              |                |              |              |
|                          | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I/P-O/P:3KVAC    I/P-FG:1.5KVAC    O/P-FG:0.5KVAC                                                                       |             |              |              |                |              |              |
|                          | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC                                                                                |             |              |              |                |              |              |
|                          | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compliance to EN55022 (CISPR22) Class B                                                                                 |             |              |              |                |              |              |
|                          | HARMONIC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance to EN61000-3-2,-3                                                                                            |             |              |              |                |              |              |
|                          | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, ENV50204, EN55024, EN61000-6-1 Light industry level, criteria A           |             |              |              |                |              |              |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 320.7Khrs min.    MIL-HDBK-217F (25℃)                                                                                   |             |              |              |                |              |              |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 159*97*38mm (L*W*H)                                                                                                     |             |              |              |                |              |              |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.55Kg; 24pcs/14.2Kg/0.7CUFT                                                                                            |             |              |              |                |              |              |
| NOTE                     | 1. All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. |                                                                                                                         |             |              |              |                |              |              |

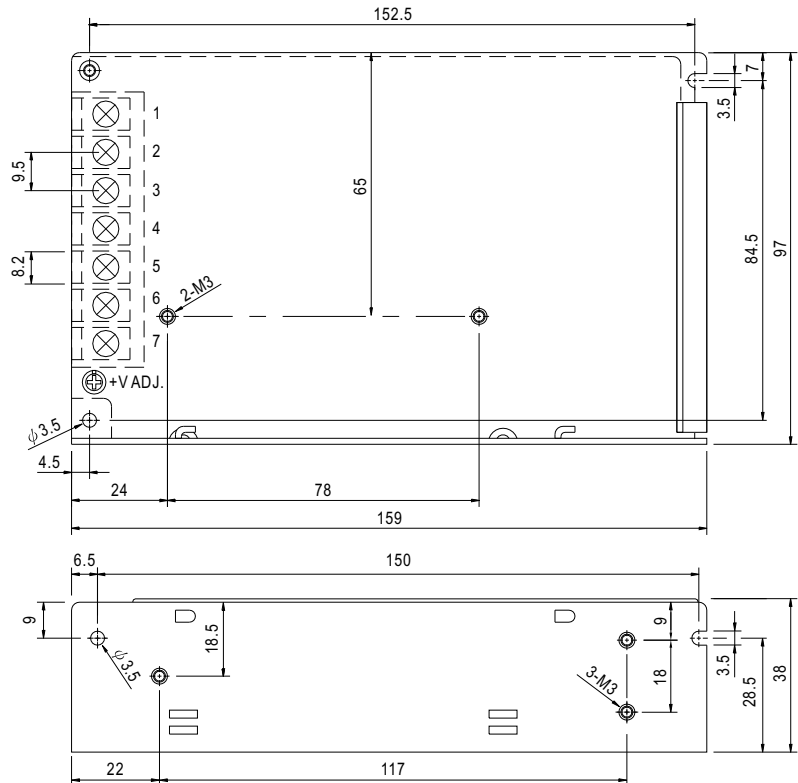


# 100W Single Output Switching Power Supply

## NES-100 series

### Mechanical Specification

Case No. 901 Unit:mm

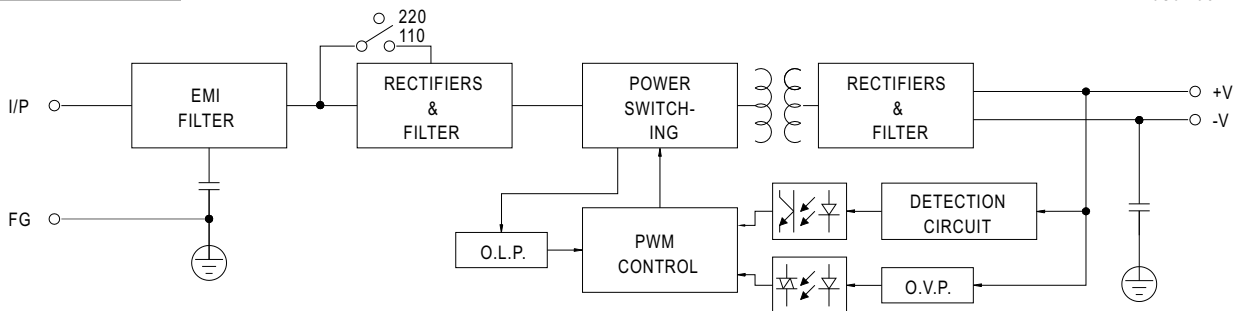


Terminal Pin. No Assignment

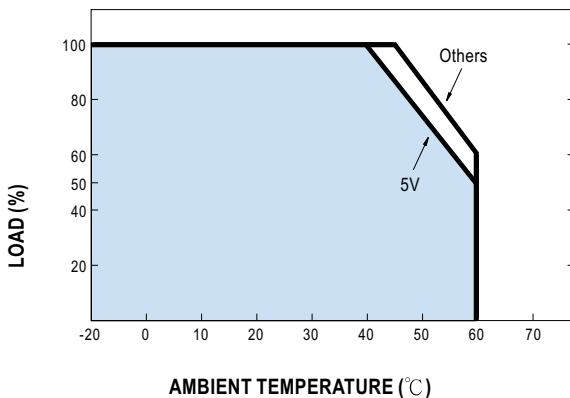
| Pin No. | Assignment | Pin No. | Assignment   |
|---------|------------|---------|--------------|
| 1       | AC/L       | 4,5     | DC OUTPUT -V |
| 2       | AC/N       | 6,7     | DC OUTPUT +V |
| 3       | FG $\perp$ |         |              |

### Block Diagram

fosc : 60KHz



### Output Derating



### Static Characteristics

