



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- High efficiency up to 89.5%
- Withstand 300VAC surge input for 5 seconds
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in constant current limiting circuit
- Medical safety approved (MOOP level)
- Built-in cooling Fan ON-OFF control
- Built-in DC OK signal
- Built-in remote ON-OFF control
- Stand by 5V@0.3A
- Built-in remote sense function
- No load power consumption<0.6W (Note.6)
- 5 years warranty

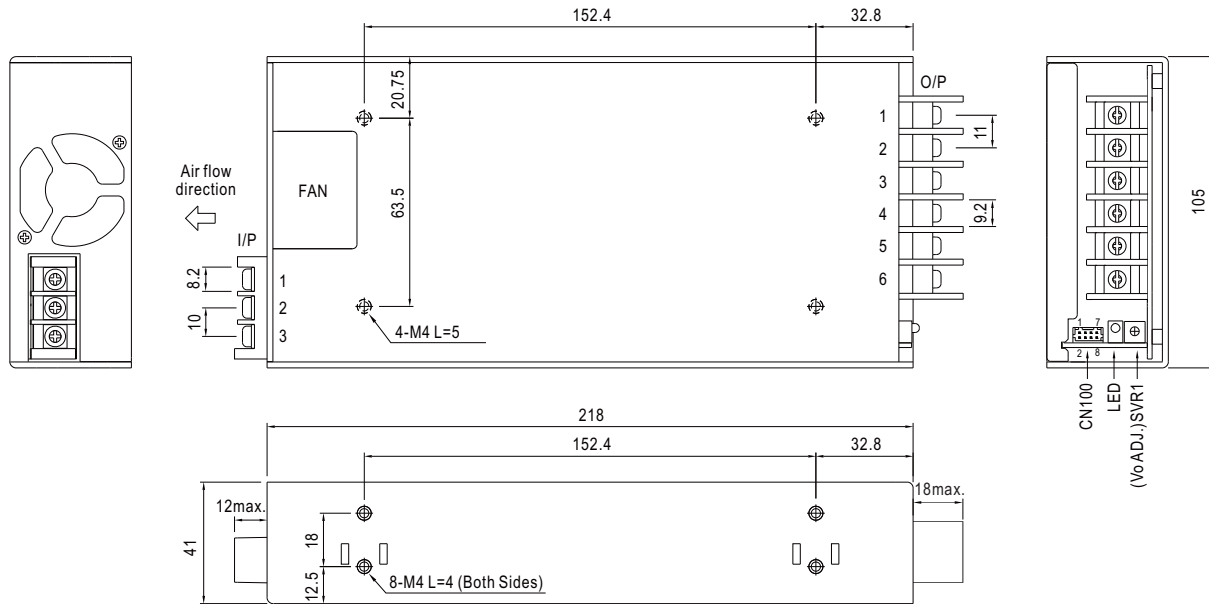


SPECIFICATION

| MODEL | | MSP-450-3.3 | MSP-450-5 | MSP-450-7.5 | MSP-450-12 | MSP-450-15 | MSP-450-24 | MSP-450-36 | MSP-450-48 | |
|-----------------------|---|---|------------|-------------|--------------|--------------|--------------|--------------|--------------|--|
| OUTPUT | DC VOLTAGE | 3.3V | 5V | 7.5V | 12V | 15V | 24V | 36V | 48V | |
| | RATED CURRENT | 90A | 90A | 60A | 37.5A | 30A | 18.8A | 12.5A | 9.5A | |
| | CURRENT RANGE | 0 ~ 90A | 0 ~ 90A | 0 ~ 60A | 0 ~ 37.5A | 0 ~ 30A | 0 ~ 18.8A | 0 ~ 12.5A | 0 ~ 9.5A | |
| | RATED POWER | 297W | 450W | 450W | 450W | 450W | 451.2W | 450W | 456W | |
| | RIPPLE & NOISE (max.) Note.2 | 80mVp-p | 80mVp-p | 100mVp-p | 120mVp-p | 150mVp-p | 150mVp-p | 240mVp-p | 240mVp-p | |
| | VOLTAGE ADJ. RANGE | 2.8 ~ 3.8V | 4.3 ~ 5.8V | 6.8 ~ 9V | 10.2 ~ 13.8V | 13.5 ~ 18V | 21.6 ~ 28.8V | 28.8 ~ 39.6V | 40.8 ~ 55.2V | |
| | VOLTAGE TOLERANCE Note.3 | ±2.0% | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.3% | ±0.3% | ±0.2% | ±0.2% | ±0.2% | |
| | LOAD REGULATION | ±1.0% | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | |
| | SETUP, RISE TIME | 1000ms, 100ms/230VAC 2500ms, 100ms/115VAC at full load | | | | | | | | |
| HOLD UP TIME (Typ.) | 16ms/230VAC 16ms/115VAC at full load | | | | | | | | | |
| INPUT | VOLTAGE RANGE Note.4 | 85 ~ 264VAC 120 ~ 370VDC | | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | |
| | POWER FACTOR (Typ.) | PF>0.95/230VAC PF>0.99/115VAC at full load | | | | | | | | |
| | EFFICIENCY (Typ.) | 80% | 83% | 86.5% | 88% | 89% | 88% | 89% | 89.5% | |
| | AC CURRENT (Typ.) | 5A/115VAC 2.4A/230VAC | | | | | | | | |
| | INRUSH CURRENT (Typ.) | 35A/115VAC 70A/230VAC | | | | | | | | |
| LEAKAGE CURRENT | Earth leakage current < 300 μ A/264VAC , Touch leakage current < 100 μ A/264VAC | | | | | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 135% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed | | | | | | | | |
| | OVER VOLTAGE | 3.96 ~ 4.62V | 6 ~ 7V | 9.4 ~ 10.9V | 14.4 ~ 16.8V | 18.8 ~ 21.8V | 30 ~ 34.8V | 41.4 ~ 48.6V | 57.6 ~ 67.2V | |
| | OVER TEMPERATURE | Shut down o/p voltage, recovers automatically after temperature goes down | | | | | | | | |
| FUNCTION | 5V STANDBY | 5VSB : 5V@0.3A ; tolerance ±5% , ripple : 50mVp-p(max.) | | | | | | | | |
| | DC OK SIGNAL | PSU turn on : 3.3 ~ 5.6V ; PSU turn off : 0 ~ 1V | | | | | | | | |
| | REMOTE CONTROL | RC+ / RC-: 4 ~ 10V or open = power on ; 0 ~ 0.8V or short = power off | | | | | | | | |
| | FAN CONTROL (Typ.) | Load 20±10% or RTH2≥50°C Fan on | | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -40 ~ +70°C (Refer to "Derating Curve") | | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +85°C , 10 ~ 95% RH non-condensing | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0 ~ 50°C) | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | | | | |
| SAFETY & EMC (Note 8) | SAFETY STANDARDS | ANSI/AAMI ES60601-1, IEC60601-1, EAC TP TC 004 approved; Design refer to BS EN/EN60601-1, BS EN/EN62368-1 | | | | | | | | |
| | ISOLATION LEVEL | Primary-Secondary: 2xMOOP, Primary-Earth: 1xMOOP, Secondary-Earth: 1xMOOP | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:4KVAC 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 BS EN/EN55011 (CISPR11) Class B, BS EN/EN61000-3-2,-3, EAC TP TC 020 | | | | | | | | |
| OTHERS | EMC IMMUNITY | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN60601-1-2, EAC TP TC 020 | | | | | | | | |
| | MTBF | 159.3K hrs min. MIL-HDBK-217F (25°C) | | | | | | | | |
| | DIMENSION | 218*105*41mm (L*W*H) | | | | | | | | |
| NOTE | PACKING | 1.19Kg; 12pcs/15.3Kg/0.82CUFT | | | | | | | | |
| | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Derating may be needed under low input voltages. Please check the derating curve for more details.</p> <p>5. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.</p> <p>6. No load power consumption<0.5W when RC- & RC+ (CN100 pin1,2) 0 ~ 0.8V or short.</p> <p>7. When the input voltage is less than 40VAC, the SPS may exhibit degradation of performance. The final product manufacturers must re-confirm this deviation that does not affect basic safety or essential performance.</p> <p>8. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)</p> <p>9. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p> | | | | | | | | | |

Mechanical Specification

Case No. 995A Unit:mm



AC Input Terminal Pin No. Assignment

| Pin No. | Assignment |
|---------|------------|
| 1 | AC/L |
| 2 | AC/N |
| 3 | FG \perp |

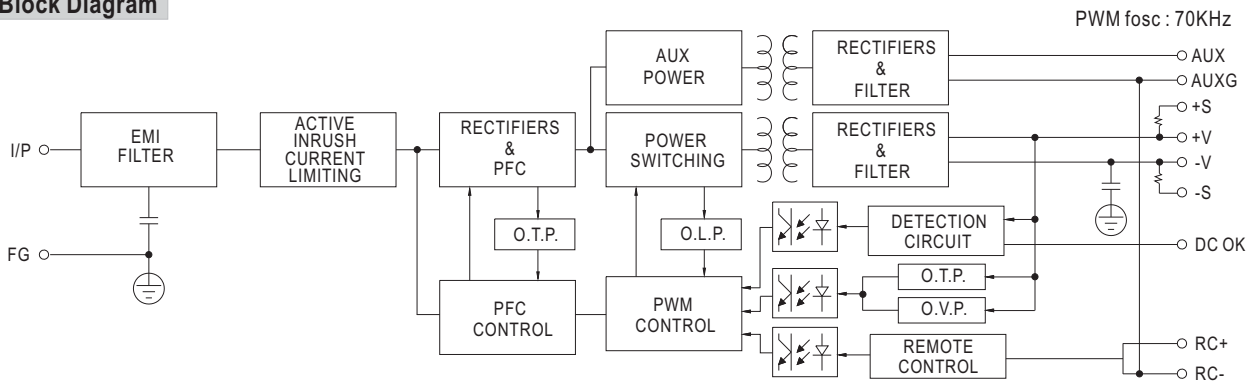
DC Output Terminal Pin No. Assignment

| Pin No. | Assignment |
|---------|------------|
| 1~3 | -V |
| 4~6 | +V |

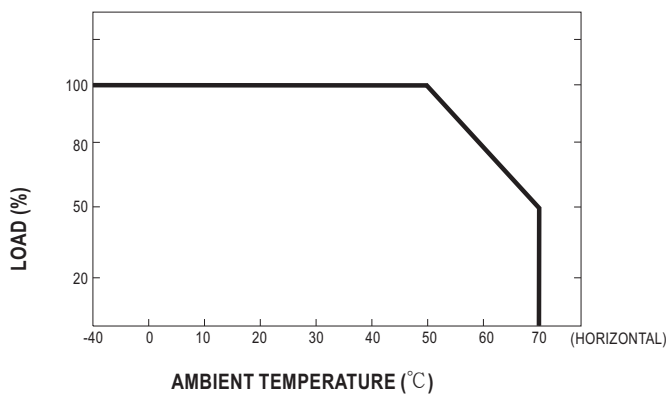
Connector Pin No. Assignment (CN100) : HRS DF11-8DP-2DS or equivalent

| Pin No. | Assignment | Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|---------|------------|----------------------------|-----------------------------|
| 1 | RC+ | 5 | DC-OK | HRS DF11-8DS or equivalent | HRS DF11-**SC or equivalent |
| 2 | RC- | 6 | GND | | |
| 3 | AUX | 7 | +S | | |
| 4 | AUXG | 8 | -S | | |

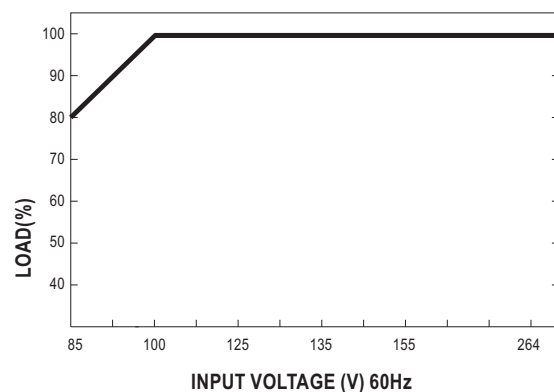
Block Diagram



Derating Curve



Output Derating VS Input Voltage



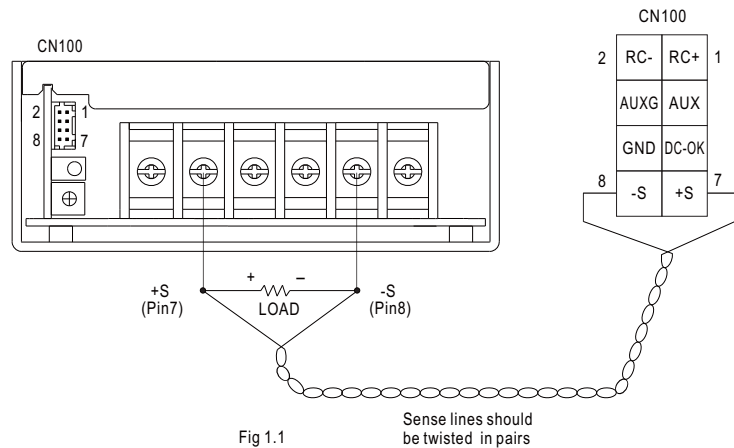
Function Description of CN100

| Pin No. | Function | Description |
|---------|----------|---|
| 1 | RC+ | Turns the output on and off by electrical or dry contact between pin 2 (RC-), Short: Power OFF, Open: Power ON. |
| 2 | RC- | Remote control ground. |
| 3 | AUX | Auxiliary voltage output, 4.75~5.25V, referenced to pin 4(AUXG). The maximum load current is 0.3A. This output is not controlled by the "remote ON/OFF control". |
| 4 | AUXG | Auxiliary voltage output ground. The signal return is isolated from the output terminals (+V & -V). |
| 5 | DC-OK | DC-OK Signal is a TTL level signal, referenced to pin6(DC-OK GND). High when PSU turns on. |
| 6 | GND | This pin connects to the negative terminal(-V). Return for DC-OK signal output. |
| 7 | +S | Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V. |
| 8 | -S | Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V. |

Function Manual

1. Remote Sense

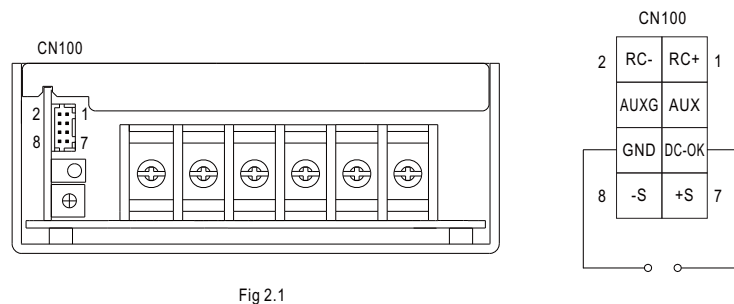
The remote sensing compensates voltage drop on the load wiring up to 0.5V.



2. DC-OK Signal

DC-OK signal is a TTL level signal. High when PSU turns on.

| Between DC-OK(pin5) and GND(pin6) | Output Status |
|-----------------------------------|---------------|
| 3.3 ~ 5.6V | ON |
| 0 ~ 1V | OFF |



3. Remote Control

The PSU can be turned ON/OFF by using the "Remote Control" function.

| Between RC+(pin1) and RC-(pin2) | Output Status |
|---------------------------------|---------------|
| SW ON (Short) | OFF |
| SW OFF (Open) | ON |

