



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- High efficiency up to 89%
- Withstand 300VAC surge input for 5 seconds
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- 1U low profile 38mm
- Medical safety approved (MOOP level)
- Built-in remote ON-OFF control
- Standby 5V@0.3A
- Built-in remote sense function
- No load power consumption<0.5W (Note.6)
- 5 years warranty

User's Manual



■ GTIN CODE

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

SPECIFICATION

| MODEL | | MSP-200-3.3 | MSP-200-5 | MSP-200-7.5 | MSP-200-12 | MSP-200-15 | MSP-200-24 | MSP-200-36 | MSP-200-48 |
|---|---|---|------------|--------------|--------------|--------------|--------------|--------------|--------------|
| OUTPUT | DC VOLTAGE | 3.3V | 5V | 7.5V | 12V | 15V | 24V | 36V | 48V |
| | RATED CURRENT | 40A | 35A | 26.7A | 16.7A | 13.4A | 8.4A | 5.7A | 4.3A |
| | CURRENT RANGE | 0 ~ 40A | 0 ~ 35A | 0 ~ 26.7A | 0 ~ 16.7A | 0 ~ 13.4A | 0 ~ 8.4A | 0 ~ 5.7A | 0 ~ 4.3A |
| | RATED POWER | 132W | 175W | 200.3W | 200.4W | 201W | 201.6W | 205.2W | 206.4W |
| | RIPPLE & NOISE (max.) <small>Note.2</small> | 80mVp-p | 90mVp-p | 100mVp-p | 120mVp-p | 150mVp-p | 150mVp-p | 250mVp-p | 250mVp-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 <small>Note.3</small> | ±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 | ±1.5% | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| | SETUP, RISE TIME | 1000ms, 50ms/230VAC 2500ms, 50ms/115VAC at full load | | | | | | | |
| HOLD UP TIME (Typ.) | 16ms/230VAC 16ms/115VAC at full load | | | | | | | | |
| INPUT | VOLTAGE RANGE <small>Note.5</small> | 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% | 84% | 86% | 88% | 88% | 88% | 89% | 89% |
| | AC CURRENT (Typ.) | 2.2A/115VAC | | 1.1A/230VAC | | | | | |
| | INRUSH CURRENT (Typ.) | 35A/115VAC | | 70A/230VAC | | | | | |
| | LEAKAGE CURRENT <small>Note.7</small> | 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 |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | |
| | 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.) | | | | | | | |
| | REMOTE CONTROL | RC+/RC- : 4 ~10V or open = power on ; 0 ~ 0.8V or short = power off | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -40 ~ +70℃ (Refer to "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, 5G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | | | |
| SAFETY & EMC <small>(Note 4)</small> | SAFETY STANDARDS | IEC 60601-1:2005+A1+A2, ANSI/AAMI ES60601-1:2005+A2, CAN/CSA C22.2 No. 60601-1:2014+A2 EAC TP TC 004 approved; Design refer to BS EN/EN60335-1, BS EN/EN 62368-1(by request) | | | | | | | |
| | ISOLATION LEVEL | Primary-Secondary: 2×MOOP, Primary-Earth: 1×MOOP | | | | | | | |
| | 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℃ / 70% RH | | | | | | | |
| | EMC EMISSION | Compliance to BS EN/EN55011 (CISPR11) Class B, BS EN/EN61000-3-2,-3, EAC TP TC 020 | | | | | | | |
| | EMC IMMUNITY | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035, BS EN/EN60601-1-2, EAC TP TC 020 | | | | | | | |
| OTHERS | MTBF | 1609.5K hrs min. Telcordia SR-332 (Bellcore) ; 186.2K hrs min. MIL-HDBK-217F (25℃) | | | | | | | |
| | DIMENSION | 199*98*38mm (L*W*H) | | | | | | | |
| | PACKING | 0.77Kq; 18pcs/14.9Kq/0.87CUFT | | | | | | | |

- NOTE**
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F & 47 μ F parallel capacitor.
 3. Tolerance : includes set up tolerance, line regulation and load regulation.
 4. 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 https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf)
 5. Derating may be needed under low input voltages. Please check the derating curve for more details.
 6. No load power consumption<0.5W when RC+ & RC- (CN100 pin1,2) 0 ~ 8V or short.
 7. Touch current was measured from primary input to DC output.
 8. 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).
- ※ Product Liability Disclaimer : For detailed information, please refer to <https://www.meanwell.com/serviceDisclaimer.aspx>

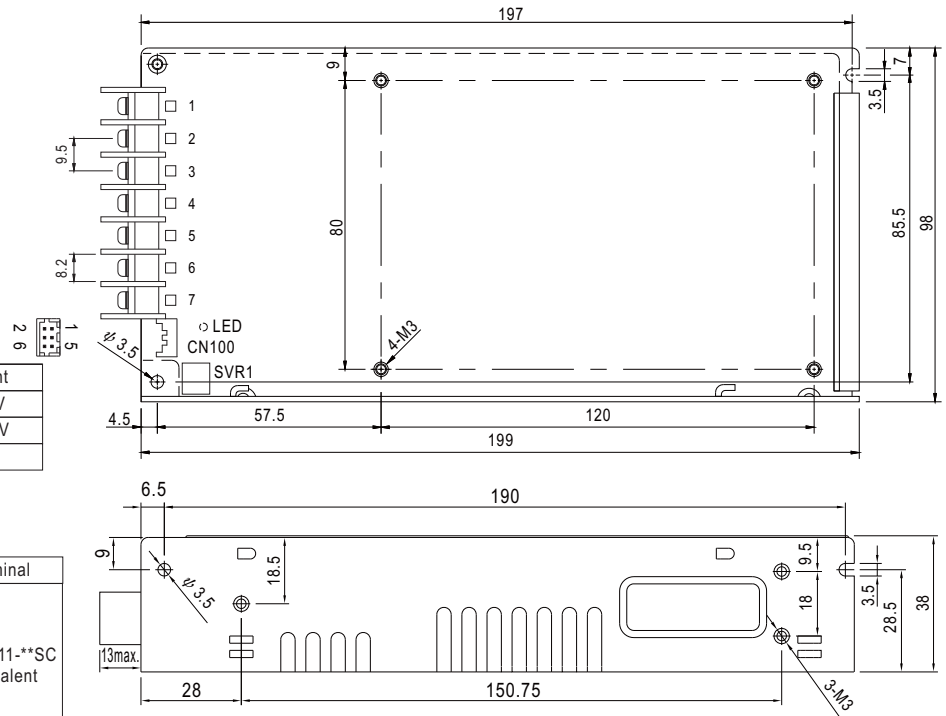


200W Single Output Medical Type

MSP-200 series

Case No.902E

■ Mechanical Specification

(Unit: mm , tolerance ± 1 mm)

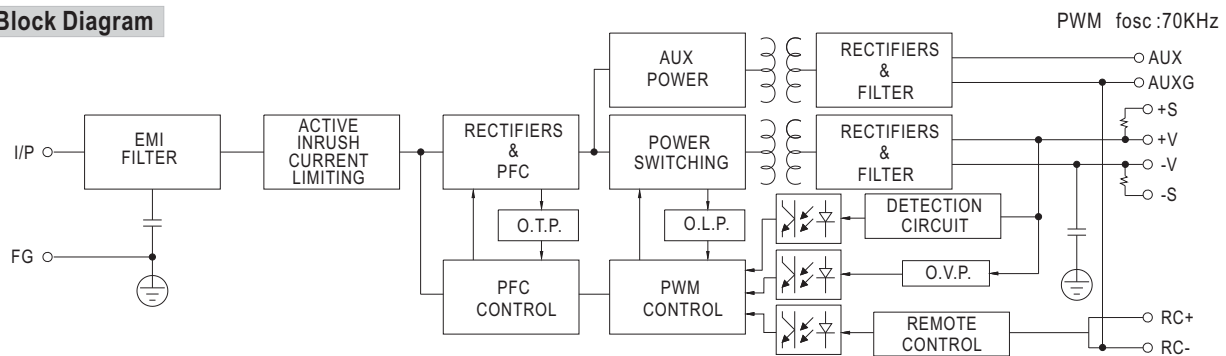
Terminal Pin No. Assignment

| 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 | | |

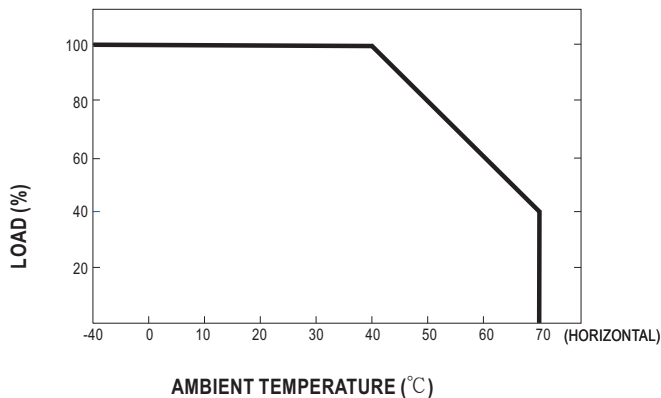
Connector Pin No. Assignment (CN100) :
HRS DF11-6DP-2DS or equivalent

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

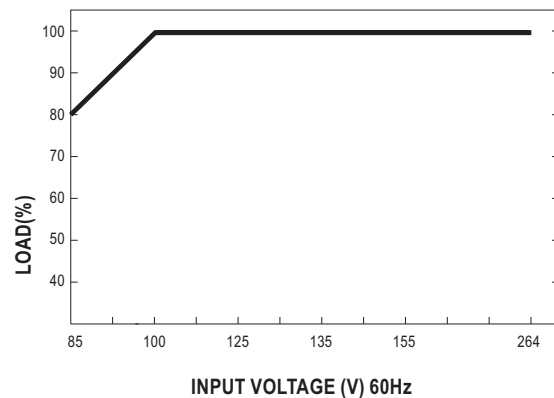
■ Block Diagram



■ 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, reference to pin 4(AUXG). The maximum load current is 0.3A. This output has the built-in oring diodes and 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 | +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. |
| 6 | -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 Control

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

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

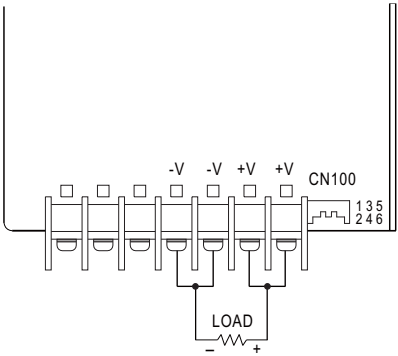
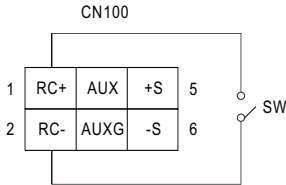


Fig 1.1



2.Remote Sense

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

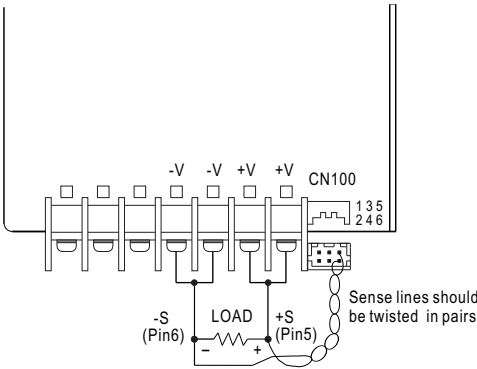


Fig 2.1

