



■ Features

- True sine wave output (THD<3%)
- High surge power up to 1000W
- Built-in MPPT solar charger, MPPT efficiency:98%(Typ.)
- High efficiency up to 88%
- LED indication for operation status and battery capacity
- Thermostatically controlled cooling fan
- Protections: Bat. low alarm / Bat. low shutdown / Over voltage / Over temp. / Output short / Input polarity reverse / Overload
- Cooling fan ON-OFF control
- Built-in remote ON-OFF control
- Built-in battery low relay contact
- 3 years warranty

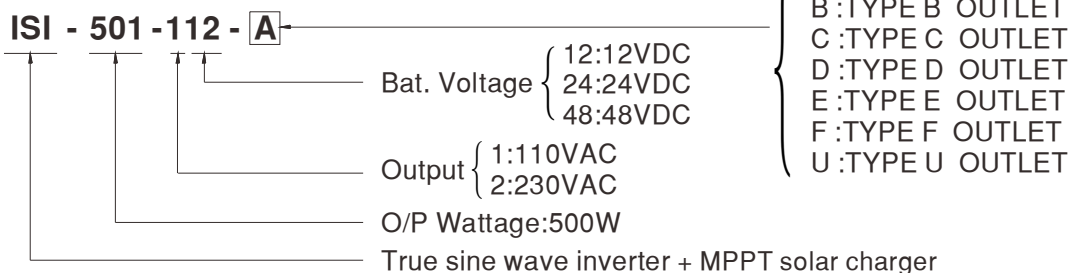
■ Applications

- Home appliance
- Power tools
- Portable equipment
- Yacht
- Vehicle

■ Description

- ISI-501 series integrates a DC/AC True Sine Wave Inverter and a MPPT charger. This series is a high performance true sine wave DC/AC inverter which converts the DC electricity from a system consisting of batteries and solar panels. ISI-501 is not only a high frequency designed inverter but also fully digitally controlled by an advanced microprocessor.
- With true sine wave output, ISI-501 series can provide 500W continuously, 550W for 60-second, and 1000W for 30 AC-cycles. This series incorporates a MPPT solar charger, including the constant current and constant voltage charging characteristics.

■ Model Encoding





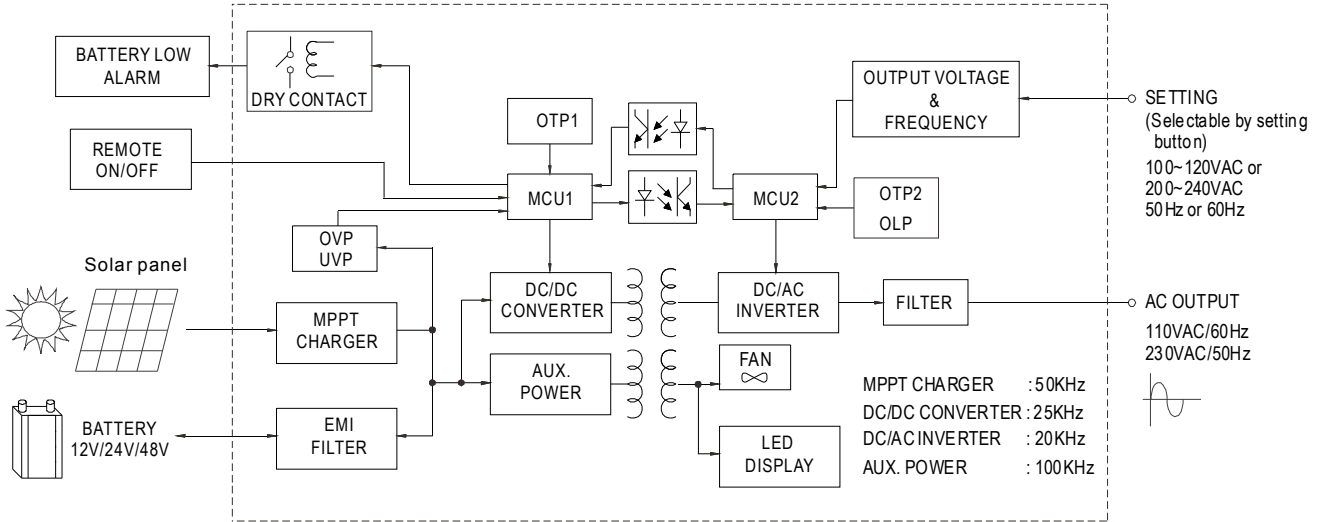
■ AC Output Receptacles(Optional)

| | | | | | | | |
|-----------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Receptacle type | | | | | | | |
| | TYPE-A Standard | TYPE-B Standard | TYPE-C Optional | TYPE-D Optional | TYPE-E Optional | TYPE-F Optional | TYPE-U Optional |
| Country | USA | EUROPE | AUSTRALIA | U.K | JAPAN | GFCI | UNIVERSAL |
| Certificate | FC | CE | CE | CE | FC | FC | Non |

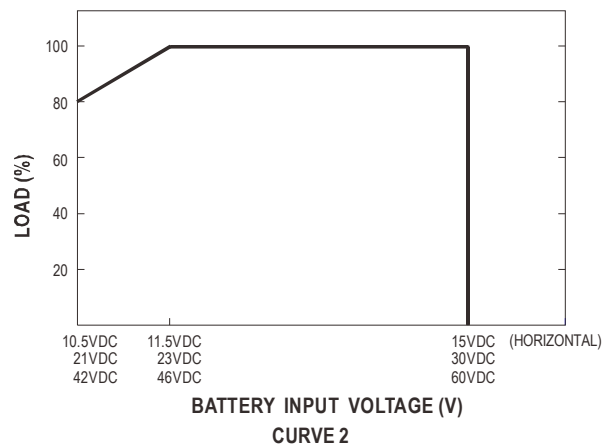
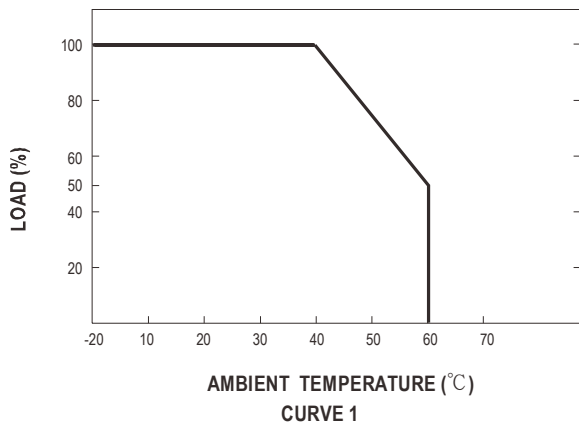
SPECIFICATION

| MODEL | | ISI-501-112□ | ISI-501-124□ | ISI-501-148□ | ISI-501-212□ | ISI-501-224□ | ISI-501-248□ | |
|----------------------|--|--|--|--------------|--------------|--|-------------------------------|------------|
| INVERTER SECTION | OUTPUT | RATED POWER | 450W | 500W | | 450W | 500W | |
| | | MAXIMUM OUTPUT POWER (Typ.) | 550W for 60 sec. / surge power 1000W for 30 cycles (112, 212 models : 495W for 60 sec. / surge power 900W for 30 cycles) | | | | | |
| | | AC VOLTAGE | Factory setting set at 110VAC 100 / 110 / 115 / 120VAC selectable by setting button S.W | | | Factory setting set at 230VAC 200 / 220 / 230 / 240VAC selectable by setting button S.W | | |
| | | FREQUENCY | Factory setting set at 110VAC 60 ± 0.1Hz 50/60Hz selectable by setting button S.W | | | Factory setting set at 230VAC 50 ± 0.1Hz 50/60Hz selectable by setting button S.W | | |
| | | WAVEFORM | True sine wave (THD<3%) at rated input voltage | | | | | |
| | | AC REGULATION (Typ.) Note.1 | ± 3% | | | | | |
| | FRONT PANEL INDICATOR | Fault and operation status, Charger status, Battery capacity | | | | | | |
| | INPUT | BAT. VOLTAGE | 12V | 24V | 48V | 12V | 24V | 48V |
| | | VOLTAGE RANGE Note.3,5 | 10.5 ~ 15VDC | 21 ~ 30VDC | 42 ~ 60VDC | 10.5 ~ 15VDC | 21 ~ 30VDC | 42 ~ 60VDC |
| | | DC CURRENT (Typ.) | 50A | 30A | 15A | 50A | 30A | 15A |
| | | NO LOAD CURRENT DRAW (Typ.) | 1.25A | 0.63A | 0.32A | 1.25A | 0.63A | 0.32A |
| | | OFF MODE CURRENT DRAW | ≤ 1mA | | | | | |
| | OUTPUT PROTECTION | EFFICIENCY (Typ.) Note.2 | 85% | 87% | 87% | 86% | 88% | 88% |
| | | OVER TEMPERATURE | Shut down o/p voltage, re-power on to recover | | | | | |
| | | OUTPUT SHORT | Shut down o/p voltage, re-power on to recover | | | | | |
| OVER LOAD (Typ.) | | 110% load for 60 sec. Protection type : Shut down o/p voltage, re-power on to recover | | | | | | |
| BATTERY SECTION | CHARGER CURRENT (Typ.) | 30A | 17A | 8.5A | 30A | 17A | 8.5A | |
| | BATTERY TYPE | Open & sealed Lead Acid | | | | | | |
| | FUSE | 40A*2 | 40A*1 | 20A*1 | 40A*2 | 40A*1 | 20A*2 | |
| | BAT. LOW ALARM Note.3 | 11V | 22V | 44V | 11V | 22V | 44V | |
| | BAT. LOW SHUTDOWN Note.3 | 10.5V | 21V | 42V | 10.5V | 21V | 42V | |
| | REVERSE POLARITY | By internal fuse open | | | | | | |
| MPPT / SOLAR SECTION | MPPT CHARGER EFFICIENCY (Typ.) | 98% | | | | | | |
| | OPEN CIRCUIT VOLTAGE RANGE | 35 ~ 50V | 45 ~ 90V | 90 ~ 160V | 35 ~ 50V | 45 ~ 90V | 90 ~ 160V | |
| | MPPT RANGE | 25 ~ 50V | 35 ~ 90V | 70 ~ 160V | 25 ~ 50V | 35 ~ 90V | 70 ~ 160V | |
| | SOLAR INPUT CURRENT (Typ.) | 11A | 7A | 4.5A | 11A | 7A | 4.5A | |
| | SOLAR INPUT POWER (Typ.) | 500W | | | | | | |
| GENERAL SECTION | ENVIRONMENT | WORKING TEMP. Note.4 | -20 ~ +40°C @ 100% load ; 60°C @ 50% load | | | | | |
| | | WORKING HUMIDITY | 20% ~ 90% RH non-condensing | | | | | |
| | | STORAGE TEMP., HUMIDITY | -30 ~ +70°C / -22 ~ +158°F, 10 ~ 95% RH | | | | | |
| | | VIBRATION | 10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | |
| | SAFETY & EMC | SAFETY STANDARDS | None | | | | EN60950-1 (LVD) | |
| | | WITHSTAND VOLTAGE | Bat I/P - AC O/P:3.0KVAC AC O/P - FG:1.5KVAC | | | | | |
| | | ISOLATION RESISTANCE | Bat I/P - AC O/P, Bat I/P - FG, AC O/P - FG: 100M ohms / 500VDC / 25°C / 70% RH | | | | | |
| | | EMC EMISSION | Compliance to FCC part 15 class B | | | | Compliance to EN55022 class B | |
| | | EMC IMMUNITY | None | | | | Compliance to EN61000-4-2,3,8 | |
| | OTHERS | MTBF | 57.8K hrs min. MIL-HDBK-217F (25°C) | | | | | |
| | | DIMENSION | 205*158*67mm (L*W*H) | | | | | |
| | | PACKING | 2.35Kg; 6pcs/15.1Kg/1.55CUFT | | | | | |
| NOTE | 1. THD is tested by rated power, linear load at 13V,26V,52V input voltage. 2. Efficiency is tested by 350W, linear load at 13V,26V,52V input voltage. 3. The tolerance of each voltage value by models is : 112/212→±0.5V ; 124/224→±1V ; 148/248→±2V. 4. Output derating capacity referenced by curve 1. 5. Output derating capacity referenced by curve 2. 6. All parameters not specified above are measured at rated load, 25°C of ambient temperature. | | | | | | | |

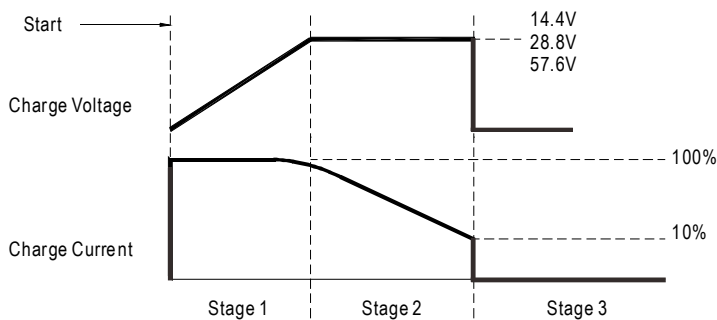
Block Diagram



Derating Curve



Charging Curve



- Stage 1 : Constant Current
- Stage 2 : Constant Voltage
- Stage 3 : MPPT Charger OFF

*Constant current condition : Dependent on solar input current and MPPT voltage of solar panel.

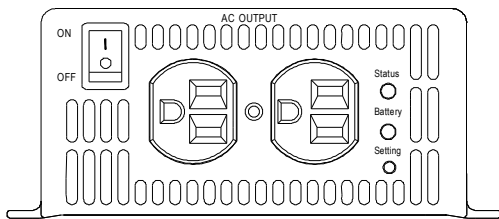
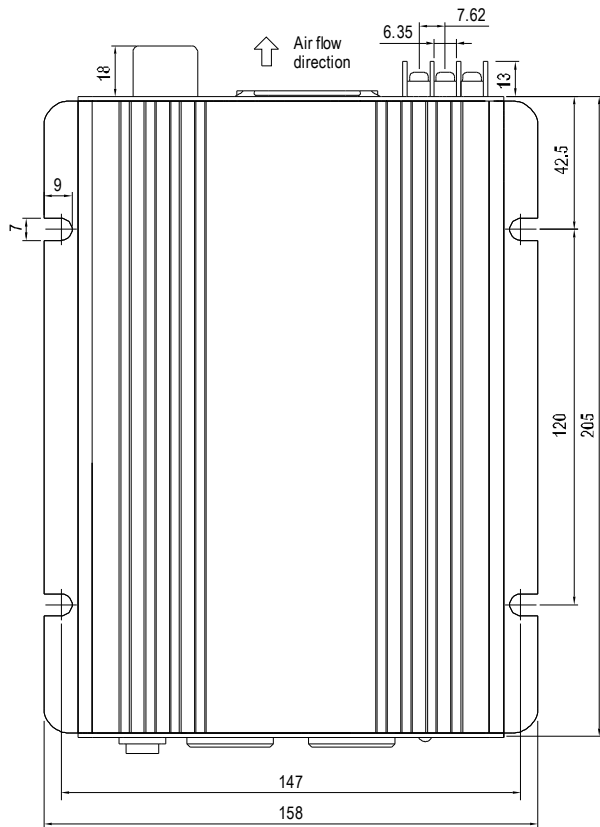
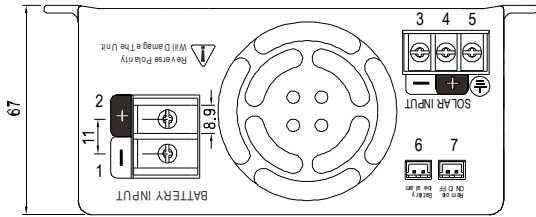
*MPPT charger OFF condition: Charge current less than 10% rated charge current and solar input power under 50W.

Mechanical Specification

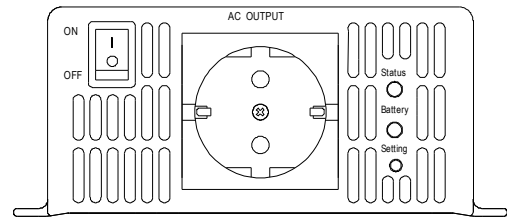
Case No.805 Unit:mm

Input Terminal Pin No. Assignment

| Pin No. | Assignment | Pin No. | Assignment |
|---------|----------------------|---------|--------------------------|
| 1 | Battery Input NEG(-) | 5 | FG \perp |
| 2 | Battery Input POS(+) | 6 | Bat. Low Alarm Connector |
| 3 | Solar Input NEG(-) | 7 | Remote ON/OFF Connector |
| 4 | Solar Input POS(+) | | |

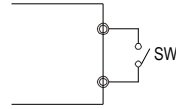


Type-A



Type-B

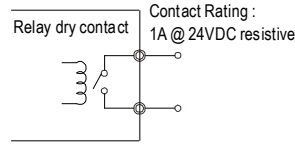
Function Manual



Remote ON/OFF Connector

Remote ON/OFF Connector :
JST B-XH or equivalent

| | |
|-------|-------------|
| Open | Normal work |
| Short | Remote off |



Bat. Low Alarm Connector

Contact Rating :
1A @ 24VDC resistive

Bat. Low Alarm Connector :
JST B-XH or equivalent

| | |
|-------|-------------|
| Open | Battery low |
| Short | Battery OK |

Installation Manual

Please refer to : <http://www.meanwell.com/webnet/search/InstallationSearch.html>