

### Features

- True sine wave output (THD<3%)
- High surge power up to 1000W
- High efficiency up to 88%
- High frequency design
- Thermostatically controlled cooling fan
- Protections: Bat. low alarm / Bat. low shutdown / Over voltage / Over temp. / Output short / Input polarity reverse / Overload
- Built-in 500W MPPT solar charger, MPPT efficiency:98%(Typ.)
- Built-in remote ON-OFF control
- Built-in battery low relay contact
- LED indicator for operation status and battery capacity
- 3 years warranty

### Applications

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

### GTIN CODE

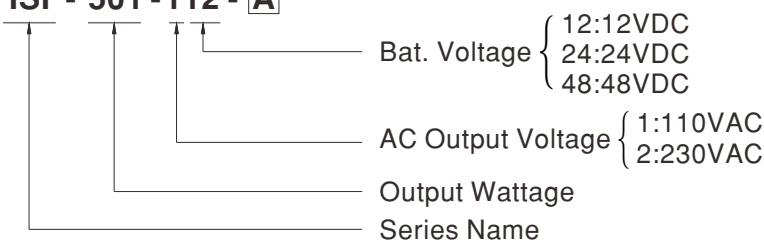
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

### 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 seconds, and 1000W for 30 AC-cycles. This series incorporates a MPPT solar charger, including the constant current and constant voltage charging characteristics.

### Model Encoding

ISI - 501 - 112 - A



- AC Output Receptacle {
- A :TYPE A OUTLET
  - B :TYPE B OUTLET
  - C :TYPE C OUTLET
  - D :TYPE D OUTLET
  - F :TYPE F OUTLET
  - U :TYPE U OUTLET

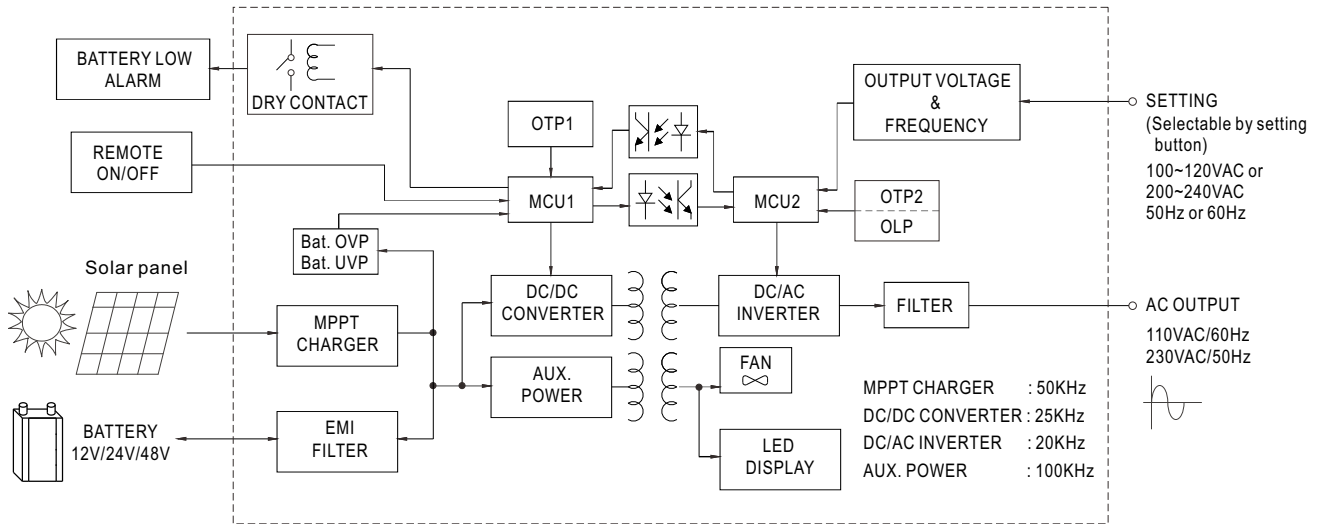
■ AC Output Receptacles(Optional)

|                 |          |          |           |          |             |           |
|-----------------|----------|----------|-----------|----------|-------------|-----------|
| Receptacle type |          |          |           |          |             |           |
|                 | TYPE-A   | TYPE-B   | TYPE-C    | TYPE-D   | TYPE-F      | TYPE-U    |
|                 | Standard | Standard | Optional  | Optional | Optional    | Optional  |
| Country         | USA      | EUROPE   | AUSTRALIA | U.K      | GFCI (60Hz) | UNIVERSAL |
| Certificate     | FC       | CE       | CE        | CE       | FC          | None      |

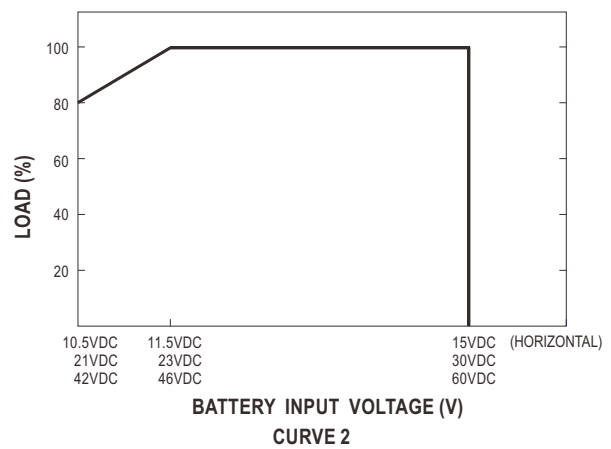
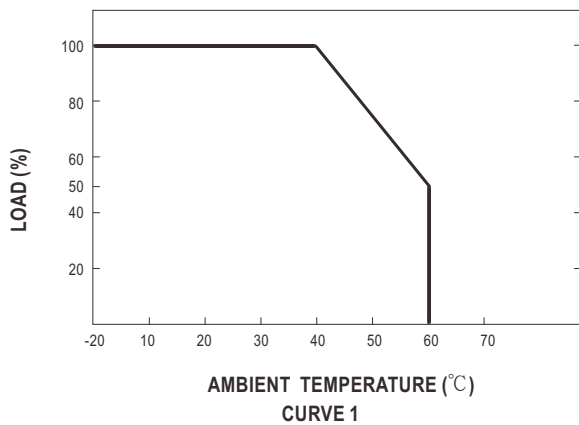
**SPECIFICATION**

| 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<br>100 / 110 / 115 / 120VAC selectable by setting button S.W                               |              |   | Factory setting set at 230VAC<br>200 / 220 / 230 / 240VAC selectable by setting button S.W |              |            |
|                      |  | FREQUENCY <small>Note.9</small>  | Factory setting set at 110VAC<br>60 ± 0.1Hz 50/60Hz selectable by setting button S.W                                     |              |   | Factory setting set at 230VAC<br>50 ± 0.1Hz 50/60Hz selectable by setting button S.W       |              |            |
|                      |  | WAVEFORM <small>Note.1</small>   | True sine wave (THD<3%)  |              |   |  |              |            |
|                      |  | AC REGULATION (Typ.)   | ±3%  |              |   |  |              |            |
|                      | FRONT PANEL INDICATOR  | Fault and operation status, Charger status, Battery capacity                             |  |              |   |  |              |            |
|                      | INPUT  | BAT. VOLTAGE   | 12V  | 24V          | 48V   | 12V  | 24V          | 48V        |
|                      |  | VOLTAGE RANGE <small>Note.3,5</small>  | 10.5 ~ 15VDC   | 21 ~ 30VDC   | 42 ~ 60VDC  | 10.5 ~ 15VDC   | 21 ~ 30VDC   | 42 ~ 60VDC |
|                      |  | DC CURRENT (Typ.) <small>Note.7</small>  | 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 (Typ.)   | ≤ 1mA  |              |   |  |              |            |
|                      | EFFICIENCY (Typ.) <small>Note.2</small>  | 85%  | 87%  | 87%          | 86%   | 88%  | 88%          |            |
|                      | OUTPUT PROTECTION  | 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.<br>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 <small>Note.3</small>   | 11.3V  | 22.5V  | 45V          | 11.3V   | 22.5V  | 45V          |            |
|                      | BAT. LOW SHUTDOWN <small>Note.3</small>  | 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. <small>Note.4</small>  | -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 non-condensing   |              |   |  |              |            |
|                      |  | VIBRATION  | 10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes   |              |   |  |              |            |
|                      | SAFETY & EMC   | SAFETY STANDARDS   | IEC62368-1 CB, EAC TP TC 004 approved; Meet BS EN/EN62368-1  |              |   |  |              |            |
|                      |  | 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, EAC TP TC 020   |              |   | Compliance to BS EN/EN55032 class B, EAC TP TC 020   |              |            |
|                      | EMC IMMUNITY   | Compliance to EAC TP TC 020  |  |              | Compliance to BS EN/EN61000-4-2,3,8, BS EN/EN55035, EAC TP TC 020 |  |              |            |
|                      | OTHERS   | MTBF   | 565.4K hrs min. Telcordia SR-332 (Bellcore) ; 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                 | <p>1. THD is tested by rated power, linear load at 13V,26V,52V input voltage.<br/>                 2. Efficiency is tested by 350W, linear load at 13V,26V,52V input voltage.<br/>                 3. The tolerance of each voltage value by models is : 112/212 → ±0.5V ; 124/224 → ±1V ; 148/248 → ±2V.<br/>                 4. Output derating capacity referenced by curve 1.<br/>                 5. Input derating capacity referenced by curve 2.<br/>                 6. All parameters not specified above are measured at rated load, 25°C of ambient temperature and set to factory setting.<br/>                 7. DC current is tested by 500W, linear load at 12V,24V,48V input voltage.<br/>                 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).<br/>                 9. Type F for 60Hz only.</p> |  |  |              |   |  |              |            |

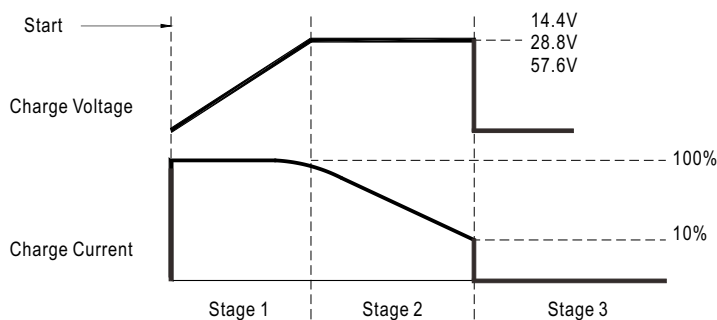
### Block Diagram



### 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.

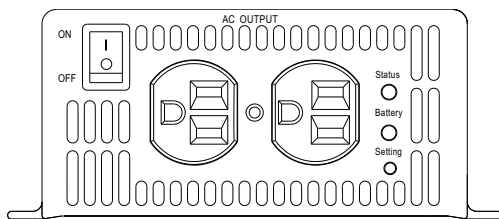
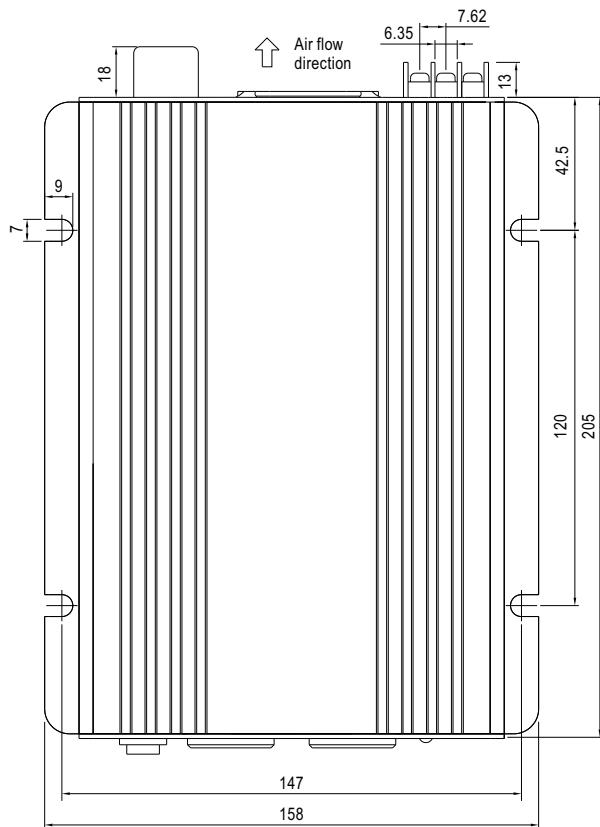
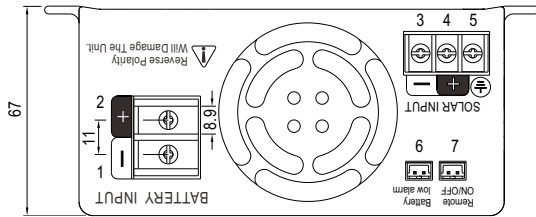
\*MPPT charger OFF condition: Charge current less than 10% rated charge current and solar input power under 50W.

## Mechanical Specification

Case No.805 Unit:mm

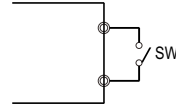
### Input Terminal Pin No. Assignment

| 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

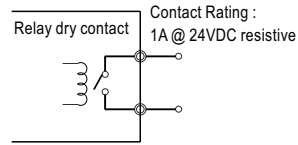
## Function Manual



Remote ON/OFF Connector

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

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

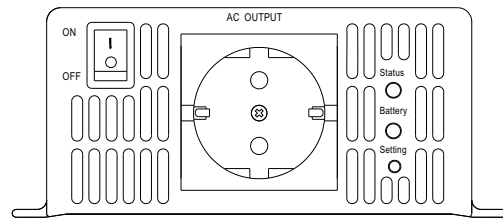


Bat. Low Alarm Connector

Contact Rating :  
1A @ 24VDC resistive

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

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



Type-B