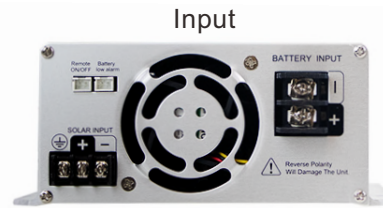




500W True Sine Wave DC-AC Inverter with MPPT Solar Charger

ISI-501 series



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

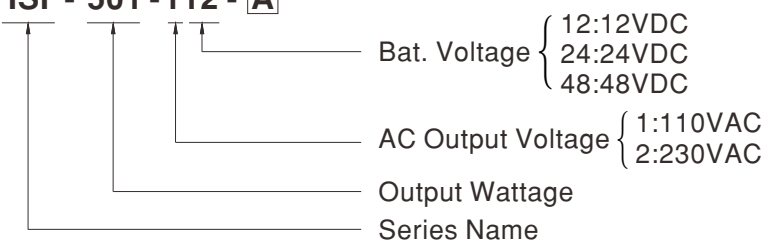
MW Search: https://www.meanwell.com/serviceGTIN.aspx

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

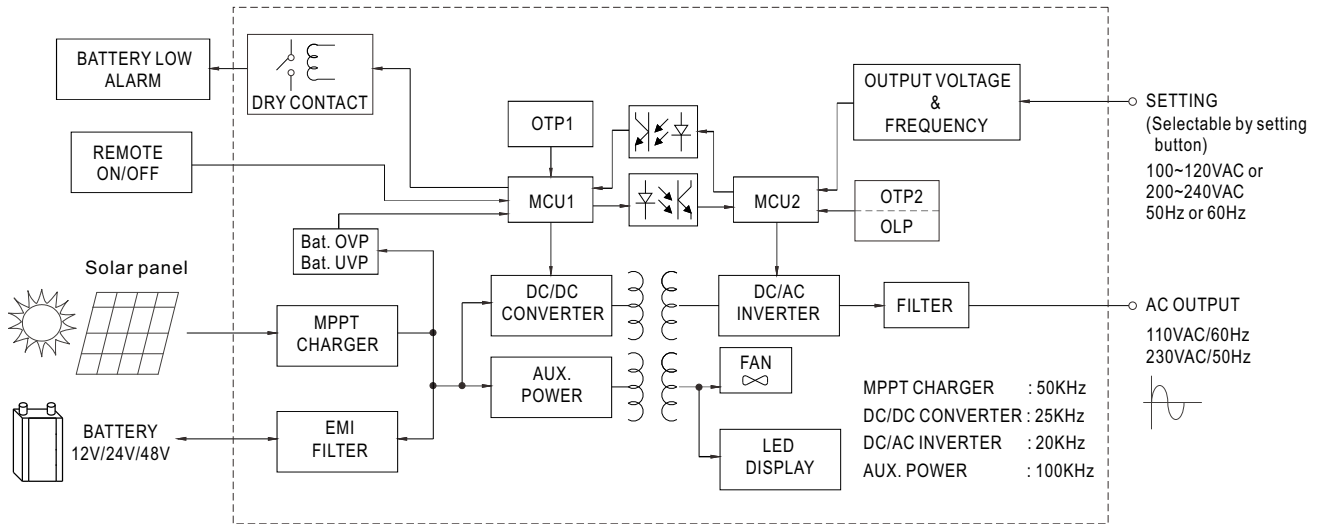
■ AC Output Receptacles(Optional)

| | | | | | | |
|-----------------|-----------|-----------|-----------|-----------|-------------|-----------|
| 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 |

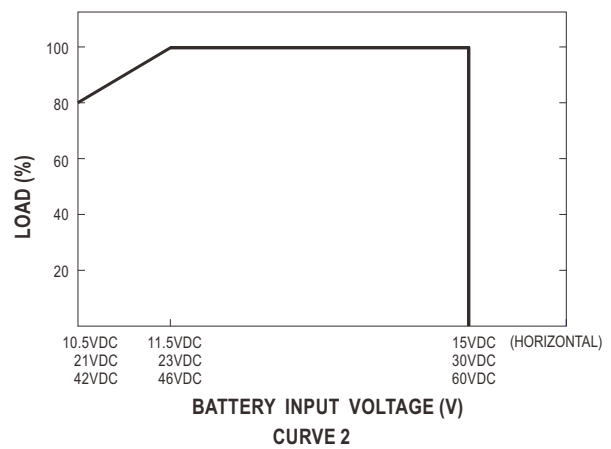
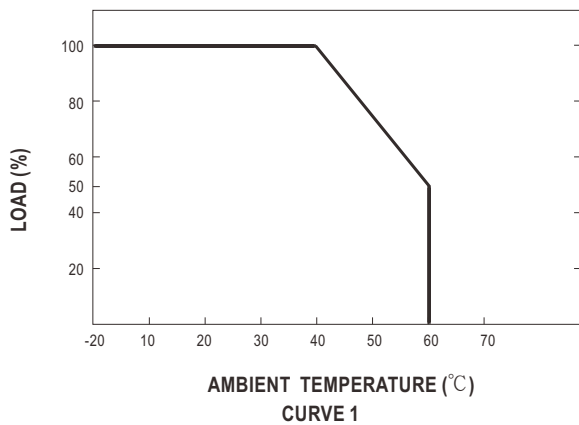
SPECIFICATION

| 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 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 <small>Note.9</small> | 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 <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 | | | | | |
| | OUTPUT PROTECTION | EFFICIENCY (Typ.) <small>Note.2</small> | 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 | | | | | |
| BATTERY SECTION | OVER LOAD (Typ.) | 110% load for 60 sec. Protection type : Shut down o/p voltage, re-power on to recover | | | | | | |
| | 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 | | |
| | OTHERS | EMC IMMUNITY | Compliance to EAC TP TC 020 | | | Compliance to BS EN/EN61000-4-2,3,8, BS EN/EN55035, EAC TP TC 020 | | |
| | | 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) | | | | | |
| NOTE | PACKING | 2.35Kg; 6pcs/15.1Kg/1.55CUFT | | | | | | |
| | | 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. Input derating capacity referenced by curve 2. 6. All parameters not specified above are measured at rated load, 25°C of ambient temperature and set to factory setting. 7. DC current is tested by 500W, linear load at 12V,24V,48V input voltage. 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). 9. Type F for 60Hz only. | | | | | | |

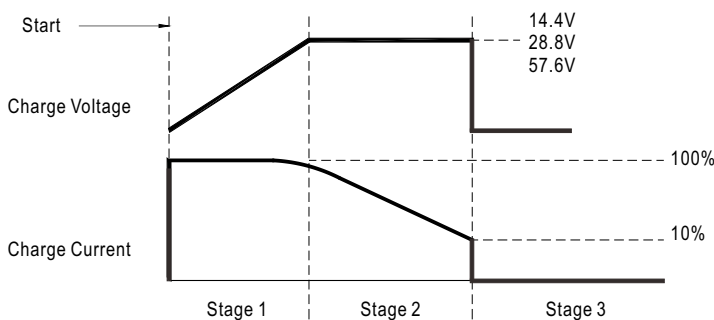
Block Diagram



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.

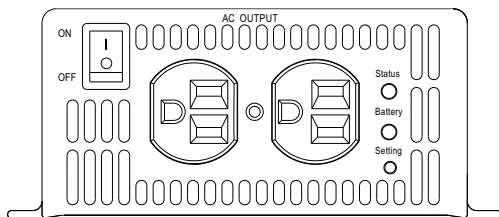
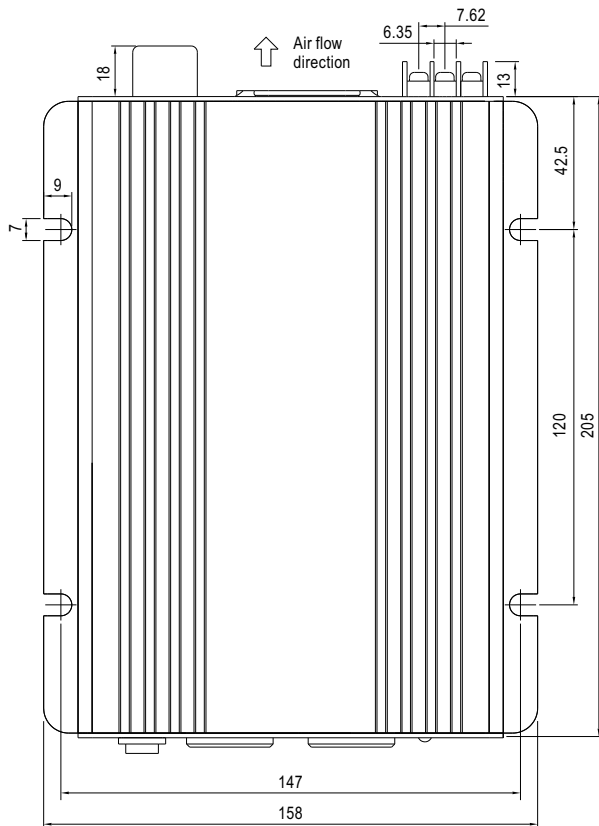
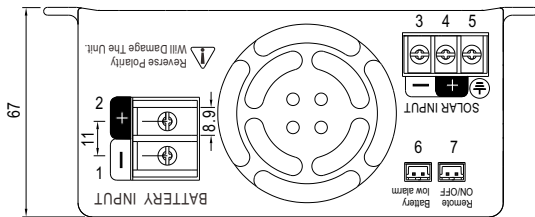
Mechanical Specification

(Unit: mm , tolerance ±0.5mm)

Case No.805

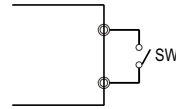
Input Terminal Pin No. Assignment

| 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 NEGC(-) | 7 | Remote ON/OFF Connector |
| 4 | Solar Input POS(+) | | |



Type-A

Function Manual

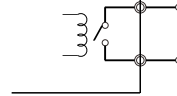


Remote ON/OFF Connector

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

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

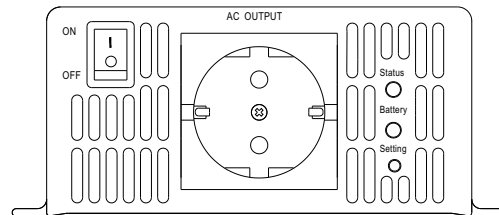
Relay dry contact Contact Rating :
1A @ 24VDC resistive



Bat. Low Alarm Connector

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

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



Type-B