



## Modified Sine Wave DC-AC Inverter with MPPT Solar Charger

## ISI-500 series



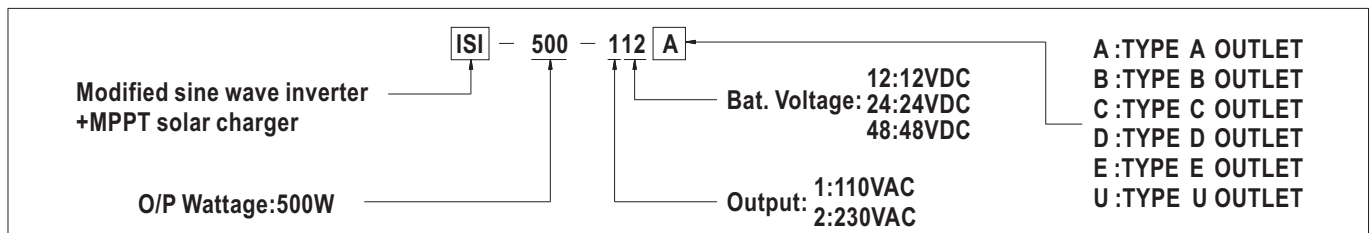
### ■ Features :

- High surge power up to 1000W
- Power ON-OFF switch
- Protections: Bat. low alarm / Bat. low shutdown / Over temp. / Output short / Input polarity reverse / Over load
- High frequency design
- AC Output voltage regulation :  $\pm 10\%$
- AC Output waveform : Modified sine wave
- Modified models available(optional): 100/115/120VAC or 200/220/240VAC
- Cooling fan ON-OFF control
- Built-in 500W MPPT solar charger, MPPT efficiency: 98%(Typ.)
- Built-in battery low relay contact
- LED indicator for operation status
- 2 years warranty



### SPECIFICATION

| MODEL                    |                                                                                                                                                                                                                                                                                                                                                                                   | ISI-500-112□                                                                                                               | ISI-500-124□ | ISI-500-148□ | ISI-500-212□ | ISI-500-224□                  | ISI-500-248□ |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|-------------------------------|--------------|
| OUTPUT                   | RATED POWER                                                                                                                                                                                                                                                                                                                                                                       | 350W                                                                                                                       | 500W         | 500W         | 350W         | 500W                          | 500W         |
|                          | MAXIMUM OUTPUT POWER (Typ.)                                                                                                                                                                                                                                                                                                                                                       | 550W for 1 minute / surge power 1000W for 30 cycles (112, 212 models : 385W for 1 minute / surge power 700W for 30 cycles) |              |              |              |                               |              |
|                          | WAVEFORM                                                                                                                                                                                                                                                                                                                                                                          | Modified sine wave                                                                                                         |              |              |              |                               |              |
|                          | AC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                        | 110V                                                                                                                       |              |              |              | 230V                          |              |
|                          | FREQUENCY                                                                                                                                                                                                                                                                                                                                                                         | 60Hz±0.5Hz                                                                                                                 |              |              |              | 50Hz±0.5Hz                    |              |
|                          | AC REGULATION                                                                                                                                                                                                                                                                                                                                                                     | ±10%                                                                                                                       |              |              |              |                               |              |
|                          | LED INDICATOR                                                                                                                                                                                                                                                                                                                                                                     | Green: Inverter OK    Green (flashing): Inverter OK and charging    Red: abnormal                                          |              |              |              |                               |              |
| INPUT                    | BAT. VOLTAGE                                                                                                                                                                                                                                                                                                                                                                      | 12V                                                                                                                        | 24V          | 48V          | 12V          | 24V                           | 48V          |
|                          | VOLTAGE RANGE    Note.3,4                                                                                                                                                                                                                                                                                                                                                         | 10.5 ~ 15VDC                                                                                                               | 21 ~ 30VDC   | 42 ~ 60VDC   | 10.5 ~ 15VDC | 21 ~ 30VDC                    | 42 ~ 60VDC   |
|                          | DC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                 | 35A                                                                                                                        | 25A          | 12.5A        | 35A          | 25A                           | 12.5A        |
|                          | NO LOAD CURRENT DRAW                                                                                                                                                                                                                                                                                                                                                              | 0.8A                                                                                                                       | 0.4A         | 0.2A         | 0.8A         | 0.4A                          | 0.2A         |
|                          | OFF MODE CURRENT DRAW                                                                                                                                                                                                                                                                                                                                                             | ≤1mA                                                                                                                       |              |              |              |                               |              |
|                          | EFFICIENCY (Typ.)    Note.1                                                                                                                                                                                                                                                                                                                                                       | 85%                                                                                                                        | 87%          | 87%          | 86%          | 88%                           | 88%          |
|                          | BATTERY TYPE                                                                                                                                                                                                                                                                                                                                                                      | Open & sealed Lead Acid                                                                                                    |              |              |              |                               |              |
| SOLAR PANEL INPUT        | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                     | 20 ~ 40V                                                                                                                   | 35 ~ 80V     | 70 ~ 160V    | 20 ~ 40V     | 35 ~ 80V                      | 70 ~ 160V    |
|                          | MAX. SHORT CIRCUIT CURRENT                                                                                                                                                                                                                                                                                                                                                        | 15A                                                                                                                        | 15A          | 7.5A         | 15A          | 15A                           | 7.5A         |
|                          | RATED CHARGE POWER (Typ.)                                                                                                                                                                                                                                                                                                                                                         | 350W                                                                                                                       | 500W         | 500W         | 350W         | 500W                          | 500W         |
| SOLAR CHARGER            | MAX. CHARGE VOLTAGE                                                                                                                                                                                                                                                                                                                                                               | 14V                                                                                                                        | 28V          | 56V          | 14V          | 28V                           | 56V          |
|                          | MAX. CHARGE CURRENT                                                                                                                                                                                                                                                                                                                                                               | 25A                                                                                                                        | 20A          | 10A          | 25A          | 20A                           | 10A          |
| BATTERY INPUT PROTECTION | FUSE                                                                                                                                                                                                                                                                                                                                                                              | 40A                                                                                                                        | 30A          | 15A          | 40A          | 30A                           | 15A          |
|                          | BAT. LOW ALARM    Note.4                                                                                                                                                                                                                                                                                                                                                          | 11V                                                                                                                        | 22V          | 44V          | 11V          | 22V                           | 44V          |
|                          | BAT. LOW SHUTDOWN    Note.4                                                                                                                                                                                                                                                                                                                                                       | 10.5V                                                                                                                      | 21V          | 42V          | 10.5V        | 21V                           | 42V          |
|                          | REVERSE POLARITY                                                                                                                                                                                                                                                                                                                                                                  | By internal fuse                                                                                                           |              |              |              |                               |              |
| OUTPUT PROTECTION        | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                  | 70℃±10℃                                                                                                                    |              |              |              | 65℃±10℃                       |              |
|                          |                                                                                                                                                                                                                                                                                                                                                                                   | Protection type : Shut down o/p voltage, re-power on to recover ; by internal RTH9 detect on power transistor              |              |              |              |                               |              |
|                          | OUTPUT SHORT                                                                                                                                                                                                                                                                                                                                                                      | Protection type : Shut down o/p voltage, re-power on to recover                                                            |              |              |              |                               |              |
|                          | OVER LOAD                                                                                                                                                                                                                                                                                                                                                                         | Protection type : Shut down o/p voltage, re-power on to recover ; >105% load @ 60 sec.                                     |              |              |              |                               |              |
| FUNCTION                 | BAT. LOW RELAY CONTACT                                                                                                                                                                                                                                                                                                                                                            | Open : Battery low ; Short : Battery ok                                                                                    |              |              |              |                               |              |
| ENVIRONMENT              | WORKING TEMP.    Note.2                                                                                                                                                                                                                                                                                                                                                           | -20 ~ +40℃ @ 100% load ; 60℃ @ 50% load                                                                                    |              |              |              |                               |              |
|                          | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                  | 20% ~ 90% RH non-condensing                                                                                                |              |              |              |                               |              |
|                          | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                           | -30 ~ +70℃ / -22 ~ +158°F, 10 ~ 95% RH                                                                                     |              |              |              |                               |              |
|                          | VIBRATION                                                                                                                                                                                                                                                                                                                                                                         | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                               |              |              |              |                               |              |
| EMC                      | LVD                                                                                                                                                                                                                                                                                                                                                                               | None                                                                                                                       |              |              |              | EN60950-1                     |              |
|                          | 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℃ / 70% RH                                                  |              |              |              |                               |              |
|                          | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                      | Compliance to FCC part 15 class A                                                                                          |              |              |              | Compliance to EN55022 class A |              |
|                          | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                      | None                                                                                                                       |              |              |              | Compliance to EN61000-4-2,3,8 |              |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                              | 81.1K hrs min.    MIL-HDBK-217F (25℃)                                                                                      |              |              |              |                               |              |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                         | 205*158*67mm (L*W*H)                                                                                                       |              |              |              |                               |              |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                           | 1.92Kg; 6pcs/12.5Kg/1.55CUFT                                                                                               |              |              |              |                               |              |
| NOTE                     | 1.Efficiency is tested by 350W, linear load at 13V, 26V, 52V input voltage.<br>2.Output derating capacity referenced by curve 1.<br>3.Input derating capacity referenced by curve 2.<br>4.The tolerance of each voltage value by models is:112/212→±0.5V;124/224→±1V;148/248→±2V.<br>5.All parameters not specified above are measured at rated load, 25℃ of ambient temperature. |                                                                                                                            |              |              |              |                               |              |

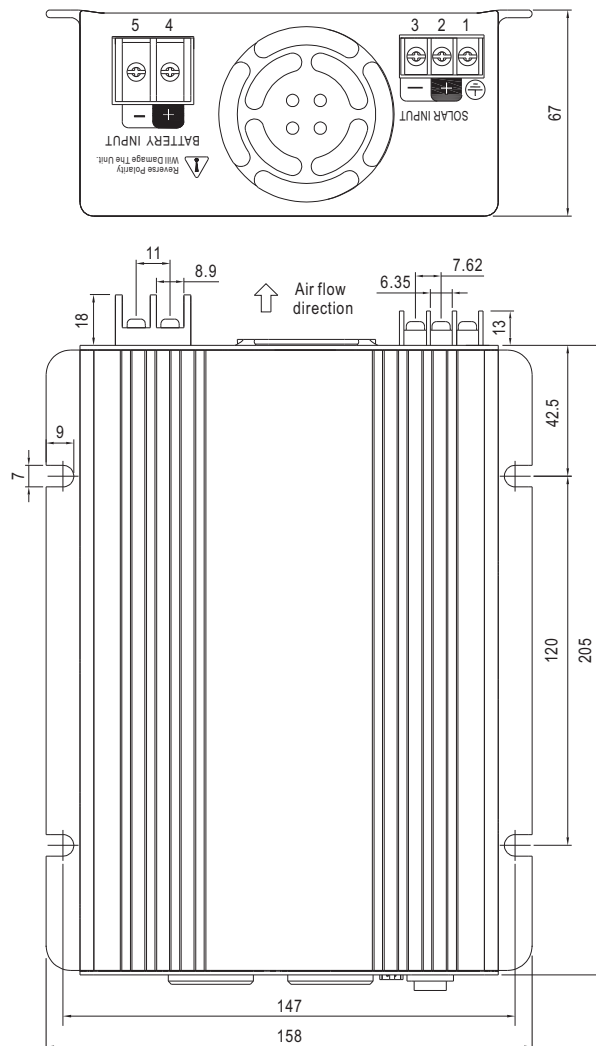


### ■ AC Output Receptacles (optional)

| Receptacle type |                      |                      |                      |                      |                      |                      |
|-----------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                 | TYPE-A<br>(Standard) | TYPE-B<br>(Standard) | TYPE-C<br>(Optional) | TYPE-D<br>(Optional) | TYPE-E<br>(Optional) | TYPE-U<br>(Optional) |
| Country         | USA                  | EUROPE               | AUSTRALIA            | U.K                  | JAPAN                | UNIVERSAL            |
| Certificate     | FC                   | CE                   | CE                   | CE                   | FC                   | Non                  |

### ■ Mechanical Specification

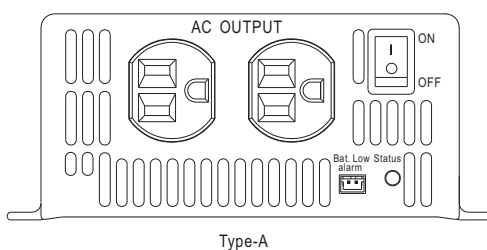
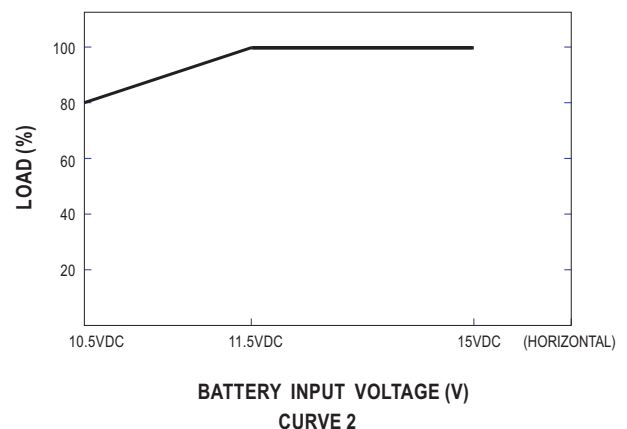
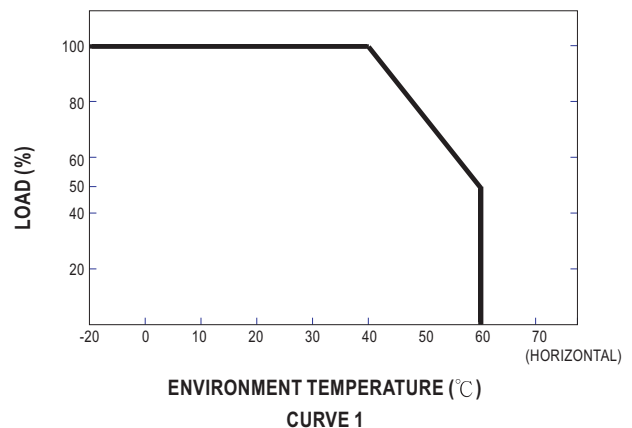
Unit:mm



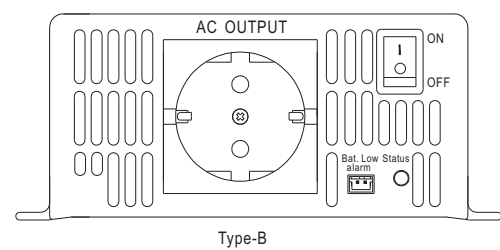
#### Input Terminal Pin No. Assignment

| Pin No. | Assignment   | Pin No. | Assignment     |
|---------|--------------|---------|----------------|
| 1       | FG $\perp$   | 4       | Battery POS(+) |
| 2       | Solar POS(+) | 5       | Battery NEG(-) |
| 3       | Solar NEG(-) |         |                |

#### ■ Derating Curve


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

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



# Mouser Electronics

Authorized Distributor

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## MEAN WELL:

|                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <a href="#"><u>ISI-500-112A</u></a> | <a href="#"><u>ISI-500-112B</u></a> | <a href="#"><u>ISI-500-112C</u></a> | <a href="#"><u>ISI-500-112D</u></a> | <a href="#"><u>ISI-500-112E</u></a> | <a href="#"><u>ISI-500-112U</u></a> | <a href="#"><u>ISI-500-124A</u></a> | <a href="#"><u>ISI-500-124B</u></a> |
| <a href="#"><u>ISI-500-124C</u></a> | <a href="#"><u>ISI-500-124D</u></a> | <a href="#"><u>ISI-500-124E</u></a> | <a href="#"><u>ISI-500-124U</u></a> | <a href="#"><u>ISI-500-148A</u></a> | <a href="#"><u>ISI-500-148B</u></a> | <a href="#"><u>ISI-500-148C</u></a> | <a href="#"><u>ISI-500-148D</u></a> |
| <a href="#"><u>ISI-500-148E</u></a> | <a href="#"><u>ISI-500-148U</u></a> | <a href="#"><u>ISI-500-212A</u></a> | <a href="#"><u>ISI-500-212B</u></a> | <a href="#"><u>ISI-500-212C</u></a> | <a href="#"><u>ISI-500-212D</u></a> | <a href="#"><u>ISI-500-212E</u></a> | <a href="#"><u>ISI-500-212U</u></a> |
| <a href="#"><u>ISI-500-224A</u></a> | <a href="#"><u>ISI-500-224B</u></a> | <a href="#"><u>ISI-500-224C</u></a> | <a href="#"><u>ISI-500-224D</u></a> | <a href="#"><u>ISI-500-224E</u></a> | <a href="#"><u>ISI-500-224U</u></a> | <a href="#"><u>ISI-500-248A</u></a> | <a href="#"><u>ISI-500-248B</u></a> |
| <a href="#"><u>ISI-500-248C</u></a> | <a href="#"><u>ISI-500-248D</u></a> | <a href="#"><u>ISI-500-248E</u></a> |                                     |                                     |                                     |                                     |                                     |