



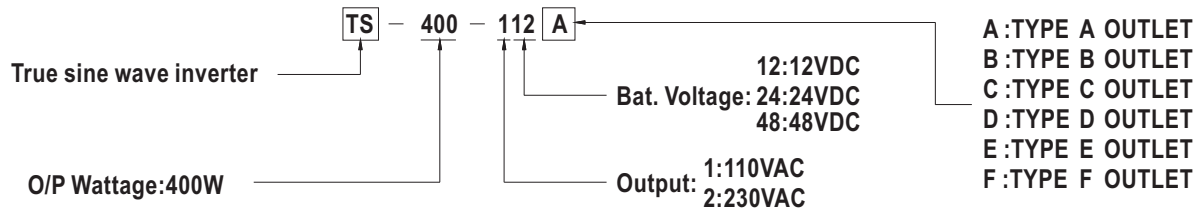
#### ■ Features :

- True sine wave output (THD<3%)
- High surge power up to 800W
- High efficiency up to 88.5%
- Thermostatically controlled cooling fan
- Built-in remote ON-OFF control
- Front panel indicator for operation status
- Power ON-OFF switch
- Protections: Bat. low alarm / Bat. low shutdown / Over voltage / Over temp. / Output short / Input reverse polarity / Overload
- Application : Home appliance, power tools, office and portable equipment, vehicle and yacht ...etc.
- 3 years warranty

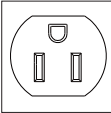
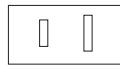
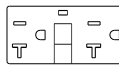
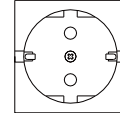
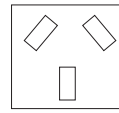
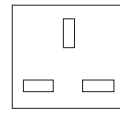


#### SPECIFICATION

| MODEL NO.                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | TS-400-112□                                                                                                                   | TS-400-124□                  | TS-400-148□   | TS-400-212□                                                                                | TS-400-224□  | TS-400-248□ |            |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------|--------------------------------------------------------------------------------------------|--------------|-------------|------------|
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | □ = A, E, F                                                                                                                   |                              |               | □ = B, C, D                                                                                |              |             |            |
| OUTPUT                   | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 400W                                                                                                                          |                              |               |                                                                                            |              |             |            |
|                          | MAXIMUM OUTPUT POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 460W for 180 sec. / 600W for 10 sec. / surge power 800W for 30 cycles(typ.)                                                   |                              |               |                                                                                            |              |             |            |
|                          | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 60±0.1Hz 50/60Hz selectable by setting button                                                                                 |                              |               | 50±0.1Hz 50/60Hz selectable by setting button                                              |              |             |            |
|                          | WAVEFORM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Note.2                                                                                                                        | True sine wave (THD<3%)      |               |                                                                                            |              |             |            |
|                          | AC REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Note.2                                                                                                                        | ±3.0% at rated input voltage |               |                                                                                            |              |             |            |
|                          | FRONT PANEL INDICATOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Operation status ; Green : normal, Orange(flashing) : remote control OFF, Red : abnormal                                      |                              |               |                                                                                            |              |             |            |
| INPUT                    | BAT. VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12V                                                                                                                           | 24V                          | 48V           | 12V                                                                                        | 24V          | 48V         |            |
|                          | VOLTAGE RANGE (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Note.3                                                                                                                        | 10.5 ~ 15VDC                 | 21 ~ 30VDC    | 42 ~ 60VDC                                                                                 | 10.5 ~ 15VDC | 21 ~ 30VDC  | 42 ~ 60VDC |
|                          | DC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 40A                                                                                                                           | 20A                          | 10A           | 40A                                                                                        | 20A          | 10A         |            |
|                          | NO LOAD CURRENT DRAW (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.25A                                                                                                                         | 0.63A                        | 0.32A         | 1.25A                                                                                      | 0.63A        | 0.32A       |            |
|                          | OFF MODE CURRENT DRAW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ≤1mA                                                                                                                          |                              |               |                                                                                            |              |             |            |
|                          | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Note.1                                                                                                                        | 84.5%                        | 86%           | 87%                                                                                        | 86%          | 87.5%       | 88.5%      |
|                          | BATTERY TYPES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Open & sealed Lead Acid                                                                                                       |                              |               |                                                                                            |              |             |            |
| BATTERY INPUT PROTECTION | FUSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 40A*2                                                                                                                         | 40A*1                        | 20A*1         | 40A*2                                                                                      | 40A*1        | 20A*1       |            |
|                          | BAT. LOW ALARM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 11.3±4%                                                                                                                       | 22.5±4%                      | 45±4%         | 11.3±4%                                                                                    | 22.5±4%      | 45±4%       |            |
|                          | BAT. LOW SHUTDOWN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10.5±4%                                                                                                                       | 21±4%                        | 42±4%         | 10.5±4%                                                                                    | 21±4%        | 42±4%       |            |
|                          | BAT. POLARITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | By internal fuse open                                                                                                         |                              |               |                                                                                            |              |             |            |
| OUTPUT PROTECTION        | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 85℃ ± 5℃                                                                                                                      | 75℃ ± 5℃                     | 70℃ ± 5℃      | 85℃ ± 5℃                                                                                   | 75℃ ± 5℃     | 70℃ ± 5℃    |            |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Protection type : Shut down o/p voltage, re-power on to recover; by internal RTH1 detect power transistor                     |                              |               |                                                                                            |              |             |            |
|                          | OUTPUT SHORT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Protection type : Shut down o/p voltage, re-power on to recover                                                               |                              |               |                                                                                            |              |             |            |
|                          | OVER LOAD (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 105 ~ 115% load for 180 sec., 115% ~ 150% load for 10 sec.<br>Protection type : Shut down o/p voltage, re-power on to recover |                              |               |                                                                                            |              |             |            |
|                          | GFCI PROTECTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Optional (Only type F)                                                                                                        |                              |               |                                                                                            | None         |             |            |
| FUNCTION                 | REMOTE CONTROL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Open : Normal work ; Short : Remote off                                                                                       |                              |               |                                                                                            |              |             |            |
| ENVIRONMENT              | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -10 ~ +40℃ @ 100% load ; +60℃ @ 50% load                                                                                      |                              |               |                                                                                            |              |             |            |
|                          | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 20% ~ 90% RH non-condensing                                                                                                   |                              |               |                                                                                            |              |             |            |
|                          | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | -30 ~ +70℃ / -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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EAC TP TC 004, Design refer to UL458                                                                                          |                              | EAC TP TC 004 |                                                                                            |              |             |            |
|                          | 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, AC O/P-FG:100M Ohms / 500VDC / 25℃ / 70% RH                                                                  |                              |               |                                                                                            |              |             |            |
|                          | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compliance to FCC class A, EAC TP TC 020                                                                                      |                              |               | Compliance to EN55032 class A, 72/ 245/ CEE, 95/ 54/ CE, E-Mark, EAC TP TC 020             |              |             |            |
|                          | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compliance to EAC TP TC 020                                                                                                   |                              |               | Compliance to EN61000-4-2,3,8, EAC TP TC 020                                               |              |             |            |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 104.7K hrs min. MIL-HDBK-217F (25℃)                                                                                           |                              |               |                                                                                            |              |             |            |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 205*158*67mm (L*W*H)                                                                                                          |                              |               |                                                                                            |              |             |            |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.73Kg; 6pcs/11.4Kg/1.55CUFT                                                                                                  |                              |               |                                                                                            |              |             |            |
| NOTE                     | 1.Efficiency is tested by 300W, linear load at 13V/26V/52V input voltage.<br>2.AC regulation and THD are tested by 400W, 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.All parameters not specified above are measured at rated load, 25℃ of ambient temperature and set to factory setting.<br>5.The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). |                                                                                                                               |                              |               |                                                                                            |              |             |            |



## AC Output Socket (optional)

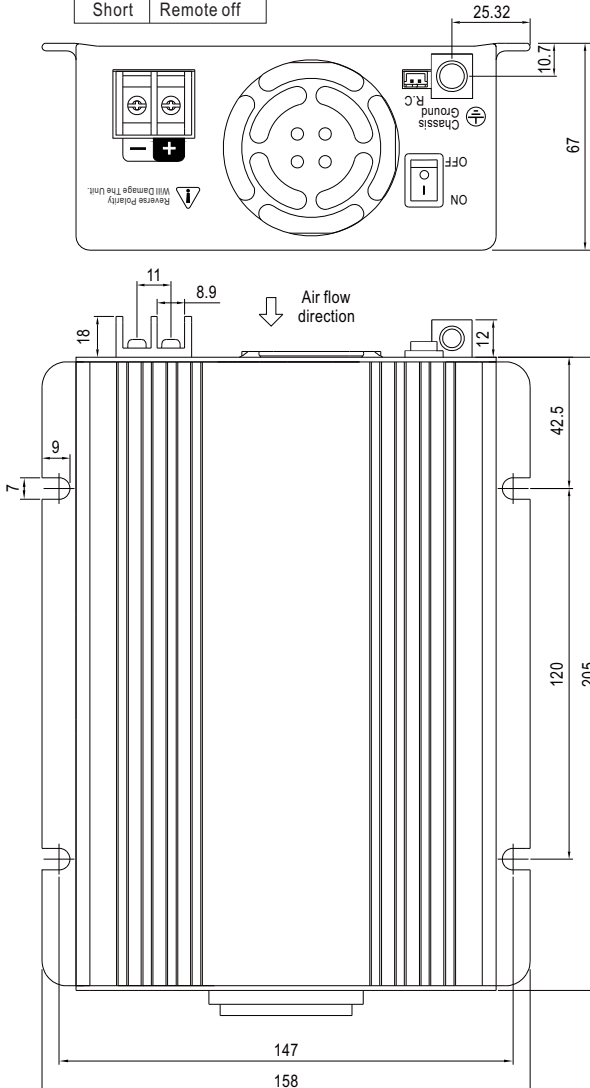
| MODEL NO.   | TS-400-112□                                                                       | TS-400-124□                                                                       | TS-400-148□                                                                       | TS-400-212□                                                                        | TS-400-224□                                                                         | TS-400-248□                                                                         |
|-------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Socket type |  |  |  |  |  |  |
|             | TYPE-A                                                                            | TYPE-E                                                                            | TYPE-F                                                                            | TYPE-B                                                                             | TYPE-C                                                                              | TYPE-D                                                                              |
|             | Standard                                                                          | Optional                                                                          | Optional                                                                          | Standard                                                                           | Optional                                                                            | Optional                                                                            |
| Country     | USA                                                                               | JAPAN                                                                             | GFCI                                                                              | EUROPE                                                                             | AUSTRALIA                                                                           | U.K                                                                                 |
| Certificate |  | None                                                                              |  |  |  |  |

## Mechanical Specification

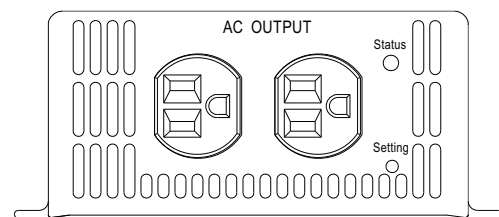
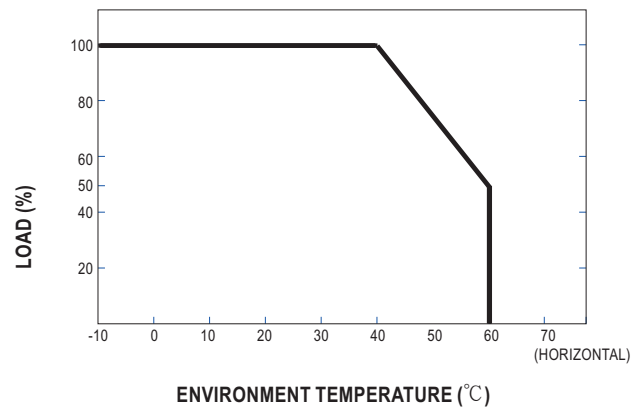
R.C Connector : JST B-XH or equivalent

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

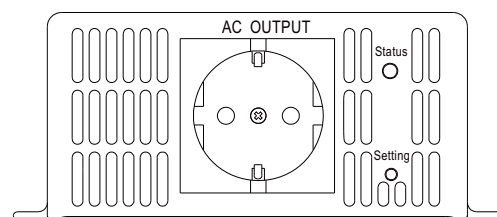
Unit:mm



## Derating Curve



Type-A



Type-B