



**samlexamerica®**

# EVOLUTION™



## Inverter/ Charger

Pure Sine Wave

Models:  
EVO-4248SP

Programmable  
Remote Control  
Model: EVO-RC-PLUS  
(Sold Separately)



**3 YEAR LIMITED WARRANTY**

|                          | MODEL NO.                                                          | EVO-4248SP                                                   |                         |
|--------------------------|--------------------------------------------------------------------|--------------------------------------------------------------|-------------------------|
|                          | INPUT CONFIGURATION                                                | 120 VAC SINGLE PHASE                                         | 120/240 VAC SPLIT PHASE |
| INVERTER SPECIFICATIONS  | OUTPUT WAVEFORM                                                    | Pure Sine Wave                                               |                         |
|                          | INPUT BATTERY VOLTAGE RANGE                                        | 36 - 68 VDC                                                  |                         |
|                          | NOMINAL AC OUTPUT VOLTAGE                                          | 120 / 240 VAC $\pm$ 5% Split Phase                           |                         |
|                          | OUTPUT FREQUENCY                                                   | 60 Hz $\pm$ 0.1 Hz                                           |                         |
|                          | TOTAL HARMONIC DISTORTION (THD)                                    | < 5% (See Note 4)                                            |                         |
|                          | CONTINUOUS OUTPUT POWER AND POWER FACTOR (PF)                      | 2100 Watt (PF 0.95)                                          | 4200 Watt (PF 0.95)     |
|                          | CONTINUOUS AC OUTPUT CURRENT                                       | 17.5A                                                        | 17.5A                   |
|                          | SURGE POWER FOR 1 MSEC                                             | 300%<br>6,300 VA                                             | 300%<br>12,600 VA       |
|                          | SURGE POWER FOR 100 MSEC                                           | 200%<br>4,200 VA                                             | 200%<br>8,400 VA        |
|                          | POWER BOOST FOR 30 SEC                                             | 150%<br>3,150 VA                                             | 150%<br>6,300 VA        |
|                          | POWER BOOST FOR 1 MIN                                              | 140%<br>2,940 VA                                             | 140%<br>5,880 VA        |
|                          | POWER BOOST FOR 10 MIN                                             | 120%<br>2,520 VA                                             | 120%<br>5,040 VA        |
|                          | POWER BOOST FOR 30 MIN                                             | 110%<br>2,310 VA                                             | 110%<br>4,620 VA        |
|                          | MAXIMUM CONTINUOUS DC INPUT CURRENT                                | 137 ADC                                                      |                         |
|                          | MAXIMUM OUTPUT FAULT AC CURRENT AND DURATION                       | 147.8A peak, 64.63A rms, Duration: 8.9ms                     |                         |
|                          | INVERTER EFFICIENCY (PEAK)                                         | 93%                                                          |                         |
|                          | NO LOAD POWER CONSUMPTION IN POWER SAVING MODE                     | < 8 W                                                        |                         |
|                          | NO LOAD POWER CONSUMPTION IN NORMAL MODE (120 VAC OUTPUT, TYPICAL) | < 30 watts                                                   |                         |
|                          | NO LOAD POWER CONSUMPTION IN STANDBY MODE                          | < 5 W                                                        |                         |
| AC INPUT                 | AC INPUT VOLTAGE                                                   | 60 - 140 VAC                                                 | 180 - 280 VAC           |
|                          | AC INPUT FREQUENCY                                                 | 50/60Hz                                                      |                         |
|                          | PROGRAMMABLE AC INPUT CURRENT                                      | 5 - 30A<br>(Default - 30A)                                   |                         |
|                          | AC INPUT BREAKER SIZE                                              | 30A (Has to be installed externally by the installer / user) |                         |
| TRANSFER CHARACTERISTICS | TRANSFER RELAY TYPE AND CAPACITY                                   | SPDT, 40A                                                    |                         |
|                          | TRANSFER TIME – INVERTER TO GRID / GENERATOR                       | < 1 ms (Synchronized transfer at zero crossing)              |                         |
|                          | TRANSFER TIME – GRID / GENERATOR TO INVERTER                       | 18ms (Synchronized transfer at zero crossing)                |                         |

Over ►



**samlexamerica®**

# EVOLUTION™

## Inverter/ Charger

⚡ Pure Sine Wave

Models:  
EVO-4248SP

| MODEL NO.                                                     |                                                                     | EVO-4248SP                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INPUT CONFIGURATION                                           |                                                                     | 120 VAC SINGLE PHASE      120/240 VAC SPLIT PHASE                                                                                                                                                                                                                                                                                                   |
| INTERNAL BATTERY CHARGER                                      | MAX CONTINUOUS AC INPUT CURRENT AT<br>MAXIMUM BULK CHARGING CURRENT | 17.5A<br>(At charging current = 30 ADC)      17.5A<br>(At charging current = 60 ADC)                                                                                                                                                                                                                                                                |
|                                                               | AC INPUT POWER FACTOR (PF)                                          | > 0.95                                                                                                                                                                                                                                                                                                                                              |
|                                                               | NOMINAL DC OUTPUT VOLTAGE                                           | 36 - 68VDC (57.6V Nom)                                                                                                                                                                                                                                                                                                                              |
|                                                               | PROGRAMMABLE BULK CHARGING CURRENT                                  | 0 - 60 ± 5A, DC                                                                                                                                                                                                                                                                                                                                     |
|                                                               | PROGRAMMABLE CHARGING VOLTAGES:<br>BULK / ABSORPTION STAGE          | 48.0 to 64.0V (Default 57.6V)                                                                                                                                                                                                                                                                                                                       |
|                                                               | FLOAT STAGE                                                         | 48.0 to 60.0V (Default 54.0V)                                                                                                                                                                                                                                                                                                                       |
|                                                               | EQUALIZATION STAGE                                                  | 56.0 to 66.0V (Default 57.6V)                                                                                                                                                                                                                                                                                                                       |
|                                                               | CHARGER EFFICIENCY                                                  | 86%                                                                                                                                                                                                                                                                                                                                                 |
|                                                               | PROGRAMMABLE CHARGING PROFILES                                      | <ul style="list-style-type: none"> <li>• 3 profiles under 3-Stage Charging: Bulk, Absorption, Float</li> <li>• 1 profile under 4-Stage Charging: Bulk, Absorption, Equalize, Float</li> <li>• 3 profiles under 2-Stage Charging: Bulk, Absorption</li> </ul>                                                                                        |
|                                                               | BATTERY TEMPERATURE COMPENSATION                                    | <ul style="list-style-type: none"> <li>• Battery Temperature Sensor EVO-BCTS included</li> <li>• Compensation Range from -20° C to 60° C</li> </ul>                                                                                                                                                                                                 |
| EXTERNAL BATTERY CHARGER SECTION<br>(SOLAR CHARGE CONTROLLER) | CHARGING VOLTAGE RANGE                                              | 52 - 60 VDC                                                                                                                                                                                                                                                                                                                                         |
|                                                               | MAXIMUM CHARGING CURRENT                                            | 100A                                                                                                                                                                                                                                                                                                                                                |
| COOLING, PROTECTIONS<br>AND ALARMS                            | COOLING                                                             | 2 Fans – Temperature Controlled, Variable Speed                                                                                                                                                                                                                                                                                                     |
|                                                               | PROTECTIONS AND ALARMS                                              | <ul style="list-style-type: none"> <li>• Battery Low Voltage Alarm and Low / Over Voltage Shut Down</li> <li>• Shut Down under Input Over Current, Output Over Current, Output Overload and Output Short</li> <li>• Transformer and Heat Sink Overheat Shut Down</li> <li>• Immunity Against Conducted Electrical Transients in Vehicles</li> </ul> |
| INPUT AND OUTPUT<br>CONNECTIONS                               | BATTERY CONNECTION                                                  | Stud and Nut: M8 (Pitch 1.25mm)                                                                                                                                                                                                                                                                                                                     |
|                                                               | EXTERNAL CHARGE CONTROLLER CONNECTION                               | Stud and Thumb Nut: M8 (Pitch 1.25mm)                                                                                                                                                                                                                                                                                                               |
|                                                               | AC INPUT / OUTPUT CONNECTION                                        | Hard-wired through screw down terminals<br>• Terminal hole size: Hole dia 6mm <sup>2</sup> / 16mm <sup>2</sup> for up to AWG#6                                                                                                                                                                                                                      |
| OPTIONAL REMOTE CONTROL                                       | MODEL NO.                                                           | EVO-RC-PLUS                                                                                                                                                                                                                                                                                                                                         |
|                                                               | SPECIFICATIONS                                                      | <ul style="list-style-type: none"> <li>• For programming parameters and modes of operation</li> <li>• 4 Rows of 20 Character Alpha Numeric LCD Display for messaging</li> <li>• SD Card Slot for Data Logging (16 or 32 GB)</li> <li>• Comes with 10M / 33ft RJ-45 Data Cable</li> </ul>                                                            |
| COMPLIANCE                                                    | SAFETY COMPLIANCE                                                   | CSA listed: Conforms to CAN / CSA STD. C22.2 No. 107.1 and UL Std No. 1741 2 <sup>nd</sup> Ed.                                                                                                                                                                                                                                                      |
|                                                               | EMI / EMC COMPLIANCE                                                | Certified to FCC Part 15(B), Class A                                                                                                                                                                                                                                                                                                                |
| ENVIRONMENTAL SPECIFICATIONS                                  | OPERATING TEMPERATURE                                               | -20° C to 60° C (-4° F to 140° F)                                                                                                                                                                                                                                                                                                                   |
|                                                               | STORAGE TEMPERATURE                                                 | -40° C to 70° C (-40° F to 158° F)                                                                                                                                                                                                                                                                                                                  |
|                                                               | OPERATING HUMIDITY                                                  | 0 to 95% RH non condensing                                                                                                                                                                                                                                                                                                                          |
| WEIGHTS AND DIMENSIONS                                        | DIMENSIONS: W X D X H                                               | 324 x 415 x 212 mm ; 12.8 x 16.3 x 8.35 in                                                                                                                                                                                                                                                                                                          |
|                                                               | WEIGHTS                                                             | 29 Kg / 64 lb                                                                                                                                                                                                                                                                                                                                       |

### NOTES:

- (1) All AC power ratings in the Inverter Section are specified at Power Factor = 0.95
- (2) All specifications given above are at ambient temperature of 25°C / 77°F (50°C / 122°F at 85% load and 60°C / 140°F at 72% load) unless specified otherwise.
- (3) Specifications are subject to change without notice.
- (4) Above the low battery warning voltage, the harmonic distortion meets UL requirements.

12027-EVO-4248SP-0722