samlexamerica®

EVOLUTION™ SERIES – 230V
INVERTER/CHARGERS
Off-Grid Power Solutions

REMOTE LOCATIONS

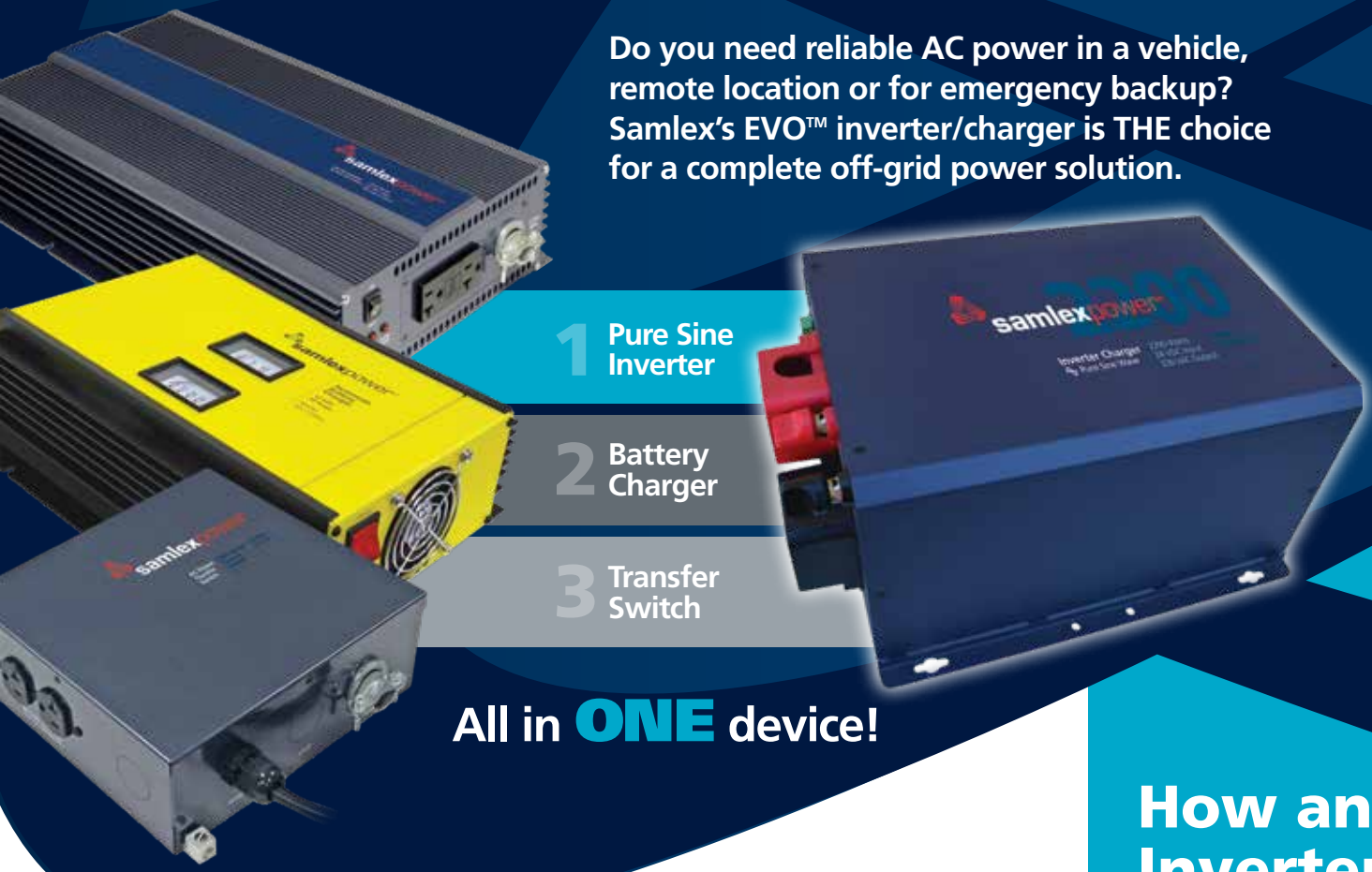
RV/MARINE

COMMERCIAL VEHICLES

BACKUP POWER

www.samlexamerica.com

Do you need reliable AC power in a vehicle, remote location or for emergency backup? Samlex's EVO™ inverter/charger is THE choice for a complete off-grid power solution.

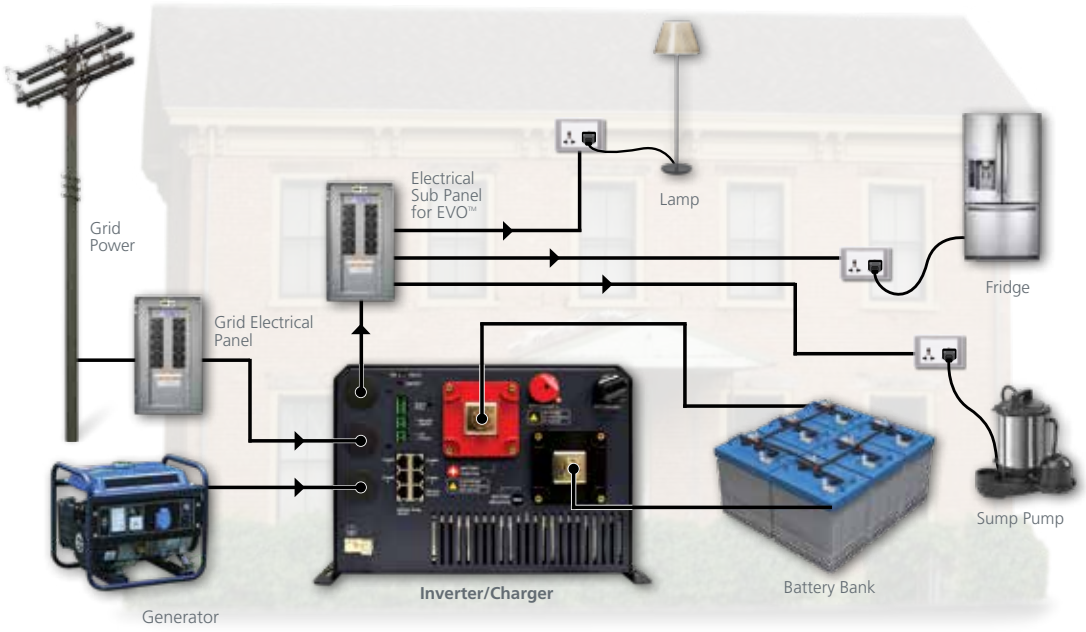


1 Pure Sine Inverter

2 Battery Charger

3 Transfer Switch

All in ONE device!



BACKUP POWER

You can have a refrigerator, sump pump and the lights in your home connected to the EVO™ inverter/charger, but primarily powered by the grid. When the grid power goes out, the EVO™ is programmed to switch to generator or battery/inverter mode to power your equipment. When the grid comes back, the fridge, pump and lights automatically return to grid power, and the grid simultaneously charges your batteries for future use.

How an Inverter/ Charger Works...

The primary function of an inverter/charger is to charge a bank of batteries and convert current from the batteries into usable AC power (the same type you receive from the wall at home).

The EVO™ inverter/charger can accept input from the grid, a generator or a solar charge controller to charge a bank of batteries – and all can be connected at the same time. The unit will automatically switch between power sources as they become available, ensuring the batteries are charging efficiently and the AC loads are being powered without delay.

◄ Here's an Example

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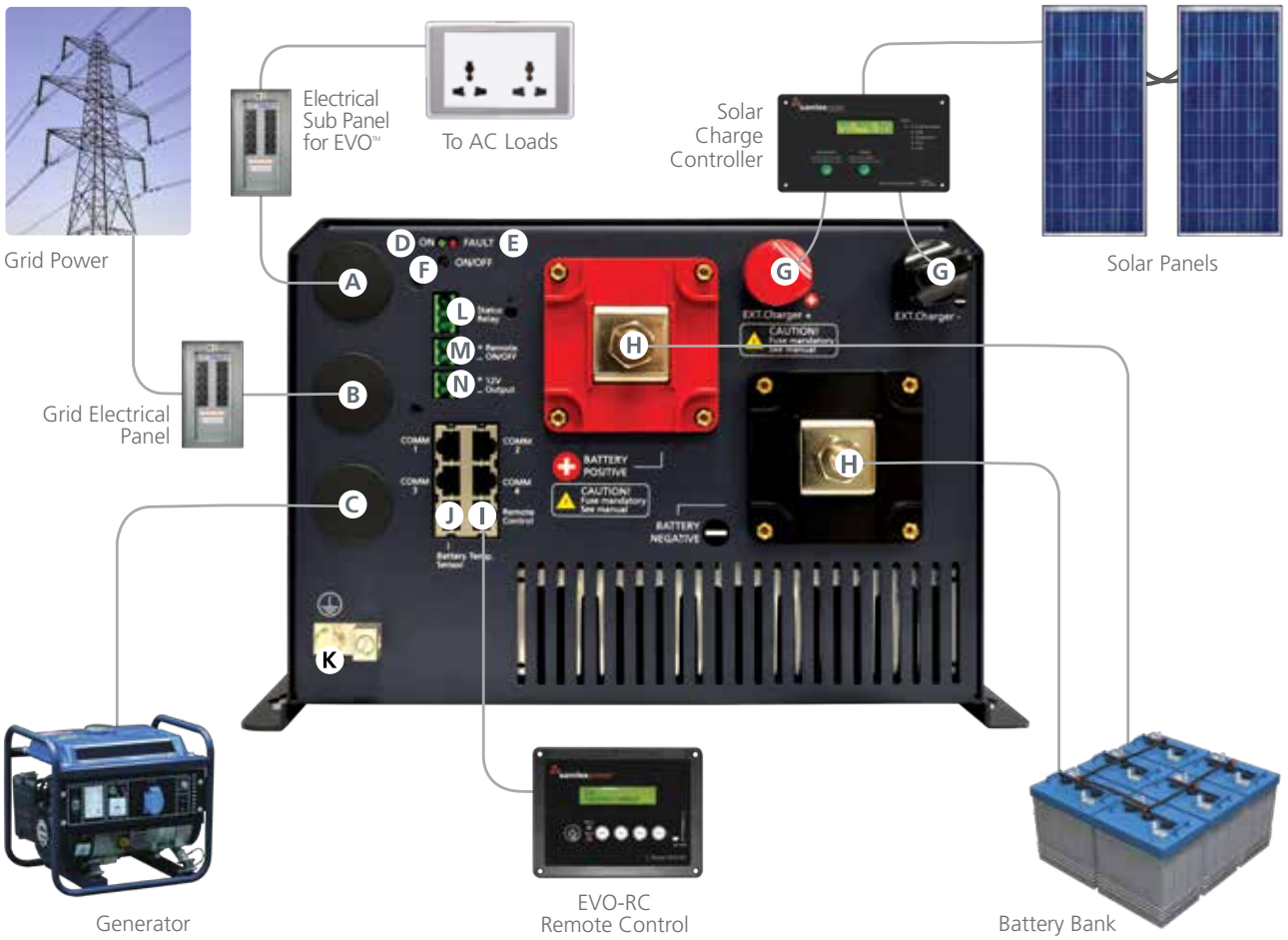


- A Output to power AC Loads
- B AC Input for Grid (prioritized)
- C AC Input for Generator
- D LED Status Indicator
- E LED Fault Indicator
- F ON/OFF Button
- G Battery Charger External DC Input (Solar Input)
- H Battery Terminals
- I Remote Control Jack (EVO-RC)
- J Battery Temperature Sensor Jack (Sensor Included)
- K Ground Connector
- L Status Relay Contact – Use for GenStart or Fault Condition
- M Remote Input – Use +12 VDC to turn inverter ON or OFF with Ignition Start, Ignition AUX, or any other Remote ON/OFF switch
- N Low Power 12V Output Source

EVO-RC

Optional Remote Control w/ Removable SD Card for Data Logging

The EVO-RC remote control (sold separately) can accept up to 16GB SD card to capture data. Log historic power consumption, inverter functionality, battery charging activity, faults and the conditions leading up to them. Use the remote to program parameters and view performance details in real time. 33 ft RJ-45 data cable included.

Experience the EVOLUTION™

Product Features

- Pure Sine Wave Inverter
- Multi-Stage high current Battery Charger with Equalization
- Fast <16ms Transfer from Grid/Generator to Inverter
- Common Mounting Footprint
- Built-in dual Transfer Switches, one for grid, the other for generator

Two Separate AC Inputs for Grid & Generator

Connect grid and generator simultaneously. Priority is given to grid. Both AC input ranges are fully programmable. Generator input is specifically designed to have more tolerance for wave form distortion.

Programmable Battery Charger

Choose between the Adaptive Algorithm or user programmable second stage for battery charging. For lead acid batteries, the Adaptive Algorithm, monitors the bulk stage for the battery condition to set the remaining stage time, reduces excess charging time and extends the battery life. For lithium "drop in replacement" battery banks, a timed second stage may be the optimal choice.

Synchronized Zero Transfer Time from Inverter to Grid or Generator

Zero transfer time when switching from inverter to grid or generator. When grid or generator comes on, the inverter synchronizes with the incoming wave form and then transfers instantly at zero crossing without any interruption to the load.

High Surge Inverter

The inverter has a surge capability of 3X its continuous power rating, allowing it to turn on and power demanding loads such as well and sump pumps, compressors, refrigerators, freezers, air conditioners, quartz lamps, microwaves and heaters.

Active Power Boost

In addition to 3X surge on start up, inverter loads can exceed the continuous power output by the Power Boost Allowances without triggering an overload fault. Get 150% for 5 seconds, 140% for 30 seconds, 120% for 5 minutes or 110% for 30 minutes! There is no need to upsize to a larger inverter/charger to handle a heavy surge load, resulting in reduced costs.

Automatic Generator Start/Stop

Programmable contact closure signal to initiate automatic generator start/stop to keep the batteries fully charged.

Input for Solar Charge Controller

Connect a solar charge controller directly to the EVO™ through the Battery Charger External DC Input (Solar Input). This reduces the power required from the AC source for charging batteries and allows more power to be available to the load when the sun is shining.

Online Mode

Use to prioritize Batteries/Inverter over the grid. Ideal for those who want to operate primarily on solar power even when grid is available (when grid is costly). In Online Mode, grid is only used as backup power when batteries necessitate charge.

Bullet Proof Intelligence

9 physical points of protection monitoring are scanned up to 10,000 times per second to detect adverse internal and external conditions. When detected, the unit will initiate a healthy shutdown before any damage can be done, making the EVO™ practically indestructible in the field.

Wide Operating Temperature Range

Will operate below zero! -20°C to +60°C, -4°F to 140°F.

Intelligent Temperature Controlled Cooling

2 internal fans are speed controlled based on 5 different temperature sensors, reducing unnecessary fan noise and energy consumption by cooling only when needed. Under some extreme conditions, the EVO™ is capable of adjusting charging currents from the AC source to keep the system's internal temperature within operational limits.

Conformally Coated Circuit Board

Dampens vibration, protects from corrosion in high humidity environments or marine salt air.

Programmable Power Save Mode

Select sleep and wake up point based on load power draw. Power consumption is < 8 Watts in Sleep Mode. Configurable so that intermittent loads turn ON consistently from power save mode – extends battery/inverter run time during grid failure.

Compliance

CE marked, RoHS2

230V Models Available

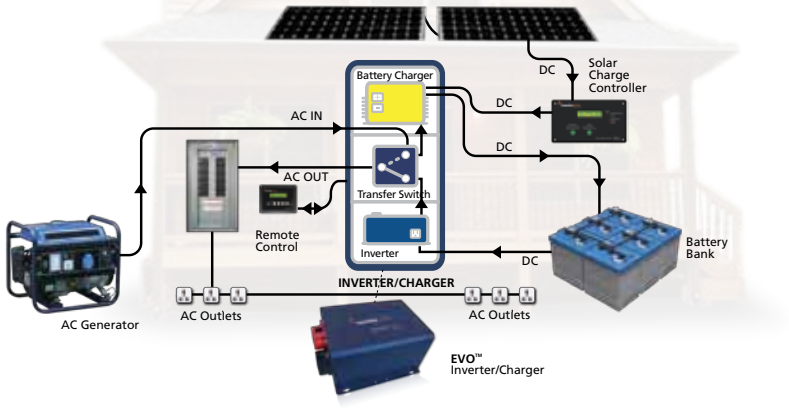
EVO-2212E	EVO-3012E	EVO-2224E	EVO-4024E
2200 Watts	3000 Watts	2200 Watts	4000 Watts
12 VDC	12 VDC	24 VDC	24 VDC

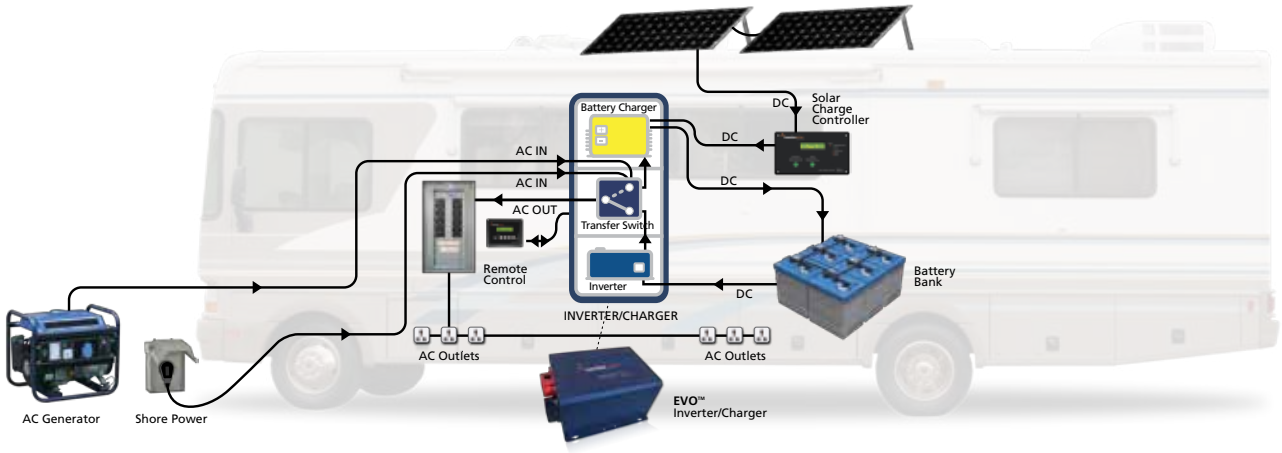
EVO™ models also available in 120V

Applications

REMOTE LOCATIONS

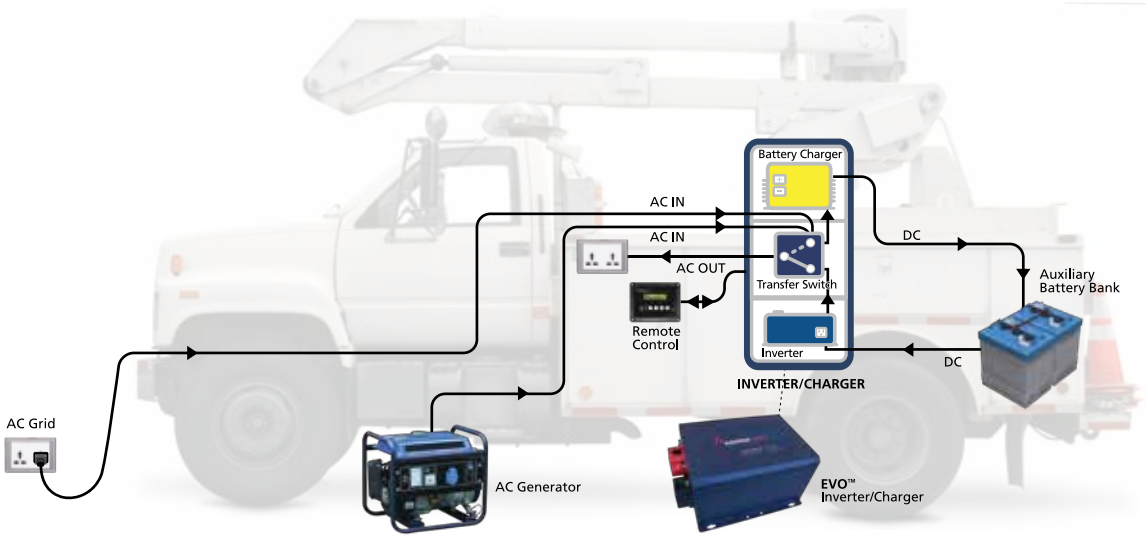
The EVO™ provides a complete power solution for remote locations where there is no electricity (grid power). Use solar as the primary source to charge your batteries. Turn on a generator if more power is needed without having to reconfigure any of your equipment. Connect the EVO™ to a breaker panel and receive clean 120 Volt power through all of your electrical outlets.





RV/ MARINE

EVO's™ dual AC inputs for shore power and a generator are ideal for RV and Marine applications. Use shore power when it's available to run loads and charge batteries. There is no need to reconfigure if you want to use a generator; it has its own input. Also, connect a solar charge controller directly to the EVO™ without having to use an external transfer switch. Let the EVO™ transfer between power sources for you while you enjoy the comforts of home.



COMMERCIAL VEHICLES

Use EVO™ to power tools, test equipment and other AC devices from an auxiliary battery bank. Safely and rapidly re-charge batteries when AC or a generator is available without having to reconfigure. Capable of driving heavy duty loads and sensitive electronics, the EVO™ provides reliable pure sine wave power wherever it's needed.

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	EVO-2212E	EVO-3012E	EVO-2224E	EVO-4024E
INVERTER NOMINAL AC OUTPUT VOLTAGE, FREQUENCY, THD	230 ± 5% VAC, 50 / 60 Hz ± 0.1 Hz, < 5% THD			
INPUT BATTERY VOLTAGE RANGE	9.1 - 17 VDC	9.1 - 17 VDC	18.1 - 34 VDC	18.1 - 34 VDC
CONTINUOUS OUTPUT POWER	2200 VA	3000 VA	2200 VA	4000 VA
CONTINUOUS AC OUTPUT CURRENT (A)	10A	13A	10A	18A
SURGE POWER FOR 1 ms	300% (6600VA, 30A)	300% (9000VA, 39A)	300% (6600VA, 30A)	300% (12000VA, 52A)
SURGE POWER FOR 100 ms	200% (4400VA, 20A)	200% (6000VA, 26A)	200% (4400VA, 20A)	200% (8000VA, 35A)
POWER BOOST FOR 5 SECONDS	150% (3300W)	150% (4500W)	150% (3300W)	150% (6000W)
POWER BOOST FOR 30 SECONDS	140% (3080W)	140% (4200W)	140% (3080W)	140% (5600W)
POWER BOOST FOR 5 MINUTES	120% (2640W)	120% (3600W)	120% (2640W)	120% (4800W)
POWER BOOST FOR 30 MINUTES	110% (2420W)	110% (3300W)	110% (2420W)	110% (4400W)
MAXIMUM CONTINUOUS DC INPUT CURRENT	266A	373A	133A	266A
INVERTER EFFICIENCY (PEAK)	90%	90%	93%	94%
NO LOAD POWER CONSUMPTION	Normal Mode: 30W; Power Saving Mode: <8W		Normal Mode: 25W; Power Saving Mode: <8W	
AC INPUT FROM GRID/GENERATOR	230 VAC (140 - 280 VAC ± 5% selectable) ; 60Hz / 50Hz (40 - 70 Hz selectable)			
MAXIMUM PROGRAMMABLE AC INPUT CURRENT	5-20A (Default 16A)	5-25A (Default 16A)	5-20A (Default 16A)	5-35A (Default 16A)
TRANSFER RELAY TRANSFER RELAY TYPE AND CAPACITY	SPDT, 40A	SPDT, 40A	SPDT, 40A	SPDT, 40A
TRANSFER TIME: INVERTER TO GRID/GENERATOR	< 1 ms (Synchronized transfer at zero crossing)			
TRANSFER TIME: GRID/GENERATOR TO INVERTER	Up to 16 ms (Synchronized transfer at zero crossing)			
INTERNAL BATTERY CHARGER AC INPUT VOLTAGE RANGE	230 VAC (140 - 280 VAC ± 5% selectable) ; 60Hz / 50Hz (40 - 70 Hz selectable)			
MAXIMUM CONTINUOUS AC INPUT CURRENT	9A, AC	12A, AC	10A, AC	18A, AC
PROGRAMMABLE BULK CHARGING CURRENT AND VOLTAGE	0-100A, DC ; 13-16 VDC	0-130A, DC ; 13-16 VDC	0-70A, DC ; 26-32 VDC	0-110A, DC ; 26-32 VDC
AC INPUT POWER FACTOR	> 0.95			
CHARGER EFFICIENCY	75%	75%	86%	85%
CHARGING STAGES & CONTROL	Normal Mode: 3 Stages – Bulk, Absorption and Float; Equalization Mode: 4 Stages – Bulk, Absorption, Equalization and Float; Adaptive Charging Control			
BATTERY TEMPERATURE COMPENSATION	Battery Temperature Sensor included. Compensation Range from -20°C to + 60°C			
EXTERNAL BATTERY CHARGER (SOLAR CHARGE CONTROLLER)				
CHARGING VOLTAGE RANGE	13 - 16 VDC	13 - 16 VDC	26 - 32 VDC	26 - 32 VDC
MAXIMUM CHARGING CURRENT	50A			
COOLING	2 Fans – Temperature Controlled, Variable Speed			
PROTECTIONS/ALARMS	Battery Low Voltage Alarm and Low / Over Voltage Shut Down; Shut Down under Input Over Current, Output Over Current, Output Overload and Output Short; Transformer and Heat Sink Overheat Shut Down; Immunity Against Conducted Electrical Transients in Vehicles			
COMPLIANCE	CE marked, RoHS2			
ENVIRONMENTAL TEMPERATURE	OPERATING: -20 to +60°C (-4 to 140°F); STORAGE: -40 to +70°C (-40 to 158°F)			
OPERATING HUMIDITY	0 to 95% RH non condensing			
WEIGHT AND DIMENSIONS W x D x H	325 x 426 x 207mm / 12.79 x 16.77 x 8.15 inches			
WEIGHT	27 Kg / 59 lb	29 Kg / 64 lb	26 Kg / 57 lb	29 Kg / 64 lb

(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 unless specified otherwise
(3) Specifications are subject to change without notice
* Marine Supplement is valid when installing using Drip Shield