samlexamerica®

EVOLUTION®

EVOLUTION® Series Inverter/Charger

Pure Sine Wave Inverter, Adaptive Battery Charger, Transfer Relay – All in ONE unit.

Using state of the art technology, the Samlex EVO® inverter/charger operates at 165 million instructions per second with lightening fast load & response times, has 9 points of physical protection monitoring (being scanned up to 10,000 times per second) to detect fault conditions & prevent product damage and uses 5 different temperature sensors to activate 2 speed controlled cooling fans. Experience the Evolution®.

Two Separate AC Inputs for Grid & Generator

Connect grid and generator simultaneously. Priority is given to grid. Both AC inputs are fully programmable, this includes distortion tolerance (fine and course) to accommodate various types of generator sources.

Programmable Battery Charger

Choose between the Adaptive Algorithm or other user programmable multiple charging profiles. 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 and other battery chemistries and applications, the 5 alternate 3 and 2-stage algorithms use timers and/or Voltage sensing with options to turn charging off when complete.

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 startup, 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 or other available DC source

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. Other sources of DC could be wind power for fixed installations or the alternator in the vehicle for mobile applications.

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.

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.

Safety Certified and EMC Compliant

ETL safety listed to stringent UL (with Marine Supplement) and CSA standards. EMC Compliant to FCC requirements. See specifications on reverse side for details.

Optional Remote Control w/ Removable SD Card for Data Logging

The EVO-RC or EVO-RC PLUS remote control (sold separately) can accept up to 32 GB 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.

FOR USE WITH: Alternative Energy Systems, trucks, boats, RVs, cabins, remote locations, areas with unreliable utility power and for emergency power back-up.

3 YEAR LIMITED WARRANTY



EVO-Features-1026

samlexamerica® EVOLUTION®





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

Inverter/ Charger

Pure Sine Wave

Models:
EVO-2212E
EVO-3012E
EVO-2224E
EVO-4024E

3 YEAR LIMITED WARRANTY

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INVERTER		EVO-2212E	EVO-3012E	EVO-2224E	EVO-4024E
	NOMINAL AC OUTPUT, FREQUENCY, THD	230 VAC ± 5%, 50/60 Hz ± 0.1 Hz (Default 50 Hz) ; < 5% TDH			
	INPUT BATTERY VOLTAGE RANGE	9.1 - 17 VDC	9.1 - 17 VDC	18.1 - 34 VDC	18.1 - 34 VDC
	CONTINUOUS POWER OUTPUT AT 25° C	2200 VA	3000 VA	2200 VA	4000 VA
	CONTINUOUS AC OUTPUT CURRENT (A)	10 A	13 A	10 A	18 A
	SURGE POWER FOR 1 MSEC	300% (6600 VA, 28 A)	300% (9000 VA, 39 A)	300% (6600 VA, 28 A)	300% (12000 VA, 52 A)
	SURGE POWER FOR 100 MSEC	200% (4400 VA, 19 A)	200% (6000 VA, 26 A)	200% (4400 VA, 19 A)	200% (8000 VA, 34 A)
	POWER BOOST FOR 5 SECONDS	150% (3300 W)	150% (4500 W)	150% (3300 W)	150% (6000 W)
	POWER BOOST FOR 30 SECONDS	140% (3080 W)	140% (4200 W)	140% (3080 W)	140% (5600 W)
	POWER BOOST FOR 5 MINUTES	120% (2640 W)	120% (3600 W)	120% (2640 W)	120% (4800 W)
	POWER BOOST FOR 30 MINUTES	110% (2420 W)	110% (3300 W)	110% (2420 W)	110% (4400 W)
	MAXIMUM CONTINUOUS DC INPUT CURRENT	266 A	373 A	133 A	266 A
	INVERTER EFFICIENCY (PEAK)	90%	90%	93%	94%
	NO LOAD POWER CONSUMPTION	Normal Mode: 30 W; Power Save Mode: <8 W		Normal Mode: 25 W; Power Save Mode: <8 W	
AC INPUT FROM GRID/GENERATOR		230 VAC (140 - 280 VAC ± 5% selectable); 50 / 60 Hz (40 - 70 Hz selectable), Default - 50 Hz			
	PROGRAMMABLE AC INPUT CURRENT	5-20 A (Default 16 A)	5-25 A (Default 16 A)	5-20 A (Default 16 A)	5-35 A (Default 16 A)
TRANSFER RELAY	TRANSFER RELAY TYPE AND CAPACITY	SPDT, 40 A	SPDT, 40 A	SPDT, 40 A	SPDT, 40 A
	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 Nominal (140 - 280 VAC ± 5%, 50/60 Hz Selectable)			
	MAXIMUM AC INPUT CURRENT	9 Amps, AC	12 Amps, AC	10 Amps, AC	18 Amps, AC
	MAXIMUM DC OUTPUT CURRENT	100 Amps, DC	130 Amps, DC	70 Amps, DC	110 Amps, DC
	POWER FACTOR	> 0.95			
	CHARGER EFFICIENCY	75%	75%	86%	85%
	CHARGING STAGES	Adaptive Charging Control; Normal Mode: 3 Stages – Bulk, Absorption, Float; Equalization Mode: 4 Stages – Bulk, Absorption, Equalization, Float			
	BATTERY TEMPERATURE COMPENSATION	Battery Temperature Sensor included. Compensation Range from -20 °C to + 60 °C (-4 °F to 140 °F)			
EXTERNAL BATTERY CHARGER INPUT (FROM SOLAR CHARGE CONTROLLER)					
	CHARGING INPUT VOLTAGE RANGE	13 - 16.5 VDC	13 - 16.5 VDC	26 - 33 VDC	26 - 33 VDC
	MAXIMUM CHARGING CURRENT	50 A			
COOLING		2 Fans – Temperature Controlled, Variable Speed			
PROTECTIONS/ALARM		Input Over Current, Output Overload, Short Circuit, Over Temperature, Battery Low Voltage/Over Voltage Immunity Against Conducted Electrical Transients in Vehicles			
COMPLIANCE	SAFETY/EMI/EMC/RoHS	CE marked, RoHS			
ENVIRONMENTAL	TEMPERATURE	OPERATING: -20 °C to +60 °C (-4 °F to 140 °F); STORAGE: -40 °C to +70 °C (-40 °F 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

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 unless specified otherwise.
(3) Specifications are subject to change without notice.

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