



EG4® 12kPV HYBRID INVERTER

The EG4 12kPV is a 48V split-phase, hybrid inverter/charger capable of utilizing 12kW of PV input and efficiently outputting 8kW of power while also charging the battery bank. Parallel up to 10 units for 80kW of output power and control multiple stations and units using the new EG4 monitoring software.

H I G H
F R E Q U E N C Y
S P L I T - P H A S E
D E S I G N

1 0 - Y E A R
W A R R A N T Y

R E M O T E
A D J U S T M E N T
V I A E G 4
S O F T W A R E

ALL-IN-ONE HYBRID INVERTER

Capable of running entirely off the grid, using grid electricity, or selling power back to the grid.

UP TO 600VDC INPUT

The extra high voltage enables lower cable sizing for the 2 MPPTs and a maximum recommended PV input of 15kW, eliminating the need for a combiner box.

PLUG IN WI-FI DEVICE

Enables wireless connection between our new monitoring platform and the 12kPV through the EG4 app or EG4 Monitor system.

CLOSED-LOOP COMMUNICATIONS

Able to communicate with EG4 48V batteries and other battery brands. A battery firmware update is required for closed-loop communications with LifePower4 batteries.

RAPID SHUT DOWN

The 12kPV is CSA C22.2#330:2017 and NEC 690.12 ready with its built-in RSD capabilities.



TECHNICAL SPECIFICATIONS

AC INPUT DATA

NOMINAL AC VOLTAGE	120/240VAC; 120/208VAC (L1/L2/N required)		
FREQUENCY	50/60Hz		
MAX. AC INPUT POWER	8000W		
MIN. GENERATOR SIZE	>5000W		
MAX. GEN GRID PASSTHROUGH CURRENT	80A 80A		

AC GRID OUTPUT DATA

MAX. OUTPUT CURRENT	33.3A@240VAC 38.5A @208VAC			
OUTPUT VOLTAGE	120/240VAC; 120/208VAC			
NOMINAL POWER OUTPUT	8000W			
OUTPUT FREQUENCY	50/60Hz			
POWER FACTOR	0.99 @ Full Load			
REACTIVE POWER ADJUST RANGE	±0.8			
MAX CONT. LINE WATTAGE	4000W			
PEAK POWER	0.5 s	1 s	1 min	12 min
	16kW	12kW	10kW	8.8kW
OPERATING FREQUENCY	50/60Hz			
THD (V) @FULL LOAD	<3%			
TRANSFER TIME	Single		Parallel	
	20 ms – Default, 10 ms – Selectable		20 ms	

PV INPUT DATA

NUMBER OF MPPTS	2		
INPUTS PER MPPT	2		
MAX. USABLE INPUT CURRENT	25/25A		
	25A per MPPT 41.6A in total		
MAX. SHORT CIRCUIT INPUT CURRENT	31/31A		
DC INPUT VOLTAGE RANGE*	100-600 VDC		
UNIT STARTUP VOLTAGE	100 VDC		
MPPT OPERATING VOLTAGE RANGE**	120-500 VDC		
NOMINAL MPPT VOLTAGE	360 VDC		
MPPT VOLTAGE HIGH PROTECTION***	550 VDC		
MAXIMUM UTILIZED SOLAR POWER	12000W		
RECOMMENDED MAXIMUM SOLAR INPUT	15000W		

*Do not exceed the max. DC input voltage specification of 600 VDC. Any damage caused by reaching >600 VDC will not be covered under warranty.

**When sizing the system, it is best practice to follow the MPPT Operating Voltage Range specifications, and not the maximum voltage of the MPPT.

***The value at which the inverter will fault to protect the MPPT from the overvoltage spec of 600 VDC. Ensure **geographical considerations, weather patterns, and panel specifications** are factored into string sizing.

See <https://eg4electronics.com/wp-content/themes/hello-elementor/eg4-solar-panel-string-sizer/> for the EG4® string sizing tool.

EFFICIENCY

MAXIMUM EFFICIENCY (PV TO GRID)	97.5%
MAXIMUM EFFICIENCY (BATTERY TO GRID)	94%
CEC WEIGHTED EFFICIENCY	96.4%
MAXIMUM EFFICIENCY (PV TO BATTERY)	99.9%
IDLE CONSUMPTION (STANDBY MODE)	<55W

BATTERY DATA

COMPATIBLE BATTERY TYPES	Lead-Acid/Lithium
MAX. CHARGE/DISCHARGE CURRENT	167A @ 48 VDC
NOMINAL VOLTAGE	48 VDC
VOLTAGE RANGE	40-60 VDC (Lithium); 40-60 VDC (Lead-Acid)
RECOMMENDED BATTERY CAPACITY PER INVERTER	>200Ah

GENERAL DATA

MAX. UNITS IN PARALLEL	10
PRODUCT DIMENSIONS (H×W×D)	29.5×20.5×11.2 in (750×520×285 mm)
UNIT WEIGHT	110 lbs. (50 kg)
DESIGN TOPOLOGY	High Frequency - Transformerless
RELATIVE HUMIDITY	0-100%
OPERATING ALTITUDE	<2000m (<6561 ft)
OPERATING AMBIENT TEMPERATURE RANGE	-13°F – 140°F (-25°C – 60°C)
STORAGE AMBIENT TEMPERATURE RANGE	-13°F – 140°F (-25°C – 60°C)
NOISE EMISSION (TYPICAL)	<50 dB @ 3 ft
LOCKED ROTOR AMPS (LRA)	195A
COMMUNICATION INTERFACE	RS485/Wi-Fi/CAN
STANDARD WARRANTY**	10-year standard warranty
ENCLOSURE RATING	NEMA 4X
SAFETY FEATURES	PV Arc Fault Protection, PV Ground Fault Protection, PV Reverse Polarity Protection, Pole Sensitive Leakage Current Monitoring Unit, Surge Protection Device, integrated PV disconnect

***For information regarding warranty registration on EG4® Electronics products, please navigate to <https://eg4electronics.com/warranty/> and select the corresponding product to begin the registration process.*

STANDARDS AND CERTIFICATIONS

UL1741, SA, SB, PCS CRD

RAPID SHUT DOWN (RSD) NEC 2020:690.12

ARC-FAULT CIRCUIT INTERRUPTER (AFCI) NEC 2020:690.11 / UL1699B

GROUND FAULT MONITORING (GFDI) NEC 2020:690.41(B)

CSA 22.2.107.1

CSA 22.2.330

IEEE 1547.1:2020; IEEE 1547:2018

HAWAII RULE 14H

CALIFORNIA RULE 21 PHASE I, II, III

FCC PART 15, CLASS B

CHANGELOG

V1.0.8

- Added MPPT Voltage High Protection value to spec sheet

V1.0.7

- Modified spec sheet Safety and Certifications and added more information

V1.0.6

- Added an asterisk to MPPT Operating Voltage Range line in spec sheet
- Added note after the spec sheet regarding MPPT Operating Voltage Range asterisk

V1.0.4

- Modified max AC input power from 12000 to 8000W

V1.0.3

- 3-10-25 - Added Locked Rotor Amps value to specifications

12-30-24

- Removed (Pending) from FCC Part 15 cert

11-15-24

- Published v1.0.2
- Removed IP rating and added NEMA 4X rating
- Modified warranty information