



# EG4<sup>®</sup> 18kPV HYBRID INVERTER

The EG4 18kPV is a 48V split-phase, hybrid inverter/charger capable of utilizing 18kW of PV and efficiently outputting 12kW of power while charging the battery bank. Parallel up to 10 units for 120kW of AC power. Control multiple stations and units using the new EG4 monitoring software.

AC COUPLING  
CAPABILITY

REMOTE  
ADJUSTMENT VIA  
EG4 SOFTWARE

10-YEAR  
WARRANTY

## ALL-IN-ONE HYBRID INVERTER

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

## UP TO 600VDC INPUT

The extra high voltage enables lower cable sizing for the 3 MPPTs with a recommended maximum PV input of 21kW, eliminating the need for a combiner box.

## MOUNTABLE WI-FI DEVICE

Enables wireless connection between our new monitoring platform and the 18kPV 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.

## HIGH FREQUENCY, SPLIT-PHASE OUTPUT

Allows for 120/240V single unit or 120/208 service operation.



## TECHNICAL SPECIFICATIONS

## AC INPUT DATA

|                     |   |
|---------------------|---|
| NOMINAL AC VOLTAGE  | 120/240VAC; 120/208VAC (L1/L2/N required) |
| FREQUENCY           | 50/60Hz                                   |
| MAX. AC CURRENT     | 50A @ 240VAC                              |
| MAX. AC INPUT POWER | 12000W                                    |
| MAX. AC BYPASS      | 200A                                      |

## AC GRID OUTPUT DATA

|                                |   |
|--------------------------------|---|
| MAX. OUTPUT CURRENT            | 50A   |
| OUTPUT VOLTAGE                 | 120/240VAC; 120/208VAC (L1/L2/N required)                         |
| OPERATING VOLTAGE RANGE        | 180-270VAC  |
| NOMINAL POWER OUTPUT           | @240V 12000W   @208V 10400W                                       |
| FREQUENCY                      | 50/60Hz   |
| POWER FACTOR                   | 0.99 @ Full Load  |
| REACTIVE POWER ADJUST RANGE    | (-0.8) $\approx$ (+0.8) Leading Adjustable                        |
| MAX CONT. LINE WATTAGE         | 6000W   |
| PEAK POWER (SURGE CAPACITY)    | w/ PV: 14700W (10 min), 15500W (5 min)<br>W/O PV: 13500W (10 min) |
| THD @FULL LOAD                 | <5%   |
| OPEN LOOP RESPONSE TIME (OLRT) | <2 seconds  |
| TIME TO STEADY STATE           | <10 seconds   |
| TRANSFER TIME                  | 20ms (Default), 10ms (Configurable)   Parallel – 20ms             |

## BACKUP/UPS AC OUTPUT DATA

|  |   |
|--|---|
| RATED OUTPUT CURRENT (240/208VAC)        | 50A   |
| AC BYPASS (GENERATOR)                    | 90A   |
| NOMINAL OUTPUT VOLTAGE                   | 240   120/240   120/208VAC  |
| RATED OUTPUT POWER                       | @240VAC 12000W   @208VAC 10400W                                   |
| MAX. CONTINUOUS LINE WATTAGE             | 8000W per 120V  |
| PEAK POWER                               | w/ PV: 14700W (10 min), 15500W (5 min)<br>w/o PV: 13500W (10 min) |
| THDV (TOTAL HARMONIC DISTORTION VOLTAGE) | <5%   |
| OPEN LOOP RESPONSE TIME (OLRT)           | <2 seconds  |
| TIME TO STEADY STATE                     | <10 seconds   |
| SWITCHING TIME                           | 10ms  |

## PV INPUT DATA

|                                  |  |
|----------------------------------|--|
| NUMBER OF MPPTS                  | 3  |
| INPUTS PER MPPT                  | 2 (MPPT 1)   1 (MPPT 2)   1 (MPPT 3)       |
| MAX. USABLE INPUT CURRENT        | 25A (MPPT 1)   15A (MPPT 2)   15A (MPPT 3) |
| MAX. SHORT CIRCUIT INPUT CURRENT | 31A (MPPT 1)   19A (MPPT 2)   19A (MPPT 3) |
| DC INPUT VOLTAGE RANGE           | 100-600 VDC                                |
| UNIT STARTUP VOLTAGE             | 100 VDC                                    |
| MPPT OPERATING VOLTAGE RANGE*    | 140-500 VDC                                |
| NOMINAL MPPT VOLTAGE             | 360 VDC                                    |
| MAXIMUM UTILIZED SOLAR POWER     | 18000W                                     |
| RECOMMENDED MAXIMUM SOLAR INPUT  | 21000W                                     |

## EFFICIENCY

|  |             |
|--|-------------|
| CEC                                      | 96.9%       |
| MAXIMUM EFFICIENCY (PV TO GRID)          | 97.5%       |
| MAXIMUM EFFICIENCY (BATTERY TO GRID)     | 94%         |
| MAXIMUM EFFICIENCY (PV TO BATTERY)       | 99.9%       |
| IDLE CONSUMPTION (NORMAL   STANDBY MODE) | ~70W   ~18W |

## BATTERY DATA

|   |  |
|---|--|
| COMPATIBLE BATTERY TYPES                  | Lead-acid/Lithium                          |
| MAX. CHARGE/DISCHARGE CURRENT             | 250A                                       |
| 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)          | 34.3×20.5×11.2 in (870×520×285mm)  |
| UNIT WEIGHT                         | 121 lbs. (55kg)  |
| DESIGN TOPOLOGY                     | High Frequency - Transformerless   |
| RELATIVE HUMIDITY                   | 0-100%   |
| OPERATING ALTITUDE                  | <2000m (<6561ft)   |
| 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)            | 68dB @ 3ft   |
| LOCKED ROTOR AMPS (LRA)             | 180A   |
| COMMUNICATION INTERFACE             | RS485/Wi-Fi/CAN  |
| STANDARD WARRANTY**                 | 10-year standard warranty  |
| OUTDOOR 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 |

## 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   |

\*When sizing the system, it is best practice to follow the nominal MPPT voltage specifications and not the minimum/maximum voltage of the MPPT operating voltage range.

\*\*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.

# CHANGELOG

## Version 1.4.1

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

## Version 1.4.0

- Updated model # in footer on cover page

## Version 1.3.9

- Added Locked Rotor Amps value to general data

## Version 1.3.8

- Added Open Loop Response Time & Time to Steady State values to AC Grid Output & Backup/UPS Output data sections

## Version 1.3.7

- Modified UL1741 Safety Certification to UL1741, SA, SB, PCS CRD

## Version 1.3.6

- Modified warranty information

## Version 1.3.5

- Updated line 1 of Safety Certifications from UL1741B Rule 21 to UL1741, SA, SB for better clarity.

## Version 1.3.4

- Removed extra "Operating Frequency" line item.

## Version 1.3.3

- Updated formatting
- Removed Ingress Protection and replaced it with Outdoor Rating.

## Version 1.3.2

- Corrected MPPT Operating Voltage Range – changed from 120VDC to 140VDC

## Version 1.3.1

- Fixed typos on AC output max. continuous line wattage & max. usable PV current per MPPT

## Version 1.3

- Reformatted document to branding standards
- Added CEC efficiency ratings

## Version 1.2

- Slight modification of verbiage for readability