



EG4® 12000XP OFF-GRID INVERTER

The EG4 12000XP is a 48V split-phase, off-grid inverter/charger capable of utilizing 24kW of PV input and efficiently outputting 12kW of power while also charging your battery bank with the remaining 12kW of DC. Parallel up to 6 units for 72kW of output power and control multiple stations and units using the EG4 Monitor Center.

HIGH
FREQUENCY
SPLIT-PHASE
DESIGN

5-YEAR
WARRANTY

REMOTE
ADJUSTMENT
VIA EG4
SOFTWARE

ALL-IN-ONE OFF-GRID INVERTER

Capable of running entirely off the grid or using grid electricity.

UP TO 480VDC INPUT

The extra high voltage enables lower cable sizing for the 2 MPPTs and a maximum utilized PV input of 24kW, eliminating the need for a combiner box.

PLUG-IN WI-FI DEVICE

Enables wireless connection between the 12000XP and the EG4 app or EG4 Monitor system.

CLOSED-LOOP COMMUNICATIONS

Able to communicate with EG4 48V batteries and other supported battery brands.

RAPID SHUT DOWN

The 12000XP is NEC 690.12 ready with its built-in RSD capabilities.



T E C H N I C A L S P E C I F I C A T I O N S

AC INPUT DATA

NOMINAL AC VOLTAGE (GRID GENERATOR)	120/240VAC; 120/208VAC (L1/L2/N required)
FREQUENCY (GRID GENERATOR)	60 Hz (Default) 50 Hz (Configurable)
GRID MAX. CONTINUOUS AC CURRENT	100A @ 240VAC
MAX. AC INPUT POWER	24000W
GENERATOR MAX. CONTINUOUS CURRENT	62.5A @ 240VAC
RECOMMENDED GENERATOR CAPACITY	6000W – 15000W
AC BYPASS (GRID GENERATOR)	100A 90A

AC OUTPUT DATA

OUTPUT VOLTAGE	120/240VAC; 120/208V
OUTPUT FREQUENCY	60 Hz (Default) 50 Hz (Configurable)
MAX. CONTINUOUS OUTPUT CURRENT	50A @ 240VAC 57.5A @ 208V
NOMINAL POWER OUTPUT	w/ PV: 12000W @ 240V 12000W @ 208V w/ out PV: 12000W @ 240V 12000W @ 208V
MAX. CONTINUOUS WATTAGE	12000W (L1-L2) 6000W (L1-N or L2-N)
PEAK POWER (SURGE CAPACITY)	18000W for ≈5 seconds 15000W for ≈10s
POWER FACTOR VALUE	.99
OPERATING FREQUENCY	60 Hz (Default) 50 Hz (Configurable)
THD (V)	<3%
SWITCHING TIME	<10 ms @ Single / <20 ms @ Parallel

PV INPUT DATA

NUMBER OF MPPTS	2
INPUTS PER MPPT	2/2
MAX. USABLE INPUT CURRENT	35A/35A
MAX. SHORT CIRCUIT INPUT CURRENT	44A/44A
DC INPUT VOLTAGE RANGE	100 – 480VDC
MIN. STARTUP VOLTAGE	100VDC
MPPT OPERATING VOLTAGE RANGE	120 – 385VDC
NOMINAL MPPT VOLTAGE	320VDC
MAX. UTILIZED SOLAR POWER	24000W (12000 per MPPT)
MAX. RECOMMENDED SOLAR INPUT	28000W (14000 per MPPT)

EFFICIENCY	
MAXIMUM EFFICIENCY (MPPT)	99%
MAXIMUM EFFICIENCY (PV TO BATTERY)	92.8%
MAXIMUM EFFICIENCY (AC TO BATTERY)	92.5%
MAXIMUM EFFICIENCY (PV TO LOADS)	93.5%
MAXIMUM EFFICIENCY (BATTERY TO LOADS)	90.2%
IDLE CONSUMPTION (STANDBY MODE)*	<70W
BATTERY DATA	
COMPATIBLE TYPES	Lead-Acid/Lithium
MAX. CHARGE/DISCHARGE CURRENT (A)	250A
MAX. CHARGE/DISCHARGE POWER (W)	12000W
NOMINAL VOLTAGE	48VDC
BATTERY VOLTAGE RANGE	46.4 – 60 VDC (Lithium) 38.4 – 60 VDC (Lead-Acid)
RECOMMENDED BATTERY CAPACITY PER INVERTER	>400Ah
HIGH DC CUT-OFF VOLTAGE	59 VDC (Lithium) 60 VDC (Lead-acid)
GENERAL DATA	
MAX. UNITS IN PARALLEL	6
PRODUCT DIMENSIONS (H×W×D)	34.25×20.87×5.91 in. (870×530×150 mm)
UNIT WEIGHT	104.7 lbs. (47.5 kg)
DESIGN TOPOLOGY	High Frequency - Transformerless
RELATIVE HUMIDITY	5 – 95% (non-condensing)
OPERATING ALTITUDE	<6561 ft. (<2000 m)
OPERATING AMBIENT TEMPERATURE RANGE	32°F – 113°F (0°C – 45°C) @ Full Load
STORAGE AMBIENT TEMPERATURE RANGE	5°F – 140°F (-15°C – 60°C)
NOISE EMISSION (TYPICAL)	<60 dB
COOLING METHOD	Fan
COMMUNICATION INTERFACE	RS485/CAN/Wi-Fi
STANDARD WARRANTY**	5-year standard warranty
INGRESS PROTECTION RATING	IP20
SAFETY FEATURES	PV Reverse Polarity Protection, Surge Protection Device, Output Over-Voltage Protection, Output Over-Voltage Protection Varistor
STANDARDS AND CERTIFICATIONS	
UL1741	

*Idle consumption value tested with constant 300 VDC PV source

**See EG4 Warranty Registration for terms and conditions

CHANGELOG

10-31-24

- Modified 10 year warranty on cover page to reflect warranty of 5 years

10-30-24

- Modified recommended generator input from >15000W to 6000W – 15000W

10-16-24

- Published v1.0