

# FUSION

## Off-grid solar inverter

Seriously committed to minimizing the carbon footprint on the planet, Forza® is leading the energy transformation with the introduction of its innovative line of solar inverters.



By integrating cutting-edge digital power electronics and photovoltaic technologies, the brand has built a convenient, reliable and highly efficient solution centered on the generation, storage and supply of clean energy virtually anywhere it's needed. Thanks to the compact size and dependable architecture of the inverters, they can be equally deployed at the center of an urban hub or in a remote location with no access to the electric grid, or where the construction of any utility extension can be costly or even structurally unfeasible.

Our FUSION line is made up of inverters designed for off-grid, single-phase photovoltaic applications. Equipped with an MPPT charger, the FUSION optimizes energy harvesting while reducing system maintenance and operational costs. As the inverter has been conceived to easily integrate with the Forza battery and the embedded application, it provides seamless status monitoring along with remote management, all in real-time. It also features parallel operation with up to 9 identical units when used in conjunction with an optional parallel kit.

### Highlights

- Zero (0ms) transfer time to protect mission-critical loads
- Pure sinewave solar inverter
- Highly-efficient MPPT (Maximum Power Point Tracking) charge controller
- Output power factor of 1
- Features restart functionality, including the "cold start" option from battery
- Wide DC input range
- Selectable input voltage range for home appliances and personal computers
- Configurable AC/Solar input priority via LCD
- Rugged design with overload, overtemperature, and short-circuit protection
- Smart battery charger design for optimized battery performance
- Parallel operation with up to 9 units (requires parallel kit)
- 3-phase compatible in parallel operation (requires parallel kit)

Available in the 120-volt version, and with capacities of 1000W, 2000W and 3000W respectively, the FUSION is characterized for its sturdy construction, outstanding performance and industry-grade design life.



Off-grid



MPPT  
charger



Fully  
protected



LCD  
screen



Parallel  
compatible\*

MPN	FIO-F12K24P
<b>General</b>	
Inverter type	Off-grid
Phase	Single phase
Rated power	2000VA/2000W
<b>Input</b>	
Nominal voltage	120VAC
Voltage range	95-140VAC
Frequency range	50/60Hz (auto sensing) $\pm$ 4Hz
Power Factor	$\geq$ 0.98 at 100% load
Total harmonic distortion (THDi)	$\leq$ 10% at 100% load
<b>Output</b>	
Nominal voltage	120VAC $\pm$ 5%
Surge power	4000VA
Frequency (synchronized range)	46-54Hz for a 50Hz system / 56-64Hz for a 60Hz system
Frequency (battery mode)	50Hz $\pm$ 0.1Hz or 60Hz $\pm$ 0.1Hz
Harmonic distortion	$\leq$ 3% THD (linear load) / $\leq$ 5% THD (non-linear load)
Transfer time (line to battery)	0ms
Transfer time (inverter to bypass)	4ms
Efficiency (AC mode)	90%
Efficiency (ECO mode)	98%
Efficiency (battery mode)	90%
Waveform	Pure sinewave
<b>Battery</b>	
Voltage	24VDC
Floating charge voltage	27VDC
Overcharge protection	32VDC
<b>Solar and AC charger</b>	
Solar charger type	MPPT
Number of MPP trackers	1
Maximum PV array power	2000W
Maximum PV array open circuit voltage (VOC)	145VDC
Operating voltage (VMP)	30-115VDC
Maximum solar charge current	80A
Maximum AC charge current	60A
Maximum charging power	140A
Standby power consumption	8W
<b>Special features</b>	
Power-up function	Cold start and auto-restart
Communication	USB, RS232, dry contact / Optional Wi- Fi card
Parallel operation	Up to 9 identical units*
Cooling	Controlled forced ventilation, variable fan speed
Protection	Overload, shortcircuit, overtemperature and, overcharge
<b>Environment</b>	
Operating temperature	14°F-122°F
Storage temperature	-5°F-140°F
Relative humidity	5%-95% non-condensing
Operating altitude	<5000m with a 1% output derate every 100m above 1500m, up to 5000m
Audible noise	<60dB at 1 meter

MPN	FIO-F12K24P
<b>Physical appearance</b>	
Power switch	Push button
Housing	Metal
Color	White and black
Dimensions (LxHxD)	11.6x18.4x4.7in
Weight	23.1lb
<b>Additional information</b>	
Warranty	2 years
Certification	CE

\*Requires parallel kit