forza POWER TECHNOLOGIES

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SPECTRA
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, wireless 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 smart 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 SPECTRA line is made up of inverters designed for off-grid, single-phase photovoltaic applications. Equipped with an MPPT charger, the SPECTRA 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 a detachable LCD module, a built-in *Bluetooth*® interface for wireless communications, including parallel operation with up to 9 identical units when using an optional parallel kit.

Highlights

- Zero (0ms) transfer time to protect mission-critical loads
- Pure sine wave 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
- Detachable LCD module with remote control of up to 20m (using a wired connection)
- Integrated *Bluetooth*® interface with Android mobile application
- Rugged design with overload, overtemperature, and short-circuit protection
- Smart battery charger design for optimized performance
- Parallel operation with up to 9 units (requires parallel kit)
- 3-phase compatible in parallel operation (requires parallel kit)

Available in the 220-volt version, and with capacities of 3000W and 5000W respectively, the **SPECTRA** is characterized for its sturdy construction, outstanding performance and industry-grade design life.

Off-grid | **MPPT charger** | **Fully protected** | **Detachable LCD screen** | **Android *Bluetooth*® app** | **Parallel compatible***

MPN	FIO-S23K24P
General	
Inverter type	Off-grid
Phase	Single phase
Rated power	3000VA/3000W
Input	
Nominal voltage	230VAC
Voltage range	110-280VAC
Frequency range	50/60Hz (auto sensing) ± 4Hz
Power factor	≥0.98 at 100% load
Total harmonic distortion (THDi)	≤10% at 100% load
Output	
Nominal voltage	230VAC ± 5%
Surge power	6000VA
Frequency (synchronized range)	46-54Hz for a 50Hz system / 56-64Hz for a 60Hz system
Frequency (battery mode)	50Hz ± 0.1Hz or 60Hz ± 0.1Hz
Harmonic distortion	≤3% THD (linear load) / ≤5% THD (non-linear load)
Transfer time (line to battery)	0ms
Transfer time (inverter to bypass)	4ms
Efficiency (AC mode)	93%
Efficiency (ECO mode)	99%
Efficiency (battery mode)	90%
Waveform	Pure sine wave
Battery	
Voltage	24VDC
Floating charge voltage	27VDC
Overcharge protection	43VDC
Solar and AC charger	
Solar charger type	MPPT
Number of MPP trackers	1
Maximum PV array power	1500W
Maximum PV array open circuit voltage (V_{OC})	145VDC
Operating voltage (VMP)	30-115VDC
Maximum solar charge current	60A
Maximum AC charge current	60A
Maximum charging power	120A
Standby power consumption	12W
Special features	
Power-up function	Cold start and auto-restart
Communication	USB, RS232, RS485, dry contact, *Bluetooth*® / Optional Wi-Fi and SNMP modules
Parallel operation	Up to 9 identical units*
Cooling	Controlled forced ventilation, variable fan speed
Protection	Overload, short-circuit, overtemperature and overcharge
Environment	
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-S23K24P
Physical appearance	
Power switch	Push button
Housing	Metal
Color	White and black
Dimensions (LxHxD)	11.9x20.6x5.5in
Weight	28.7lb
Additional information	
Certification	CE
Warranty	2 years

*Requires parallel kit

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