

BSL Power MY3000-24V Inverter Datasheet

3KW Continuous Power / 24Vdc to 230Vac / Integrated 400W MPPT Solar Charger

Model: BSL Power MY3000-24V | Version: V1.1 (Technical Release) | R&D; Division: smz@bslpower.cn

1. Product Overview & Physical Appearance

The **BSL Power MY3000-24V** is an advanced, ultra-reliable power conversion system engineered specifically for off-grid residential systems, mobile homes, and high-performance portable energy storage units. Utilizing advanced high-frequency soft-switching power conversion topology paired with full DSP digital control, this unit achieves a peak conversion efficiency of $\geq 90\%$ while maintaining an incredibly compact form factor. It integrates a pure sine wave inverter, an intelligent multi-port DC distribution panel, and a high-efficiency 400W MPPT solar charge controller into a single heavy-duty chassis.



Key Performance Features:

- Pure Sine Wave AC Output:** Stable 230Vac with $<3\%$ THD, completely safe for sensitive medical and computing loads.
- Constant Power Overload Mode:** Intelligently regulates voltage to sustain a 3000W output during mild overloads, avoiding instant shut down.
- Integrated 400W MPPT Solar Charger:** Fast tracking solar regulation with plug-and-play XT60 interface.
- PCB Protection:** Conformal coating against moisture, dust and leakage (■■■/■■■/■■■■), IP20 rating.

2. Inverter AC Output Characteristics

Parameter	Min	Typ	Max	Unit	Remarks / Conditions
Rated Output Power	—	3000	—	W	Continuous discharge at +25°C
Peak (Surge) Power	—	6000	—	W	$\leq 100\text{ms}$ surge capacity
AC Output Voltage	210	230	235	Vac	Stabilized pure sine wave
AC Output Frequency	49.9	50.0	50.1	Hz	DSP high-precision frequency lock
Rated Output Current	—	13	—	A	Full continuous load at 230Vac
AC Voltage THD	—	$\leq 3\%$	—	%	Safe for highly sensitive electronic loads
Peak Inverter Efficiency	—	$\geq 90\%$	—	%	Measured at nominal battery input
Constant Power Mode	—	3000	—	W	Regulates voltage to protect circuit
Overload Protection	—	3600	—	W	System shutdown after 500ms trigger

3. DC Battery Input Specifications

Parameter	Min	Typ	Max	Unit	Remarks / Conditions
Nominal Battery Voltage	—	25.2	—	Vdc	Designed for 7S Li-ion or 8S LiFePO4
Working Input Range	21.0	25.2	30.0	Vdc	Maintained operational range
Under-Voltage Warning	19.5	20.0	20.5	Vdc	Audible beep warning activated
Under-Voltage Cutoff	18.0	19.0	20.0	Vdc	Disconnects to protect battery health
Over-Voltage Cutoff	30.5	31.0	32.0	Vdc	Over-voltage automatic shutdown

4. Built-in MPPT Solar Charger Specifications

Parameter	Min	Typ	Max	Unit	Remarks / Conditions
Max PV Charging Power	—	400	—	W	Maximum solar input capacity
PV Input Voltage Range	12.0	10 - 60	60.0	Vdc	Wide input range for solar panels
Maximum PV Input Current	—	—	10	A	Current limit on PV side
Maximum Charging Current	—	—	20	A	Direct output to 24V battery bank
Peak MPPT Efficiency	—	≥ 96%	—	%	Ultra-fast solar tracking and regulation

5. DC Outputs & General Standards

DC Outputs (Top Panel)	USB-A (QC3.0): 5V/3A, 9V/2A, 12V/1.25A (18W Max) USB-C (PD): 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3A (60W Max) DC 12V Outlet: 12V / 10A regulated output (120W Max)
Operating Temperature	-25°C to +45°C (Fully rated continuous working range)
Altitude Limits	<= 4000 m (De-rate 1°C per 100m above 3000m)
Communication Interface	UART (TTL Levels) for smart monitoring & configuration
PCB Protection	Specialized Three-proof Conformal Coating (Moisture/Dust/Leakage)
MTBF / Protection Class	≥ 400,000 Hours / IP20 enclosure rating
Dielectric Strength	1500Vac / 1 minute (Input-to-Output, no breakdown)
Heatsink Thermal Protection	Shuts down at 85 +/- 5°C; automatic recovery at 75 +/- 5°C
Mechanical Dimensions	Approx. 290 x 185 x 110 mm (Net Weight: Approx. 4.8 kg)

6. Quick Connection Safety Guide

- Battery Bank Hookup:** Connect Black negative (-) cable to black M6 post, then Red positive (+) cable to red M6 post on the inverter. Tighten nuts securely to a torque of 3.5 - 4.5 N·m to avoid high contact resistance and heating.
- Solar Panel Hookup:** Connect solar panel (Voc 12V-60V) directly to the front XT60 male port. The MPPT controller will automatically start high-efficiency charging.
- Powering Loads:** Press the top touch power button for 2 seconds, then toggle AC/DC switches respectively to enable output sockets and fast charge ports.

Developed by BSL Power R&D; Division. For commercial or technical support, contact: smz@bslpower.cn.