

All-in-one Solar Inverter

RiiO Sun II

3KVA / 5KVA / 6KVA

**Transformer-based
Parallel and three-phase(Up to 54KVA)**



RiiO Sun II series is TBB's brand-new versatile all-in-one solar inverter, combining a pure sine wave inverter, battery charger, MPPT solar charge controller and a high-speed automatic transfer switch in a compact casing with a better display interface design and better human machine interface. Compared with the previous RiiO Sun series, it boasts higher PV open circuit voltage, higher PV charging power and current, and supports parallel and three-phase operation up to 9 units to achieve higher power output (up to 54KVA). You can start with the comprehensive system or a smaller solution and gradually expand it, depending on what best suits your needs and budget. A programmable smart port is also equipped in both 5KVA and 6KVA model for generator input or load management.

Worth to mention, that RiiO Sun II now can support AGS function with its built-in programmable output relay for generator control. Its power assist and power control function enable it work well with limited AC sources such as generators or limited grid. RiiO Sun II can automatically adjust its charging current by taking loads into account to protect the AC source from overload. Once the temporary peak power appears, it can also discharge the battery in an extremely short time to compensate the insufficient part of the limited AC source.



- All-in-one, plug and play design for easy installation
- Transformer-based, easily withstand the initial surge current
- Versatile for solar off-grid, solar hybrid and backup power system
- Support parallel and three-phase (parallel Kit required)
- Higher PV open circuit voltage
- Higher PV charging power and current
- 2 MPPT trackers for 5KVA and 6KVA models
- Programmable output relay for generator start and stop
- A programmable smart port for 5KVA and 6KVA models
- Ultra-short transfer time (2ms) for mission-critical loads
- Better display interface design and better human machine interface
- Power assist and power control
- Built-in ECO Mode to prolong the battery backup time
- Compatible with mainstream lithium battery brands
- TBB premium II battery charging management
- Built-in battery SOC estimation
- Equalization charging program available for flooded and OPzS battery
- Max inverter efficiency 94%, max MPPT efficiency 98%
- Extremely low self-consumption power
- Remote monitoring and control via Nova Web & APP
- Fully programmable by APP

Model	RiiO Sun II 3KVA-M	RiiO Sun II 3KVA-S	RiiO Sun II 5KVA-S	RiiO Sun II 6KVA-S
Power Assist	Yes			
AC input range	175~265 VAC (45~65 Hz)			
AC input Current (transfer switch) (A)	32	32	50	50

Inverter

Nominal battery voltage (V) / Input voltage (V)	24 / 21~34	48 / 42~68		
AC output voltage (VAC)	220/230/240 ± 2%			
AC output Frequency (Hz)	50/60 ± 0.1%			
Harmonic distortion	<2%			
Load Power factor	1.0			
Cont. output power at 25°C (VA)	3000	3000	5000	6000
Max output power at 25°C (W)	3000	3000	5000	6000
Peak power (W)	6000	6000	10000	12000
Surge	300%			
Maximum efficiency	91%	93%	94%	94%
Zero load power (W)	17	17	22	25

Charger

Charge voltage 'absorption' (V) / 'float' (V)	28.8 / 27.6	57.6 / 55.2		
Battery types	AGM / GEL / OPzV / Lead-Carbon / Li-ion / Flooded / Traction / Lithium			
Max AC charge current (A)	70	35	60	70
Temperature compensation	Yes			

Solar Charge Controller

Max output current (A)	80	60	100	100
Maximum PV open circuit voltage (V)	150	250	250	250
MPPT voltage range (V)	40~145	65~245		
Number of MPPT trackers	1	1	2	2
Maximum PV input current per tracker (A)	36	36	36 + 36	36 + 36
Maximum PV short circuit current per tracker (A)	40	40	40 + 40	40 + 40
Maximum PV power per tracker (W)	2500	5200	4400 + 4400	4400 + 4400
Charge voltage 'absorption' (V) / 'float' (V)	28.8 / 27.6	57.6 / 55.2		
MPPT charger maximum efficiency	98%			
MPPT efficiency	>99.5%			
Protection	a) output short circuit; b) overload; c) battery voltage too high; d) battery voltage too low; e) temperature too high; f) input voltage out of range			

General data

AC Out1 Current (A)	32	32	50	50
Smart Port Current (A)	N/A		50	50
Transfer time	2ms (<15ms in Weak AC source Mode)			
Protection	a) output short circuit; b) overload; c) battery voltage too high; d) battery voltage too low; e) temperature too high; f) input voltage out of range; g) input voltage ripple too high; h) Fan block			
General purpose com. Port	RS485 (GPRS, WLAN optional)			
Programmable relay	1x (30Vdc/3A or 250Vac/3A)			
Operating temperature range	-20°C to 65°C			
Relative humidity in operation	95% without condensation			
Altitude (m)	2000			

Mechanical Data

Dimension (mm) (max)	499x272x144		570x310x154	
Net Weight (kg)	18	18	29	31
Cooling	Forced fan			
Protection index	IP21			

Standards

Safety	EN-IEC 62477-1, EN-IEC 62109-1, EN-IEC 62109-2			
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-3-11, EN61000-3-12			

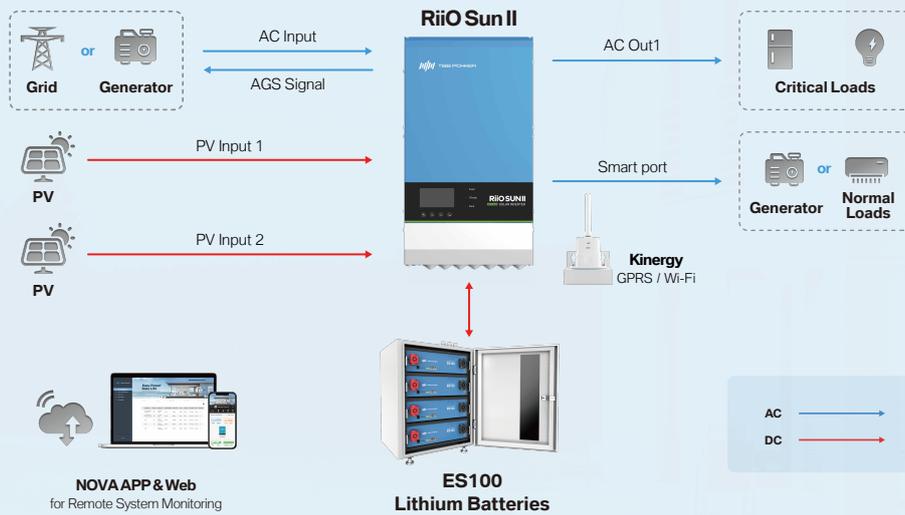
For off-grid system & backup power application

Designed with 0~2ms transfer time, it is a perfect solution to safeguard the electricity supply for critical devices such as servers and ATMs even in the event of a grid failure, perfect for backup power and off-grid applications. The transformer-based design facilitates it to withstand the initial surge current from motor loads, such as fridges, freezers, water pumps and air-conditioners, etc.

System Size : 3KVA-36KVA

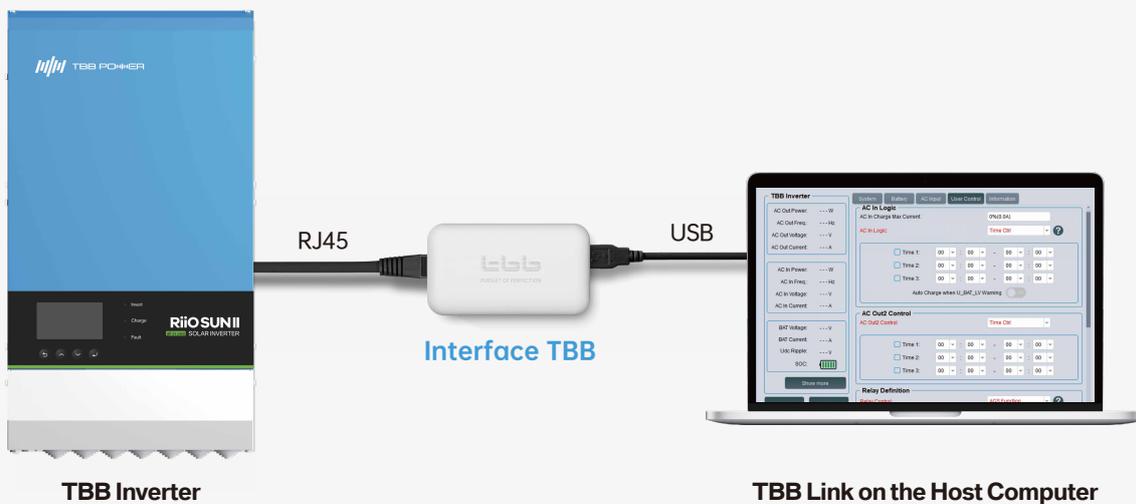
Residential & commercial

MPPT Charger: 2.3KW-51.84KW
Battery: 5.04kWh-161.28kWh
Solar Inverter: 3KVA-54KVA



TBBLink

TBB Inverter Configuration Tool

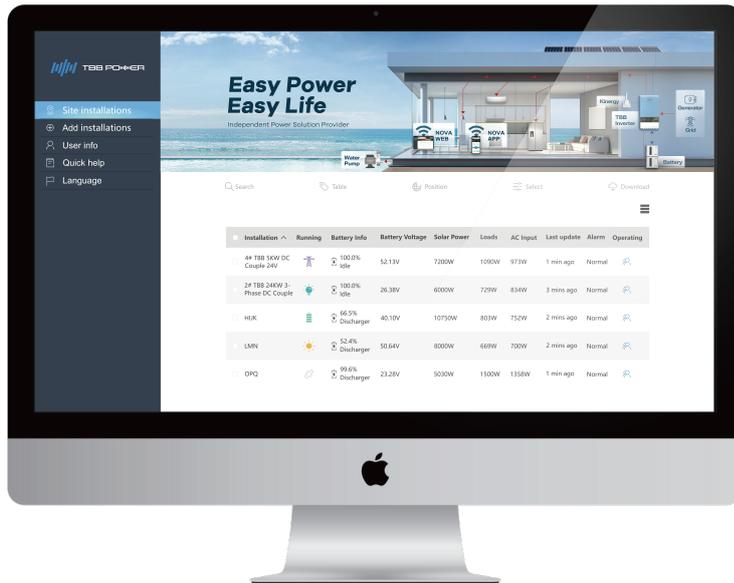


The TBB Link should be installed on a computer and connect to the inverter via TBB interface before performing the configuration.

TBB NOVA APP & Web

Monitor and Control Your Solar System Anywhere Anytime

NOVA APP and NOVA Web are FREE energy management and monitoring system designed by TBB POWER, displaying real-time data of all system components and history records, providing easy access to controlling the power generation and power consumption. According to historical data, users can actively adjust and optimize power consumption habits.



Kinergy Wifi/GPRS
Working with NOVA
for remote monitoring

nova.tbbpower.com

Comprehensive Monitoring

- Live data and status overview and system analysis
- System configuration and parameter setting
- Customizable alarm setting
- Detailed report for power harvest, storage and consumption in visual chart and graph
- WEB compatible for Windows and Mac PC
- APP available for Android and iOS phone

Intelligent Management for Dealers / Installers

- Comprehensive management for multiple installations
- Catch potential issues early with alarm setting to prevent system failure
- Optimize the energy harvest and usage with history graphs and detailed analytical reports
- Proactive maintenance services to keep good relationship with customers
- Customizable banner to show dealers information and slogan



Android



iOS