



INV081 | INV082

# RIIO SUN II

## ALL-IN-ONE SOLAR INVERTER

3kVA-S

MPPT 48V

6kVA-S

MPPT 48V

### OVERVIEW

- Transformer-based
- Parallel and three-phase (Up to 54KVA)
- Maximize self-consumption
- Feeding energy back into grid
- Work without battery (optional)

Riio Sun II series is TBB's brand-new versatile all-in-one solar inverter for off-grid, ESS and self-consumption applications, 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). It is optional to work without battery and only use solar energy to power loads directly. 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 supports energy feeding back to power loads on the AC input to maximize self-consumption and cut down system investment. AGS function now is also available for Riio Sun II. 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.

### KEY FEATURES

- All-in-one, plug and play design for easy installation
- Transformer-based, easily withstand the initial surge current
- Versatile for solar off-grid, ESS, self-consumption and backup power system
- Support parallel and three-phase (Riio Mate required)
- Support energy feeding back into grid
- Maximize self-consumption
- Optional to work without battery
- Auto restart when the PV or AC is recovering
- 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
- 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

\* Please note: due to the inconsistency of grid regulatory requirements, you need to confirm with your supplier whether the Self-consumption/ ESS functionality of Riio Sun II is allowed to be used or not.

RIIO SUN II	6KVA-S
Product code	INV082
Power Assist	Yes
AC input range	175~265 VAC (45~65 Hz)
AC input Current (transfer switch) (A)	50
<b>INVERTER</b>	
Nominal battery voltage (V) / Input voltage (V)	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)	6000
Max output power at 25°C (W)	6000
Peak power (W)	12000
Surge	300%
Maximum efficiency	94%
Zero load power (W)	25
<b>CHARGER</b>	
Charge voltage 'absorption' (V) / 'float' (V)	57.6 / 55.2
Battery types	AGM / GEL / OPzV / Lead-Carbon / Flooded / Traction / Lithium
Max AC charge current (A)	70
Temperature compensation	Yes
<b>SOLAR CHARGE CONTROLLER</b>	
Max output current (A)	100
Maximum PV open circuit voltage (V)	250
MPPT voltage range (V)	65~245
Number of MPPT trackers	2
Maximum PV input current per tracker (A)	36 + 36
Maximum PV short circuit current per tracker (A)	40 + 40
Maximum PV power per tracker (W)	4400 + 4400
Charge voltage 'absorption' (V) / 'float' (V)	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
<b>GENERAL DATA</b>	
AC Out1 Current (A)	50
Smart Port Current (A)	50
Transfer time	4ms (<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
<b>MECHANICAL DATA</b>	
Dimension (mm) (max)	570*310*154
Net Weight (kg)	31
Cooling	Forced fan
Protection index	IP21
<b>STANDARDS</b>	
Safety	EN-IEC 62477-1, EN-IEC 62109-1, EN-IEC 62109-2
EMC	EN-IEC 61000-6-1, EN-IEC 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12
Warranty	2 Years + 1 Year*

\*Add 1 year to your warranty when you link your product to the NOVAApp