RiiO Sun

All in One Solar Inverter Transformer Based RiiO Sun 2KVA-6KVA

RiiO Sun is a powerful all in one solar inverter integrated with multiple functions, including a high-performance true sine wave inverter, a powerful battery charger, a MPPT charge controller, and a high-speed automatic transfer switch.

RiiO Sun all in one solar inverter can be used in multiple applications. With a simple setting, you can compose a DC coupling system, solar hybrid system or power backup system. Its distinguishing surge capability makes it capable to power most of demanding appliances, such as fridge, freezer, water pump and air-conditioner, etc.

Under the generator mode, with the function of power assist & power control, RiiO Sun can automatically adjust its charging current to protect the grid or the generator from overload. It can also work as the supplement source to the generator or grid once the temporary peak power appears.

- All in one, plug and play design for easy installation
- Applicable for DC coupling system, solar hybrid system and power backup system
- Generator power assist function enables small generators to handle big loads
- Save 45% energy at max under the built-in ECO
- Mode(30% on average)
- Load boost function for running the heavy duty loads
- Extremely high inverter efficiency up to 94%
- Extremely high MPPT efficiency up to 98%
- Harmonic distortion<2%
- Extremely low self-consumption power
- High performance designed for all kinds of inductive loads
- TBB premium II battery charging management
- Built in battery SOC estimation
- Equalization charging program available for flooded and OPZS battery
- Lithium battery charging available
- Fully programmable by APP
- Remote monitoring and control via NOVA online portal

V1.0

Model No.	RiiO Sun 2KVA-M	RiiO Sun 3KVA-M	RiiO Sun 2KVA-S	RiiO Sun 3KVA-S	RiiO Sun 4KVA-S	RiiO Sun 5KVA-S	RiiO Sun 6KVA-S
Product Topology	Transformer based						
Generator power assist	Yes						
AC input voltage range (VAC)	175~265						
AC input Frequency range (Hz)	45~65						
AC input Current (transfer switch) (A)	32					50	

Inverter

Nominal battery voltage (V)	24		48				
Input voltage range (V)	21~34		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)	2000	3000	2000	3000	4000	5000	6000
Max Output power at 25°C (W)	2000	3000	2000	3000	4000	5000	6000
Peak power (W) for 3 sec	4000	6000	4000	6000	8000	10000	12000
Surge	300%						
Maximum efficiency	91%	91%	93%	93%	93%	94%	94%
Zero load power (W)	13	17	13	17	19	22	25

Charger

Charge voltage 'absorption' (V)	28.8		57.6				
Charge voltage 'float' (V)	27.6		55.2				
Battery types	AGM/GEL/OPZV/Lead-Carbon/Li-ion/Flooded/Traction/TBB SUPER-L						
Max AC charge current (A)	40	70	20	35	50	60	70
Temperature compensation	Yes						

Solar Charge Controller

Max output current (A)	60	60	40	60	60	90	90
Maximum PV power (W)	2000	2000	3000	4000	4000	6000	6000
PV open circuit voltage (V)	150						
MPPT voltage range (V)	65~145						
Charge voltage 'absorption' (V)	28.8		57.6				
Charge voltage 'float' (V)	27.6		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

Output (AC Out) Current (A)	32					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 with Kinergy)						
Operating temperature range	-20˚C to 65˚C						
Relative humidity in operation	95% without condensation						
Altitude (m)	2000						

Mechanical Data

Dimension (mm) (max)	499 x 272 x 144					570 x 310 x 154	
Net weight (kg)	15	18	15	18	20	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