

Raython R Series

- All-in-One Energy Storage System -



→ For Backup Power, Off-grid & ESS Applications

Raython R3

3kVA | 5.04kWh-10.08kWh

Raython R5

5kVA | 10.08kWh-20.16kWh

Raython R8

8kVA | 10.08kWh-20.16kWh

TBB Raython R series is a single-phase standalone solar power system that seamlessly integrates a transformer-based inverter with built-in MPPT, lithium batteries, a touch-screen device for local monitoring & energy management, and power distribution accessories - all housed in a compact IP54 cabinet.

The Raython R series intelligently optimizes solar energy consumption, providing an uninterrupted and independent power supply for family homes and small businesses without grid access. Additionally, it excels in ESS applications, particularly in areas with stable grids but high electricity costs, empowering users to maximize solar self-consumption and significantly reduce their electricity bills.

Enhanced Flexibility

- Versatile for backup power, off-grid and ESS
- Parallel or three-phase up to 3 cabinets, 24kVA
- DC Coupling and AC Coupling
- Built-in a smart port for Gen input or 2nd AC output*¹
- 2 MPPT trackers for flexible system design and higher yields*²
- AGS function, Power Control & Power Assist

ESS Capabilities

- Maximize self-consumption
- Lower electricity bills via peak shaving & time-of-use
- AC Coupling retrofitting
- Grid feed-in for utility credits

Superior Reliability

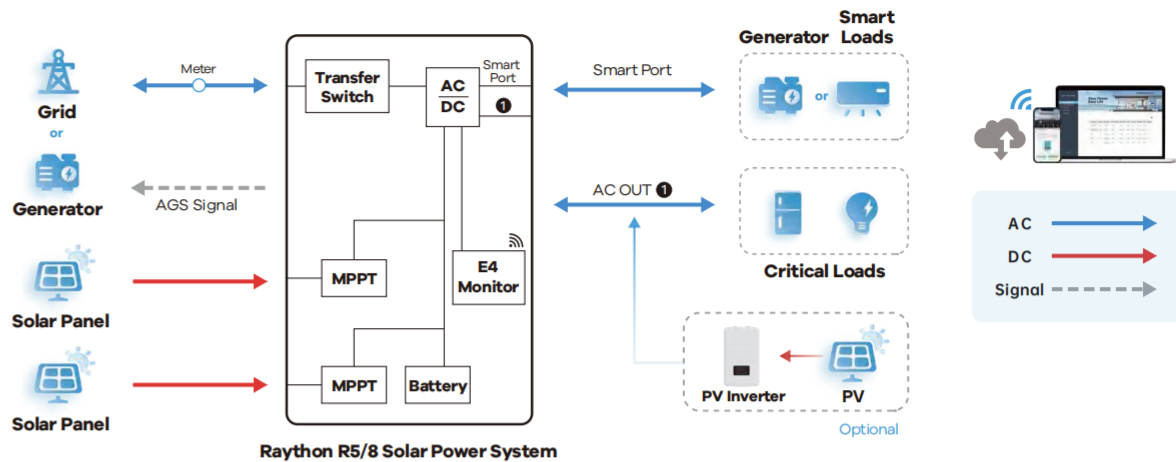
- Transformer-based, high surge power
- 4ms ultra-fast switch to battery power
- Leakage protect function on the AC output
- IP54 protection

Easy O&M

- All-in-one design for easy installation
- Auto restart when the PV or AC is recovering
- Local monitoring via E4 LCD Monitor
- Remote monitoring and control via Nova Web & APP

*1-2: Only available for Raython R5 and Raython R8 models

System Schematic:



RAYTHON
RAYTHON R3



AC+DC+PV Distribution

E4 LCD Monitor

- ✓ For system local monitoring and control

All-in-One Solar Inverter RiiO Sun II 3KVA-S

- ✓ AC charger+Inverter+MPPT charger+ AC transfer switch (32A)
- ✓ Max output power: 3000W

Lithium Battery Module

- ✓ 48V | 105Ah-210Ah
- ✓ 5.04kWh-10.08kWh

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RAYTHON R5



AC+DC+PV Distribution

E4 LCD Monitor

- ✓ For system local monitoring and control

All-in-One Solar Inverter RiiO Sun II 5KVA-S

- ✓ AC charger+Inverter+MPPT charger+ AC transfer switch (50A)
- ✓ Max output power: 5000W

Lithium Battery Module

- ✓ 48V | 210Ah-420Ah
- ✓ 10.08kWh-20.16kWh

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RAYTHON R8



AC+DC+PV Distribution

E4 LCD Monitor

- ✓ For system local monitoring and control

All-in-One Solar Inverter RiiO Sun II 8KVA-S

- ✓ AC charger+Inverter+MPPT charger+ AC transfer switch (50A)
- ✓ Max output power: 8000W

Lithium Battery Module

- ✓ 48V | 210Ah-420Ah
- ✓ 10.08kWh-20.16kWh

Model	Raython R3		Raython R5	Raython R8
AC Input				
Generator compatible	Yes			
AC input voltage range (VAC)	175~265			
AC input frequency range (Hz)	45~65			
AC input current (transfer switch) (A)	32	50	50	
Inverter				
Product Topology	Transformer based			
Nominal battery voltage (VDC)	48			
Input voltage range (VDC)	42~68			
AC output voltage (VAC)	220/230/240 ±2%			
AC output frequency (Hz)	50/60 ± 0.1%			
Harmonic distortion	<2%			
Cont.output power at 25°C (VA)	3000	5000	8000	
Max output power at 25°C (W)	3000	5000	8000	
Peak power (W)	6000	10000	16000	
Surge	300%			
Maximum efficiency	93%	94%	95%	
Zero load power (W)	17	22	32	
Max AC charge current (A)	35	60	90	
Main output (AC Out1) Current (A)	32	50	50	
Transfer time	<4ms (<15ms in Weak AC source Mode>)			
PV In				
Max output current (A)	60	100 (50 per tracker)	100 (50 per tracker)	
Maximum PV power (W)	5200	4400+4400	4400+4400	
PV open circuit voltage (V)	250			
Maximum PV short circuit current (A)	40	40+40	40+40	
MPPT voltage range (V)	65~245			
MPPT charger maximum efficiency	98%			
MPPT efficiency	>99.5%			
Battery				
Battery type	LiFePO4 Li-ion battery			
Nominal energy capacity	5.04kWh- 10.08kWh	10.08kWh-20.16kWh	10.08kWh-20.16kWh	
General Data				
General purpose com. Port	Wi-Fi with E4 LCD monitor			
Operating temperature range	Inverter: -20°C to 65°C / Battery: discharge -20°C to 55°C, charge 0°C to 55°C			
Relative humidity in operation	95% without condensation			
Altitude (m)	2000			
Mechanical Data				
Dimension (W*D*H) (mm) (max)	750*482*1130	750*650*1130	750*650*1130	
Net Weight (kg) (without battery)	98	132	140	
Cooling	Forced fan			
Protection index	IP54			
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			
Grid Code	RD 1699			