# Raython R Series

## All-in-One Energy Storage System

For Off-Grid Applications




**Raython R5-II**

5kVA | 10.08kWh-20.16kWh

**Raython R8-II**

8kVA | 15.12kWh-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 and energy management, and power distribution accessories — all housed within a compact IP54-rated cabinet. It intelligently optimizes solar energy utilization, delivering a reliable, uninterrupted, and independent power supply for residential homes and small businesses without grid access.

### Superior Reliability

- Transformer-based, high surge power
- 4ms ultra-fast switch to battery power
- IP54 protection

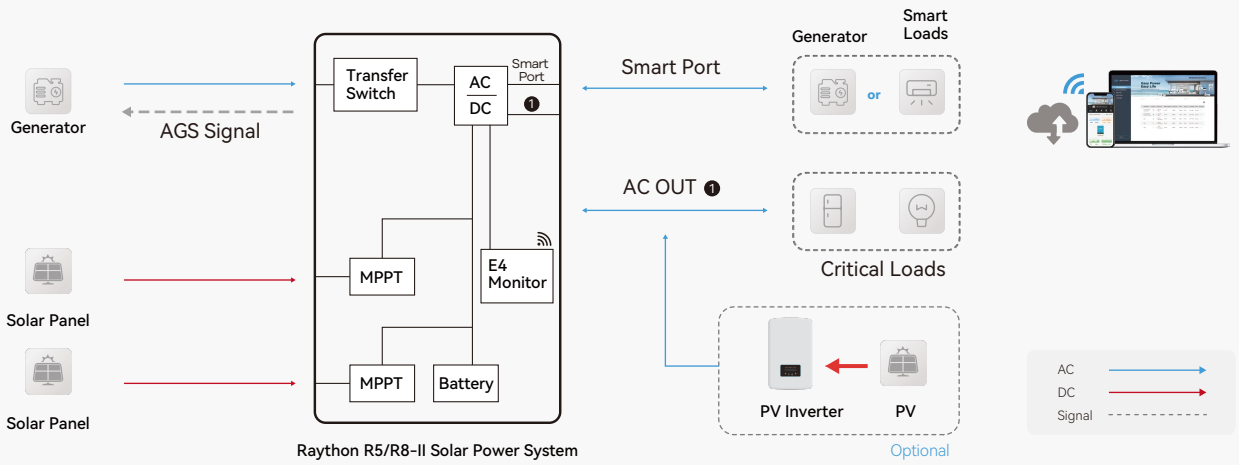
### Exceptional Performance

- Robust for off-grid applications
- Parallel up to 2 cabinets, 16kVA/40.32kWh
- DC Coupling and AC Coupling
- Built-in a smart port for Gen input or 2nd AC output
- 2 MPPT trackers for flexible system design and higher yields
- AGS function, Power Control & Power Assist

### 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

# System Schematic




# Raython R5/R8-II

**Lithium Battery Module**

- R5-II:10.08kWh-20.16kWh
- R8-II:15.12kWh-20.16kWh



**AC+DC+PV Distribution**

**E4 LCD Monitor**

- For system local monitoring and control

**Off-Grid Inverter**
**RiiO Sun II 5/8kVA (Single-Phase)**

- AC charger + Inverter + MPPT charger + AC transfer switch (50A)
- Max output power: 5000W (R5-II) / 8000W (R8-II)

| Model | Raython R5-II | Raython R8-II |
|---|---|---|
| **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) | 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℃ (VA) | 5000 | 8000 |
| Max output power at 25℃ (W) | 5000 | 8000 |
| Peak power (W) | 10000 | 16000 |
| Surge | 300% | |
| Maximum efficiency | 94% | 95% |
| Zero load power (W) | 22 | 32 |
| Max AC charge current (A) | 60 | 90 |
| AC OUT1 Current (A) | 50 | |
| Transfer time | <4ms (<15ms in Weak AC source Mode>) | |
| **Solar Charge Controller** | | |
| Max output current (A) | 100 (60 per tracker) | 120 (60 per tracker) |
| Maximum PV power (W) | 4400+4400 | 5200+5200 |
| PV open circuit voltage (V) | 250 | |
| Maximum PV short circuit current (A) | 40+40 | |
| MPPT voltage range (V) | 65~245 | |
| MPPT charger maximum efficiency | 98% | |
| MPPT efficiency | >99.5% | |
| **Battery** | | |
| Battery type | Lithium | |
| Max AC charge Current (A) | 60 | 90 |
| Max PV charge Current (A) | 100 | 120 |
| Nominal energy capacity | 10.08kWh/15.12kWh/20.16kWh | 15.12kWh/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) | 790*750*1030 | |
| Net Weight (kg) (without battery) | 105 | 116 |
| 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 | |

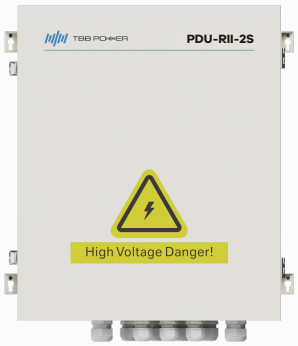
# **Raython** Parallel Kit

Raython series of the same model support parallel connection up to 2 cabinets. The table below lists the necessary parallel kits for parallel connection.

| Model | Parallel Configurations | AC Distribution BOX | DC Parallel Kit |
|---|---|---|---|
| Raython R5-II | Parallel connection of 2 cabinets in a single-phase system | 1*PDU-RII-2S | 1*KIT R/RP5-II-2P |
| Raython R8-II | Parallel connection of 2 cabinets in a single-phase system | 1*PDU-RII-2S | 1*KIT R/RP8-II-2P |

# AC Distribution BOX

PDU-RII-2S | 230V | 125A




## PDU-RII-2S
## AC Distribution BOX

- For parallel connection in a single-phase system
- Applicable to: Raython R5/R8-II
- 230V/125A
- IP54
- Wall-mounted

| Model No. | PDU-RII-2S |
|---|---|
| Rated voltage (VAC)/ Frequency (Hz) | 230VAC (50/60Hz) |
| Rated current (A) | 125 |
| Inverter input circuit breaker | 2xC Type, 2P, 50A |
| Inverter output circuit breaker | 2xC Type, 2P, 50A |
| System input circuit breaker | C Type, 2P, 125A |
| Maintain Bypass Switch | C Type, 2P, 125A |
| System output circuit breaker | C Type, 2P, 125A |
| Surge protection device | In: 20kA (8/20μs), Imax: 40kA (8/20μs) |
| AC input terminal | 135A, 2AWG, M6 screw |
| Wiring terminals for inverter input and output, PV inverter output | 76A, 7AWG, M4 screw |
| System output wiring terminal | 135A, 2AWG, M6 screw |
| Ground copper bar | 2*30*106mm, 8 holes (M6) |
| Temperature, altitude | -25℃ ~ +60℃, 2000m ( > 2000m derating) |
| General data | Galvanized sheet, spray painted surface RAL9003, P54, Wall-mouted |
| Dimensions/ weight | 550*600*120mm,15kg |

# DC Parallel Kit KIT R/RP5-II-2P / KIT R/RP8-II-2P

## Key Components of DC Parallel Kit

### KIT R/RP5-II-2P

For parallel connection of 2 cabinets of Raython R5-II

| No | Item | Quantity | Unit |
|---|---|---|---|
| 1 | Miniature Circuit Breaker, 80A, 4-Pole, Type C (MDB1-125C80/4) | 2 | PCS |
| 2 | Screw, M4×50, Cross recessed pan head combination, Stainless Steel 304, A2-70 | 15 | PCS |
| 3 | Screw, M8×20, Hex head combination, Carbon Steel 8.8, color zinc plated | 6 | PCS |
| 4 | Lower Cover Plate for Parallel Connection, Galvanized Steel | 2 | PCS |
| 5 | Copper Busbar (Upper), T2 Copper, Nickel Plated, for Parallel Switch Connection | 4 | PCS |
| 6 | Copper Busbar (Lower), T2 Copper, Nickel Plated, for Parallel Switch Connection | 4 | PCS |
| 7 | System Communication Cable, 5m, RJ45 (UTP 4PR, 24AWG) | 2 | PCS |
| 8 | Power Cable, 50mm², Black, 3m length with terminals | 1 | PCS |
| 9 | Power Cable, 50mm², Red, 3m length with terminals | 1 | PCS |

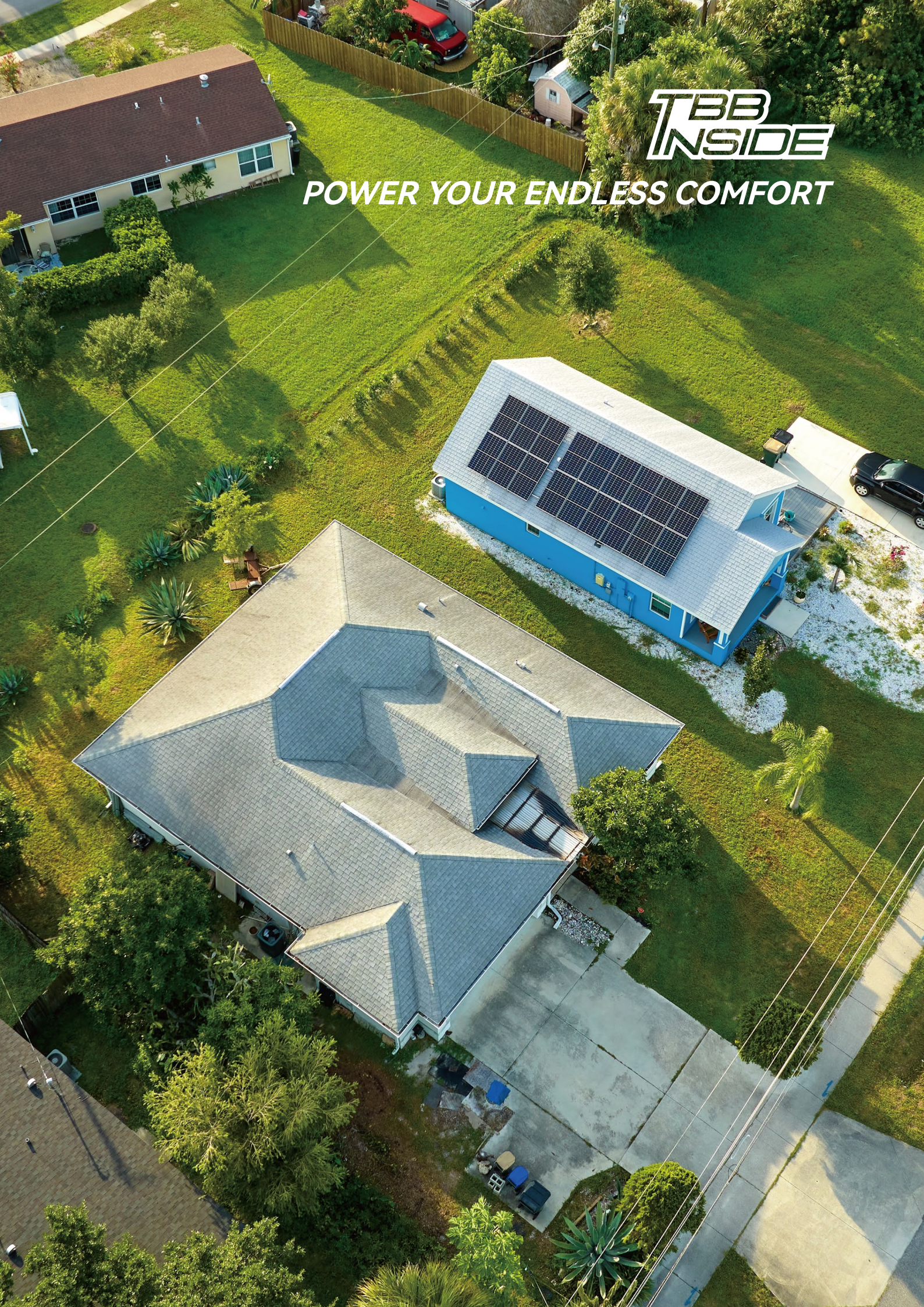
Note: The above list is subject to change without prior notice, based on actual parallel configurations.

### KIT R/RP8-II-2P

For parallel connection of 2 cabinets of Raython R8-II

| No | Item | Quantity | Unit |
|---|---|---|---|
| 1 | Miniature Circuit Breaker, 125A, 4-Pole, Type C (MDB1-125C125/4) | 2 | PCS |
| 2 | Screw, M4×50, Cross recessed pan head combination, Stainless Steel 304, A2-70 | 15 | PCS |
| 3 | Screw, M8×20, Hex head combination, Carbon Steel 8.8, color zinc plated | 6 | PCS |
| 4 | Lower Cover Plate for Parallel Connection, Galvanized Steel | 2 | PCS |
| 5 | Copper Busbar (Upper), T2 Copper, Nickel Plated, for Parallel Switch Connection | 4 | PCS |
| 6 | Copper Busbar (Lower), T2 Copper, Nickel Plated, for Parallel Switch Connection | 4 | PCS |
| 7 | System Communication Cable, 5m, RJ45 (UTP 4PR, 24AWG) | 2 | PCS |
| 8 | Power Cable, 50mm², Black, 3m length with terminals | 1 | PCS |
| 9 | Power Cable, 50mm², Red, 3m length with terminals | 1 | PCS |

Note: The above list is subject to change without prior notice, based on actual parallel configurations.


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