BigBattery

RAIO

RESIDENTIAL ALL-IN-ONE ENERGY STORAGE SYSTEM



KEY FEATURES

- **14.7** kWh LFP battery
- **7.6** kW rated AC power
- **11.5** kW max. PV input
- **3** Solar strings (MPPTs)
- **UL-9540** Certified
- **120/240** V split-phase
- **IP66** Outdoor Rated
- RS485 / CAN / Wi-Fi / LAN

ABOUT RAIO (Residential All-In-One)

Take control of rising energy costs and unexpected outages with BigBattery RAIO, an all-in-one solar and battery storage system designed to simplify home energy independence. Store more of your solar energy, reduce grid reliance, sell power back to the grid when paired with the RAIO Gateway, and keep your home powered when it matters most.

SYSTEM COMPONENTS

RAIO GATEWAY

Transfer & power management



RAIO ALL-IN-ONE

Integrated inverter + battery ESS



Available In Gray

Scan for BigBattery RAIO User Manual

FREQUENTLY ASKED QUESTIONS

How does RAIO deliver backup power?

RAIO stores energy from solar or the grid. RAIO GATEWAY manages the connection to utility power and switches designated loads during an outage.

Can I choose which circuits stay powered?

Yes. A qualified installer can design whole-home or partial-home backup. What stays powered depends on the system setup and connected loads.

How can I monitor and optimize my energy?

Monitor system data through the app using Wi-Fi or LAN. Select Self-Use, Feed-in Priority, Backup, or Time of Use modes to fit your needs.

CONTACT US

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BigBattery RAIO All-In-One Specification Sheet

SYSTEM / AC OUTPUT

Max. apparent AC power	7,680 W
Peak apparent AC power (10 s, EPS)	11,520 W
Nominal AC power	7,680 W
Nominal AC voltage	120 / 240 V
Grid type	Split phase
AC grid frequency	60 Hz
Max. continuous current	32 A
Power factor	0.8 leading to 0.8 lagging
Max. efficiency	98.00%
CEC efficiency	97.50%
Total harmonic distortion (THDi, rated)	<3%

PV INPUT

Suggested max. PV input power	11,520 W
Max. DC voltage	550 V
Start-up voltage	120 V
MPPT voltage range	90-500 V
Independent MPPT inputs / per MPPT	3 / 1
Max. current per MPPT	16 A
Max. short-circuit current per MPPT	20 A

BATTERY INPUT

Battery type	LFP
Total capacity	14.7 kWh
Operating temperature (charge / discharge)	-4-122 °F
Max. charging/discharging current	40 A
Max. charging/discharging power	7,680 W

MECHANICAL

Dimensions (W x H x D)	29.92 x 49.21 x 5.91 in (760 x 1,250 x 150 mm)
Weight	385.8 lbs | (175 kg)
Mounting	Wall mount or floor mount

SAFETY / PROTECTIONS

DC reverse-polarity protection	Yes
DC switch	Yes
PV rapid shutdown (RSD)	Yes
Isolation monitor interrupter (IMI)	Yes
AFCI protection	Yes
AC short-circuit protection	Yes
Grid monitoring	Yes
Anti-islanding protection	Yes

GENERAL / ENVIRONMENTAL

Operating temperature range	-4 to 122 °F; derating above 113 °F
Operating humidity (RH)	Up to 100%, condensing
Storage temperature	-22 to 131 °F; up to 95% RH, non-condensing
Max. elevation	9,843 ft (3,000 m)
Cooling	Natural convection
Enclosure type	NEMA 4X
Protection rating	IP66
Customer interface	App
Communication interfaces	RS485, CAN, Wi-Fi & LAN



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BigBattery RAIO GATEWAY Specification Sheet

GRID PORT	
Nominal AC voltage	**120 / 240 V**
Nominal AC frequency	**60 Hz**
Max. continuous current	**160 A (max. 200 A)**
LOAD PORT	
Nominal AC voltage	**120 / 240 V**
Nominal AC frequency	**60 Hz**
Max. continuous current	**160 A (max. 200 A)**
INVERTER PORT	
Nominal AC voltage	**120 / 240 V**
Nominal AC frequency	**60 Hz**
Max. continuous power	**5 x 7,680 VA | (38,400 W)**
Max. continuous current	**160 A (max. 200 A)**
SMART PORT	
Nominal AC voltage	**120 / 240 V**
Nominal AC frequency	**60 Hz**
Max. continuous power	**38,400 VA | (38,400 W)**
Max. continuous generator input current	**64 A**
Auto generator start	**Yes**
Max. continuous current	**2 x 64 A max. @ 240 V & 1 x 64 A max. @ 240 V sharing with generator**
GENERAL / ENVIRONMENTAL	
Operating temperature	**-4 °F to 122 °F**
Operating humidity (RH)	**Up to 100%, condensing**
Max. elevation	**9,843 ft (3,000 m)**
Protection rating	**IP65**
Communication interfaces	**RS485 / Dry Contact**
Energy meter	**1% accuracy**
Dimensions (W x H x D)	**18.50 x 28.74 x 5.87 in | (470 x 730 x 149 mm)**
Weight	**127.9 lbs | (58 kg)**
Mounting	**Wall mount**

