PRODUCT DATASHEET

48V 20Ah Triangle E-BIKE BATTERY

Samsung INR21700-50G Cells · JBD Smart BMS

Rated 960Wh capacity. Built fresh to order and bench-tested before shipping.

DOCUMENT TYPE	Technical Specification & Product Data Sheet
BATTERY MODEL	BOOANT 48V 20Ah Triangle eBike Battery

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1. Overview

A 48V 20Ah (960Wh) lithium-ion battery built with 52 genuine Samsung INR21700-50G cells in a 13S4P configuration, for 48V e-bikes, mid-drive setups and hub motor builds up to 1,500W. The cells sit in a sealed PVC triangle pack managed by a JBD smart Bluetooth BMS, and the pack ships with a 54.6V 5A charger and a triangle mounting bag. Every pack is built fresh to order and bench-tested before shipping.

2. Key Features

- **Genuine Samsung 50G cells** — 52 authentic Samsung INR21700-50G cells (13S4P) deliver a rated 960Wh, with stable voltage under load and no rewrapped or B-grade cells.
- **JBD smart Bluetooth BMS** — 30A (90A peak) or 40A (120A peak) options matched to motors up to 1,000W or 1,500W, with cell balancing and full protection monitoring via the app.
- **Compact triangle pack** — The sealed PVC pack measures 225 x 150 x 75 mm with a 200 mm hypotenuse and weighs about 4.0 kg (8.82 lb), and a triangle mounting bag is included.
- **54.6V 5A fast charger included** — A full 0 to 100% charge takes approximately 4 hours, at 1.25A per cell across the 4 parallel groups.
- **Connector of your choice** — XT60F/M, XT90F/M, Anderson SB50, QS8 plug or Wire only, pre-soldered on a 10AWG silicone lead, matched to your controller at no extra cost.
- **Bench-tested before shipping** — Every pack runs a full charge and discharge test before it leaves, and the test report is available on request. Covered by a 2-year warranty.

3. Technical Specifications

Nominal voltage	48V
Rated capacity	20Ah (960Wh)
Cell type & configuration	Samsung INR21700-50G, 52 cells, 13S4P
BMS	JBD smart BMS with Bluetooth: 30A (90A peak) / 40A (120A peak)
Motor compatibility	Up to 1,000W (30A BMS) / 1,500W (40A BMS)
Full-charge voltage	54.6V
Discharge cut-off voltage	39.0V
Charger	54.6V 5A, aluminum case, fan-cooled, included
Charge time	Approx. 4 hours (0 to 100%)
Dimensions	Triangle outline: 225 x 150 x 75 mm, hypotenuse 200 mm
Weight	Approx. 4.0 kg (8.82 lb)
Discharge connectors	XT60F/M / XT90F/M / Anderson SB50 / QS8 plug / Wire only (10AWG silicone lead)
App	JBD app (XiaoxiangBMS), iOS & Android
Enclosure	High-temp industrial PVC wrap, epoxy fiberglass insulation, triangle mounting bag included
Operating temperature	Charge: 0 to 45°C / Discharge: -20 to 60°C

Storage temperature	-10 to 35°C at 50% SOC
Cycle life	800+ cycles to 80% DOD under standard charge/discharge cycles

4. Smart BMS & Bluetooth App

The JBD smart BMS monitors voltage, current and temperature in real time and protects the pack against over-charging, over-discharging, over-current, short circuits and high/low temperature, with automatic cell balancing to keep the 13 cell groups even. Through the JBD app (XiaoxiangBMS) you can view individual cell group voltages, balance status, cycle count and protection history, and remotely switch charge and discharge on or off.

5. Charging

Charge only with the included 54.6V 5A charger, a fan-cooled aluminum-case unit running CC/CV stages. The LED shows red while charging (or if a fault is detected) and green when fully charged. A full charge from near empty (39.0V) to full (54.6V) takes approximately 4 hours. At 5A across 4 parallel groups, each cell charges at about 1.25A, well within the Samsung recommended standard charge rating of 0.5C (2.45A per cell).

6. Enclosure & Fitment

Check your frame triangle against the pack outline before ordering: 225 mm long, 150 mm tall, 75 mm thick, with a 200 mm hypotenuse. Every pack is hand-built, so leave a few millimeters of clearance. Make a cardboard template to these dimensions and check clearance around rear shock mounts, water bottle bosses and front derailleur cables. The sealed multi-layer PVC wrap with epoxy fiberglass insulation handles rain and road spray, but the pack is splash-resistant, not submersible. Mounting it inside the triangle frame bag is recommended for wet riding.

7. What's Included

Battery pack with your selected BMS rating and discharge connector, 54.6V 5A smart fast charger, AC power cable (plug matched to your country), triangle mounting bag with frame straps, discharge lead with your selected connector pre-soldered (10AWG silicone wire), and an app download QR code inside the package. The pack is built fresh to order for your selection.

8. Warranty & Support

Covered by the BOOANT 2-year warranty (24 months or 600 cycles to 70% capacity retention, whichever comes first, per the BOOANT warranty policy). Questions about this product: support@booant.com.

Specifications are taken from the product data for this model. BOOANT packs are built to order; if your setup needs a different connector or BMS rating, select it on the product page or contact us before ordering.