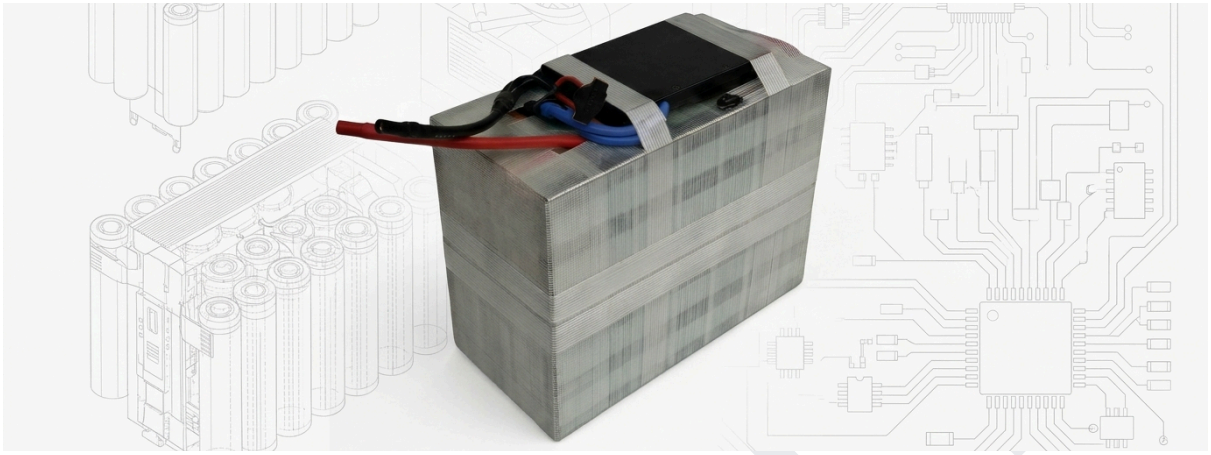
QULBIX HIGH-PERFORMANCE LITHIUM-ION BATTERY PACKS & SMART CHARGER MANUAL



Models Covered:

- **48V (13S) Series:** 30Ah, 40Ah, 50Ah (Fits Q76 & Q80)
- **72V (20S) Series:** 50Ah, 65Ah (Standard), 65Ah (High Output), 78Ah (Ultra Output) (Fits Q155 & Q140MD 2025+)

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1. IMPORTANT SAFETY WARNINGS & DISCLAIMER

WARNING: HIGH VOLTAGE! READ BEFORE USE

Lithium-ion battery packs store large amounts of electrical energy and can present serious hazards including fire, explosion, severe burns, or electric shock if mismanaged, damaged, or operated outside specified thresholds.

1. **Intended Use:** Qulbix battery packs are engineered specifically for high-performance electric vehicles and compatible Qulbix frames/systems. Do not use these battery packs for unintended applications or in unapproved custom builds without consulting Qulbix support.

2. **Thermal Safety:** Never charge or store the battery pack near heat sources, open flames, or direct sunlight. Do not charge a battery pack that is frozen or below 0°C (32°F).

3. **Mechanical Safety:** Avoid mechanical damage to the battery. Protect the pack from strong mechanical shocks, drops, punctures, or crush hazards. Do not open, pierce, or disassemble the battery enclosure. Secure the battery inside the vehicle and use shock-absorbing material to reduce vibrations during the ride (use foam padding surrounding the battery).

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4. **Water Ingress:** High-voltage electrical components must be kept dry. Do not submerge the battery pack or charger in water or expose them to high-pressure washing. Always keep the rubber charging port cap securely closed when not charging.
5. **Modification:** Do not tamper with or alter internal BMS setup parameters unless instructed by Qulbix service personnel. Modifying safety parameters can result in immediate battery failure, voided warranty, and severe risk of property damage or physical injury.
6. **Disclaimer:** Qulbix d.o.o. accepts no liability for damages, injuries, or battery failures resulting from non-compliance with the instructions, warnings, or operating limits detailed in this manual, improper battery storage, or unauthorized modifications.

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2. TECHNICAL SPECIFICATIONS & CONFIGURATIONS

2.1 48V (13S) Battery Configurations (Fits Q76 and Q80)

Equipped with **JK-BD6A24S20PD** BMS (200A Continuous Limit, 0.6A Active Balancing, Bluetooth).

Parameter	**48V 30Ah**	**48V 40Ah**	**48V 50Ah**
Cell Options (21700)	BAK N21700CG-50E / Tenpower 50ME / EVE 50E	BAK N21700CG-50E / Tenpower 50ME / EVE 50E	BAK N21700CG-50E / Tenpower 50ME / EVE 50E
Parallel Configuration	6P	8P	10P
Nominal Voltage	48V	48V	48V
Voltage Range	39V – 54.6V	39V – 54.6V	39V – 54.6V
Energy Capacity	1404 Wh	1872 Wh	2340 Wh
Continuous Discharge	90A	120A	150A
Max Charge (Regen)	30A	40A	50A
Standard Charge Current	15A	20A	25A
Weight	6.5 kg	8.5 kg	10.5 kg

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Parameter	48V 30Ah	48V 40Ah	48V 50Ah
Dimensions (L x W x H)	305mm (395mm with BMS) x 150mm x 76mm	305mm (395mm with BMS) x 190mm x 76mm	305mm (395mm with BMS) x 230mm x 76mm
Frame Compatibility	Q76, Q80	Q76, Q80	Q80 Only

2.2 72V (20S) Battery Configurations (Fits Q155 & Q140MD 2025+)

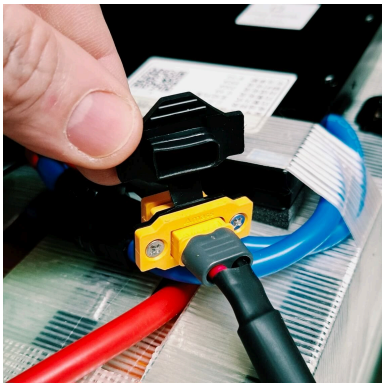
Equipped with **JK-BD6A24S20P** BMS (200A Continuous / 400A Peak Limit, 0.6A Active Balancing, Bluetooth).

Parameter	72V 50Ah	72V 65Ah Standard	72V 65Ah High Output	72V 78Ah Ultra Output
Cell Model	BAK 50E / Tenpower 50ME / EVE 50E	BAK 50E / Tenpower 50ME / EVE 50E	Samsung INR21700-50S	Tenpower INR21700-60XG
Parallel Config	10P	13P	13P	13P
Nominal Voltage	72V (84V max, 60V cut-off)	72V (84V max, 60V cut-off)	72V (84V max, 60V cut-off)	72V (84V max, 60V cut-off)
Energy Capacity	3.60 kWh (3600 Wh)	4.68 kWh (4680 Wh)	4.68 kWh (4680 Wh)	5.61 kWh (5610 Wh)
Continuous Discharge	150A	200A	200A (BMS limit)	200A (BMS limit)
Peak Discharge	250A	300A	350A	400A (BMS Peak Limit)
Target Setup	10 kW – 11 kW	14 kW	Up to 25 kW	Up to 25 kW
Max Charge (Regen)	50A	65A	78A	200A (Peak Regen Limit)
Standard Charge Current	25A	32.5A	32.5A	100A (Max Standard Limit)

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3. BEFORE FIRST USE & LOW-TEMPERATURE EFFECTS

1. **BMS Sleep Mode & Activation:** When you receive your battery pack or vehicle, the BMS discharge switch is turned OFF for safe shipping (and the battery is charged to approx. 30% for transit). Turning on the bike key switch will not activate the vehicle. To enable the BMS for the first time, **connect the charger to the battery charging port for a few seconds**.



2. **Initial Charge:** Fully charge the battery pack before your first ride (see Section 7 for charging rules).

3. **Cold Weather Operations (< 5°C):**

    - Lithium-ion cell chemical activity decreases at lower temperatures. At temperatures below **5°C (41°F)**, usable battery capacity and total vehicle range are temporarily reduced.
    - This behavior is normal for Li-ion cell chemistry.
    - Riding in cold weather does not harm the battery because internal current draw generates warmth during discharge. Once the pack returns to **20°C (68°F)**, full energy capacity is restored.
    - **Storage Recommendation:** Keep the vehicle or removable battery in an environment above 5°C whenever possible.

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4. BATTERY HANDLING, CARE & STORAGE

4.1 How to Prolong Battery Life

- **Charge Before Riding:** Charge the battery pack directly before use (or a day in advance). Avoid leaving the battery stored at 100% State of Charge (SOC) for extended periods (more than 1 week).
- **Avoid Deep Discharge:** Do not leave the battery completely depleted (< 10% SOC). Li-ion cells do not have a memory effect; recharge as needed.
- **Sunlight Protection:** Never park or leave the battery exposed to direct sunlight during summer months. Park in the shade or use a protective cover.

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