Product datasheet

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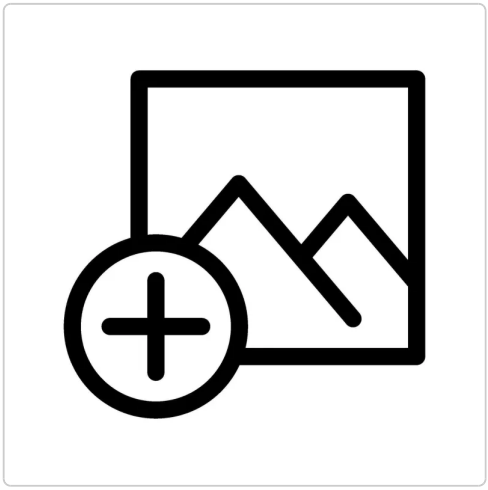
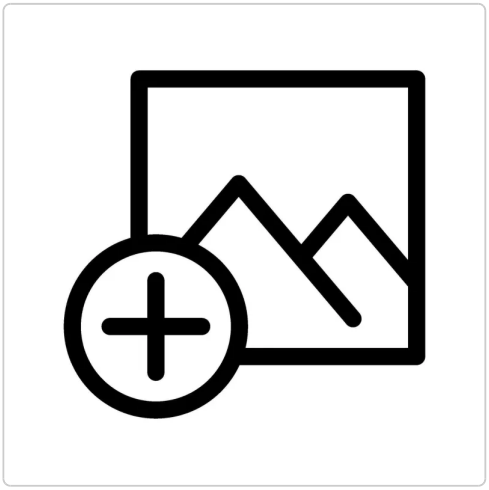
INNO TECH - LFP 48V 210Ah - Traction battery





Reference : INN-LFP48V210AH-51V-210AH

Brand : INNOVATION TECH

Options :

No variants

3D Model : Available

EAN-13 : 3762552427144

The INN-LFP-48V-210AH 48V 210Ah LiFePO4 battery is a traction and industrial integration battery pack designed for 48 V applications that require high energy capacity, high peak current capability and advanced system communication. With an actual nominal voltage of 51.2 V, a 210 Ah capacity, around 10.75 kWh of energy and an isolated CANopen BMS, this model is intended for special electric vehicles, onboard machinery and traction systems where the battery must be managed as an active part of the overall architecture.

This 48V 210Ah lithium battery uses LiFePO4 chemistry suited to industrial and traction environments. It combines 210 A continuous discharge, 400 A peak discharge for up to 2 minutes, 600 A boost for 30 seconds, regenerative current up to 200 A and active balancing up to 1 A. It is a 51.2V 210Ah battery designed for integration with motor controller, charger and auxiliaries through CANopen, with integrated precharge and insulation monitoring.

48V traction battery

48V 210Ah LiFePO4 battery for traction and industrial use

The INN-LFP-48V-210AH pack belongs to the 48V LiFePO4 battery class, but its actual nominal voltage is 51.2 V, with an operating range from 44 V to 57.6 V. This architecture fits modern low-voltage traction systems where usable capacity, chemistry safety, electronic control and peak power must be balanced. With 210 Ah and around 10.75 kWh, this battery covers traction, onboard industrial equipment supply and electric conversion use cases on special machines.

Isolated CANopen BMS for charging, traction and diagnostics

The battery publishes state, SOC, fault and IMD/IMR dynamic current limit data so that charger and motor controller can adapt in real time. With a default CANopen bitrate of 125 kbps, cell-by-cell voltage and temperature measurement and an event log, it provides supervision depth that is useful for commissioning, diagnostics and maintenance.

Current and energy

10.75 kWh battery with 210 A continuous and 600 A boost

The pack supports 210 A continuous discharge, 400 A for up to 2 minutes and 600 A boost for 30 seconds, depending on temperature and state of charge. Charging follows a CCCV profile up to 200 A, with automatic cold-charge limitation. In regeneration, up to 200 A remains available while SOC stays at or below 90%, then the limit decreases progressively near full charge.

200 A regeneration and 1 A active balancing

Internal management relies on cell-by-cell voltage and temperature monitoring with active balancing up to 1 A. This improves long-term pack stability, usable capacity and diagnostic quality in operation.

Applications and system integration

48V battery for special electric vehicles and onboard machinery

This 48V traction lithium battery is suitable for special electric vehicles, electrified industrial machines, onboard utility applications, electric conversion systems and installations where the battery must interact with power electronics. It is intended for architectures including a traction motor controller, a controlled charger, an auxiliary DC/DC converter and a machine supervision layer.

CAN charger and traction controller compatibility

Compatibility with Zivan RE chargers, DeltaQ chargers and Zapi controller families supports a supervised integration approach. However, parallel connection is not supported, and the battery can only be connected in series up to two packs in CAN master/slave configuration, subject to factory setup.

Mechanical integration

685 × 480 × 290 mm footprint and 85 kg weight

The aluminum enclosure is designed for flat mounting on its base, with dimensions of 685 × 480 × 290 mm and a weight of 85 kg. These values must be considered early in layout studies, especially when machine balance, vibration exposure or maintenance access matter.

IP43 rating, vibration and connector access

The IP43 protection level requires installation in an area protected from severe splashes and direct water jets. The Amphenol PL-082X-301 discharge connector, PL-082X-60 charge connector and TE Connectivity AMPSEAL 23-way signal connector must remain accessible for installation, inspection and maintenance. In high-vibration environments, resilient mounting is recommended.

Precharge and insulation

Integrated precharge for a 48V lithium traction battery

The battery includes a precharge function that imposes a strict startup sequence: wake, precharge, contactor closing, then enabling downstream loads. This is especially important when the architecture includes a DC/DC converter, capacitive loads or equipment that may draw current too early.

DC bus isolated from chassis in a CANopen architecture

The DC bus must never be referenced to chassis. Any direct or indirect link through downstream equipment may trigger an insulation fault and prevent startup. Insulation and READY-sequence validation should therefore be carried out early in the project.

Key technical data

- Commercial reference: INN-LFP48V210AH-51V-210AH
- Manufacturer part number: INN-LFP-48V-210AH
- Brand: INNOVATION TECH
- Type: 48V / 51.2V LiFePO4 battery for traction and industrial use
- Chemistry: LiFePO4 (LFP)
- Nominal voltage: 51.2 V
- Voltage range: 44 V to 57.6 V
- Capacity: 210 Ah
- Nominal energy: about 10.75 kWh
- Continuous discharge: 210 A
- Max discharge: 400 A up to 2 min
- Boost discharge: 600 A up to 30 s
- Max charge: 200 A
- Max regeneration: 200 A up to 90% SOC
- Communication: CANopen
- CAN bus: isolated
- CANopen bitrate: 125 kbps
- Operating temperature: -20 °C to +45 °C
- Protection rating: IP43
- Weight: 85 kg
- Dimensions: 685 × 480 × 290 mm
- Series connection: up to 2 packs in CAN master/slave
- Parallel connection: not supported

Short FAQ

Is this a 48V battery or a 51.2V battery?

It is a 48 V class battery with an actual nominal voltage of 51.2 V and an operating range from 44 V to 57.6 V.

Is CANopen required?

Stand-alone operation remains possible, but the product is best used in an architecture that actually exploits CANopen exchanges between battery, charger and motor controller.

Can the battery be connected in parallel?

No. Parallel connection is not supported. Series connection of up to two packs is supported in CAN master/slave configuration.

Why must the precharge sequence be respected?

Because the battery controls a power-up sequence intended to limit inrush current on the DC bus. If a downstream load

draws current before precharge is complete, a fault may be triggered.

Can the DC bus be connected to chassis?

No. The power bus must never be referenced to chassis. An insulation fault may prevent the pack from starting.

The INN-LFP-48V-210AH is a 48V 210Ah LiFePO4 battery designed for traction and integration projects that require a communicative 51.2V battery, high peak current capability and fine control through a CANopen BMS. Final validation of performance, protections and functional behavior must be performed in the complete system before commissioning.