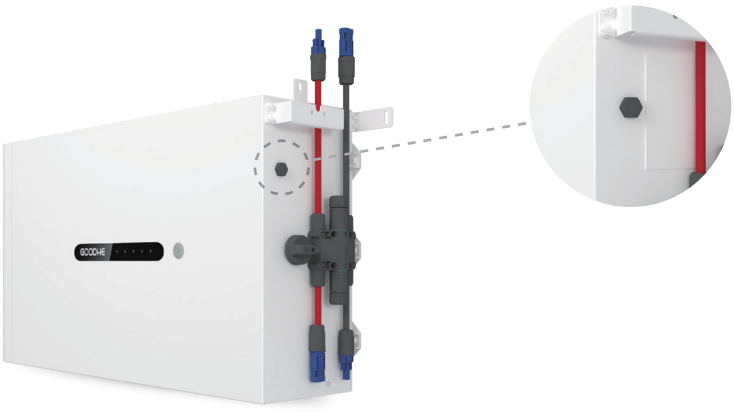
Multi-Layer Protection Ensuring GoodWe Battery Safety

Safety is at the core of GoodWe's battery design, ensuring reliable and secure energy storage for every application. By incorporating advanced technologies and rigorous safety mechanisms, GoodWe batteries provide comprehensive protection for both users and the system. Below are the key safety features that highlight our commitment to delivering safe and dependable energy solutions.

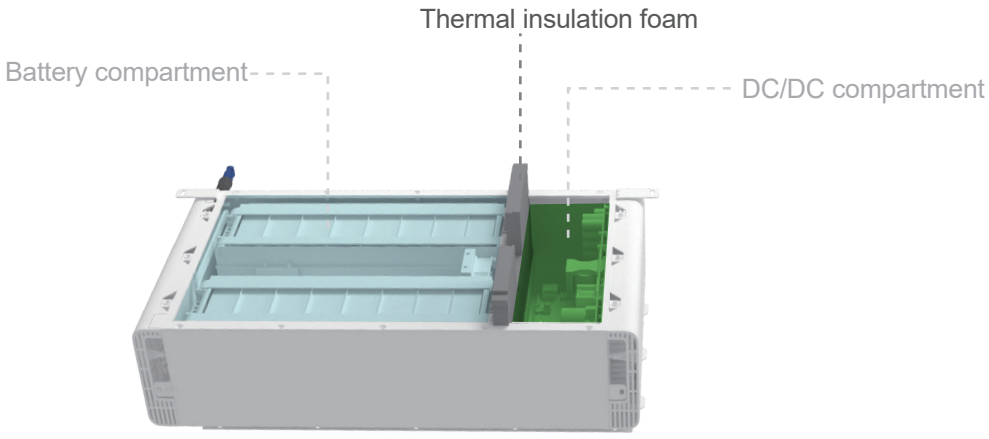
1. Pressure Relieve Valve for Maximum Safety

The GoodWe Lynx D battery is equipped with a uniquely engineered pressure relief valve that ensures both safety and durability. This valve automatically activates to release excess pressure when internal temperature or pressure become abnormal. Its waterproof and breathable design, utilizing an ePTFE membrane with micropores, allows air to pass through while blocking liquid water. This balances internal and external pressure differences, protecting the battery from damage caused by temperature fluctuations, even in outdoor or challenging environments.



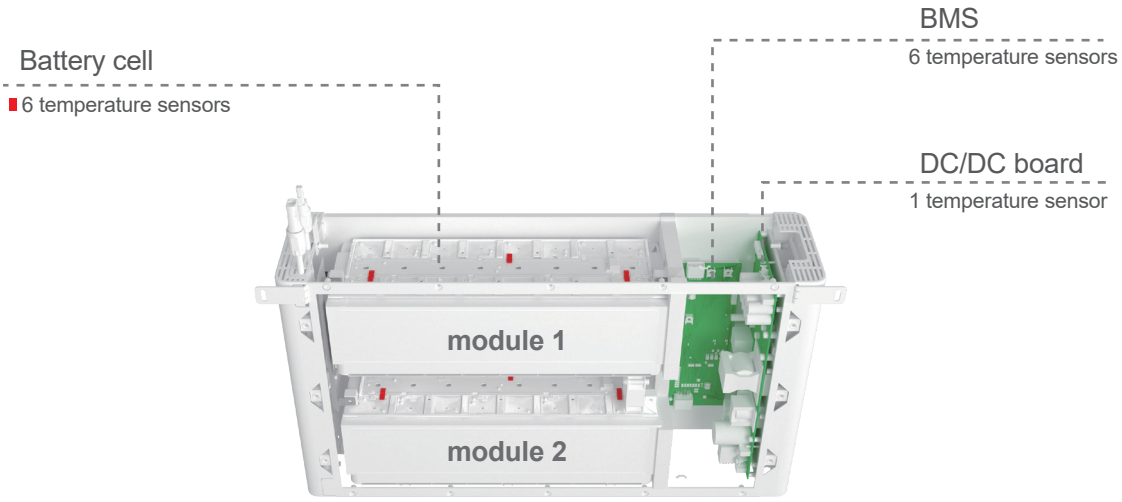
2. Excellent Thermal Insulation Material

The GoodWe Lynx D battery uses thermal insulation foam, a high-performance thermal insulation material. This foam offers excellent thermal insulation properties, effectively reducing heat transfer during the battery's charge and discharge cycles. It helps maintain a stable operating temperature, ensuring the battery operates within the optimal temperature range and extending its lifespan. In addition to thermal insulation, high-density foam also absorbs vibrations and impacts, protecting the internal structure of the battery from external physical forces. More importantly, the thermal insulation foam is recyclable, non-toxic, and environmentally friendly.



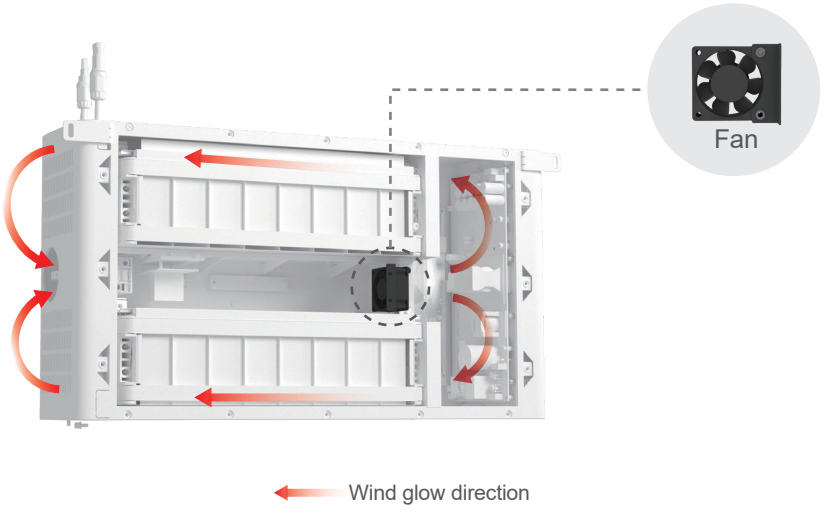
3. Comprehensive Temperature Monitoring of the Battery

GoodWe has implemented a comprehensive temperature monitoring and control system at the battery cell level. This system includes 13 temperature sensors strategically placed at different locations to continuously monitor the temperature of the cells, ensuring they remain within safe limits at all times. If the battery temperature becomes too high, the system immediately takes action to lower it, such as activating the built-in fan, to prevent damage or fire. This not only extends the battery's lifespan but also provides an additional layer of safety.



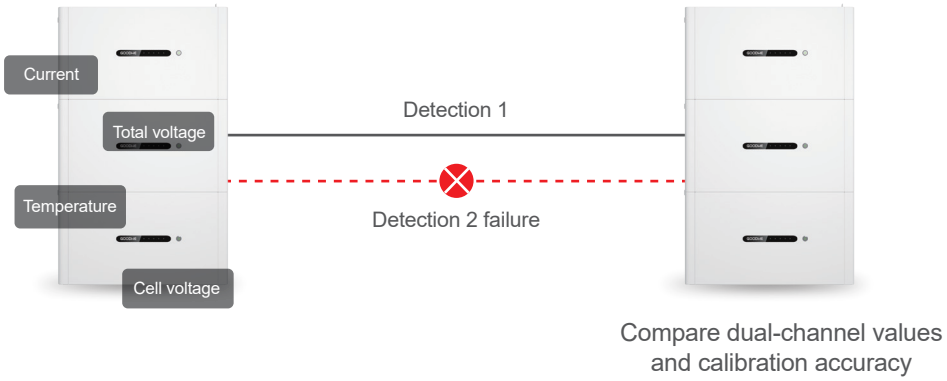
4. Built-in Fans Maintain Optimal Operating Temperatures

The GoodWe Lynx D battery pack is divided into a DC/DC compartment and a battery compartment, separated by the thermal insulation foam. To manage heat distribution, a built-in fan redirects some heat from the DC/DC compartment into the battery compartment. This process allows heat dissipation through both heat fins and the enclosure itself while using a portion of the heat to balance temperature differences among the cells. The fan activates when the DC/DC transformer or cell temperature difference exceeds a set threshold and shuts off when both return to normal, ensuring efficient cooling and uniform cell temperatures to meet operational requirements.



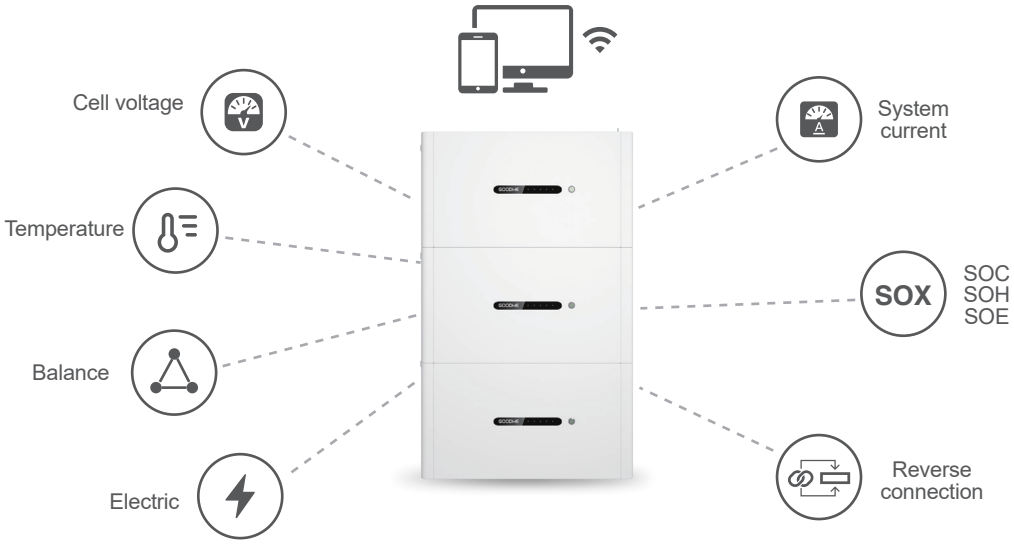
5. Abnormal Current Detection

GoodWe battery products undergo in-factory pre-testing to ensure the proper functioning of key circuits. If an electrical component malfunctions and poses a potential safety hazard, The BMS will disconnect the internal power supply to ensure the safety of both the battery and personnel, thereby eliminating risks at their source.



6. Excellent BMS Control System

GoodWe relies on an advanced Battery Management System (BMS) to monitor the battery's charging status, voltage, current, and temperature. When the battery reaches the safe charging limit, the system cuts off the power supply or reduces the charging speed. This is currently the most reliable overcharge prevention solution, offering real-time dynamic adjustments.



7. Safe LiFePO4 Technology

GoodWe adopts LiFePO4 technology, one of the safest battery technologies available today. LiFePO4 (lithium iron phosphate) batteries feature excellent thermal stability, making them more resistant to overheating and reducing the risk of fires compared to traditional lithium-ion batteries. This technology provides added protection, making GoodWe's home batteries the safe choice for residential applications.

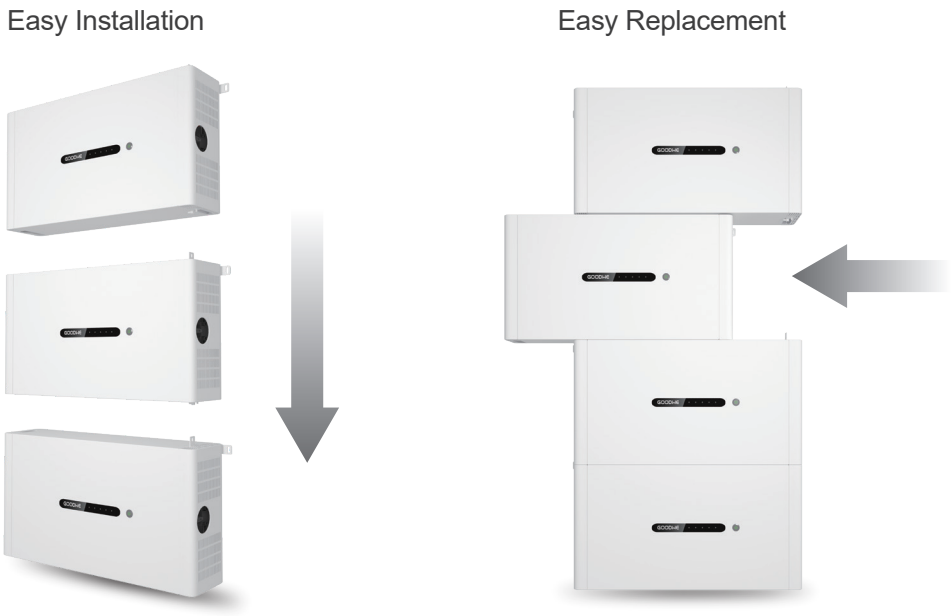
8. Comprehensive Safety Tests

The GoodWe Lynx D battery undergoes rigorous in-factory tests to ensure superior quality and reliability before shipping. These tests include module performance verification, DC/DC board aging tests, functional and aging assessments of the battery, and a thorough appearance inspection. Additionally, critical evaluations such as the OCV (open circuit voltage) test, dielectric voltage withstand test, and EOL (end-of-line) test are conducted to validate safety, durability, and operational readiness. This comprehensive testing process guarantees that every Lynx D battery meets the highest standards of safety, performance, and reliability, providing customers with a dependable energy solution.

9. System Design and Installation Safety

The GoodWe Lynx D battery supports a mix of old and new versions, allowing customers to expand their systems at any time in the future. When one of the modules fails, it can simply be replaced with a new one without having to replace the entire system. In addition, the battery stacks by using connectors for plug-and-play at the ports, making field installation of each package very simple.

The above solution avoids safety risks caused by aging, damage, increased contact resistance of external wires, and the risk of short circuits during wiring installation.



10. Forward and Reverse Connection Detection

Polarity reversal, where the positive and negative terminals are mistakenly swapped, can lead to rapid temperature increases, overheating, and the malfunctioning of batteries. To prevent such hazards, GoodWe batteries connected in parallel are equipped with an automatic polarity detection feature. If a reversal is detected, the system promptly reports a fault and halts operation, safeguarding installers and preventing accidents. This functionality not only protects the battery's internal structure but also preserves its performance and longevity.