



KENT Lithium Battery For Home Inverters

Smart LFP Battery
Compatible with all Inverters

F1-5.1kWh

F1 - 11.8kWh

F1 - 14.3 kWh

51.2V 100 Ah

51.2V 230 Ah

51.2V 280 Ah



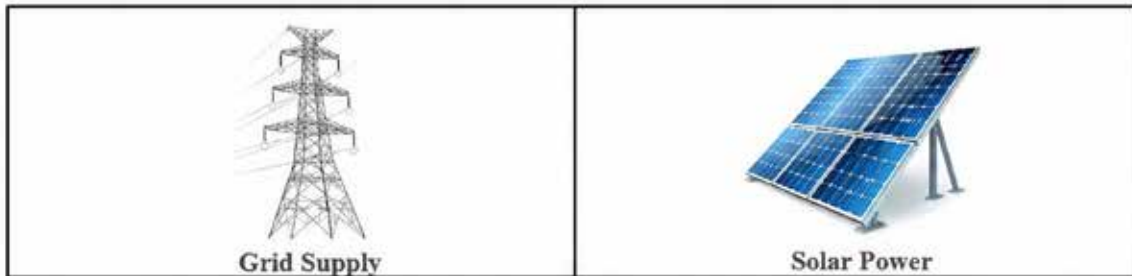
User Manual

KENT NEW ENERGY

F1 51.2V Series Energy Storage LiFePO₄ Battery

USER MANUAL

F1-5.1 kWh-100Ah | F1-11.8 kWh-230Ah | F1 - 14.3 kWh-280Ah



KENT F1 Battery + Inverter



Home Appliances

Important Safety Instructions

Please keep this manual for future reference.

This manual contains important safety, installation, commissioning, and operating instructions for the F1 51.2 V Series Energy Storage LiFePO₄ Battery.

Read and understand all instructions, warnings, and precautions in this manual before installing, commissioning, or operating the battery. Failure to follow these instructions may result in equipment damage, electric shock, fire, serious injury, or other hazards.

Safety Precautions

1. **Do not disassemble the battery.** The energy storage battery contains hazardous electrical energy and may have dangerous DC voltage present even when the system is switched off. Users must not disassemble, modify, or repair the battery themselves. If maintenance or repair is required, contact KENT New Energy authorized personnel only; otherwise, the warranty may be voided.
2. **Keep the battery away from children.** Install the energy storage battery in a location that is inaccessible to children and unauthorized personnel.

Install the battery in a suitable environment. Do not install or operate the battery in environments exposed to:

- Excessive moisture or water
 - Oil, grease, or corrosive substances
 - Flammable or explosive materials
 - Excessive dust or conductive particles
 - Excessive heat or direct sources of ignition
3. **Do not open the battery enclosure during operation.** Never open, remove, or modify the battery enclosure while the system is energized or operating.
 4. **Verify all electrical connections.** After installation, carefully inspect all power, grounding, communication, and other electrical connections. Ensure that all terminals and connectors are properly tightened according to the specified torque requirements. Loose connections may result in increased contact resistance, heat generation, equipment damage, or fire.
 5. **Use appropriate personal protective equipment (PPE).** KENT New Energy qualified personnel performing installation, commissioning, or maintenance must use appropriate PPE and properly rated insulated tools. For DC electrical work, use tools and protective equipment with a suitable voltage rating, as specified by applicable safety requirements.
 6. **Follow the installation and wiring instructions.** Installation, wiring, commissioning, and maintenance must be performed by KENT New Energy qualified personnel in accordance with this manual and applicable local electrical codes and standards.

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1. Basic Information

1.1 Product Overview

The F1 51.2 V Series Energy Storage Battery is a high-performance battery energy storage system designed primarily for residential energy storage applications. It is also suitable for residential villa, household backup power systems, and modular buildings.

The battery uses high-performance **Grade-A** Lithium Iron Phosphate (LiFePO₄) cells. LiFePO₄ technology provides excellent safety performance, high thermal stability, a long cycle life, and reliable charging and discharging characteristics.

The battery integrates an Smart Battery Management System (BMS) for real-time monitoring and protection of critical operating parameters, including battery voltage, current, temperature, state of charge (SOC), and operating status. The BMS provides multiple protection functions to improve system safety and reliability.

The F1 51.2 V Series is available in energy capacities ranging from 5.12 kWh to 14.336 kWh per battery unit, with a nominal voltage of 51.2 V. Different capacity configurations can be selected according to the required energy storage application.

The battery features a floor-mounted and wall-mounted design for convenient installation and efficient use of available space. The system also supports external parallel connection, allowing multiple battery units to be connected together to increase total energy storage capacity and system power capability.

An integrated active thermal management system helps maintain a more uniform internal temperature distribution during charging and discharging. This improves battery cell consistency, reduces thermal stress, supports stable high-current operation, and helps extend the service life of the battery system.

1.2 Product Features

- **High-Performance LiFePO₄ Cells** — KENT F1 batteries use **A-grade** LiFePO₄ cells that deliver high performance, excellent safety, thermal stability, high reliability, and a longer service life, ensuring consistent battery operation.
- **LCD Touchscreen Display** — Provides real-time monitoring of important battery information such as pack voltage, current, cell voltages, temperature, alarms, protections, faults, and operating status. The display supports both English and Hindi languages.
- **Smart Battery Management System (BMS)** — Continuously monitors battery operating conditions and provides multiple protection functions to enhance battery safety, reliability, and performance. The BMS handles inrush current, provides two dry-output (DO) ports, and supports automatic master-slave battery configuration. It also incorporates an intelligent algorithm for managing parallel battery operation and ensuring inverter compatibility. Additionally, the BMS includes charger and load detection features, along with a tuned recovery algorithm for safely recovering the battery from a deep-discharge state. The BMS features dual active and

passive cell balancing to maintain unbalancing in the cell, optimize battery performance, and extend overall battery life. It also provides isolated CAN and RS485 communication interfaces, along with Bluetooth connectivity and a smart mobile application for convenient wireless monitoring and real-time viewing of battery status.

- **Low-Power ON/OFF Switch** — A low-voltage control switch helps reduce battery power consumption during transportation, storage, and standby conditions by putting the battery into a low-power sleep state.
- **Multiple communication interfaces** — Supports RS485 and CAN communication interfaces for connection with compatible inverters, And RS232 for monitoring systems, and other external equipment.
- **Comprehensive protection functions** — Multiple electrical and thermal protection functions help protect the battery and connected equipment against abnormal operating conditions.
- **Parallel expansion capability** — Supports the connection of up to 16 independent battery modules in parallel, subject to system configuration, communication requirements, and applicable installation limitations.
- **Thermal management** — The KENT F1 battery is designed to effectively handle thermal challenges and maintain safe operations. Its design incorporates thermal safety and protection features to control temperature rise.

1.3 Applications

The KENT F1 51.2V Series is designed for residential, commercial, and renewable-energy storage applications, including:

- Residential Energy Storage Systems (ESS)
- Household Backup Power
- Rooftop Solar Storage
- Off-Grid Solar Systems
- Hybrid Solar Systems
- Peak Shaving & Load Management
- Small Commercial & Office Energy Storage Backup

1.4 Technical Specifications

Note 1: Series connection of KENT Li F1 battery packs is strictly prohibited. These battery models are designed for standalone or parallel operation only.

Note 2: Ensure that the battery terminal voltage does not exceed 60 V DC. Do not connect an external MPPT- or PWM-based solar charge controller to the battery, as doing so will void the warranty.

Technical Specifications

Item Code	132401	132402	132403	132404
Nominal Power	5.12 kWh	11.8 kWh	14.4 kWh	16 kWh
Cell Chemistry	LiFeP04			
Cell Rating	100 Ah	230 Ah	280 Ah	314 Ah
Nominal Voltage	51.2 V			
Operating Voltage	44.8 V - 57.6 V			
Recommended Charge Current	50 A	115 A	140 A	157 A
Discharge Current				
Recommended	50 A	115 A	140 A	157 A
Max Continuous	100 A	200 A	200 A	200 A
Max Discharge Power	5.12 kWh	10 kWh	10 kWh	10 kWh
Recommended DoD	90%			
Cell Cycle Life	>6000 (25±2°C, 70% EOL)			
Cell Balancing Type/Current	Dual-Active /2A			
Pack-to-Pack Limiting Current	20 A			
Max Parallel Batteries	16			
Communication	RS 485 / CAN 2.0 / WiFi & Bluetooth			
Display	3.5" Touchscreen			
Primary BMS Protection	Over-Discharge Protection, Over-Charge Protection, Over-Current Protection, Over-Temperature / Thermal Protection, Short-Circuit Protection			
Secondary Protection	DC MCB			
Installation	Wall-mounted / Floor-standing	Floor-standing		
Battery Terminal	2×M8			
Warranted Energy Throughput	15 MWh	36 MWh	44 MWh	48 MWh
Warranty	10 years			
IP Rating	IP 21			
Operating Temperature				
Charging	0 to 55°C			
Discharging	-20 to 55°C			
Storage Temperature	0 to 35°C			
Relative Humidity	95% (non-condensing)			
Altitude	<3000m			
Dimensions (H×W×D)mm	626×400×200	761×430×277	910×450×290	910×450×290
Approx Weight	62 kg	98 kg	125 kg	130 kg

2. General Installation Process

The following provides an overview of the installation process. Each step is described in detail in Section 3 – Installation Instructions.

1. Read this manual in full and review all safety precautions before beginning work.
2. Select a suitable installation location that meets the environmental and clearance requirements.
3. Select appropriately rated cables and external protection devices for the system.
4. Install and secure the battery on a stable, level surface.
5. Maintain the required clearance around the battery for ventilation and heat dissipation.
6. Connect the power and communication cables according to the wiring diagrams provided in this manual.
7. Verify all connections, polarity, and settings before energizing the system.

3. Installation Instructions

3.1 Installation Notes

Before installing the F1 51.2 V Series Energy Storage Battery, carefully read this manual and familiarize yourself with all installation procedures, safety precautions, wiring requirements, and system configuration requirements.

Installation, electrical connection, commissioning, and maintenance must be performed by KENT New Energy qualified personnel in accordance with this manual and applicable national and local electrical codes and regulations.

3.1.1 Installation Requirements

1. **Provide adequate ventilation and clearance.** Ensure sufficient clearance around the battery for heat dissipation, inspection, operation, and maintenance. Do not obstruct the ventilation openings.
2. **Protect the battery from direct sunlight and rain.** For outdoor installations, provide suitable protection against direct sunlight, rainwater, and other environmental exposure. Direct exposure to sunlight or water ingress may damage the battery and affect its service life and safety.
3. **Keep conductive and metal objects away from the battery.** Do not place metal tools, components, or other conductive materials near the battery terminals or installation area. Metal objects may cause an accidental short circuit and result in equipment damage, electric shock, or fire.
4. **Ensure all electrical connections are secure.** Loose or corroded connections can increase contact resistance and generate excessive heat, which may damage cable insulation and surrounding components and create a fire hazard.

In addition, ensure that:

- All terminals and connectors are properly tightened.
 - Cables are correctly sized for the expected current.
 - Cables are securely routed and supported.
 - Cable ties or suitable cable-management devices are used where required.
 - Connections cannot become loose due to vibration or movement.
1. **Do not open the battery enclosure after shutdown.** High voltage and stored electrical energy may remain inside the battery after the battery switch has been turned off. Do not open the enclosure or touch internal components. External short-circuiting of the battery terminals is strictly prohibited.
 2. **Avoid harsh installation environments.** Do not install the battery in locations exposed to excessive moisture, water, oil, grease, flammable or explosive materials, dust or conductive particles, corrosive substances, or heat.
 3. **Observe correct polarity.** Do not reverse the positive (+) and negative (–) battery terminals during charging, discharging, or installation. Incorrect polarity may cause severe equipment damage, short circuit, fire, or other hazardous conditions.
 4. **Maintain safe working practices.** Use appropriate personal protective equipment (PPE) and properly rated insulated tools when performing electrical installation or maintenance.
 5. **In case of injury, seek medical attention.** If an injury occurs during installation, commissioning, operation, or maintenance, stop work immediately and seek appropriate medical assistance.

3.1.2 Parallel Battery Installation

The F1 51.2 V Series supports the connection of multiple compatible battery units in parallel to increase total system capacity and system power rating.

The system supports a maximum of 16 battery units, subject to the specific battery model, BMS configuration, inverter compatibility, and applicable system limitations.

The recommended configuration is:

PACK 1 (Master) → PACK 2 → ... → PACK 14 → PACK 16

PACK 1 shall be automatically configured as the master battery, while all other battery packs shall be automatically configured as slave batteries for parallel operation. No address setting or manual configuration using the “ADD” switch shall be required. The master-slave selection shall be performed automatically through the battery communication system.

3.2 Installation and Wiring

The installation and electrical connection of the F1 51.2 V Series must comply with applicable national and local electrical codes, regulations, and safety requirements.

Before beginning installation, carefully read this manual and familiarize yourself with the complete installation procedure.

3.2.1 Installation Procedure

Step 1 – Select the Installation Location

Select a suitable installation location according to the battery's environmental and structural requirements. The installation surface must be stable, level, and capable of supporting the complete battery weight.

Step 2 – Select Appropriate Cables

Select cables with an appropriate conductor size and current rating according to the maximum charging/discharging current, cable length, installation method, and applicable electrical requirements. Where necessary, use a cable with a larger cross-sectional area to reduce voltage drop and heat generation. Refer section 3.4 for recommended cable size as per current rating.

Step 3 – Install the Battery

Place the battery securely on a stable, level, and suitable floor surface. Ensure the battery is positioned upright and remains stable during operation. Verify that the battery is firmly mounted before making any electrical connections.

Step 4 – Maintain Required Clearance

Maintain sufficient clearance around the battery to allow adequate heat dissipation, ventilation, inspection, and maintenance. A minimum clearance of 200 mm shall be maintained around the battery.

Step 5 – Connect the Battery

After confirming that the battery is securely installed, connect the power and communication cables according to the wiring diagrams provided in this manual.

Verify the following before energizing the system:

- Battery polarity is correct.
- Power cables are correctly sized and securely connected.
- Communication cables are correctly connected.
- All terminals are properly tightened.
- No cables are damaged, pinched, or exposed to excessive mechanical stress.
- The battery and connected inverter are compatible.

3.2.2 Heat Dissipation Requirements

The F1 51.2 V Series generates heat during charging and discharging. Adequate ventilation and clearance are therefore essential for safe and reliable operation. Ensure that:

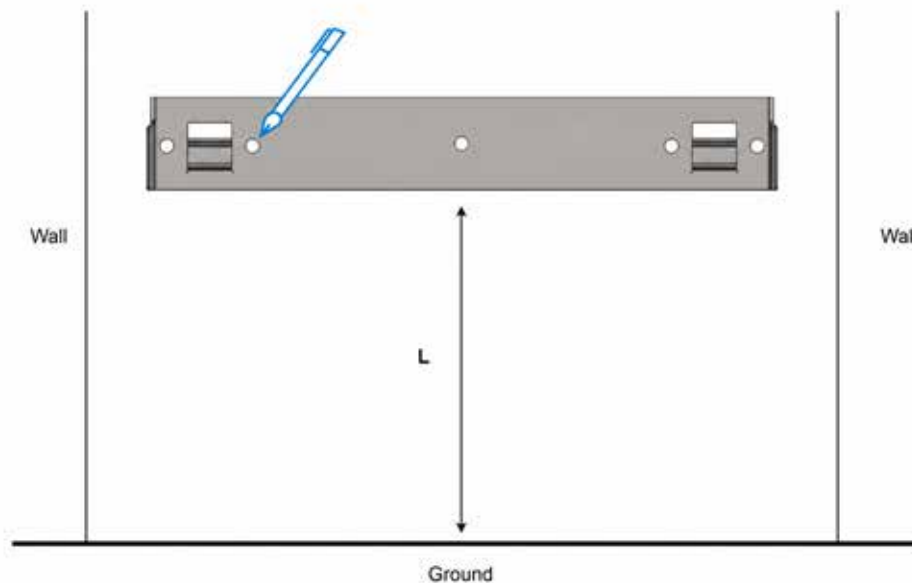
- The battery is not installed inside an enclosed space without adequate ventilation.
- A minimum clearance of 200 mm is maintained.

- Heat-generating equipment is not installed immediately adjacent to the battery.
- The installation location does not expose the battery to excessive ambient temperature.

Adequate heat dissipation helps maintain a stable battery operating temperature and supports long-term system reliability.

3.2.3 Wall Mount Battery Mounting Instructions - Model : KENT Li F1 5120

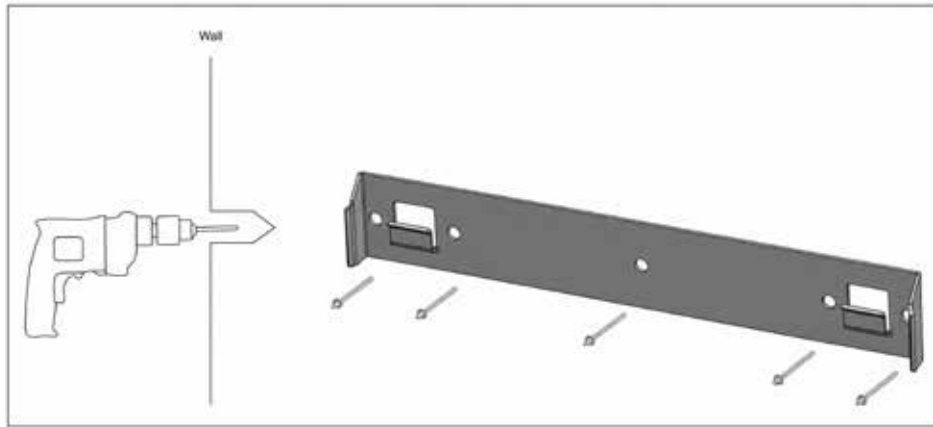
1. Choose and mark appropriate locations on the wall for drilling holes with a positioning of wall mount bracket. Make sure the ground clearance (L) is greater than 800mm.



2. Drill 5 holes on the wall, with a diameter of 8 mm and depth of 100~110mm.

Note: When drilling holes, pay attention to prevent dust from entering the battery, which may affect the battery performance and function.

3. Fix the floor-mounting bracket onto the wall using five expansion bolts (M6 × 100).

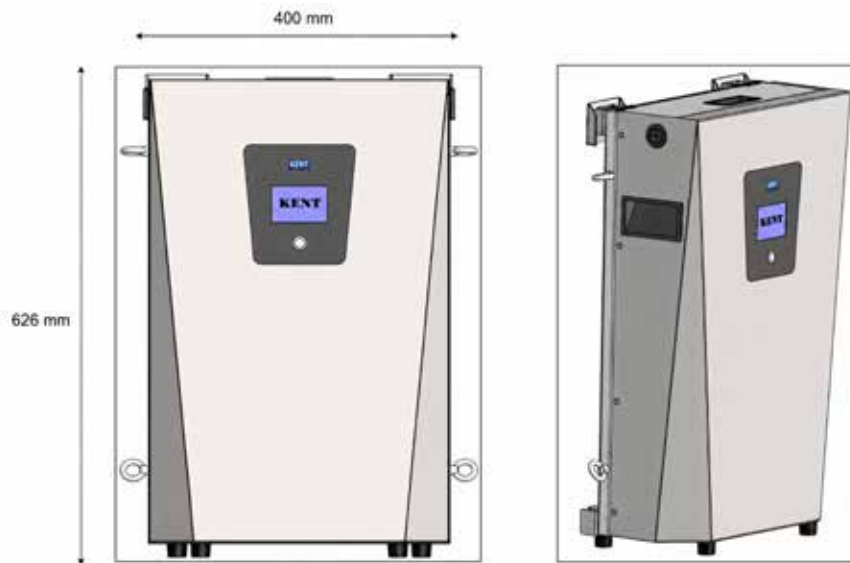


4. Carry the battery and hang it onto the hooks, making sure all bracket mounts on the back of the battery are securely fastened to the hooks on the wall.



3.2.4 Battery Dimensions

KENT Lithium Battery F1 5.1 kWh 100 Ah
Height : 626 mm; Width : 400 mm; Depth : 200 mm



KENT Lithium Battery F1 11.8 kWh 230 Ah
Height : 761 mm; Width : 430 mm; Depth : 277 mm



3.3 Safety Warnings and DC Connection Requirements

- Do not reverse the polarity of the battery charging/discharging terminals.
- Do not short-circuit the positive (+) and negative (–) terminals.
- Do not install the battery in a sealed or poorly ventilated enclosure.
- For outdoor installations, provide suitable rainproof and moisture protection.
- Keep the battery away from water, flammable materials, ignition sources, and excessive heat.
- Installation and electrical connection must be performed by KENT New Energy qualified personnel.

ATTENTION: When using only one 51.2 V 100 Ah or 51.2 V 230 Ah battery pack, it is recommended that the connected inverter or load be rated below 5 kW or 10 kW, unless otherwise specified by the battery model and system design.

3.3.1 Final DC Connection

Before making the final DC connection:

1. Ensure that the battery power switch is OFF and the inbuilt DC MCB is in the OFF position.
2. Verify that the battery and inverter are completely de-energized.
3. Confirm the polarity of the DC cables before connection.
4. Connect the positive (+) battery terminal to the positive (+) terminal of the inverter.
5. Connect the negative (–) battery terminal to the negative (–) terminal of the inverter.
6. Ensure that all terminals and connectors are correctly installed and securely tightened.
7. Verify the polarity again before switching on the battery system.

WARNING: Never connect the positive (+) terminal to the negative (–) terminal. Incorrect polarity or a short circuit may cause severe equipment damage, fire, or personal injury.

3.4 Recommended External Cable

The following values are recommended as general installation guidelines. Final cable sizing determined according to the actual installation conditions, maximum operating current, cable length, ambient temperature, installation method, applicable electrical codes, and inverter requirements.

Battery Model	Recommended External Cable Size	Continuous System Current*
F1 51.2-100	25 mm ²	100 A
F1 51.2-230	50 mm ²	200 A

Cable Selection Note

The cable sizes listed above are for reference only. If the distance between the battery and inverter is relatively long, a larger conductor cross-sectional area may be required to reduce cable resistance and voltage drop and to improve system performance.

The recommended cable sizes and circuit-breaker ratings are not a substitute for site-specific electrical design. Select the final cable size, protection device, and installation method according to the actual system requirements and applicable national and local electrical standards.

3.5 Required Installation Tools and PPE

Personal protective equipment and +1000 Vdc insulated tools required for installation:

 Multimeter + Current clamp	 Insulated Screwdriver Set	 Insulated Torque Wrench Set	 Lifting Strap + Mechanical Lifter
 Insulated Allen Key Set from 2 mm to 8 mm	 Drill+Hammer	 Electrician Scissors	 electrical insulated gloves

List of Essential Tools and Equipment:-

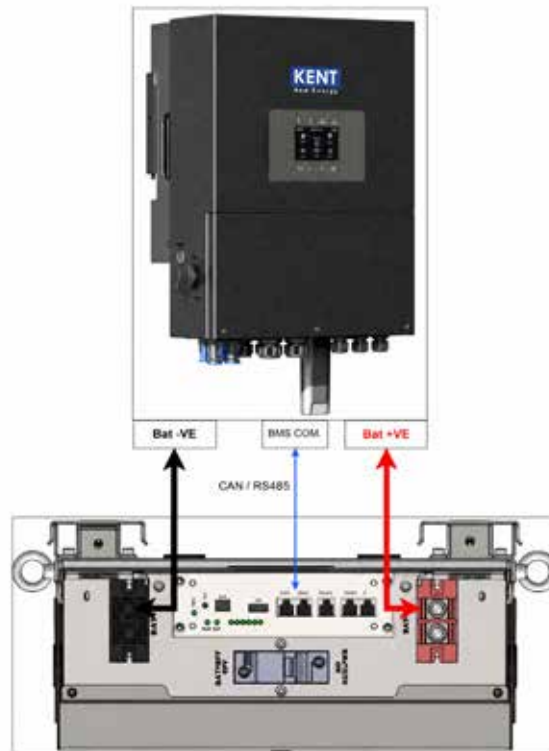
1. AC-DC Multimeter + Clamp Meter
2. Insulated Screwdriver Set
3. Insulated Allen Key Set
4. Drill Machine
5. Electrician Scissors o Wire cutter
6. Insulated Torque Wrench Set
7. Electrical Insulated Gloves

4. Connection Diagram - Battery DC Power

This section illustrates the connection of KENT Li F1 batteries in single and parallel configurations, covering both the DC power wiring and the BMS communication wiring between battery packs and the inverter.

4.1 Single Battery Operation

The diagram below shows the DC power connections (Bat +VE, Bat -VE) and the BMS communication connection (CAN/RS485) between a single battery and the inverter.



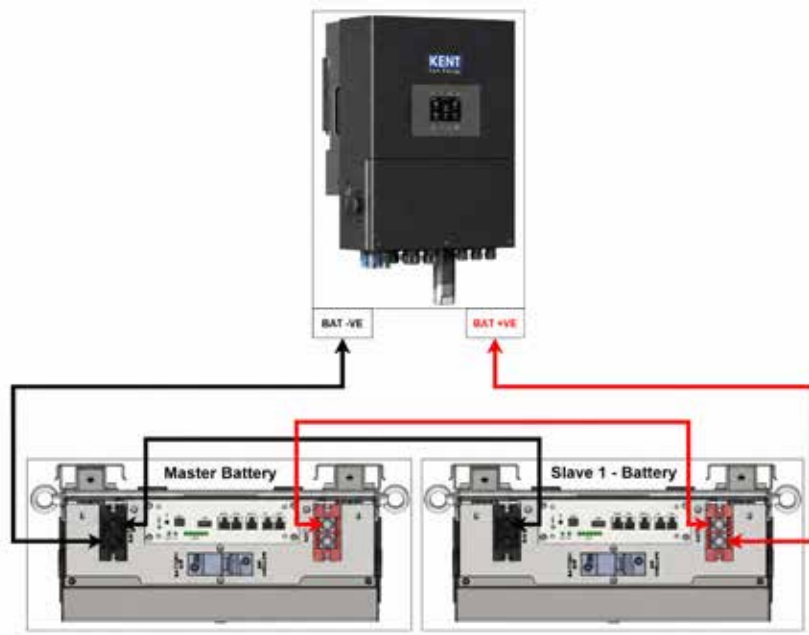
4.2 Two Batteries in Parallel Operation

When two battery packs are connected in parallel, each pack's positive and negative terminals are connect together, and the packs are linked by a battery parallel communication cable in addition to the inverter communication cable, as shown below.

Special Instructions for Two-Battery Parallel Operation

To increase system load-handling efficiency:

1. The parallel battery power cables (Red, Black) should have equal wire length and cross-sectional area.
2. The inverter-to-battery connection power cables should have equal wire length and cross-sectional area.
3. The inverter's positive cable should be connected to the positive terminal of the first battery, and the inverter's negative cable should be connected to the negative terminal of the second battery. (Refer to the image below.)



Batteries Top View

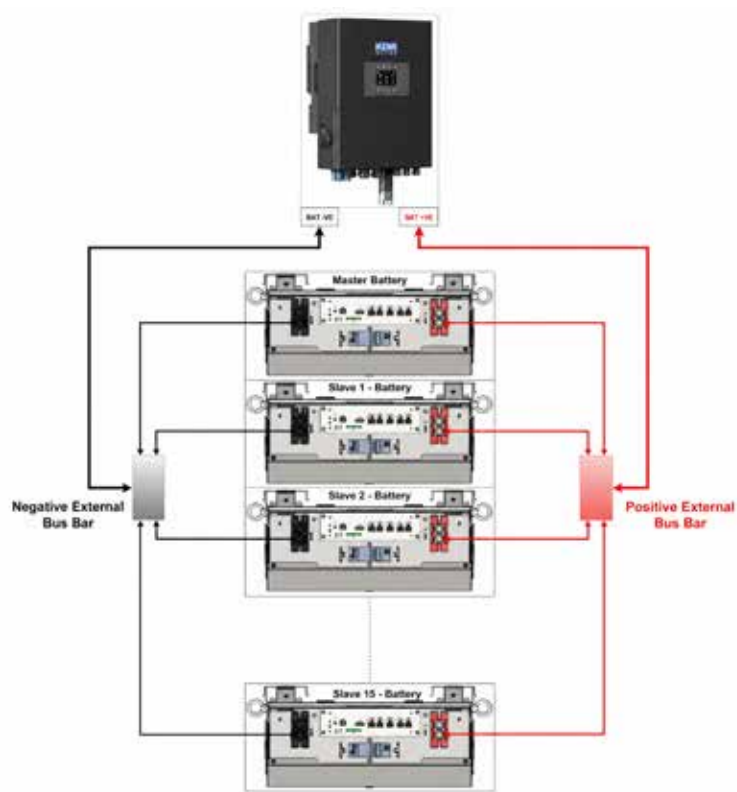
4.3 More Than Two Batteries in Parallel

For systems with more than two battery packs, all packs are connected to the external DC bus, and the communication cable is in correct order, Refer section 4.4(B) parallel battery to battery communication connection.

Special Instructions for Multiple-Battery Parallel Operation

To increase system load-handling efficiency:

1. The parallel battery power cables (Red, Black) connected to bus-bar should have equal wire length and cross-sectional area of each batteries.
2. The inverter-to-battery connection power cables should have equal wire length and cross-sectional area, And select the wire size as per the system design requirement.

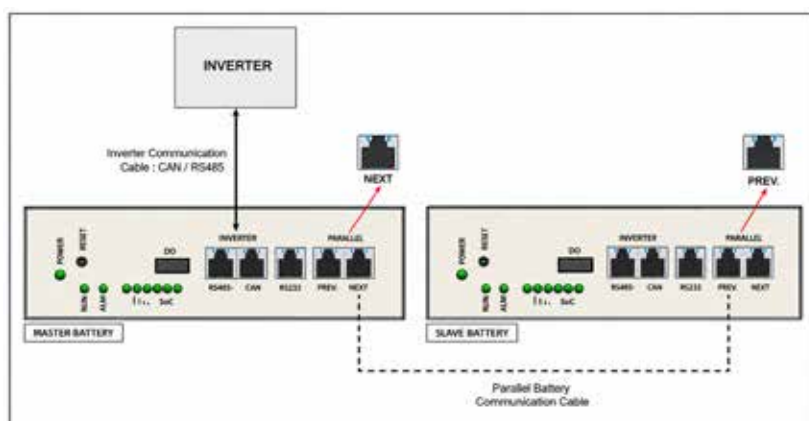


4.4 Parallel Battery to Battery Communication Connection

KENT F1 Series batteries support automatic address encoding when connected in parallel. Each battery's communication board provides RS485, CAN, RS232, PREV. and NEXT ports as shown in the diagrams below.

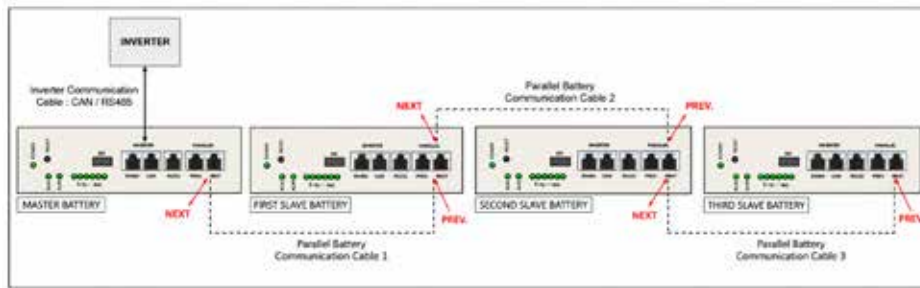
A) Two Batteries – Parallel Communication Connection

The master battery communicates with the inverter over CAN or RS485 through its RS485/CAN port. The master and slave battery are linked together using the battery parallel communication cable, connected from the master's "NEXT" port to the slave's "PREV." port.



B) Multiple Batteries – Parallel Communication Connection

For more than two batteries, the master battery connects to the inverter, and each slave battery is daisy-chained to the next using the battery parallel communication cable — the “**NEXT**” port of pack-1 connects to the “**PREV.**” port of the next pack — continuing sequentially through up to 15 slave batteries..



Note 1: Make sure all ADD switches on every battery pack (master and slave) are set to the DOWN position to enable automatic address encoding, the system assigns addresses automatically based on daisy-chain order — manual dial-switch addressing is not required.

5. LED Indicators and Instructions

* The LED indicators provide visual information about the operating status of the battery system. The LEDs may display different states depending on the battery's operating condition, Such as Standby, Normal Operation, Charging, Discharging, Alarm, Protection, Fault.

5.1 LED Status Description

LED Lights Function Description											
Battery State	Sleep/ Normal / Alarm / Protection	Power	BMS Run	Alarm / Fault	SoC % LED Indication						Remarks
					LED 6	LED 5	LED 4	LED 3	LED 2	LED 1	
		●	●	●	●	●	●	●	●	●	
Sleep	Sleep	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	All the LEDs are off
Standby	Normal	ON	Blink	OFF	As per SoC % Level						Battery normal state
	Alarm	ON	Blink	Blink							If battery is in low SoC %
Charging State	Normal	ON	ON	OFF	Highest SoC% LED blinking						
	Alarm	ON	ON	Blink							In overcharge condition, alarm / fault LED is not blinking
	Over Charge Protection	ON	ON	OFF	ON	ON	ON	ON	ON	ON	
	Temperature Protection, Over current Protection	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	
Discharging State	Normal	ON	Blink	OFF	As per the SoC % Level						
	Alarm	ON	Blink	Blink							
	Under Voltage Protection	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	Temperature Protection, Over current Protection	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	
	Sensors Failure	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	No charge and discharge - Battery Lock

5.2 LED SoC% Indication

LED SoC % Status												
State	Charging						Discharging					
SoC %	LED 6	LED 5	LED 4	LED 3	LED 2	LED 1	LED 6	LED 5	LED 4	LED 3	LED 2	LED 1
0% - 17%	OFF	OFF	OFF	OFF	OFF	Blinking	OFF	OFF	OFF	OFF	OFF	ON
18% - 33%	OFF	OFF	OFF	OFF	Blinking	ON	OFF	OFF	OFF	OFF	ON	ON
34% - 50%	OFF	OFF	OFF	Blinking	ON	ON	OFF	OFF	OFF	ON	ON	ON
51% - 66%	OFF	OFF	Blinking	ON	ON	ON	OFF	OFF	ON	ON	ON	ON
67% - 83%	OFF	Blinking	ON	ON	ON	ON	OFF	ON	ON	ON	ON	ON
84% - 100%	Blinking	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON

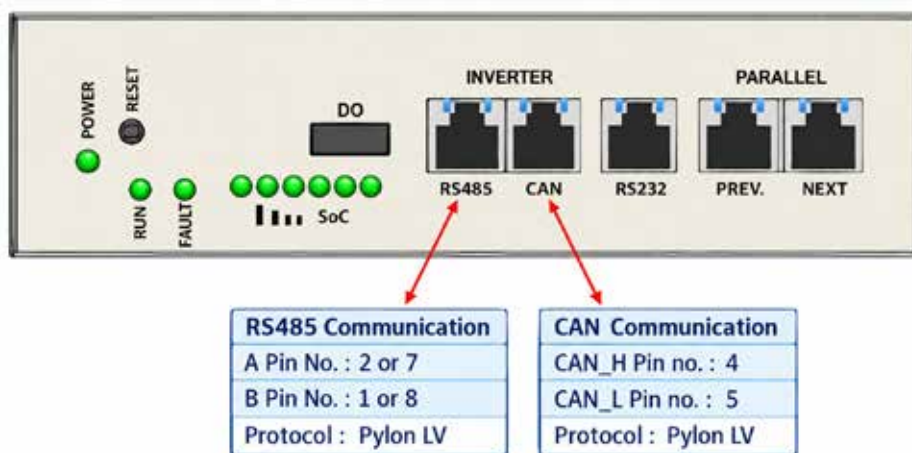
6. BMS to Inverter Communication Settings

6.1 BMS Communication and Settings

When the inverter needs to communicate with the battery, the BMS must be configured to match the communication protocol used by the inverter. RS485/CAN communication protocols differ between inverter brands; however, the inverter typically provides several built-in RS485/CAN protocol options to match the battery. Select the appropriate communication protocol code on the inverter. If you encounter any issues, please consult your supplier.

KENT F1 Batteries have default inverter communication is “Pylon” for CAN and RS485.

The battery BMS interface pin definitions are shown in the figure below:



- **ADD (address switch)**: Used for parallel operation of battery packs. If automatic master slave battery selection does not work due any technical reason.
- **RS485/CAN**: The battery pack communicates with the inverter through this interface.

Note: The battery's default protocol is Pylon, over CAN or RS485.

IMPORTANT: The KENT F1 battery has automatic master/slave configuration. As long as the battery parallel cables are connected in the correct order, and all ADD (dial) switches on every pack are kept in the DOWN position, the system will automatically configure the master and slave batteries - no manual address setting is required.

6.2 Inverter Protocol Compatibility List

CAN Communication Protocol	RS485 Communication Protocol
Pylon LV	Pylon
Schneider	Modbus_Afore
Growatt	Growatt
Victron	Deye
Deye v330	Voltronics
Luxpower	SE
SRD	Sofar
SMA	Luxpower_V03
Goodwe	WOW
Studer	
Sofar	
PV	
Jinlang	
SENERGY INV	
TBB_Lithium	
Megarevo	
Afore	

Regarding communication between the battery and the inverter: the battery side must maintain its original configuration. However, inverters of different brands and models may use different communication pins. If in doubt, refer to the inverter manufacturer's manual.

6.3 Battery to Inverter CAN Terminal Pinout

If an inverter brand supports the Pylon communication protocol, the KENT New Energy F1 battery series can communicate with it effectively. The CAN_High and CAN_Low pins can be matched to the inverter port by modifying (cutting and re-terminating) the RJ45 cable if required.

The standard CAN pin configuration of the KENT Li F1 battery is:

- CAN_High: Pin 4 of the RJ45 connector
- CAN_Low: Pin 5 of the RJ45 connector
- The RJ45 connector is labeled as the CAN port.

6.4 Battery to Inverter RS485 Terminal Pinout

If an inverter brand supports the Pylon communication protocol, the battery can communicate with it effectively. The RS485_A and RS485_B pins can be matched to the inverter port by modifying (cutting and re-terminating) the RJ45 cable if required..

The standard RS485 pin configuration of the KENT Li battery is:

- RS485_A: Pin 2 or 7 of the RJ45 connector
- RS485_B: Pin 1 or 8 of the RJ45 connector
- The RJ45 connector is labeled as the RS485 port.

7. Display and Screen Functions – English

This section describes the battery's touchscreen display and menu functions.

7.1 Boot-Up Screen

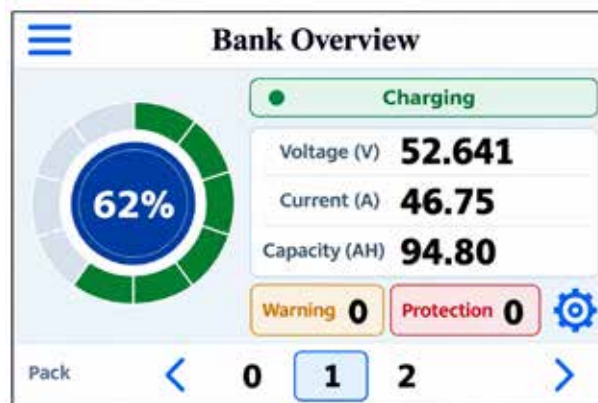
This screen appears when the battery is powered on and displays the KENT New Energy branding.



7.2 Battery Main State Page

This page automatically appears after boot-up and displays:

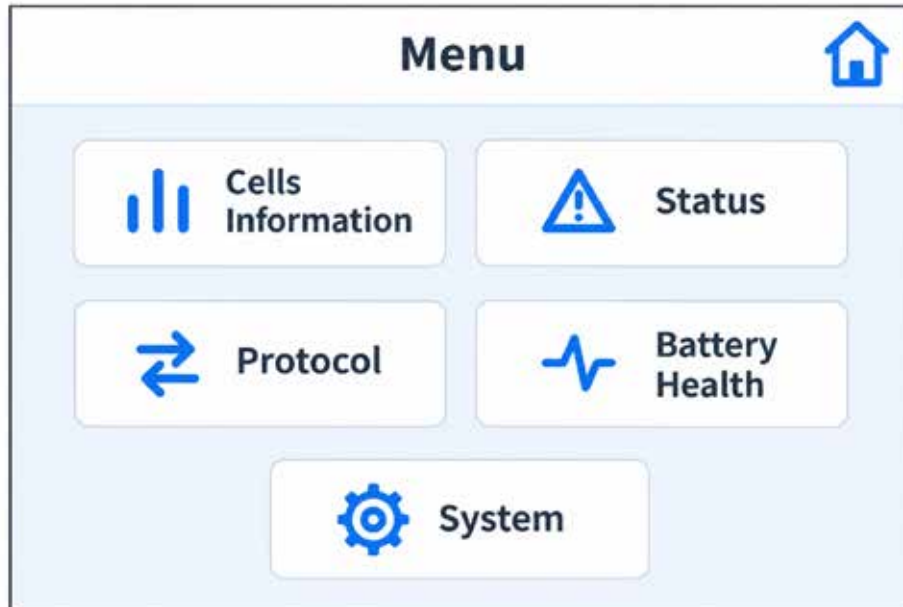
- State of Charge (SoC %)
- Battery Voltage (V)
- Battery Current (A)
- Remaining Capacity (Capacity)
- Number of Warnings Triggered
- Number of Protections Triggered
- Parallel Battery Data Screen Selection (1,2,3....15)



7.3 Menu Page

The menu page allows navigation to the following information:

- Cell Information – voltage and temperature
- Status – alarm, protection, and fault
- Inverter Protocol Selection
- System – language selection and serial number lookup



7.4 Cell Information Page

Displays all individual cell voltages, cell temperature, MOSFET temperature, and environment temperature.

The left screenshot shows the 'Cells Information' page with a table of 16 cell voltages. The right screenshot shows the 'Cells Information' page with temperature readings.

Cells Information			
Voltage (mV)		Temperature (°C)	
Cell 1	3246mV	Cell 7	3246mV
Cell 2	3246mV	Cell 8	3246mV
Cell 3	3246mV	Cell 9	3246mV
Cell 4	3246mV	Cell 10	3246mV
Cell 5	3246mV	Cell 11	3246mV
Cell 6	3246mV	Cell 12	3246mV
Cell 13	3246mV	Cell 14	3246mV
Cell 15	3246mV	Cell 16	3246mV

Cells Information	
Temperature (°C)	
Mosfet	27.8 °C
Ambient	27.8 °C
Sensor 1	27.8 °C
Sensor 2	27.8 °C
Sensor 3	27.8 °C
Sensor 4	27.8 °C

7.5 Battery Health Page

Display Cell Spread (mV), Highest Cell Voltage, Lowest Cell Voltage, Cycle count and Highest Temperature of each pack.



7.6 Status Page

Displays all VIT (voltage/current/temperature) warnings, all VIT protections, and sensor faults.



7.7 Protocol Selection Page

Allows selection of the inverter communication protocol:

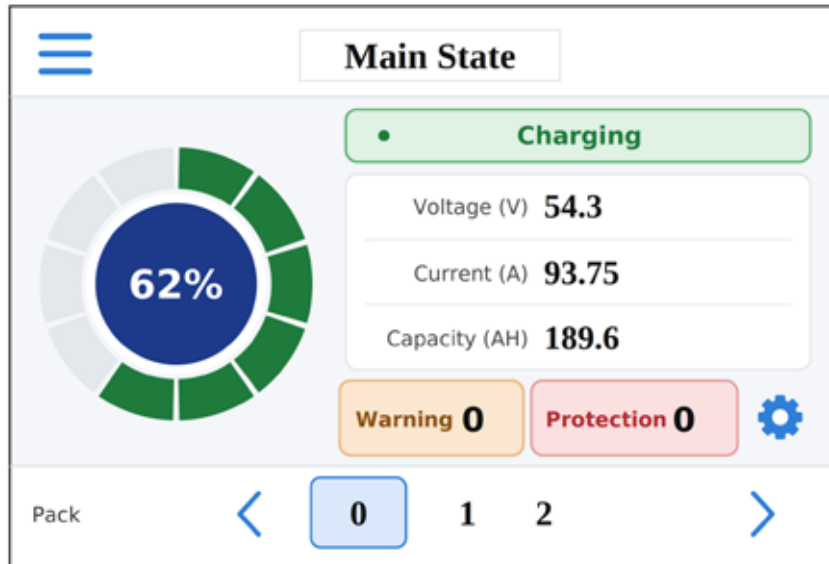
- RS485 – to select the inverter protocol
- CAN – to select the inverter protocol

Note: A password is required to change the protocol (see Section 7.7). Touch the designated area to enter the password. (Default Password : 82993060)

8 Parallel Battery Pack Information

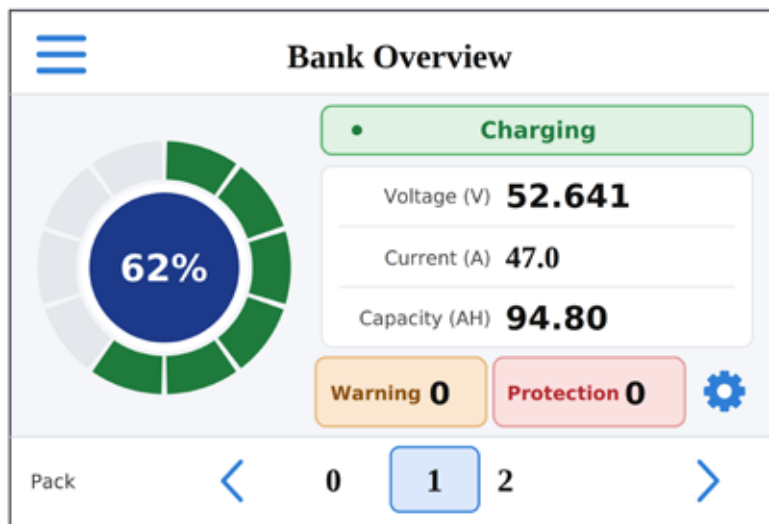
Main State Screen ("0")

- Average SoC % of the parallel batteries
- System voltage
- System current
- Bank remaining capacity as "Capacity"
- Bank total number of alarms and protections



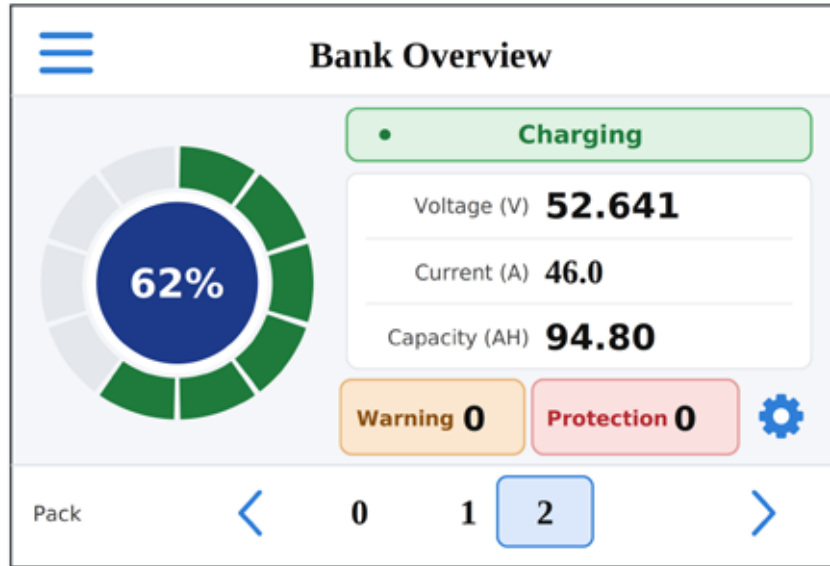
Address 1 Battery Screen ("1") - Bank Overview

Displays the details of the individual battery with the selected address set to "1". The user can view the cell voltages, temperature, current, alarms, protections, and faults of the individual battery by selecting the respective screen after selecting "1".



Address 2 Battery Screen ("2") - Bank Overview

Displays the details of the individual battery with the selected address set to "2". The user can view the cell voltages, temperature, current, alarms, protections, and faults of the individual battery by selecting the respective screen after selecting "2".



9. Display and Screen Functions – Hindi

The KENT F1 touchscreen display can also be operated in Hindi. The interface language is changed from the System Settings page (see Section 7.8) by selecting "fgUnh" (Hindi). The screens below show the Hindi-language equivalents of the corresponding English screens in Section 7, with the same functions, values, and navigation.

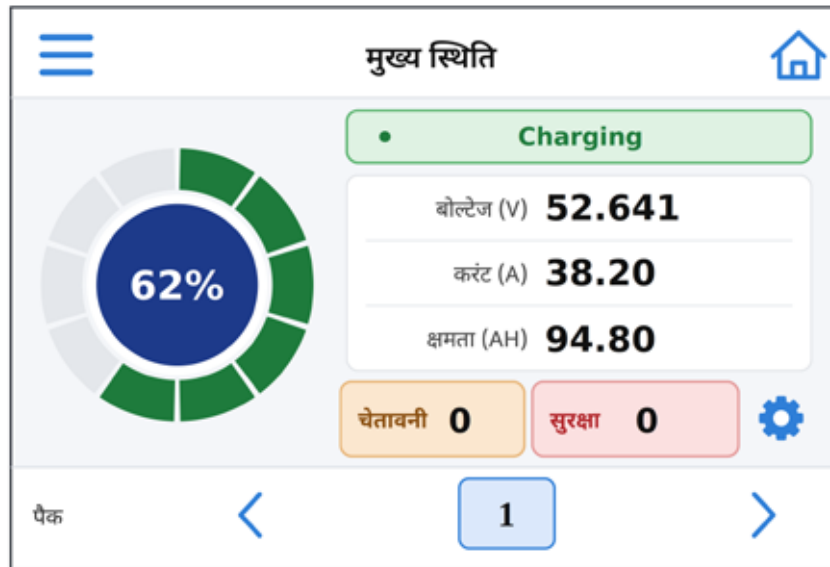
9.1 Boot-Up Screen (cV&v i)

Equivalent to Section 7.1. Displayed when the battery is powered on.



9.2 Battery Main State Page (e[; fLFkfr)

Equivalent to Section 7.2. Displays SoC %, voltage, current, remaining capacity, and the number of warnings and protections triggered.



9.3 Menu Page (मेनु)

Equivalent to Section 7.3. Provides navigation to Cell Information (सेल जानकारी), Status (स्थिति), Protocol (प्रोटोकॉल), and System (सिस्टम).



9.4 Cell Information Page (lly t kudkj)

Equivalent to Section 7.4. Displays individual cell voltages (बोल्टेज) and cell/MOSFET/environment temperatures (तापमान) under separate tabs.

The first screenshot shows the 'सेल जानकारी' (Cell Information) page with two tabs: 'बोल्टेज (mV)' (Voltage) and 'तापमान (°C)' (Temperature). The 'बोल्टेज (mV)' tab is active, displaying a table of 16 cells, all showing 3246mV.

Cell	Voltage (mV)	Cell	Voltage (mV)	Cell	Voltage (mV)
Cell 1	3246mV	Cell 7	3246mV	Cell 13	3246mV
Cell 2	3246mV	Cell 8	3246mV	Cell 14	3246mV
Cell 3	3246mV	Cell 9	3246mV	Cell 15	3246mV
Cell 4	3246mV	Cell 10	3246mV	Cell 16	3246mV
Cell 5	3246mV	Cell 11	3246mV		
Cell 6	3246mV	Cell 12	3246mV		

The second screenshot shows the same 'सेल जानकारी' (Cell Information) page with the 'तापमान (°C)' (Temperature) tab active. It displays a table of temperatures for Mosfet, Ambient, and four sensors, all showing 27.8 °C.

Component	Temperature (°C)
Mosfet	27.8 °C
Ambient	27.8 °C
Sensor 1	27.8 °C
Sensor 2	27.8 °C
Sensor 3	27.8 °C
Sensor 4	27.8 °C

The screenshot shows the 'बैटरी हेल्थ' (Battery Health) app interface. At the top, there is a blue back arrow on the left and a blue house icon on the right. The main content area is divided into six white rounded rectangular boxes arranged in a 3x2 grid. The left column contains three boxes for voltage metrics: 'सेल अंतर (mV)' with value '38', 'उच्चतम सेल (mV)' with value '3130', and 'न्यूनतम सेल (mV)' with value '3092'. The right column contains two boxes: 'चक्र संख्या' with value '3' and 'अधिकतम तापमान (°C)' with value '26.3'. At the bottom, there is a blue bar with the word 'पैक' (Pack) on the left, a blue back arrow in the center, and a blue box containing the number '1' on the right, followed by a blue forward arrow.

पैक	सेल अंतर (mV)	उच्चतम सेल (mV)	न्यूनतम सेल (mV)	चक्र संख्या	अधिकतम तापमान (°C)
1	38	3130	3092	3	26.3



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