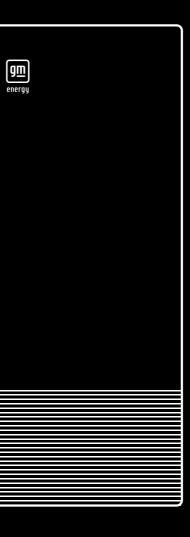


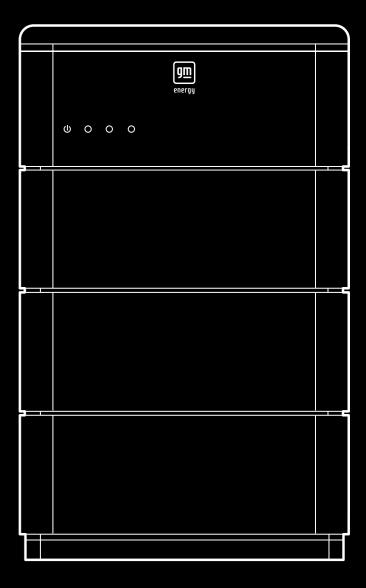
# Storage Bundle

### A reference guide for owners of:

- The GM Energy Home Hub and the GM Energy Inverter
- The GM Energy PowerBank







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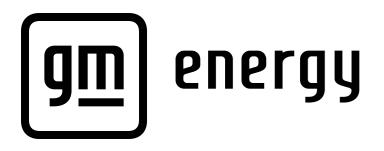
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## WELCOME

### Congratulations on Choosing the GM Energy Storage Bundle

This guide is designed to familiarize you with the GM Energy **Storage Bundle**, which stores energy from the grid or compatible solar panels and manages the flow of power between the GM Energy PowerBank and your home. In this User Manual, you will find a component overview, how-to tips, troubleshooting information and more. In the back of this User Manual, you'll find a list of common questions, as well as a **Glossary** of terms used here and in other GM Energy resources.

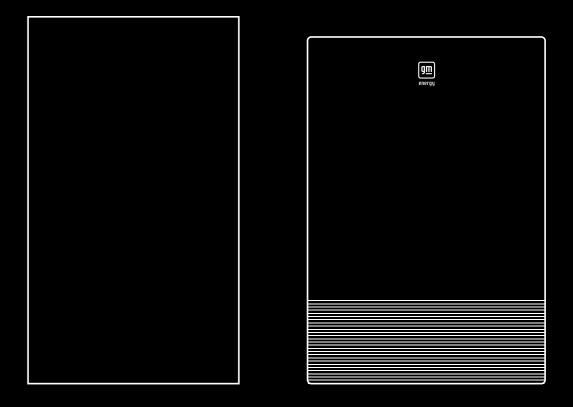


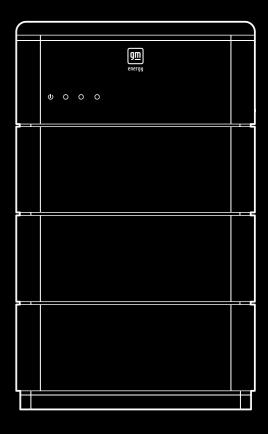
#### Note:

This manual describes a system without a GM Energy PowerShift Charger and without bidirectional charging capabilities (with Compatible GM EVs). This system can be upgraded so that Compatible GM EVs can be charged with a GM Energy PowerShift Charger (must be purchased separately).

### How to use this interactive PDF

Use the **Arrow Buttons** to navigate between pages, or use the **Home Button** to return to the **Table of Contents**.







# **IMPORTANT SAFETY INSTRUCTIONS**

### **Save These Instructions**

To prevent the risk of PROPERTY DAMAGE, SERIOUS INJURY or DEATH, read and follow all warnings, safety precautions and instructions in this User Manual and each component Installation and Operation Manual. Keep this User Manual for future reference.

The GM Energy Home Products should be installed only by a licensed contractor and/or a licensed electrician in accordance with all applicable state, local and national electrical codes and standards. Installer must also complete Manufacturer's Certification prior to installation or repair of the GM Energy PowerBank.

After installation, it's recommended that your system is connected and commissioned with a secure Wi-Fi network.

In the event of a fire in or around the components, evacuate the premises and contact local emergency services.

#### **A**WARNING

Please read the instructions carefully and follow all safety precautions in each Installation and Operation manual before using these products. Potentially hazardous circumstances may occur due to improper operating conditions, damage, misuse and/or abuse. Access these manuals on the GM Energy website <u>https://gmenergy.gm.com/for-home/installation-support</u>.

#### 

To reduce risk of serious burns, explosion, fire, electric shock or other serious injury:

- Do not attempt to open any equipment unless otherwise directed by this User Manual
- Do not attempt to use any part of the system or fix/alter any components. Visually inspect cables, connectors and housings for damage before each use. If any part of the system or its components appear to be damaged, contact the GM Energy Customer Support Center
- Do not store any flammable liquids or gases or other potentially explosive objects on or near the system or its components
- Do not expose any of the equipment to direct flames
- Do not submerge the equipment in water
- Do not use high-pressure water to clean the equipment

- Do not clean the equipment with harsh cleaning chemicals
- Do not remove any labels from the system or installed components
- Do not place foreign objects on top of any of the installed components
- Do not lean any foreign objects on any of the installed components
- Ensure proper clearances are maintained in the area surrounding the installed components
- Ensure components are installed and maintained in areas with proper ventilation
- Do not attempt to alter the wiring of the components. Incorrect wiring can lead to high-voltage exposure

### **A**WARNING

The GM Energy Home equipment should not be used as a primary or backup power source for medical equipment or any other products in which failure could lead to injury or loss of life.

### 

Do not leave children unattended or unsupervised around chargers or other power or power storage devices.

### 

This product can expose you to chemicals which are known to the State of California to cause cancer and which are known to the State of California to cause birth defects or other reproductive harm. For more information, go to <u>www.P65Warnings.ca.gov</u>.

### 

Do not paint the components. Changing the color of the external-facing surfaces can degrade the product life.



# **IMPORTANT SAFETY INSTRUCTIONS**

### GM Energy PowerBank

#### **A**WARNING

There is a risk of explosion when the GM Energy PowerBank is heated above 302 F (150 C). When a GM Energy PowerBank is burning, it will leak poisonous gases. Do not approach a burning GM Energy PowerBank. Evacuate the premises and contact the local emergency authorities immediately.

### WARNING

Damaged batteries are dangerous and must be handled with extreme caution. They are not fit for use and may pose a danger to people or property. If the GM Energy PowerBank seems to be damaged, contact the GM Energy Customer Support Center.

- The GM Energy PowerBank should only be serviced by qualified personnel
- The electronics inside the GM Energy PowerBank are vulnerable to electrostatic discharge
- Do not rest or place the GM Energy PowerBank upside down at any time
- Do not charge or discharge a damaged GM Energy PowerBank

- Only use the GM Energy PowerBank with the GM Energy Inverter
- Disposal of the GM Energy PowerBank should be carried out by an expert with specialized knowledge and experience in electrical and environmental safety, in accordance with all applicable laws and regulations, at designated waste disposal facilities using safe and appropriate methods

#### WARNING

The GM Energy PowerBank is designed to meet North American safety standards. To prevent the risk of electrical shock and ensure proper long-term operation of the system, read and follow all instruction manuals and safety precautions. Service must be performed by a qualified person pursuant to the National Electric Code, local building codes and local ordinances.

### **A**WARNING

#### **Response to Emergency Situations**

**Fire:** If a fire breaks out at the location where the GM Energy PowerBank is installed, evacuate the premises and contact the local emergency authorities immediately. In the event of a fire near the battery or if the GM Energy PowerBank is on fire, do not attempt to extinguish the fire. Immediately evacuate all individuals from the premises. If it is safe to do so, the user should disconnect the GM Energy PowerBank circuit breaker to shut off the power to charge.

**Flooding:** If any part of the GM Energy PowerBank, GM Energy Inverter or wiring is submerged, stay out of the water and do not touch anything. Do not use the submerged GM Energy PowerBank again. If it is safe to do so, the user should disconnect the GM Energy PowerBank circuit breaker to shut off the power to charge. Contact your service engineer for assistance or contact the emergency authorities if you consider there to be any risk.

For instructions on shutting off the GM Energy PowerBank, refer to Getting to Know Your System.

### Federal Communications Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.



### Each Component Has a Job

Your GM Energy Storage Bundle integrates a number of GM Energy components that work together to store and distribute power from the grid or compatible solar panels as desired. During a power outage, it can automatically send power to your home. These components have been designed to work together in a safe, convenient and reliable way, but each has a specific job to do.

#### GM Energy PowerBank

- Stores energy from the grid or compatible solar panels
- Works with the GM Energy Inverter e1.11 to power your properly equipped home as a source of power during an outage or when energy costs are high
- Offered in three sizes: 10.6 kWh, 17.7 kWh and 35.4 kWh. Note that the 35.4 kWh product offering includes two 17.7 kWh components
- Integrates seamlessly with the GM Energy V2H Enablement Kit

### Note:

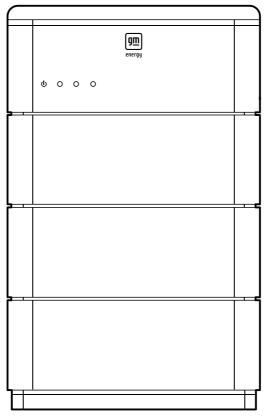
Not all solar panels are compatible with the GM Energy Storage Bundle.

#### The GM Energy V2H Enablement Kit

- Includes the GM Energy Home Hub e1.200 and GM Energy Inverter e1.11
- Enables the GM Energy PowerBank to send power (stored from the grid or compatible solar panels) to your home when electricity rates are high or during a power outage

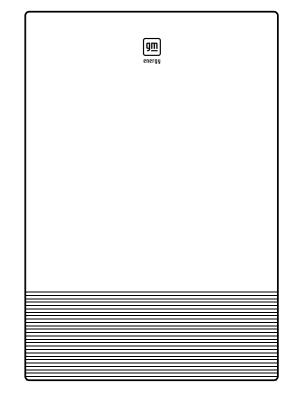
#### More information about each component follows.





#### **GM Energy Home Hub**

#### **GM Energy Inverter**





### GM Energy PowerBank

The GM Energy PowerBank gives you the peace of mind that comes with energy freedom. Capture and store your own energy to use when you need to send power back to your home. It may even help lower your electric bills if used when utility prices surge.

- Automatically directs power to your home in the event of a power outage
- Able to integrate seamlessly with your Compatible GM EV as a backup power source (when paired with a GM Energy PowerShift Charger)
- Automatically manages its charging modes, whether during a power outage or after power is restored to the grid
- Has potential to save money on energy bills by shifting power usage to off-peak times
- Seamlessly integrates with compatible solar power systems and GM Energy Inverter, enabling you to store renewable energy
- Lets you conveniently manage the flow of power to and from your home using your GM Vehicle's mobile app (myChevrolet, myBuick, myGMC or myCadillac). See the <u>Using Your GM Vehicle's Mobile App</u> section

- Available in three sizes to fit your needs; each operates in the same way and delivers similar functional benefits, but with increasing levels of storage capacity
  - 10.6 kWh Maximum charge/discharge on grid/off grid: 5 kW
  - 17.7 kWh Maximum charge/discharge on grid/off grid: 7 kW
- 35.4 kWh Maximum charge/discharge on grid: 11.5 kW; off grid: 9.6 kW\*

#### Shutting off the GM Energy PowerBank

In the event of an emergency or malfunction, you may want to shut off the GM Energy PowerBank. To turn off this component, follow these steps:

### **A**WARNING

To reduce risk of serious burns, explosion, fire, electric shock or other serious injury, only shut off the GM Energy PowerBank if it is safe to do so. If the GM Energy PowerBank appears to be damaged, contact the GM Energy Customer Support Center.

1. Turn off the GM Energy Inverter

- 2. Open the front cover and circuit breaker cover on the GM Energy PowerBank
- 3. Turn off the component by flipping the circuit breaker switch to OFF
- 4. After 60 seconds have passed, make sure all LED indicator lights have turned off. This indicates that GM Energy PowerBank has fully shut off
- 5. Close the circuit breaker cover and front cover

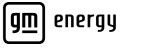
\*Power output will be limited by the GM Energy Inverter.

# (EU0407N00B\_5S) 17.7 kWh ß₪ 0 0 0 0 GM Energy PowerBank e1.10 (EU0407N00B\_3S) 10.6 kWh **g**<u>m</u> energy 0000



#### Note:

The **GM Energy PowerBank 35.4 kWh** storage capacity consists of two 17.7 kWh units.



GM Energy PowerBank e1.17

### GM Energy Home Hub

### WARNING

The GM Energy Home equipment should not be used as a primary or backup power source for medical equipment or any other products in which failure could lead to injury or loss of life.

During a power outage, the GM Energy Home Hub safely disconnects your home from the local power grid and enables backup power to flow from the GM Energy Inverter throughout your home. The GM Energy Home Hub has circuit breakers inside just like a main service panel.



Depending on your home's unique installation, certain appliances or circuits may not be powered during backup power mode.

#### You determine your experience

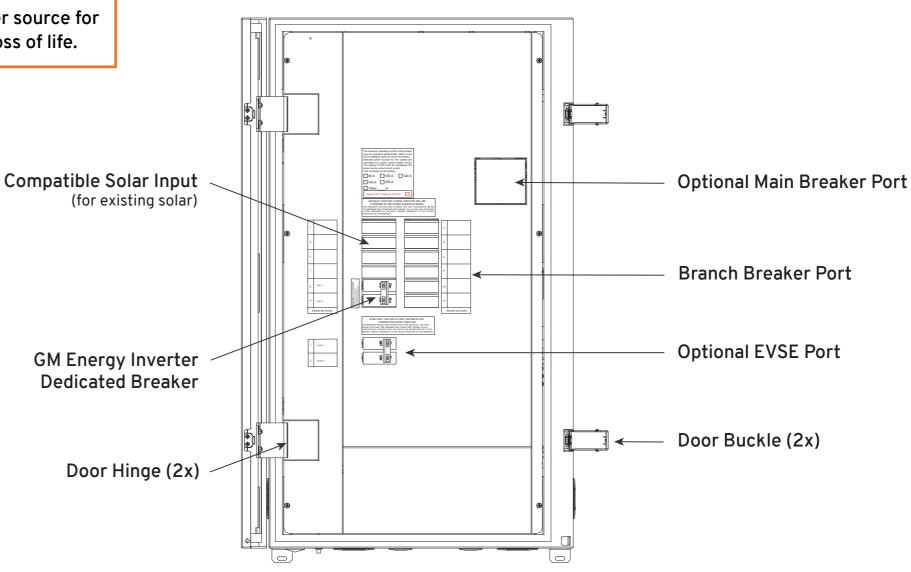
- The GM Energy Home Hub can be installed using a number of configurations. When your system was installed, your installer should have walked you through the modifications that were made to your home's electrical system
- For more information on your system's unique setup, view the inside cover of the GM Energy Home Hub. Note that there is a dedicated breaker for the GM Energy Inverter and also for any compatible solar input. For further information, contact your installer or the GM Energy Customer Support Center
- To optimize your experience, consider which appliances draw a lot of power or are prone to power surges so that you can avoid disrupting the discharging session

Find more information about how to check the GM Energy Home Hub in **Troubleshooting Tips.** 



#### Note:

In some technical documents, the GM Energy Home Hub may be referred to as an **MID** (Microgrid Interconnect Device).





**Note:** Latches on the GM Energy Home Hub door have been fitted with covers; users may remove covers if desired.



### **GM Energy Inverter**

In general terms, an inverter is an electrical system that converts between direct current (DC) power from a battery, compatible solar panels or electric vehicle and alternating current (AC) power that can be safely used to power homes, appliances and other electrical devices. Your GM Energy Inverter is also designed to regulate how much power is being discharged from your GM Energy Storage Bundle (either the GM Energy PowerBank or compatible solar panels) during an outage or for on-demand use.

#### **Solar Disconnect Switch**

• The red knob on the bottom can be used to stop power from compatible solar panels wired directly to the GM Energy Inverter from being sent to your home without disrupting energy flow from the rest of the system. This disconnect switch should only be used by qualified service and installation technicians

#### **GM Energy PowerBank Wake-Up Button**

• The red button on the bottom of the GM Energy Inverter is only needed in certain circumstances to power up the GM Energy Storage Bundle during a power outage

### Note:

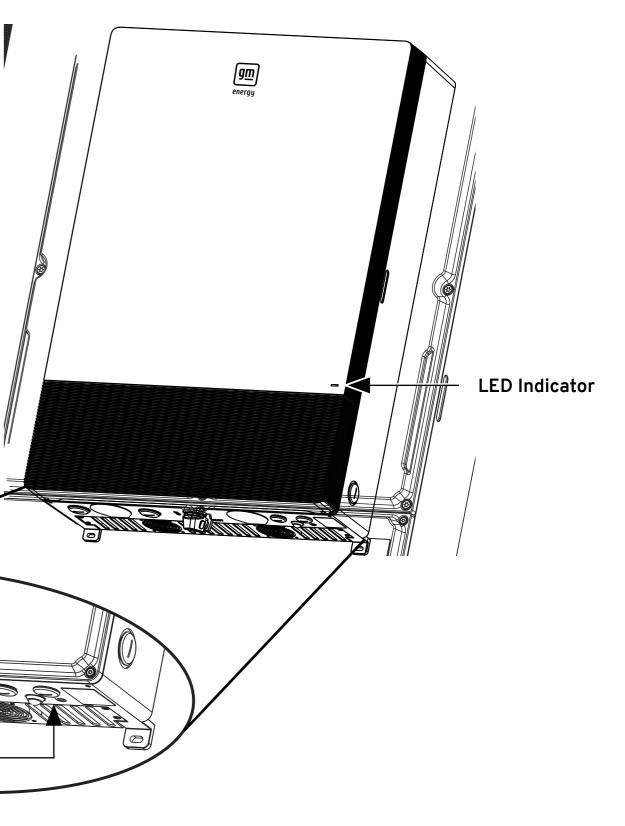
In some technical documents, the GM Energy Inverter may be referred to as a BDI (Bidirectional Inverter).

#### The LED Indicator

- Located on the front panel
- Indicates your GM Energy Inverter's performance status by flashing different colors and codes that denote its operating mode
- When fully operational, the LED will display a solid green light. (Find more information in the **Decoding the Blinking LED Lights** section)

Solar Disconnect Switch

GM Energy PowerBank Wake-Up Button





### **Troubleshooting Tips**

### 

To reduce risk of serious burns, explosion, fire, electric shock or other serious injury, visually inspect the system and its components for any damage before each use. Do not attempt to use any part of the system or fix/alter the components if the system appears physically damaged.

### 

The GM Energy PowerBank is designed to meet North American safety standards. To prevent the risk of electrical shock and ensure proper long-term operation of the system, read and follow all instruction manuals and safety precautions. Service must be performed by a gualified person pursuant to the National Electric Code, local building codes and local ordinances.

### The Power Goes Out – Your GM Energy PowerBank Is Ready to Go

Because your GM Energy Storage Bundle includes the GM Energy PowerBank, your home will be automatically backed up in the event of a power outage.

- The GM Energy PowerBank will automatically provide power to your home (unless it has been previously depleted)
- The GM Energy PowerBank has a quick response time to grid outages, so home backup should be initiated in approximately five seconds
- Use your vehicle's mobile app to monitor how much estimated battery power is remaining
- Once grid power is restored, the system will automatically return to the normal charging operation no action on your part is required

### Note:

If none of these troubleshooting tips resolve issues, contact the GM Energy Customer Support Center.

#### Troubleshooting

Check the LED indicators on the front of the GM Energy PowerBank to determine its status. (Find more information in the Decoding the Blinking LED Lights section.) A warning state is triggered when a condition, such as with voltage or temperature, is beyond design limitations.

- immediately stop operation
- Support Center for assistance

### The Power Goes Out and Stays Out – Your GM Energy PowerBank Is Getting Low

- Using Your GM Vehicle's Mobile App section)

### The Power Goes Out – Your GM Energy PowerBank Is Not Discharging Power to Your Home

If you believe your GM Energy PowerBank is charged, but it is not automatically discharging power to your home, it is advisable to contact the GM Energy Customer Support Center for assistance.

place your call for assistance

• The GM Energy PowerBank reports its operating status to the GM Energy Inverter. When the GM Energy PowerBank falls outside prescribed limits, it enters a warning state. When a warning is reported, the GM Energy Inverter may

• The warning state is cleared when the GM Energy PowerBank recovers normal operation

• If the GM Energy PowerBank is not working correctly and the issue persists, contact the GM Energy Customer

• To protect your GM Energy PowerBank from fully depleting its energy stores in the event of a power outage, the system will reserve a small amount of remaining energy to allow it to wake up

• Use your vehicle's mobile app to monitor the estimated battery reserve level. (Find more information in the

• If the GM Energy Storage Bundle uses up its available stored power, it will discontinue discharging energy to your home. It will immediately return to the normal charging operation when power is restored

• It is helpful to note the status of the LED indicators on the GM Energy PowerBank and report this when you



### **Troubleshooting Tips**

### **A**WARNING

Do not attempt to use any part of the system or fix/alter the components if the system appears physically damaged. Contact the GM Energy Customer Support Center for help at 1-833-64POWER.

Here are some typical scenarios you might encounter, with simple, do-it-yourself fixes to try. Know that you can always contact the GM Energy Customer Support Center for any reason.

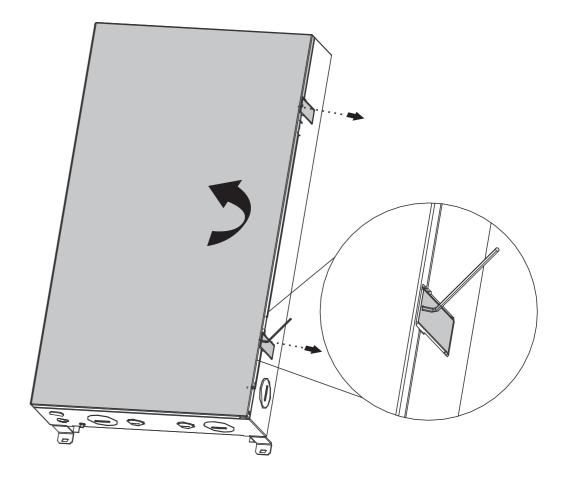
#### My GM Energy PowerBank was sending power to my home but then power suddenly kicked off.

- Your GM PowerBank has met its preset reserve level
- You may have plugged in something that caused a surge in the power draw – such as a compressor, hair dryer or AC unit – which overloaded the system
- Verify the system is overloaded by looking for a blinking red light on the GM Energy Inverter. This indicates that more power is being drawn than the system can handle. (Find more information in the <u>Decoding the Blinking LED Lights</u> section)
- The system is designed to restore power automatically and will keep trying to restart in brief intervals (starting at 10 seconds with a 10-second increase with each passing interval). If the power turns on but then kicks back off, try unplugging the appliance most recently used. Or, if you prefer, turn off other devices drawing large amounts of power. The solution is to lower your total power consumption so that the system stays on

#### My backup power is working, but only some of the circuits or appliances in my home have power.

It is possible that these circuits or appliances are not designed to work during a backup power session. Your installer should communicate which circuits will and will not work during backup power mode. If the circuit should be working during backup mode, it is possible the circuit breaker has tripped.

- If only some appliances don't have power, it could indicate a tripped circuit breaker. Circuit breakers are designed to shut off whenever something tries to draw more power than the wires can safely handle
- Check for tripped circuit breakers on the GM Energy Home Hub or the other electrical panels in your home
- Open the front cover of your GM Energy Home Hub to see if you've tripped a circuit. You may need a 1/8-inch Allen wrench or screwdriver to flip open the two latches securing the cover
- The GM Energy Home Hub has labels inside the cover to tell you what each circuit controls (this was determined by your installer at installation)
- If a circuit breaker has been flipped off, check the label to identify the source of trouble
- Investigate and turn off or unplug anything that could be putting excessive demand on that line
- If you have tried troubleshooting on your own and still experience issues with your system, contact the GM Energy Customer Support Center for help





#### Note:

Latches on the GM Energy Home Hub door have been fitted with covers; users may remove covers if desired.



#### Note:

If your concern relates to a blinking LED light, see the next section on **Decoding the Blinking LED Lights**.

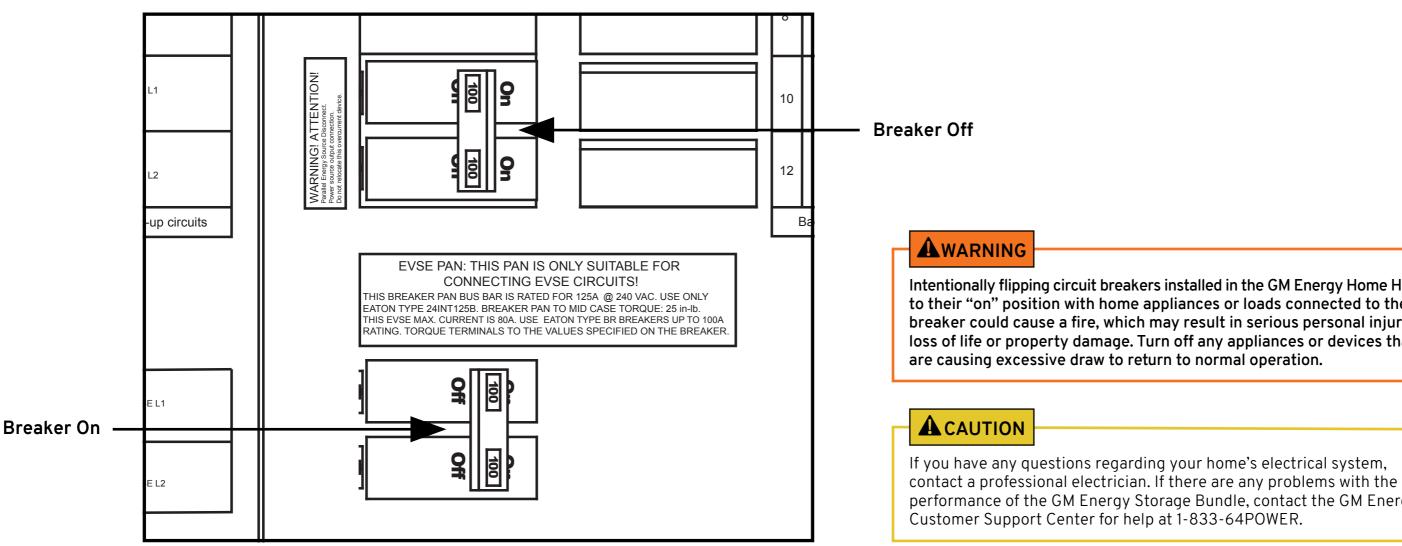


### **Troubleshooting Tips**

#### My power came back on, but only some of the circuits or appliances in my home have power.

If you still have issues, it's possible that a regular home circuit breaker was tripped (when the home was not in backup mode).

- Check your home's circuit board to reset any tripped circuit breakers
- Turn off any appliances that may be causing an excessive power draw



Intentionally flipping circuit breakers installed in the GM Energy Home Hub to their "on" position with home appliances or loads connected to the breaker could cause a fire, which may result in serious personal injury, loss of life or property damage. Turn off any appliances or devices that

performance of the GM Energy Storage Bundle, contact the GM Energy

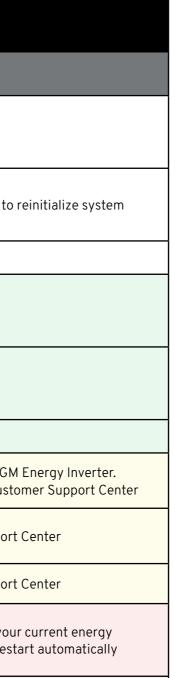


### Decoding the Blinking LED Lights

# GM Energy Inverter LED Indicator

Color	Behavior	Definition	Recommended Action
	Steadily Blinking (1 second on, 1 second off)	OTA (over-the-air) software update is in progress	No action required
White*	Slowly Blinking (1 second on, 4 seconds off)	Deep Sleep Mode	Press the GM Energy PowerBank Wake-Up Button to
	Solid	GM Energy Inverter is initializing after a reset	No action required
	Steadily Blinking (1 second on, 1 second off)	A charge or discharge session is starting up	No action required
Green	Slowly Blinking (1 second on, 4 seconds off)	ldle/standby	No action required
	Solid	Normal operation – the system is converting power	No action required
	Steadily Blinking (1 second on, 1 second off)	Battery fault mode (GM Energy PowerBank or GM Energy Dark Start Battery)	Try pressing the red button at the bottom of the GM If the light remains yellow, contact the GM Energy Custo
Yellow	Slowly Blinking (1 second on, 4 seconds off)	GM Energy Inverter warning	Contact the GM Energy Customer Support
	Solid	Equipment alarm	Contact the GM Energy Customer Support
	Irregular Blinking (0.5 seconds on, 0.5 seconds off, 2 seconds on, 0.5 seconds off)	Over current protection fault – more power is being drawn than the system can handle (such as by an AC unit, welding kit, etc.)	Try turning off appliances and devices to lower you consumption. The backup power session should rest
Red	Rapid Blinking	Ground fault – indicates a possible wiring issue	Contact the GM Energy Customer Support
	Solid	Arc fault – indicates a possible wiring issue	Contact the GM Energy Customer Support

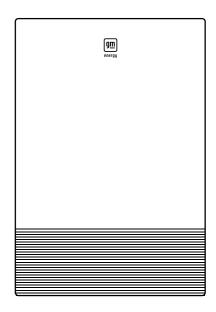
\*The white LED may appear slightly light blue under certain lighting conditions.



#### ort Center

ort Center

### GM Energy Inverter



### AWARNING

A red LED light indicates an error or issue that may cause a hazardous situation.

To reduce the risk of serious burns, explosion, fire, electric shock or other serious injury, do not attempt to open any equipment or fix/alter any components, and follow the recommended action noted.



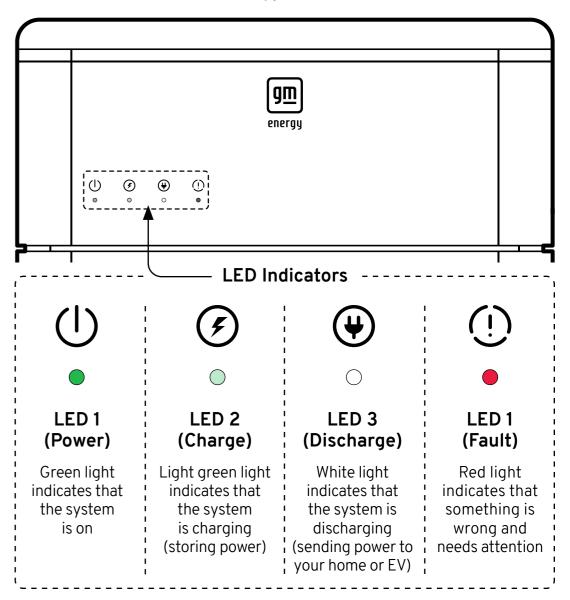
13

### Decoding the Blinking LED Lights

The top-most section of the GM Energy PowerBank is called the Battery Control Unit (BCU). It features four LED indicators with symbols that help you monitor its status.

GM Energy PowerBank LED Indicators								
Status		LED 1 (Power)	LED 2 (Charge)	LED 3 (Discharge)	LED 4 (Fault)			
Power on (Max. 14 seconds)		( <u>)</u> •	€ ○	<b>€</b> ○	() •			
	Ready	( <u>)</u> •						
	Charge	( <u>)</u> •	€ ○					
	Discharge	( <u>)</u> •		<b>₩</b> ○				
Normal	Fault 1	(Every 3s)						
	Fault 2	( <u>)</u> •			() •			
	Power-Saving	(Every 10s)						
	Updating	(Every 1s)						
OTA/Software Update	Update Complete	( <u>)</u> •	€ ○	•				
	Update Failed		( <b>F</b> ) 0	<b>₩</b> ○	() •			

#### GM Energy PowerBank



### AWARNING

A red LED light indicates an error or issue that may cause a hazardous situation.

To reduce the risk of serious burns, explosion, fire, electric shock or other serious injury, do not attempt to open any equipment or fix/alter any components, and contact the GM Energy Customer Support Center.



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# USING YOUR GM VEHICLE'S MOBILE APP

Built into GM Vehicle's mobile app (myChevrolet, myBuick, myGMC or myCadillac)\* is a dedicated interface between you and your GM Energy Storage Bundle. After your GM Energy Storage Bundle is installed and commissioned by your installer, you will need to download the app and complete the setup.

### Note:

"Commissioned" refers to the step in the installation process that turns the system on, updates system settings and connects the system to your Wi-Fi network. After installation, it's recommended that your system is connected and commissioned with a secure Wi-Fi network. Final approval to operate may be dependent on inspections by local jurisdiction representatives.



### **First-Time Setup**

- If you haven't already, download your vehicle's mobile app (myChevrolet, myBuick, myGMC or myCadillac) and log in to the system using the account used to purchase your GM Energy Storage Bundle
- A link for your GM Energy Storage Bundle should appear on the app's home page (next to your vehicle) within 24 hours of **commissioning**
- If you don't see a link, you can register your system by tapping the "Add Product" link on your account page and selecting your home energy product from the list
- Follow instructions on the app to register your system and connect to your home network and complete the guided setup
- Your GM Energy Storage Bundle password can be found in your GM Energy Home Hub Quick Installation Guide. If misplaced, the password is available by calling the GM Energy Customer Support Center
- If your hardware does not show up in your phone network settings, please reboot the system by pressing the Power Button on your charger for 10 seconds

### Why You Need the App

This app is your essential connection to the GM Energy Storage Bundle, providing a dashboard for the current status of all related charging systems. and components. You can use the app to:

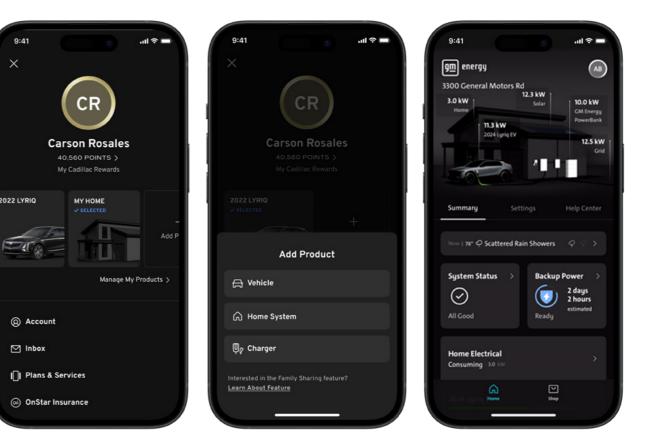
- View the status of your GM Energy PowerBank charging system
- Set your charge status to take advantage of peak and off-peak charging hours to help save on energy costs. The system will automatically optimize charging based on your input
- View the status of your GM EV's vehicle-to-home charging system (If you have this product offering)

- See your estimated backup time if a power outage were to occur\*\*
- See real-time charge and discharge power and home load consumption
- Review all of this real-time data when you are away from home
- Configure wireless network settings

To take full advantage of this robust app, open it up and familiarize yourself with its many feature benefits.

#### Note:

For unique installations, your grid power reading in your app may not represent your total power imported from the grid. Check with your installer to confirm metering placement.





<sup>\*</sup>Available on select Apple and Android devices. Service availability, features and functionality vary by vehicle, device and the plan you are enrolled in. Terms apply. Device data connection required. Actual images and features may vary and are subject to change. \*\*Weather conditions, life of the battery, energy efficiency of appliances and other external factors may impact the duration of time. Results may vary. Length of time may vary depending on energy usage.

# USING YOUR GM VEHICLE'S MOBILE APP

## **GM Energy PowerBank Operation Modes**

Control is at your fingertips with the GM Energy PowerBank. Whether your component is equipped with compatible solar panels or not, you have a variety of energy-managing operation modes to choose from. Adjust your operation modes and settings using your vehicle's mobile app.

To access the Operational Mode settings, open the mobile app to the Home Energy Dashboard. Scroll and select the GM Energy PowerBank tile. From there, click settings, then open the Operational Mode page.

#### My GM Energy PowerBank does not have solar panels

Even without solar panels, the GM Energy PowerBank has two operation modes.

- 1. Backup Only: Have peace of mind when your power goes out. Backup Only mode will fully charge your GM Energy PowerBank, storing energy to use in the event of an outage
- 2. Time of Use Discharge: Help save on energy costs by charging your GM Energy PowerBank during off-peak times and discharging when prices are high

#### My GM Energy PowerBank does have solar panels

When the GM Energy PowerBank is equipped with compatible solar panels, you have three operation modes to choose from.

- 1. Backup Only: Have peace of mind when your power goes out. Backup Only mode will fully charge your GM Energy PowerBank, storing energy to use in the event of an outage
- 2. Time of Use Discharge: Help save on energy costs by charging your GM Energy PowerBank during off-peak times and discharging when prices are high
- 3. Self-Consumption: Reduce your grid power consumption by charging your GM Energy PowerBank from compatible solar panels only, which can power your home even when the sun isn't shining. This mode requires your system to have solar integration

#### Additional settings

- Battery Reserve: Select the State of Charge (SoC) you want to reserve for use during a power outage. The GM Energy PowerBank will not discharge below this value except during an outage
- Allow Grid Export: Turn this on to allow power from your GM Energy PowerBank to export to the grid. Turn this off to only send power from the GM Energy PowerBank to your home
- Charge Battery From Grid: Turn this on to allow your GM Energy PowerBank to charge from the grid as well as solar panels. Turn this off to charge the GM Energy PowerBank with solar power only GM Energy PowerBank with solar power only

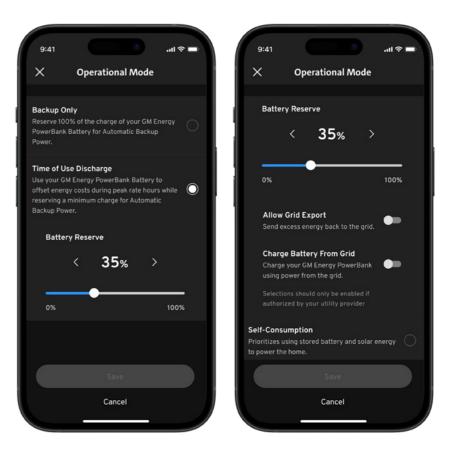


#### Note:

There may be power or mode limitations for your GM Energy PowerBank based on your specific setup. These limitations are set at commissioning based on your utility and other factors. Please refer to your installer or support center for any questions about these limitations.

### Note:

The GM Energy Inverter may reserve up to 10% State of Charge (SOC) of GM Energy PowerBank units to ensure proper system operation.





# OVER-THE-AIR UPDATES (OTA)

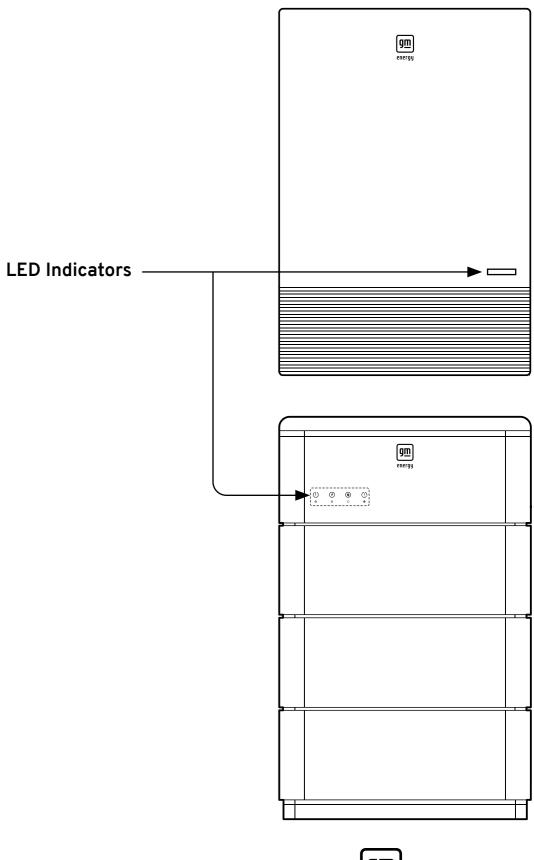
The GM Energy Storage Bundle is designed to install software updates automatically, using wireless technology so as not to inconvenience the user. After the update is finished, the system will reboot. Depending on the type of update, the lights in the home may flicker briefly.

#### An OTA update:

- Is designed to work over the life of the system to improve features and fix minor bugs
- Is indicated by a blinking white LED light on the GM Energy Inverter
- The LED indicators will return to a solid green light when the download is complete
- Is indicated by a blinking green light under the power symbol on the GM Energy PowerBank
- The LED indicators will light up under the power, charge and discharge symbols when the download is complete.
   (Find more information in the **Decoding the Blinking LED Lights** section)
- Triggers a notification in your vehicle's mobile app (myChevrolet, myBuick, myGMC or myCadillac) that an update is in progress

Note:

If LED indicators do not return to normal after two hours, please contact the GM Energy Customer Support Center.





# CARE AND MAINTENANCE

The GM Energy Storage Bundle does not require any scheduled maintenance. However, make sure its components remain free from debris, ice or snow to optimize product longevity.

### **Common Questions**

To enhance your GM Energy ownership experience, we have collected commonly asked questions to help with the care and use of a solar-connected system.

#### If the system shuts down during a grid outage, how can I manually turn the system back on?

If the system stops responding after a grid outage, use the GM Energy PowerBank Wake-Up button to restart the system.
 See the <u>Need-To-Know Action Items</u> section for more information

#### Can solar panels provide power during a blackout, and do I need a battery for backup?

Solar panels alone may not provide power during a blackout. However, compatible solar panels can provide backup power to the home during outages, as long
as the GM Energy PowerBank and/or Compatible GM EV are also providing power to the home. This ensures your home and energy storage capabilities remain
functional for a period of time

#### Do solar panels work in cloudy or rainy weather, and what happens at night or on cloudy days?

- Solar panels still generate electricity on cloudy or rainy days, though at reduced efficiency. At night or during periods of low sunlight, your home will use electricity from the grid unless you have a battery storage system like the GM Energy Storage Bundle
- Batteries like the GM Energy PowerBank can store excess solar energy generated during the day for use at night or during cloudy periods

#### Why does my GM Energy PowerBank not appear to be charging/discharging?

- Your GM Energy PowerBank will optimize energy consumption depending on the electrical rates selected and the mode enabled. This is why it's important to ensure you have input the proper electric utility rates on your vehicle's mobile app
- The GM Energy Customer Support Center can help investigate any further anomalies or concerns

### Helpful Resources

# Call the GM Energy Customer Support Center at 1-833-64POWER.

- Monday Friday: 8 a.m. midnight ET
- Saturday Sunday: Noon 9 p.m. ET
- Outside business hours, customers can leave a voicemail or contact the support team via email at <u>energyservice@gm.com</u>

#### The GM Energy website is always available at https://gmenergy.gm.com/for-home/resources-and-support



# GM ENERGY HOME PRODUCTS LIMITED WARRANTY

GM Energy provides a Limited Warranty for GM Energy Home Products, which are subject to certain terms, limitations and exclusions. Please visit <u>https://gmenergy.gm.com/for-home/here-to-help</u> for more information on the GM Energy Home Products Limited Warranty.



# **GLOSSARY**

### Frequently Used Terms and Acronyms

This glossary is a quick-reference guide to terms you may encounter in this guide, while talking to a provider or referencing other GM Energy resources.

Alternating Current (AC) – An electric current that alternates direction at regular intervals. Homes run on AC power

Amp (A) - Short for ampere, a unit used to measure electric current (i.e., how fast an electric current flows). Usually used in the context of EV charging (e.g., a 50-amp EV charger)

**Battery Control Unit (BCU)** – A device integral to the GM Energy PowerBank that manages the charging and discharging of the lithium-ion batteries. In the GM Energy PowerBank, the BCU is the top-most part of the stack (where you'll find the LED indicators). The BCU regulates the voltage and current going into the GM Energy PowerBank to prevent overcharging and also monitors the temperature of the battery to prevent overheating

**Battery Module** – An assembly of multiple battery cells to create larger storage capacity. In the GM Energy PowerBank, the battery module is comprised of the units below the BCU

**BDI** – Abbreviation for bidirectional inverter, referred to here as the GM Energy Inverter. This is a component in the GM Energy V2H Bundle that makes Vehicle-to-Home (V2H) charging possible

**Charging** – Replenishing a GM Energy PowerBank with electricity from an external source

**Combined Charging System (CCS)** – This configuration on the Charging Coupler enables DC fast charging capability

**Commissioning** – The step in the install process that turns the system on, updates system settings and connects the system to your wireless network. Final approval to operate may be dependent on inspections by local jurisdiction representatives

Direct Current (DC) – An electric current flowing in a single direction. GM Energy PowerBank systems store energy as DC power

**GM Energy** – An ecosystem of energy management products and services for home, commercial and GM EV customers offering a network of charging stations, dedicated back-up home power and a suite of new products to help create a more resilient grid

**GM Energy Dark Start Battery** – Originally included as part of the GM Energy V2H Bundle, this component is no longer required with systems upgraded to include the GM PowerBank. It will not interfere with functionality of the upgraded system and can be left or removed

**GM Energy Home Hub** – The Microgrid Interconnect Device that acts like your home's electrical panel and circuit breakers to manage and distribute electricity from your GM Energy PowerBank (grid or solar panels) to predetermined points in your home

**GM Energy Inverter** – The unit that converts direct current (DC) to alternating current (AC) and controls how much power is being drawn from multiple sources and redirected. It is designed to intelligently manage multiple sources of off-grid power, such as from the GM Energy PowerBank or compatible solar panels. In some technical documents, it may be referred to as a BDI (Bidirectional Inverter)

**GM Energy PowerBank** – The unit that captures and stores energy to power your home during an outage. This component is part of the GM Energy Storage Bundle

ISC – Short Circuit Current

Kilowatt (kW) – A measurement of power (1 kW = 1,000 watts)

Kilowatt-hour (kWh) - A measurement of energy - how much power (kilowatts) can be supplied over a period of time (hours). This stored energy can be used/consumed at different rates. For example, 50 kWh stored in a battery could deliver:

2 hours of 25 kW power

Energy V2H Bundle

of electrical wiring and equipment

**OTA** – Abbreviation for "Over-the-Air" software installation, the wireless technology that allows a system to automatically download software updates

**PE** – Abbreviation for "protective earth," it refers to the protective grounding wire used in electric systems and cables. It may also be referred to as a protective grounding device, soil, grounding or simply as the ground wire

**Photovoltaic (PV) Cells** – The technical term used for the devices in solar panels that convert sunlight into electricity

**Rapid Shutdown Device (RSD)** – To protect fire fighters and other first responders, an RSD quickly de-energizes (shuts off voltage in) auxiliary power systems, such as solar panels. Your installer will advise you regarding your system's needs

**Solar Panels** – Refers to devices that convert sunlight into electricity by using photovoltaic (PV) cells. The GM Energy Storage Bundle is designed to work with compatible solar panels to store and distribute this renewable energy source

**State of Charge (SoC)** – The amount of electricity available in a battery. With the GM Energy PowerBank, you can select the minimum State of Charge you want to reserve for your system in the event of an outage using your vehicle's mobile app

**Volt (V)** – A measure of the electromotive force that drives electrons through a circuit. Homes in the U.S. run on 120 volts (regular outlets) and 240 volts (higher-powered outlets)

Watt (W) – The basic measurement of power (1 kW = 1,000 watts)

• 5 hours of 10 kW power 50 hours of 1 kW power

MID (Microgrid Interconnect Device) – The technical term for the GM Energy Home Hub device that's part of the GM

**NEC** – Abbreviation for the National Electrical Code. This refers to the United States standard for the safe installation

