



**HYUNDAI**




xMB-9640 Module Balancer


# Users Guide

<b>⚠ DANGER</b>	
	<p><b>Hazardous voltage.</b>  <b>Do not remove protective covers.</b>  <b>Failure to follow this instruction may result in electric shock, personal injury, or death.</b></p> <p>Circuit boards, test points, and output voltages also may be floating above or below chassis ground.</p>

<b>NOTICE</b>
<p>This xMB-9640 is designed for indoor use only.  <b>Do not operate the xMB-9640 outdoors.</b>  <b>Operation of the xMB-9640 in an outdoor environment can result in equipment damage.</b></p>

<b>⚠ WARNING</b>	
	<p><b>Risk of explosion.</b></p> <p>This device contains internal arcing and sparking parts which should not be exposed to flammable vapors. This device should be located at least 18 inches (457mm) above grade. Failure to follow this instruction may result in personal injury or death.</p>


<b>⚠ DANGER</b>	
<b>Risk of explosive gases.</b>	
Batteries may generate explosive gases. To reduce risk, follow these safety instructions and those published by the battery manufacturer and OEM. Failure to follow these instructions may result in personal injury or death.	

<b>⚠ DANGER</b>	
	<p><b>Charging a non-rechargeable battery may cause the battery to burst.</b></p> <p>Only charge batteries for which xMB-9640 has been designed and is intended for use. Failure to follow these instructions may result in personal injury or death.</p>


<b>NOTICE</b>
The xMB-9640 has not been designed for exposure to rain or snow. Operate the xMB-9640 only indoors in a clean environment. Failure to follow these instructions may result in equipment damage.

<b>⚠ WARNING</b>	
<b>Only qualified technicians may use this equipment. The required qualifications vary by region. Always observe local laws and legislative directives. Failure to follow this instruction may result in serious personal injury or death.</b>	

<b>⚠ DANGER</b>	
	<p><b>Hazardous voltage.</b>  <b>An improper connection can result in electric shock</b></p> <p>To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when xMB-9640 is idle. Failure to follow these instructions may result in personal injury or death.</p>

<b>⚠ DANGER</b>	
	<p><b>Risk of explosive gases.</b>  <b>Never smoke or allow a spark or flame in the vicinity of a battery.</b></p> <p>Batteries can produce a highly explosive mix of gases, even when the battery is not in operation. Always work in a well-ventilated area. Failure to follow these instructions may result in personal injury or death.</p>

<b>⚠ CAUTION</b>
<p><b>Wash hands after handling.</b></p> <p>REQUIRED BY CALIFORNIA PROP. 65: Battery posts, terminals, and related accessories may contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.</p>

<b>⚠ DANGER</b>	
	<p><b>Hazardous voltage.</b>  <b>An improper connection can result in electric shock</b></p> <p>To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when the xMB is idle.</p>

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Scan the QR code for digital manuals and module-specific cable installation instructions




Hyundai xMB-9640 Knowledge Base

# General Safety Guidelines

 **IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS**

**IT IS OF UTMOST IMPORTANCE THAT BEFORE USING YOUR xMB-9640, YOU READ THIS MANUAL AND FOLLOW THE SAFETY AND OPERATING INSTRUCTIONS EXACTLY.**

**⚠ DANGER**

 **Hazardous voltage. Do not remove protective covers. Failure to follow this instruction may result in electric shock, personal injury, or death.**  
Circuit boards, test points, and output voltages also may be floating above or below chassis ground.

**⚠ WARNING**

This xMB-9640 is designed for indoor use only.

## 1. Maintenance

- Periodic inspection and care are highly recommended, especially if the xMB-9640 is operating in a harsh environment.
- Inspect for signs of overheating, rust, paint deterioration and general condition of the unit. If corrective measures should be taken, contact Midtronics. **Contact information on back cover.**
- Removal of dust, dirt and debris from the external enclosure surfaces is encouraged and may be performed while the unit is in operation.

 **IMPORTANT:** No user-serviceable parts are inside the xMB-9640. No unauthorized personnel should ever remove the cover.

- Ensure that the AC power line ground is connected properly to the xMB-9640 input connector or chassis. Similarly, other power ground lines including those to application and maintenance equipment must be grounded properly for both personnel and equipment safety.
- In normal operation, the operator does not have access to hazardous voltages within the chassis. However, depending on the user’s application configuration, **HIGH VOLTAGES HAZARDOUS TO HUMAN SAFETY** may be normally generated on the output terminals. The customer/user must ensure that the output power lines are labeled properly as to the safety hazards and that any inadvertent contact with hazardous voltages is eliminated.
- This xMB-9640 is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the xMB-9640 by a person responsible for their safety.

**⚠ CAUTION**

**Risk of explosive gases.**  
Batteries may generate explosive gases during normal operation, and when discharged or charged.

- 1.1 To reduce risk of battery explosion, follow these safety instructions and those published by the battery manufacturer and the manufacturer of any equipment you intend to use in the vicinity of a battery. Review cautionary marking on these products and on the engine, and on the vehicle or equipment containing the battery.

**⚠ DANGER**

 **Charging a non-rechargeable battery may cause the battery to burst.**  
To reduce risk of injury, only charge rechargeable -type batteries

If you are uncertain as to the type of battery you are attempting to charge, or the correct procedure for checking the battery's state of charge, contact the seller or battery manufacturer.

- 1.2 Use of an attachment not recommended or sold by the xMB-9640 manufacturer may result in a risk of fire, electric shock, or injury to persons.
- 1.3 To reduce risk of damage to the electric plug and cord, pull by the plug rather than by the cord when disconnecting the xMB-9640.
- 1.4 Do not operate the xMB-9640 if it has received a sharp blow, been dropped or otherwise damaged in any way; contact Midtronics (see contact information on back cover).
- 1.5 Do not disassemble the xMB-9640; when repair is required refer to contact information on the back cover of this manual. Incorrect reassembly may result in a risk of electric shock or fire.
- 1.6 To reduce risk of electric shock, unplug the xMB-9640 from the AC outlet before attempting any maintenance or cleaning. Turning off the controls will not reduce this risk.
- 1.7 Connect and disconnect the battery leads only when directed to do so by the xMB-9640.
- 1.8 Do not overcharge the battery (see Section 3).
- 1.9 Charge the battery in a dry, well-ventilated area.
- 1.10 Never place articles on or around the xMB-9640, or locate the xMB-9640 in a way that will restrict the flow of cooling air through the cabinet.
- 1.11 An extension cord should not be used unless absolutely necessary (see paragraph 3.3).
- 1.12 Have a damaged cord or plug replaced immediately.

**⚠ WARNING**

**Do not expose the xMB-9640 to rain or snow.**

## 2. Personal Precautions

**⚠ WARNING**

**Only qualified technicians may use this equipment. The required qualifications vary by region. Always observe local laws and legislative directives. Failure to follow this instruction may result in serious personal injury or death.**

- 2.1 Always have someone within range of your voice or close enough to come to your aid when working around batteries
- 2.2 Have plenty of fresh water and soap nearby in case battery electrolyte contacts skin, clothing or eyes.
- 2.3 Always wear all personal protective equipment (PPE) when operating this equipment.
- 2.4 If battery electrolyte contacts skin or clothing, wash immediately with soap and water. If electrolyte enters the eye, immediately flush with cold running water for at least 10 minutes, and seek medical attention.
- 2.5 NEVER smoke or allow a spark or flame in vicinity of a battery or engine.
- 2.6 Be extra cautious to reduce the risk of accidentally dropping a metal tool onto the battery. It may spark or short circuit the battery or other electrical component that may cause an explosion.
- 2.7 Before working with a battery, remove personal metal items such as rings, bracelets, necklaces, watches, etc. A battery can produce a short circuit current high enough to weld such items causing a severe burns.

**⚠ CAUTION**

**Non-rechargeable batteries may burst when charging causing personal injury and damage.**


To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when xMB-9640 is idle.

2.8 **NEVER** charge a frozen battery. Allow it to thoroughly thaw first.

### 3. Grounding & Power Cord Connections

3.1 The xMB-9640 must be grounded to reduce risk of electric shock. The xMB-9640 is equipped with an electric cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

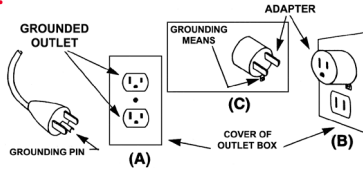
**⚠ DANGER**



**Hazardous voltage. An improper connection can result in electric shock**

To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when xMB-9640 is idle. Failure to follow these instructions may result in personal injury or death.

**USE OF AN ADAPTER IS NOT ALLOWED IN CANADA. IF A GROUNDING-TYPE RECEPTACLE IS NOT AVAILABLE, DO NOT USE THIS SERVICE TOOL UNTIL THE PROPER OUTLET IS INSTALLED BY A QUALIFIED ELECTRICIAN.**



3.2 The 120V grounding plug looks like the plug illustrated in Figure A. A temporary adapter, which looks like the adapter illustrated in Figures B and C, may be used to connect this plug to a two-pole receptacle as shown in Figure B, if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician.

3.3 An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure:

- a. that the pins on plugs of the extension cord are the same number, size, and shape as those of the plug on the balancer;
- b. that the extension cord is properly wired and in good electrical condition;
- c. that the wire size is large enough for the AC ampere rating of the balancer as specified in the following table.

<b>Recommended minimum AWG* size for extension cords for the xMB-9640</b>			
25 ft. (7.6m)	50 ft. (15.2m)	100 ft. (30.5m)	150 ft. (45.6m)
14	12	10	8

\*American Wire Gauge

3.4 The plugs and receptacles have dedicated grounding terminals and must be mated with plugs and receptacles having matching grounding terminals.

## 4. xMB-9640 Location



**IMPORTANT:** The xMB-9640 is designed for indoor use only!

It is the responsibility of the operator to provide a controlled environment for the equipment. Work tents are a common method of protecting equipment in adverse conditions.

The xMB-9640 depends upon the surrounding air for cooling. The free flow of air is important as is the air temperature. The xMB-9640 must be mounted so that air can freely circulate all around it.

- 4.1 Do not place combustible materials on or near the xMB-9640 or mount the xMB-9640 closer than 3 inches from any adjacent wall. The xMB-9640 must never be mounted next to or above heat generating equipment.
- 4.2 Locate the xMB-9640 as far away from the battery as the cables permit.
- 4.3 Never place the xMB-9640 directly above the battery being charged; gases from the battery could corrode and damage the xMB-9640.
- 4.4 Only operate the xMB-9640 in a well-ventilated area that is free of dangerous vapors.
- 4.5 Store the xMB-9640 in safe, dry location.
- 4.6 Do not operate the xMB-9640 in high relative humidity conditions (85% non-condensing maximum).
- 4.7 When using the xMB-9640 in Canada, the unit must be installed in accordance with Canadian Electrical Code, Part 1.

### Storage

Always store the balancer in safe, dry location and maintain it in perfect condition.

## 5 Wireless Safety




The operation of this equipment is subject to the following two conditions.

1. This equipment or device may not cause harmful interference.
2. This equipment or device must accept any interference. Including interference that may cause undesired operation.

**SAVE THESE INSTRUCTIONS**

# Product Specifications

## Power

- Input: 100 – 240 , 50/60 Hz; 12A max.
- Output: 48 V , 40A  
96 V , 20A

## Charge Cables

- 2m

## Power Cord

Accepts C19 locking connector for region-specific power cables:

- United States: EMA 5-15 termination, rated at 15A/125V UL CSA
- EU: EMA 5-15 termination, rated at 16A/250V UL CSA
- UK: EMA 5-15 termination, rated at 13A/250V UL CSA




## Applications

- Automotive

## Module Chemistries

- Lithium ion

## Operating Parameters

- Input Voltage:  
100 – 240 , 50/60 Hz; 12A max.
- Output:  
48 V , 40A  
96 V , 20A

## Humidity

- 15% to 85% R.H., non-condensing

## Dimensions

(without handle or base)

- 44 CM (L) X 43.5 CM (W) X 23 CM (H)
- Weight:  
17.84 KG (39 LBS)

## Temperature

- Operating temperature range:  
0°C to +50°C (32°F to +140°F)
- Storage temperature range:  
-10°C to + 85°C (14°F to 185°F)

## Certifications

- CE
- ROHS
- FCC

## Connectivity

- USB 2.0 connection
- CAN bus interface
- WiFi

## Protection Features

- Reverse polarity



## User Interface


- Advanced navigation and charge applications
- 5" Touch Screen

# 1 – Introduction & Overview

## Safety Precautions

For safe, efficient, and accurate operation, review the safety and operating instructions in this manual before using the xMB-9640. Always use the necessary safety precautions when working with batteries to prevent severe injury or death. Follow all OEM instructions and SAE safety recommendations, as well as the following precautions:

 <b>DANGER</b>	
	<p><b>Risk of explosive gases. Never smoke or allow a spark or flame in the vicinity of a battery.</b></p> <p>Batteries can produce a highly explosive mix of gases, even when the battery is not in operation. Always work in a well-ventilated area. Failure to follow these instructions may result in personal injury or death.</p>





 <b>CAUTION</b>
<p><b>Wash hands after handling.</b></p> <p>REQUIRED BY CALIFORNIA PROP. 65: Battery posts, terminals, and related accessories may contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.</p>

- Battery electrolyte can be hazardous. Refer to Material Safety Data Sheet for precautions and safety procedure for the type of battery being serviced
- Keep hair, hands, and clothing as well as the xMB-9640 cords and cables away from moving engine parts.
- Before working with a battery, remove personal metal items such as rings, bracelets, necklaces, watches, etc. A battery can produce a short circuit current high enough to weld such items causing a severe burn.
- Use caution when working with metallic tools to prevent sparks or short circuits.
- Never lean over a battery when charging.
- Never operate xMB-9640 outside of defined operating temperature range (pg. 8).
- Never charge a battery outside of OEM specified temperature range.

## Connecting To AC Power

Plug the xMB-9640 into a dedicated, grounded nominal 15-amp or higher AC outlet.

## Manual Conventions

Symbol	Description
	The safety symbol indicates instructions for avoiding hazardous conditions and personal injury.
	The safety symbol with the words <b>CAUTION</b> , <b>WARNING</b> , or <b>DANGER</b> indicates instructions for avoiding hazardous conditions and personal injury.
	The wrench symbol indicates procedural notes and helpful information.
	These symbols indicate which arrow keys on the keypad to press for a given function.
<b>Bold Letters</b>	The text for screen options are in <b>Bold</b> letters.

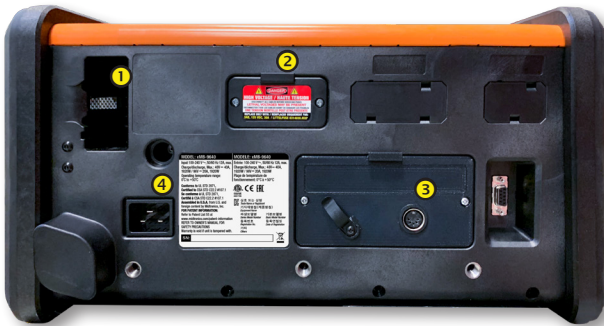
### Front View



- |                        |                                  |
|------------------------|----------------------------------|
| ① Touch Screen Display | ③ 5-button Directional Input Pad |
| ② Screen Power Button  | ④ USB Port                       |

**NOTE:** It is normal for the xMB-9640 cooling fans to continue running after the screen is turned off

### Rear View

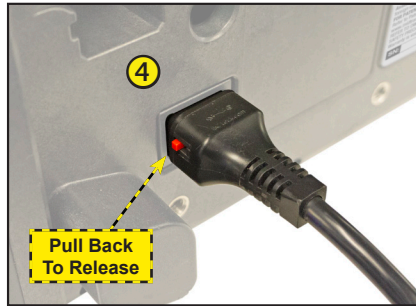


- |                                 |                                |
|---------------------------------|--------------------------------|
| ① High Voltage Cable Connection | ③ Low Voltage Cable Connection |
| ② Fuse Door Cover               | ④ Power Cord Socket            |

## Connections

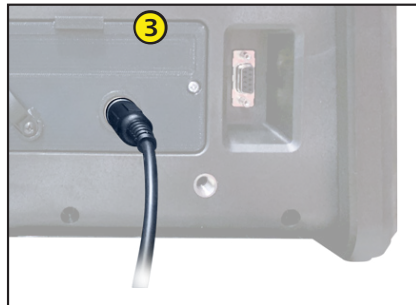
### Locking Power Cord

Pull back on the red tab on the side of the connector to release/remove the power cord from the xMB power socket.



### Charging Cables

1. Connect the Low-Voltage cable to port (3) in the lower-right of the rear panel of the xMB as denoted in previous section.

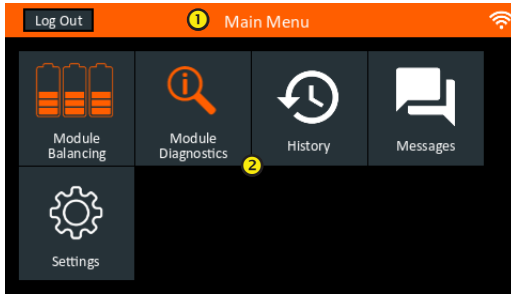


2. Insert High-Voltage cable connector into port (1) on the upper-left of the rear panel of the xMB as denoted in previous section. Press the connector in until it clicks, locking it into the socket.

To remove the cable, press and hold the metal retaining clip to unlock, and pull.



## Main Menu



- ① **Menu Bar**
- ② **Main Menu Selection Area**

### Main Menu Icons

Icon	Description	Icon	Description
 Module Balance	Charges/Discharges module to target voltage to bring in balance with the rest of the pack.	 Messages	Displays alerts and notifications for upcoming tests and activities including scheduled tests, tool software updates and maintenance opportunities.
 Transportation Discharge	Discharges a module to a predetermined State-Of-Charge (SOC) for transport.	 History	Access archived test histories or search test history by VIN or by technician.
 Module Diagnostics	The measurement of module voltage, average cell voltage, and sensor temperature. Also displays voltage and temperature delta.	 Settings	Setup/adjust: WiFi, printer setup, email settings, user information, default language, display/sound settings, BMIS, shop info, connected devices, tool software version information.

### Initial Set-Up

- Upon initial power-up, the **Module Balancing** screen is displayed. Tap **Next** to continue.

System Language	Select the Controller default language displayed on the screen.
Test Result Language	Select the Controller default language for all displayed tests and test results.

- Enter your User Name or User ID and tap **Next** to continue.

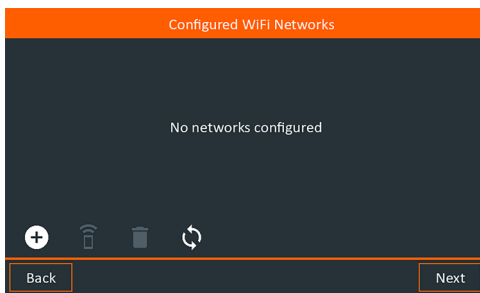
- The Date/Time Settings are displayed. Tap **Next** to continue after making any adjustments.

Select Time Format:	12-hour or 24-hour format
Select Date Format:	DD/MM/YYYY, MM/DD/YYYY, or YYYY/MM/DD
Select Time Zone:	Time zone offset from Greenwich Mean Time
Set Date:	Set the current date

- The Test Settings are displayed. Tap **Next** to continue after making any adjustments.

Temperature Units	Celsius or Fahrenheit
Decimal Separator	00.00 (dot) or 00,00 (comma)
Buzzer Settings	Select if unit will provide an audible alert. If set to 'OFF', unit will only provide visual alerts

- The **Configured Wi-Fi Networks** screen is displayed. Tap **Next** to continue after making any adjustments.



Tap on the WiFi icon to display a list of detected and configured WiFi networks.



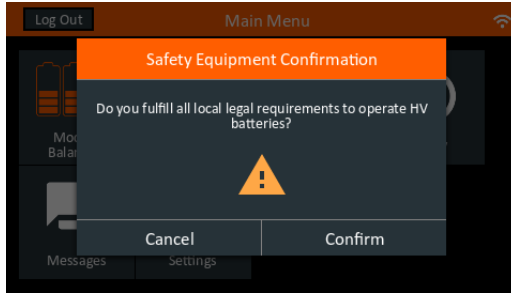
### Adding A Network

- Tap **+** to add a WiFi network.  
A list of detected wireless networks is displayed with **●** next to the selected network.
- Tap **>** to access the network Security and IP Settings.

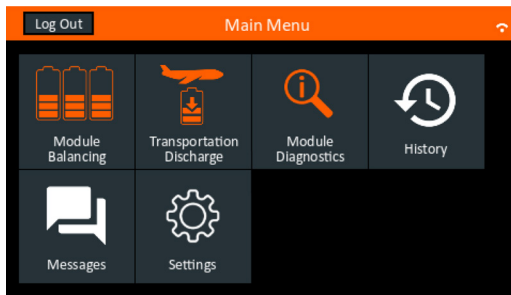
Security	None WPA/WPA2 PSK
IP Address	DHCP Static

Tap **→** to configure the selected network.

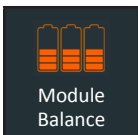
- At the **Safety Equipment Confirmation** screen, tap **Confirm** if the proper safety equipment is being worn.



- The Main Menu screen is displayed.



## 2 – Module Balance



Use this function to charge or discharge a module of a battery pack according to manually entered target voltage, to bring it in balance with the other modules of the pack.

⚠ DANGER	
	<p><b>Hazardous voltage.</b> An improper connection can result in electric shock</p> <p>To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when the xMB is idle.</p>

	<p><b>IMPORTANT:</b> Make sure to properly prepare the battery pack by following all required guidelines Refer to your documentation for complete information.</p> <p>Before balancing a battery module, make sure all of the external components connected to the xMB-9640 are in good working order.</p>
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### Parameters

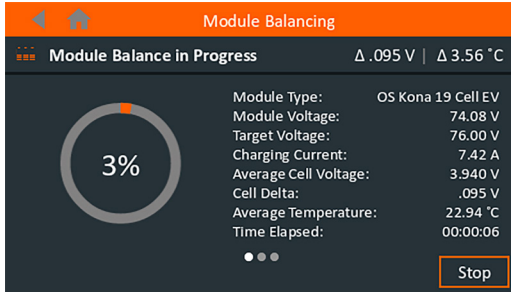
Discharge	Charge
– Discharge mode set to constant current – constant voltage	– Charge mode set to constant current – constant voltage
– Maximum discharge current is 40A up to 48V / 20A up to 96V max	– Charge current is 40A up to 48V / 20A up to 96V or module max

### Procedure

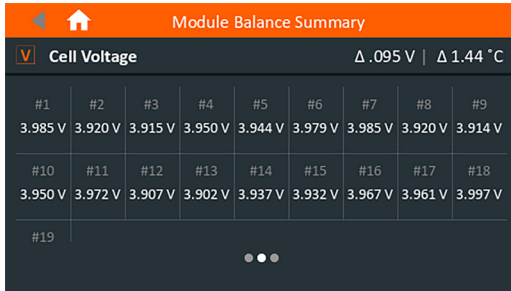
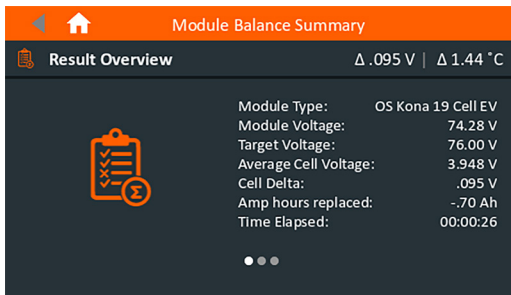
1. Confirm that the appropriate safety equipment is in place and press **Confirm**.
2. At the Main Menu, select **Module Balance**.
3. Select Model, Type, Platform and Module.
4. Enter target voltage and press **Next**.
5. Follow cable connection steps shown on the screen and press **Next**.
6. Verify Cell Voltage, Temperature, Cell Delta, and Module Voltage, and press **Next**.

⚠ DANGER	
	<p><b>Hazardous voltage.</b> An improper connection can result in electric shock</p>

- Once the module is detected and verified, press **Next** to start the balance procedure. Press **Stop** to exit.



- The results are displayed on the **Module Balance Summary** screen.



- Use **Send Results** to email or print the results, or end the session using the **Done** button.

### 3 – Transportation Discharge



Use this function to discharge a module down to a predetermined voltage for safe transport.

⚠ DANGER	
	<p><b>Hazardous voltage.</b> An improper connection can result in electric shock</p> <p>To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when the xMB is idle.</p>

	<p><b>IMPORTANT:</b> Make sure to properly prepare the battery pack by following all required guidelines Refer to your documentation for complete information.</p> <p>Before balancing a battery module, make sure all of the external components connected to the xMB-9640 are in good working order.</p>
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#### Parameters

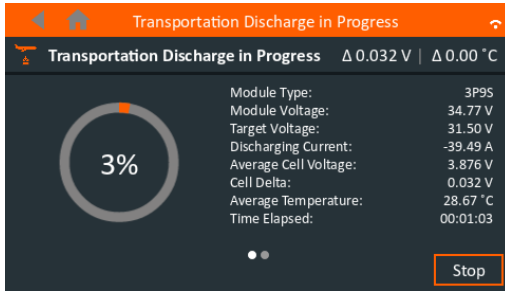
Discharge
– Discharge mode set to constant current – constant voltage
– Maximum discharge current is 40A up to 48V / 20A up to 96V max

#### Procedure

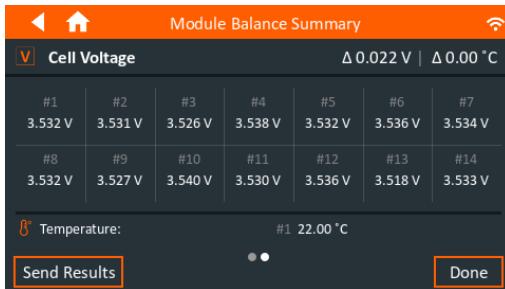
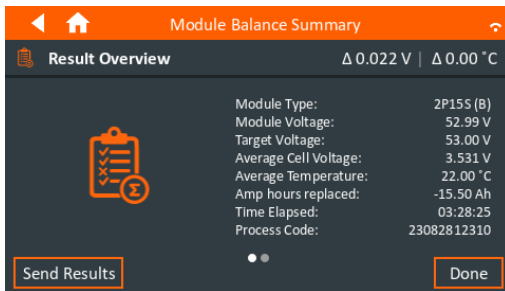
1. Confirm that the appropriate safety equipment is in place and press **Confirm**.
2. At the Main Menu, select **Transportation Discharge**.
3. Select Model, Type, Platform and Module.
4. Follow cable connection steps shown on the screen and press **Next**.
5. Verify Cell Voltage, Temperature, Cell Delta, and Module Voltage, and press **Next**.

⚠ DANGER	
	<p><b>Hazardous voltage.</b> An improper connection can result in electric shock</p>

- Press **Next** to start the Transportation Discharge procedure. Press **Stop** to exit.



- The results are displayed on the **Module Balance Summary** screen.



## 4 – Module Diagnostics



Module  
Diagnostics

Use this function to display module information including cell voltages and module temperature measurements without starting a charge or discharge.

**DANGER**

**Hazardous voltage.**  
An improper connection can result in electric shock

To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when the xMB is idle.



**IMPORTANT:** Make sure to properly prepare the battery pack by following all required guidelines Refer to your documentation for complete information.

### Procedure

1. Confirm that the appropriate safety equipment is in place and press **Confirm**.
2. At the Main Menu, select **Module Diagnostics**.
3. Select Model, Type, Platform and Module and press **Next**.
4. Follow cable connection steps shown on the screen and press **Next**.
5. Verify Cell Voltage, Temperature, Cell Delta, and Module Voltage.

**DANGER**

**Hazardous voltage.**  
An improper connection can result in electric shock

←
🏠
xMB Module Diagnostics
📶

🔍
**Module Diagnostics Overview**
Δ 0.009 V | Δ 0.00 °C

Module Type: 3P9S

Module Voltage: 32.49 V

Average Cell Voltage: 3.609 V

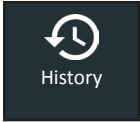
Cell Delta: 0.009 V

Average Temperature: 29.06 °C

● ●

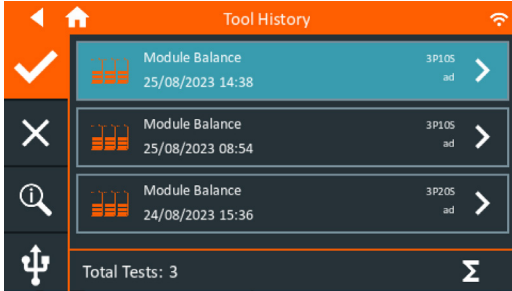
Next

# 5 – History



Use History to access the tool usage history. It displays complete and incomplete Balance or Diagnostic sessions.

At the Main Menu, tap **History** to display the **Tool History** screen.



Complete Balance or Discharge Session



Module Diagnostics



Incomplete Balance or Discharge Session

Tap > to view individual test details.

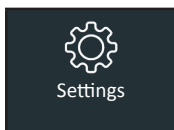
Tap Σ to view totals by the last 7, 30, and 90 days.

## History



Use this function to export your History data to USB.

## 6 – Settings



Use the Settings options to setup and adjust WiFi, user information, default language, display settings, shop information, user management, connected accessories, and device information.

Tap  to return to the previous screen or  to return to the Main Menu.

### Language Settings



Use the Language & Input function to select the default system language used by the tool. User defaults also include Test Results, Email, and Print languages.

#### System Language

Select the balancer’s default standard language.

#### Test Result Language

Select the default language for the balancer to use for all displayed tests and results.

### Display Settings



Adjust the balancer’s display including the Brightness, Sleep Time, and Dim Time. Auto Brightness can also be turned on and off.

#### Brightness

Adjust the display Brightness by tapping and holding the slider, then moving it right or left to make the screen brighter or darker.

### Version Information



Use Version Information to display data for the unit.



Factory Reset



Check For Updates



Legal Information

Serial Number	0987654321
Configuration Version	192-411340-A00-0039
Data Version	192-481341-A01-005
Controller Version	192-001339-A00-0039
Diagnostic Device Version	192-211379A-25
CVG-2 Device Version	No Device Configured
OS Version	dca8000-eng 4.4.2 DEVR10_06

### Factory Reset

Use this function to return the unit to the original, as built configuration. All test history and test setting preferences will be reset.

**IMPORTANT: All previous modifications to the original settings will be overwritten.**


### Legal Information

Displays software attribution information via the Midtronics website. The balancer must be connected to the Internet.

### Check for Updates

Use this function to check via the internet connection for any updates to the unit software.

### Test Settings

1. Tap  to access the test setting defaults. Tap the boxes or icons to change the values.

Decimal Separator	00.00
-------------------	-------

### Decimal Separator



Default number display using commas or periods as separators.

### Buzzer

Select if the unit will provide an audible alert. If set to 'OFF', unit will only provide visual alerts.

### Date/Time Settings

1. Tap  to access the Date/Time setting defaults.

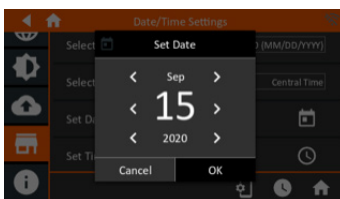
Select Time Format	12 Hour
Select Date Format	10/18/2016
Select Time Zone	EST
Set Date	
Set Time	

**Select Time Format**  
12 or 24 Hour Format

**Select Time Zone**  
Time zone in which the balancer will be operated.

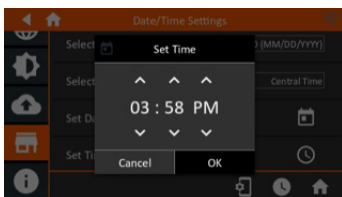
**Select Date Format**  
Month/Day/Year, Day/Month/Year, or Year/Day/Month

**Set Date**  
Tap ▲ or ▼ to enter the month, day, and year.  
Tap **Set** to save the date or **Cancel** to exit without saving.



### Set Time

Tap ▲ or ▼ to enter the hours, minutes, and AM/PM. Tap **Set** to save the time or **Cancel** to exit without saving.



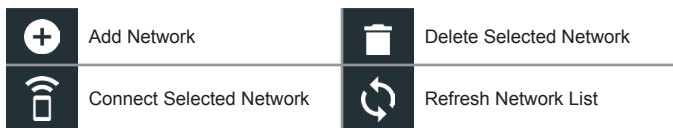
2. Tap  to return to the **Shop Information** screen.

### WiFi





Use WiFi to view, add, and delete wireless networks.



Tap on the WiFi icon to display a list of detected and configured WiFi networks.




### Adding A Network

1. Tap  to add a WiFi network.  
A list of detected wireless networks is displayed with ● next to the selected network.
2. Tap  to access the network Security and IP Settings.

Security	None WEP WPA/WPA2 PSK
IP Address	DHCP Static

3. Tap  to configure the selected network.
4. Once the network has been successfully configured, tap  to return to the list of available configured networks. A ● indicates the selected network.

### Deleting A Network

1. Tap a displayed network.
2. Tap  to delete the network and tap **Yes** to confirm.

### Printer Settings



Use Printer Settings to view, add, and delete WiFi printers.



**NOTE:** WiFi network communication must be successfully established before a printer or printers can be detected and setup.

Tap on the Printer icon to display a list of available printers on the configured WiFi and Bluetooth networks.

	Edit Printer Settings		Printer Setup
	Delete Selected Network		Configured Printers
	Print Test Page		

### Adding A WiFi Printer

1. Tap to add a printer. Printer must be turned on and connected to WiFi.
2. Tap to add a WiFi printer.  
Make sure the printer is on and connected to the same wireless network as the balancer.
3. Tap → once ready to connect.


### Email




Displays all entered email addresses. Addresses can be added, edited, and deleted. Entered email accounts are added to the email address book. Frequently used email addresses can be selected from the displayed address list rather than being retyped each time.

	Add Address		Server Settings
	Edit Address		Address Book
	Delete Selected Address		Send Test Email


### Add Address

1. Tap  to add an email address.
2. Use the displayed keypad to enter the contact name and email address.
3. Tap **Add** to add the address to the email list or **Cancel** to exit and return to the email list.

### Edit Address

1. Select a displayed email address by tapping it.
2. Tap  to edit the address.
3. Use the displayed keypad to edit the contact name and email address.
4. Tap **Add** to add the address to the email list or **Cancel** to exit and return to the email list.

### Delete Selected Address

1. Select the email address by tapping it.
2. Tap  to delete the address and tap **Yes** to confirm or **Cancel** to exit and return to the email list.

## PATENTS

This product is made by Midtronics, Inc., and is protected by one or more U.S. and foreign patents. For specific patent information, contact Midtronics, Inc. at +1 630 323-2800.

## LIMITED WARRANTY

Midtronics products are warranted to be free of defects in materials and workmanship for a period of two (2) years from date of purchase. Midtronics will, at our option, repair or replace the unit with a re-manufactured unit. This limited warranty applies only to Midtronics products, and does not cover any other equipment, static damage, water damage, overvoltage damage, dropping the unit, or damage resulting from extraneous causes including owner misuse. Midtronics is not liable for any incidental or consequential damages for breach of this warranty. The warranty is void if owner attempts to disassemble the unit or to modify the cable assembly.

## SERVICE

To obtain service, contact the Midtronics office in your region (see address block below). Have your model number and serial numbers at hand. This first step is critical as Midtronics will troubleshoot the problem(s) over the phone, and many problem(s) are resolved during this step. If the problem cannot be resolved, the Customer Service Agent will issue a Return Material Authorization (RMA) number and provide instructions on where to ship your equipment. The RMA number becomes your tracking number when communicating with Midtronics. The final step is to pack the equipment to avoid damage in transit and return the equipment freight prepaid (you pay), to the attention of the RMA number and the address provided by the Customer Service Agent.

Midtronics or its designee will repair and return the unit using the same shipping service level as received. If it is determined that the failure was caused by misuse, alteration, accident or abnormal condition of operation or handling, purchaser will be billed for the repaired product and it will be returned freight prepaid with the shipping & handling charges added to the invoice. Midtronics' products beyond the warranty period are subject to the repair charges in place at that time. Out-of-warranty repairs carry a 6-month warranty.

The Midtronics logo consists of the word "MIDTRONICS" in a bold, white, sans-serif font, set against a black rectangular background. The letters are slightly shadowed to give a 3D effect.

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