

Lithium-Ion Battery & Charger

# User Manual

For Assembly, Operation, and Basic Maintenance

Battery SN

Charger SN:

Battery Model  
87130



Charger Model  
87273



Operators should know the information in this manual to avoid risk of damage or injury.



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# *User Manual for Li-Ion Battery (87130) & Charger (87273)*

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February 2025



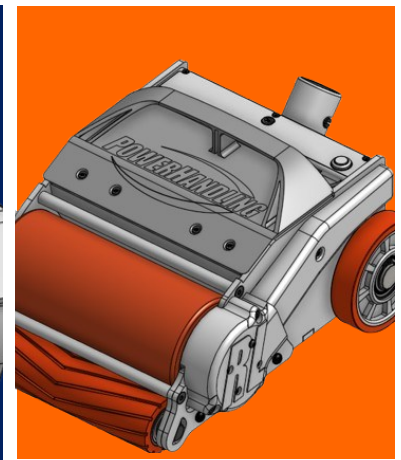
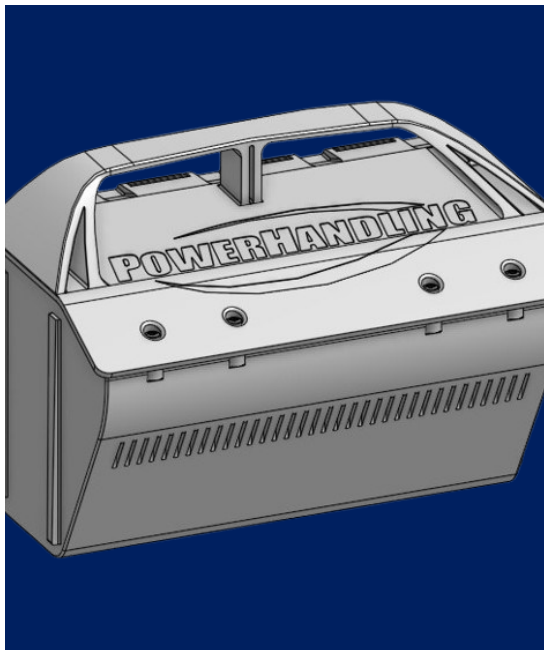
**ADVISORY**



**READ THE MANUAL FIRST**

This manual provides assembly, safe use, and maintenance information.  
Keep this manual for reference.

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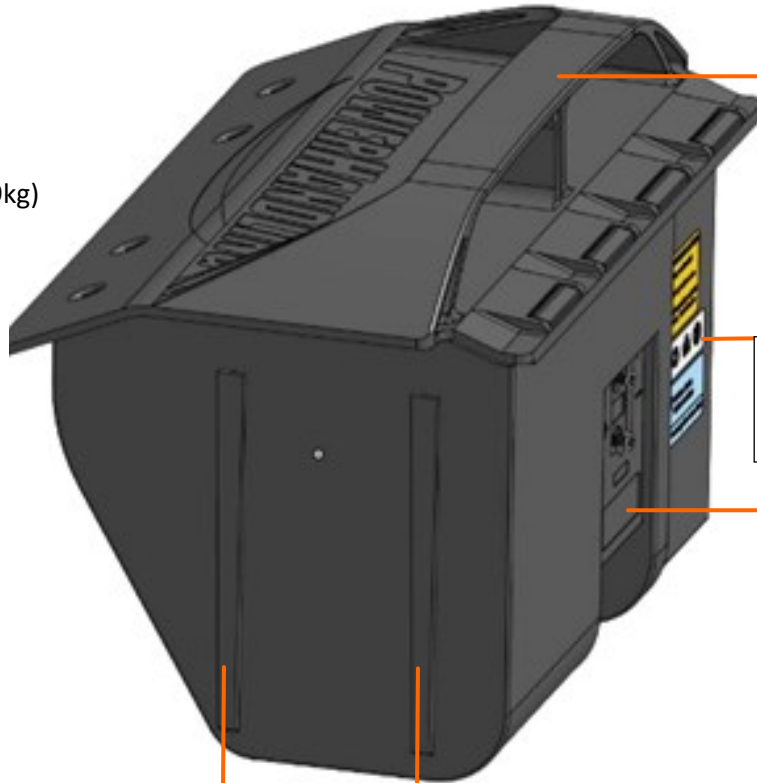
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## Rechargeable Lithium Battery Model 87130

Cell Chemistry	Li- NCA
Voltage	50.4
Amp Hours	15
Weight	11lbs. (4.99kg)

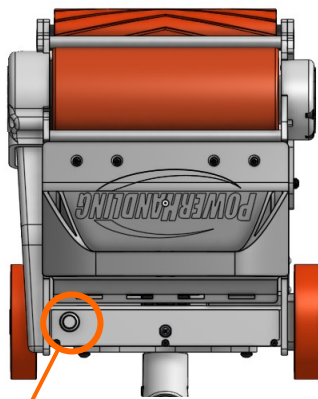


Handle

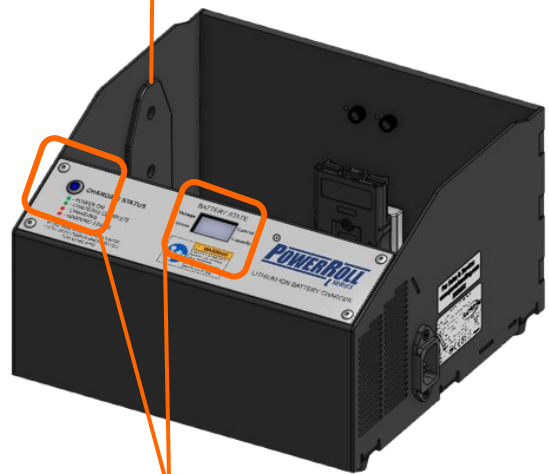
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# UNPACK



Work in a well-lit area  
Work at waist height

## Unboxing (3 steps)

Typical Shipping Contents:

Battery (1)



Packed Weight (1 battery):  
12 lbs. / 4.54 kg

**Step 1:** Inspect individual pieces for damage. Report missing or damaged items to PowerHandling.



Take photos of damages



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**PowerHandling +1.888.377.6937**  
**Motion Robotics +351.210.909.000**

**Step 2: (Recommended)** If you intend to store battery long term, repack the box and label with date of delivery.

**Step 3: (Recommended)** Once all the pieces are removed from packaging, save packaging for later use.

## Prepare For Use (3 steps)

**Step 1:** Find the battery serial number on the bottom of the battery. See cover for additional place to record.



Serial Number

**Step 2:** Use PowerHandling Charger Model 87273 to bring to full charge. See p. 14 for charger assembly and use.

**Step 3:** Use PowerHandling Battery Model 87130 in your machine. Please see p. 7 for installation.

# INTENDED USE

This battery is a rechargeable, drop-in style lithium battery (Nickel Cobalt Aluminum Oxide (NCA) chemistry). Designed to power PowerHandling products, 87130 model battery specifically meets the performance needs of the PowerRoll L-series machines and should be charged with model 82499 charger. PowerHandling machines, batteries, and chargers are for indoor, industrial applications. If continuous machine operation is desired, additional batteries should be purchased to swap out during recharge.

All rechargeable batteries have a limited life and will gradually lose their ability to hold a charge. Follow the “Best Practices” and “Safety Precautions” in this document to safely use these batteries and achieve the maximum the life span. *In average\** use cases, we anticipate 30 minutes of runtime for continuous operation. Runtime during intermittent use cannot be determined due to extreme variability in use. Very frequent use would likely require daily charging. The 87130 model Lithium battery is expected to maintain consistent performance for around 1200 charge cycles. After 1200 charges, expect to see significantly diminished performance.

*\*Average Use:*

*Use of machines vary widely in frequencies of use, distances pushed, and load weights. Individual use will vary.*

## **BEST PRACTICES:**

### **ENVIRONMENT:**

*Have fire suppression near storage and point of use (rated for Class B fires or dry chemicals).*

*Batteries should remain free of corrosive materials, like water, while in use or in storage.*

*Keep batteries in moderate temperatures (32°F to 95°F/0°C to 35°C) during use and in storage.*

### **USE:**

*Have a second battery as standby to reduce downtime.*

*Once a battery charging cycle is complete, remove from charger, allow to cool for 30 minutes.*

*Extend battery life by not discharging batteries completely. See [p. 8](#) for machine indicators.*

*Do not use or charge batteries that are hot, damaged, or modified.*

*Take the battery out of service when the performance drop is significant, limiting use.*

*Keep batteries free of vibration.*

**STOP USE WITH SMOKE, FUMES, OR EXCESSIVE HEAT.**

### **CARE:**

*Follow listed Safety Precautions.*

*Inspect batteries daily for condition. Use the maintenance checklist [p. 10](#).*

*Do not leave batteries fully depleted. Bring batteries to full capacity immediately,*

*Store batteries separately from machines and chargers.*

*For long term storage, place battery in box and mark with date of storage.*

*For long term storage, put batteries into storage partially charge, not at full charge.*



Follow all safety precautions listed below to reduce risk of damage or physical harm.

## Safety Precautions

### Environment:

- Have fire suppression near storage and point of use (rated for Class B fires).
- Do not expose the battery to water.
- Do not expose battery to extreme temperatures (above 60 °C /140 °F).
- Battery contents are flammable. Use and store away from flame.
- Avoid exposing the battery to excessive shock or vibration.

### Use:

- Use only the PowerHandling specified charger for this battery.
- Do not use this battery for any other purpose outside of its intended use.
- Do not dismantle or modify this battery.
- Batteries will become hot after charging and use. Allow battery to cool before seating on a charger or in a machine.
- Do not use the battery if it appears damaged or modified from it's original form.
- Do not reverse charge batteries.
- Do not subject the batteries to deep cycling and excessive overcharge or over-discharge.
- Do not short circuit batteries. This may permanently damage the battery.
- If the battery is hotter than normal, remove from service and contact our technical support team.
- Leaking batteries should be contained using methods indicated in the SDS.
- Stop using and properly dispose of a leaking battery. (See for recycling resources p. 12)
- Evacuate space when battery smokes or on fire. Smoke and fumes may cause severe respiratory distress, skin burns, and eye irritation. Refer to product Safety Data Sheet (SDS) for safety procedures.

### Damage:

- Refer to product Safety Data Sheet (SDS) for safety procedures for leaks and other safety concerns
- Do not ship damaged batteries.



Have fire suppression near storage and point of use.

Evacuate space when battery smokes or on fire.



**WARNING**

Do not touch fluids leaking from batteries.

When fluids make contact with eyes,  
**DO NOT RUB.**

Immediately flush eyes for 15 minutes.

# OPERATION INSTRUCTIONS



## WARNING

Do not install hot, modified, or damaged batteries.

## Battery Installation and Removal

### Battery Installation (5 steps)

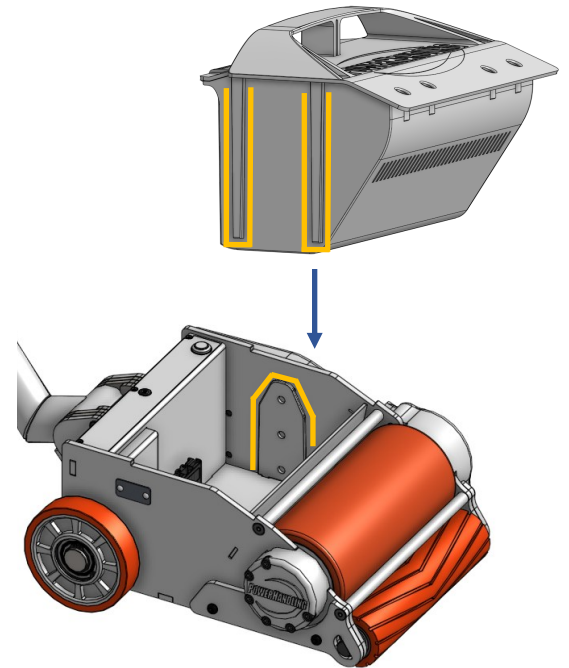
**Step 1:** Ensure battery is free from physical defects, fully charged, and cool.

**Step 2:** Check battery and machine or charger contacts to ensure that they are free from debris and rust, and are not deformed.

**Step 3:** Grasp the handle and lower the battery into place. Guiderails on the side of battery and the inside of the machine or charger will help the battery seat properly into the contacts on the machine or charger.

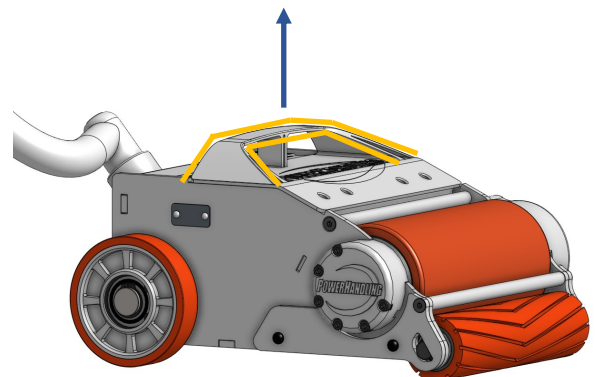
**Step 4:** Press down on the battery, to ensure the battery is completely seated.

**Step 5:** You will notice the light indicator turn white then fade out. Once the light has faded, initializing is complete. You may use your machine at any time.



### Battery Removal

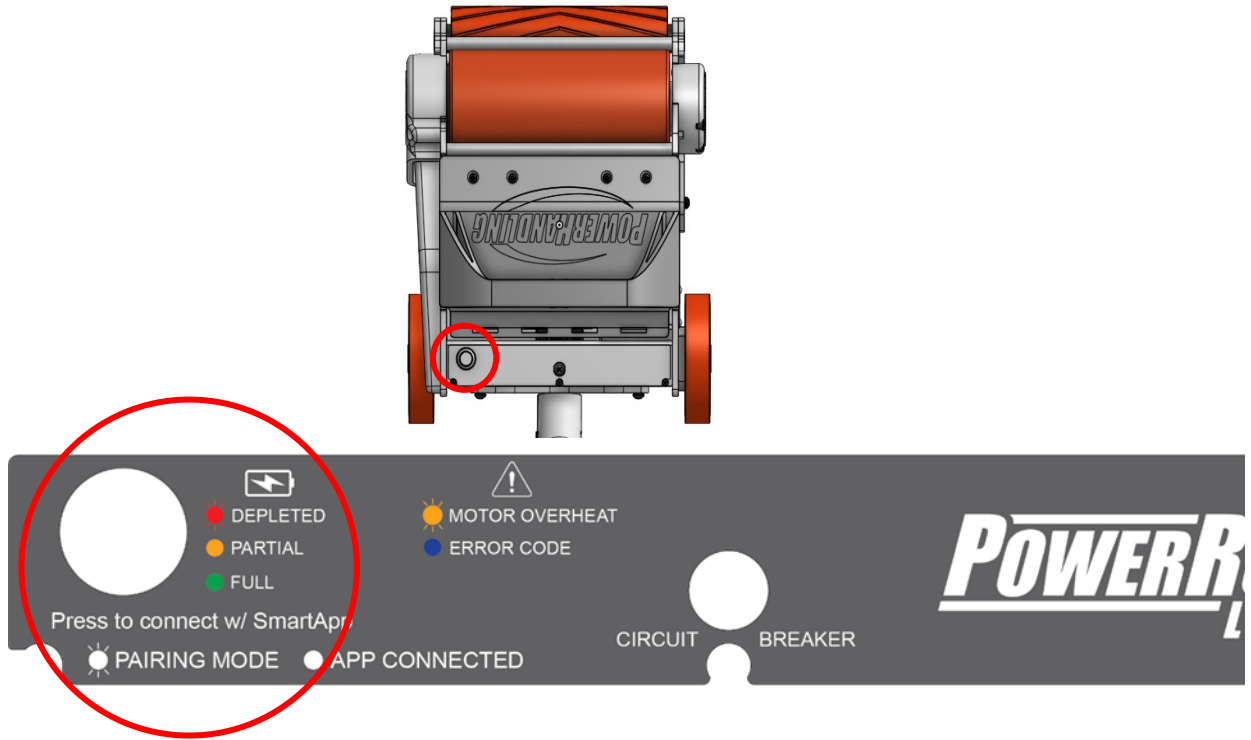
**Step 1:** While grasping the handle, pull battery up to free from chassis or charger.



## Check Battery Status (on Machine– 1 step)

**Step 1:** Battery status is communicated with an LED light located on the chassis assembly near the handle mount. Check the battery status throughout its use.

**Step 2:** Remove battery from machine and charge when indicated.



Color	LED Condition	Machine State	Deadman Switch	Condition	Explanation/Actions Required
Off	Off	Off	Not engaged	No error	Circuit not complete <a href="#">CONFIRM</a> – battery has charge, engage throttle trigger and direction toggle simultaneously.
White	Solid– Fades to off	Disabled	Will not function	Set Up Sequence	Battery is newly seated in machine. Machine running set up sequence. <a href="#">WAIT for 5 seconds before use.</a>
Green	Solid	Operational	Trigger, Direction engaged	No error	Normal operating state: Temperatures are in normal range. Battery has $\geq 75\%$ capacity <a href="#">CONTINUE Use</a>
Orange	Solid	Operational	Trigger, Direction engaged	Warning: Low Battery status	Normal operating state: Temperatures are in normal range Battery has $75\% < \text{current battery capacity} \geq 25\%$ <a href="#">CONTINUE use</a>
Red	Solid	Operational	Trigger, Direction	Very Low battery status	Normal operating state: Temperatures are in normal range. Battery has $< 25\%$ <a href="#">CONTINUED use is limited</a>
Red	Flash	Operational	Trigger, Direction engaged	Extremely Low Battery Status	!! Recharge Battery immediately. Warning: Battery at $< 10\%$ <a href="#">STOP</a> using machine. <a href="#">STOP using machine. Seat fully charged battery for continued use.</a>

## Storage

- Batteries should be stored separate from the machine and charger.
- When not in use, store the battery in a cool, dry place away from dust, debris, rodents, insects, extreme heat, flames and vibrations.
- Higher temperatures (above 20 °C or 68 °F) will reduce the battery storage life.
- When storing batteries long term, mark each battery with date of delivery.
- When storing batteries long term, limit the height of stack to 7 units high.
- When stored for long periods, recharge every 3 months.
- After prolonged storage, there is an expected loss of charge and the battery should be brought up to full charge.
- After prolonged storage, two to three charge - discharge cycles may be necessary to restore full capacity to the battery pack.
- After prolonged storage, if a battery has no charge remaining when you check it, consider it to be damaged. Do not attempt to recharge it or to use it. Contact Technical Support for assistance.

## Taking your battery out of service:

Reach out to Technical Support when:

- Your battery has lost capacity (frequent charges due to significantly diminished charge life).
- You are attempting to use it after storage, and it does not show a charge.

Dispose of battery when:

- The battery is abnormally hot at the end of its life.
- The contacts become corroded.
- The case or plastics become damaged.
- Battery plastics show signs of leaks.

Follow local battery disposal practices. See page 12 for resources.

# MAINTENANCE AND CARE



Work in a well-lit area  
Work at waist height  
Lift & Lower heavy weights carefully

## Care

- Clean the battery and charger with a dry cloth as needed. Do not use water or solvents.
- When battery is not in use, disconnect it from the machine or charger. Do not store on charger.

## Daily Maintenance Checklist

**Battery (Case):** Visually inspect condition.

Identify cracks or dents. If damage is present, do not use. Dispose / Recycle according to local guidelines.

Identify signs of leaks. (Signs of leaks include a smell like medical ether.) Immediately remove from service. Follow instructions in Safety Data Sheet for containment. Dispose / Recycle according to local guidelines.

**Battery (Contacts):** Visually inspect condition.

Identify bends, breaks, or if contacts are missing. If damage is present, contact Technical support for assistance.

Confirm contacts are free of dirt and debris. If needed, clean with a dry cloth.

**Battery (Charger):** Visually inspect status light on machine or charger.

Ensure that the battery is fully charged. Charge if needed.

## Contact Support

If the battery has an unsatisfactory performance or is prematurely discharged/ depleted, contact Technical Support.

	<b>US Office</b> NorAm, LatAM, Asia, Oceania	<b>Portugal Office</b> Europe, Middle East, Africa
<b>Customer Service</b> (parts orders)	(6:00a- 5:00p pst) sales@powerhandling.com	(8:00a-4:00p wet/utc) sales-eu@powerhandling.com
<b>Technical Support</b> (parts orders, service question)	(6:00a- 3:00p pst) service@powerhandling.com	(8:00a-4:00p wet/utc) sales-eu@powerhandling.com

# TROUBLESHOOTING

## Common Issues

Poor machine performance may indicate battery problems. To eliminate the battery as a concern, ensure the following:

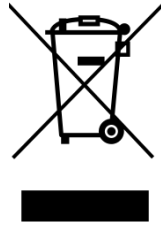
- The battery is correctly installed and securely seated on the base.
- The connectors on the battery, charger, and machine are not corroded or damaged.
- The battery is charged to full capacity.

### Battery Pack Discharges Quickly

New batteries have an expected performance of 30 minutes of continuous use. This is an average and is dependent upon customer use and site conditions. Should you have significant performance difference from the average, contact PowerHandling Technical Support.

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<b>Technical Support</b> (parts orders, service question)	(6:00a- 3:00p pst) service@powerhandling.com	(8:00a-4:00p wet/utc) sales-eu@powerhandling.com

# DISPOSAL AND RECYCLING INSTRUCTIONS



Rechargeable batteries are subject to disposal and recycling regulations that vary by country and region. Always check and follow your applicable regulations before disposing of any battery.

## European Union

In the European Union, manufacturing, handling and disposal of batteries is regulated based on the European regulations 2023/1542 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC. Customers may find detailed information on disposal in their specific countries using the website of the European Portable Batteries Association.

## USA and Canada

PowerHandling Rechargeable Li-Ion Batteries should be disposed of in accordance with local guidelines. These batteries, do contain recyclable materials. They are considered a Class 9 hazard and should be taken to separate recycling or household hazardous waste collection points. To prevent fires, tape battery terminals and/or place lithium-ion batteries in separate plastic bags. Should shipping be required follow UN 3480 for packing guidance.

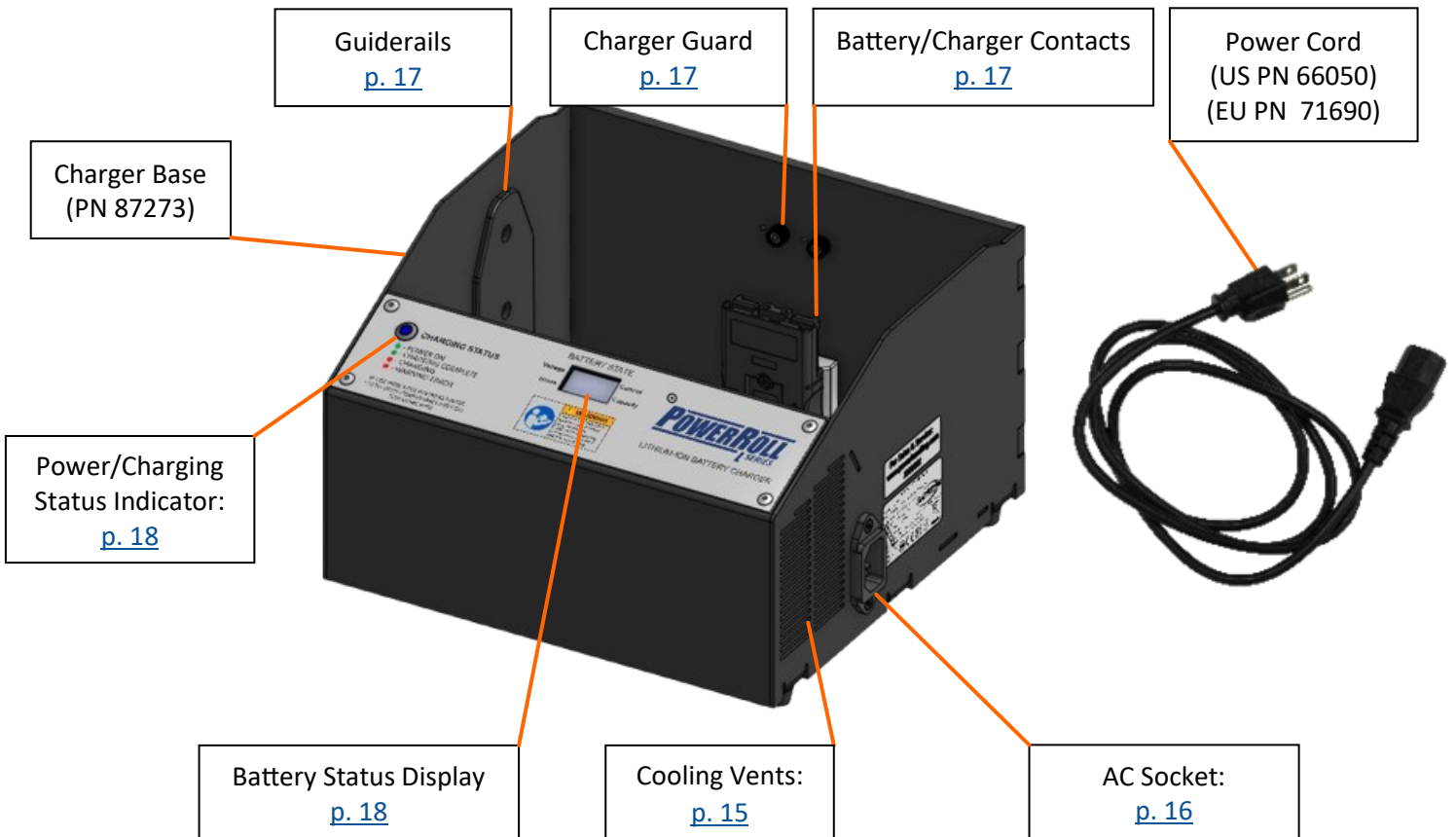


Contact [Call2Recycle | Leading the Charge For Battery Recycling](#) ( 1-877-723-1297) for U.S.A. and Canada. You can also contact your local battery recycling organization.

## Lithium Battery Charger Model 87273



<b>Battery Type</b>	Lithium
<b>Input Voltage</b>	100-240
<b>Charge Time</b>	3 Hours
<b>Weight</b>	12lbs. (5.44kg)



**ADVISORY**

The AC input will need to be connected to any properly grounded wall outlet capable of handling 100– 240V, and either 50 or 60 Hz.

# UNPACK



Work in a well-lit area  
Work at waist height

## Unboxing

Typical Shipping Contents:

Charger Base (1)  
Power Cord (1)



Packed Weight (1 charger kit):  
**13 lbs. / 4.54 kg**

**Step 1:** Inspect individual pieces for damage. Report missing or damaged items to PowerHandling.



**Take photos of damages**

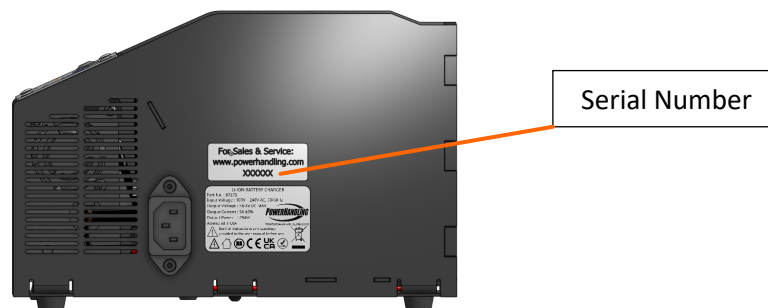


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**Motion Robotics +351.210.909.000**

**Step 2: (Recommended)** Once all the pieces are removed from packaging, save packaging for later use.

## Prepare For Use

**Step 1:** Find the charger serial number on the side of the charger. See cover for additional place to record.



**Step 2:** Stage charger near point of use,

**Step 3:** Ensure set up follows best practices:

- Keep the area next to the fan clear to allow for proper cooling.



**Shock Potential  
Burn Potential**

As a component of the PowerRoll L-Series Suite of products, this charger is designed to recharge PowerHandling Lithium battery model 87130 to full charge. This model battery has a drop-in design and just as simple to remove. PowerHandling machines, batteries, and chargers are for indoor, industrial applications. PowerHandling batteries and chargers are specifically designed to be used with each other and should not be modified from their original form.

Follow the “Best Practices” and “Safety Precautions” in this document to safely use the charger and achieve the maximum the life span.

With normal use of our charger, a three-hour charge time to bring a completely depleted battery to full charge. The batteries are expected to be charged daily. Batteries just coming out of the box will be shipped with partial charge and should be seated in the charger to verify a full charge before use.

### **BEST PRACTICES:**

*Stage a charger and extra battery near the point of use.*

*Be sure it's in an environment free of combustible material.*

*Keep air moving freely around the charger. Maintain at least 2 inches of space clear on all sides of the charger, which allows the cooling vents to cool the battery.*

*Once charging is complete, remove from charger and allow battery to cool.*

*Batteries should not be stored in the charger.*

*Protect the power cord from damage; do not it expose to excessive heat and clear of sharp objects.*

*Do charge damaged or modified batteries.*

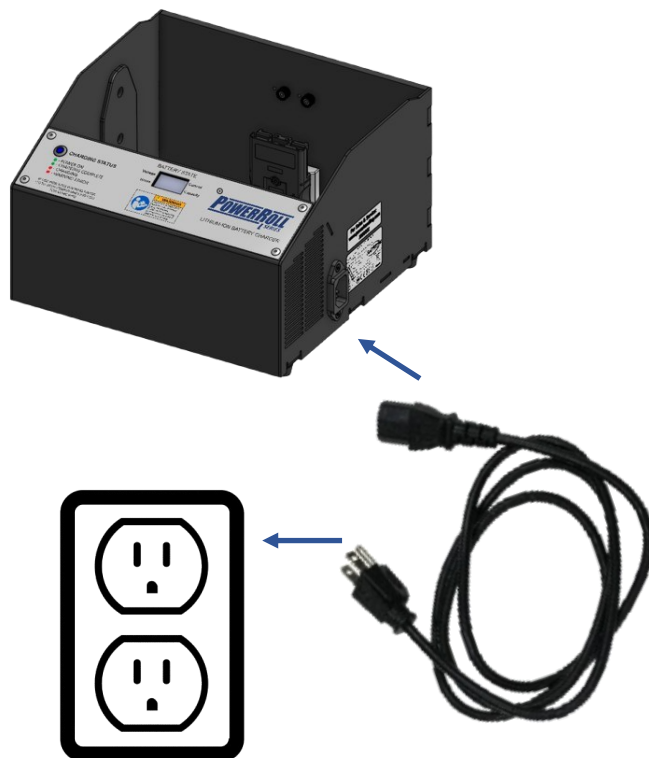
***STOP USE WITH SMOKE, FUMES, OR EXESSION HEAT.***

# ASSEMBLY

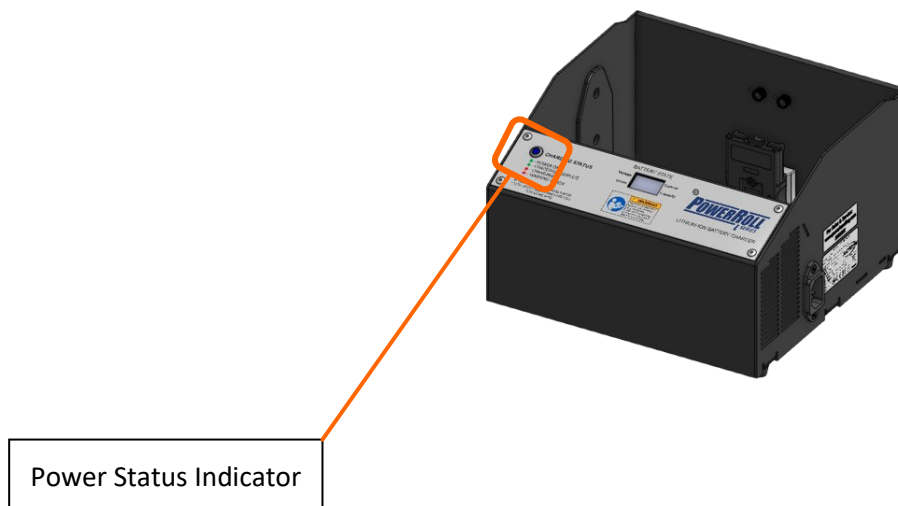
## Charger Assembly

**Step 1:** Connect power cable to the charging base.

**Step 2:** Connect power cable to appropriate outlet.



**Step 3:** Power Status Light (bottom LED light) should show green color for as long as it is connected to power.



# OPERATION INSTRUCTIONS



## ADVISORY

Only PowerHandling Lithium batteries should be installed in a lithium battery charger.

Do not force seating if stopper impede seating.

## Charging the Battery

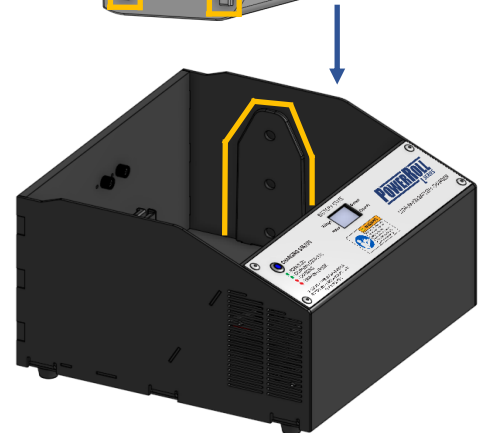
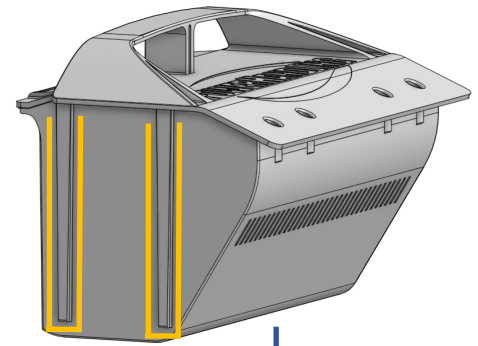
**Step 1** Ensure the charger is set up in accordance with best practices: charger contacts, display panel, and cord are free of defects, and charger is positioned with 2 inches of free space on all sides.

**Step 2:** Check that the LED light on the front of the charger is green. If not, confirm the charger is plugged in properly at the wall socket and on the side of the charger.

**Step 3:** Seat the battery in the charger using the guiderails.

Note: To prevent misuse, the charger base is equipped with charger guards, stand offs projecting from the wall of the charger base, preventing the wrong battery type from being seated.

Do not force battery installation if the battery is not seating due to the charger guards. Only Lithium batteries should be seated in the lithium charger. Find correct charger for battery.



**Step 4:** Gently push down on the battery to ensure the connections are secure.

NOTE: Red light indicates charging.

**Step 5:** Remove battery once light returns to green from red by pulling up on the handle.

NOTE: Estimated charge time is 3 hours.

**Step 6 :** Allow battery to cool and rest for 30 minutes before using.

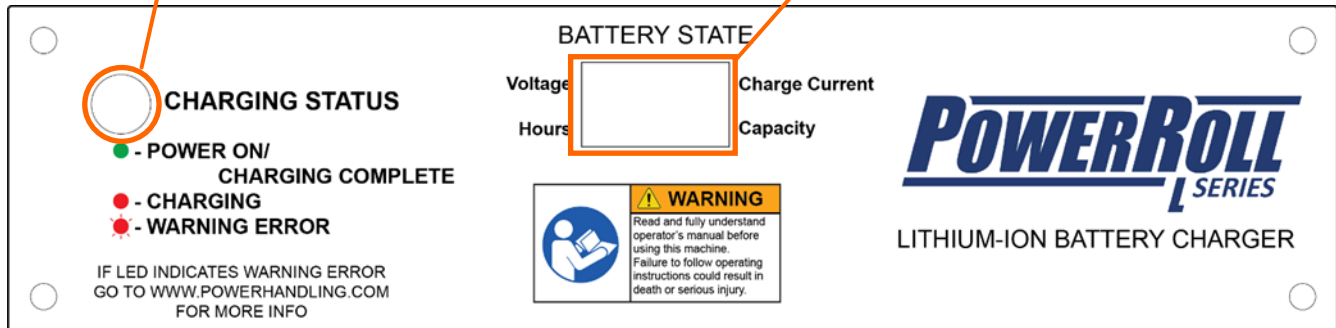
## LED Status Lights

The Li-Ion battery charger includes an internal control board in the charger base with LED indicator lights on the charger front panel that indicates the battery charge status.



Charging Status Indicator

Battery State Display



CHARGING STATUS LED		MEANING
Off		Not plugged in.
Red	Solid/no flash	Charging in progress.
Red	Flashing	WARNING: Error- Call PowerHandling Technical Support.
Green	Solid/no flash	Battery is fully charged.
Green	Flashing	Ready to charge, no battery seated.

# MAINTENANCE AND CARE

## Care

- Clean the battery and charger with a dry cloth as needed. Do not use water or solvents.

## Daily Performance Checklist

**Charger (Base):** Visually inspect condition.

Identify cracks or dents. If damage is present, contact Technical support for assistance.

**Charger (Contacts):** Visually inspect condition.

Identify bends, breaks, or if contacts are missing. If damage is present, contact Technical support for assistance.

Confirm contacts are free of dirt and debris. If needed, clean with a dry cloth.

**Charger (Cord):** Visually inspect

Confirm cord is free of cuts, exposed wire, evidence of melting/deformed wire casing, or other damage. Replace cord immediately.

## Storage

- Remove the batteries before storing. Do not store with battery installed.
- When not in use, store the battery in a cool, dry place away from dust, debris, rodents, insects, extreme heat, and flames.
- When storing chargers long term, limit the height of stack to 7 units high.

# TROUBLESHOOTING

## Battery is not charging:

- Check if the charger is properly connected.
- Ensure the power outlet is functioning.
- Inspect the charger and battery for damaged contacts.



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<b>Technical Support</b> (parts orders, service question)	(6:00a- 3:00p pst) service@powerhandling.com	(8:00a-4:00p wet/utc) sales-eu@powerhandling.com

# WARRANTY AND SUPPORT

## Lithium Batteries and Chargers Warranty

PowerHandling Incorporated hereby warrants and guarantees Lithium (NCA) Batteries and Chargers will be free from defects in materials and workmanship for the periods defined below.

- Lithium Batteries for a period of twelve (12) months from the date of delivery.
- Lithium Charger for a period of twenty-four (24) months from the date of delivery.

### **This Warranty is conditional upon:**

- The unit being used in a normal and responsible manner and for the purpose for which it was intended -
- consistent with the application details provided to PowerHandling.
- The unit is being used in accordance with PowerHandling's recommended operation, maintenance instructions, and storage outlined in the documentation provided with the product.
- The use of non-original PowerHandling replacement parts voids all warranties.
- All aforementioned parts being correctly installed, either by PowerHandling, an authorized reseller, or by the customer (per the instructions or directions provided by PowerHandling).

### **Exceptions:**

- Use only PowerHandling batteries with PowerHandling machines and chargers. Each model of PowerHandling batteries has a specific charger. The use of non-original PowerHandling parts or machines with batteries and chargers voids all warranties.
- Batteries are long-term consumables and will need to be replaced periodically. Degradation of the battery due to use is expected and not covered by the warranty.
- Life depends on many factors including cycling rate, charging practices, and operating /storage temperatures. If battery life is less than three (3) months, please review your application and charging procedures with PowerHandling to ensure they are consistent with maximizing their service life.
- The warranty does not extend to repairs made necessary by normal wear.

### **Terms & Conditions**

All parts supplied under warranty will be provided at no charge to the customer FOB, from factory once the failed parts have been received back at PowerHandling. If the warranty parts are provided in advance of the failed items being returned, they will be invoiced as a normal parts sale and then a credit note will be applied when the failed parts are received by PowerHandling. Parts will be shipped from the closest PowerHandling location with inventory.

In the event of a claim being made under the terms of this Warranty which requires the unit to be returned to PowerHandling, the customer must first obtain a Return Material Authorization (RMA) from PowerHandling. All freight and related duties and other costs are to customer's account. All parts and labor costs incurred for the repair and / or replacement of warranted parts will be provided at no charge to the customer.

PowerHandling and its distributors, agents, and resellers assume no other responsibility beyond the scope of this Warranty. The repair or replacement of the said unit constitutes the limit of PowerHandling's liability to the customer and PowerHandling specifically disclaims and excludes rescission as a remedy, or the payment of compensatory or consequential damages, attorney's fees or costs of litigation.



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