YROBOT




YR-IFU-0008

# PowrKnee Exoskeleton

USER MANUAL

PowrGo

Download App

Tutorial

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# Statement

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The illustrations of the product and accessories in this manual are for reference only. Due to product updates or upgrades, the actual product may differ slightly from the images shown. This manual may be revised without prior notice as product design or technical specifications change. Please refer to the latest product features, configurations, and actual product for accuracy.

Before using the device, please read this manual carefully to ensure proper operation. After reading, keep this manual in a safe place for future reference.

Yrobot reserves the final right of interpretation for this manual. Yrobot is not responsible for modifying documentation for products that have already been sold.

Yrobot will assume responsibility for the product's safety, reliability, and performance only when all of the following conditions are met:
(1) All repairs or upgrades are performed by Yrobot-authorized and trained service personnel.;
(2) All replacement parts, accessories, and consumables used during maintenance are genuine Yrobot components.;
(3) The device is operated strictly in accordance with the instructions in this manual;

# Chapter 1: Safety Instructions

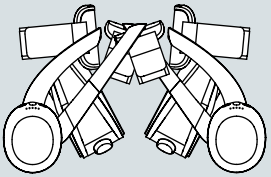
To ensure user safety and prolong the service life of the device, please follow all safety instructions listed below.

| Type | Instruction |
| --- | --- |
| ⚠ WARNING | (1)All repairs and upgrades must be performed only by Yrobot-authorized and trained service personnel. Do not attempt to service the device yourself.<br>(2)Do not use any parts, accessories, or components that are not approved by Yrobot.<br>(3)This product contains a lithium battery. Do not disassemble, modify, immerse the product in water, or throw it into a fire. Doing so may cause damage or result in a safety hazards. |
| ⚠ CAUTION | (1)Always wear the device according to the instructions in this manual. Improper use may lead to device malfunction.<br>(2)The battery may lose charge after first-time use or long-term storage. Charge the battery according to the instructions before use to ensure normal operation.<br>(3)Visually inspect the device before each use to ensure there is no mechanical damage.<br>(4)Operating environment: -10 ° C to 40 ° C, humidity ≤93%.<br>(5)The device can be cleaned using 75% isopropyl alcohol.<br>(6)This device contains components and materials that may be hazardous to the environment (e.g., lithium batteries, PCB boards, electronic components). At the end of the product's service life, these materials are considered hazardous waste under applicable international, national, and local regulations. Please dispose of the device in accordance with environmental protection guidelines |

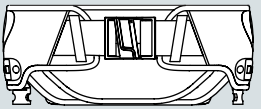
# Chapter 2: Product Introduction

## 2.1 Package Contents

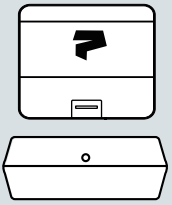
The package includes the following items



**Main Device**
(Including the Leg Support Assembly)



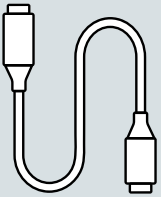
**Waist Belt**



**Charging Dock+ BatteryX2**

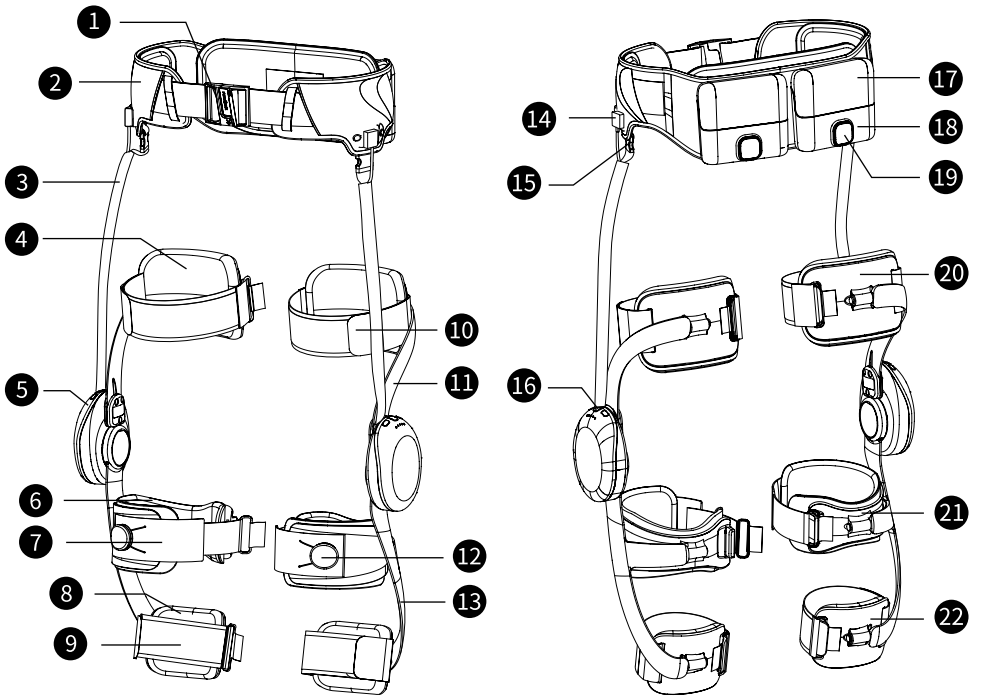



**User Manual**
(Including Warranty Card and Certificate of Conformity)



**Type-C Charging Cable**

## 2.2 Product Diagram




1 Waist Buckle
2 Waist Belt
3 Suspension Strap
4 Thigh Cushion Pad
5 Motor
6 Knee Cushion Pad
7 Knee Strap
8 Calf Cushion Pad
9 Calf Strap
10 Thigh Strap
11 Thigh arm
12 Adjustment Konb
13 Calf Arm
14 Power Connector
15 Strap Buckle
16 Control Button
17 Battery
18 Battery Slot
19 Battery Release Button
20 Thigh Support Plate
21 Knee Support Plate
22 Calf Support Plate

## 2.3 Specifications

To ensure user safety and prolong the service life of the device, please follow all safety instructions listed below.

| Product Versions | PowrKnee Pro | PowrKnee Ultra |
|---|---|---|
| Model | Powr -KNE-1B2 | Powr -KNE-1B3 |
| Package Dimensions | 540mmx370mmx165mm | |
| Folded Leg Support Assembly Dimensions | 340mmx160mmx110mm | |
| Folded Waist Belt Dimensions | 300mmx125mmx80mm | |
| Net Weight | Approx. 2kg | |
| Materials | Nylon + Magnesium Alloy | Carbon Fiber + Magnesium Alloy + Titanium |
| Storage Environment | – 40° C to 70° C (-40 °F -158 °F ); Humidity ≤93% RH | |
| Operating Environment | – 10° C to 40° C (14 °F -104 °F ); Humidity ≤93% RH | |
| Control Frequency | 500Hz | 1000Hz |
| Max Output | 1200W | 1520W |
| Range | 32km (19.9mile) | |
| Nominal Capacity | 2900mAh | |
| Charging Port | Type C | |
| Power Charger Input | DC 9~20V/2~5A | |
| Power Charger Output | DC 21V/Max 2.8A | |
| Charging Time | ≤2.5H(≥65W charger, two batteries)<br>≤1.5H(≥65W charger， one battery) | |
| Protection Level | IP54 | |
| Assistance Levels | 4 levels | |
| Assistance Modes | Auto Mode, Free Mode, Workout Mode, Relax Mode | |
| Knee Range of Motion | 135° | |
| Energy Expenditure Reduction | Up to 32% | Up to 40% |

| | | |
|---|---|---|
| Regenerative Energy Harvesting | Not supported | Supported |
| GPS | Not supported | Supported |
| AI Scene Recognition | Walking, Stair Ascent, Stair Descent, Squatting, Ramp | Walking, Stair Ascent, Stair Descent, Squatting, Ramp, Running, Jumping, Cycling, Skiing |

**Notes:**

- The parameters listed for both Pro and Ultra versions refer to dual-leg models. Single-leg versions differ in package size, net weight, power, travel range, and energy reduction due to fewer components and one battery. All other specifications remain the same.
- Folded leg support dimensions refer to a single leg support.
- Travel range, energy reduction, and performance figures are based on laboratory tests conducted under standard conditions. Actual results may vary depending on usage mode, assistance level, environment, and other factors.
- A charger rated at ≥65 W indicates that the charging dock receives an input of DC ≥20 V / 3.25 A, enabling the charging dock to activate fast charging mode; The input voltage to the charging dock must not exceed 21V; Charging efficiency may vary depending on the input power.

# Chapter 3 Basic Operation

## 3.1 Download the PowrGo App

Option 1:

Scan the QR code below with your smartphone camera to download the PowrGo App.

PowrGo

Option 2:

Visit the following link to download the latest version and view update notes:
https://app.yrobot.com/powrgo/

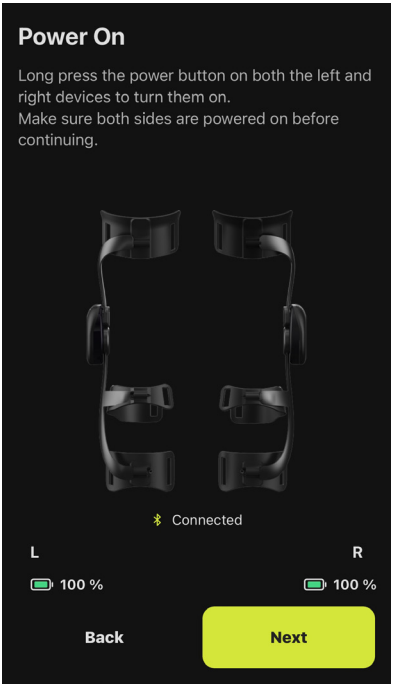
Option 3:

Search "PowrGo" on Google Play or the Apple App Store and download the app.

## 3.2 Create an App Account and Complete Setup

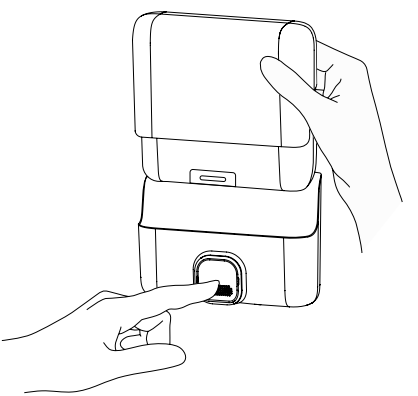
(1) Register an account in the PowrGo App.
(2) Scan the QR code located on the inner side of the motor to activate the device.
(3) After activation, follow the wearing guide and device connection instructions in the App. Once connected, the device will be successfully paired with your App.






## 3.3 Prepare the Device

Open the package and take out the body structure and waist belt.
The battery is pre-installed in the battery slot.
To remove the battery, press the Battery Release Button and pull upward.
To install the battery, align the battery with the slot (logo facing outward, latch facing downward), insert it until you hear a "click", indicating proper installation. Ensure the battery has sufficient charge. If low, charge the battery using the included charging dock.

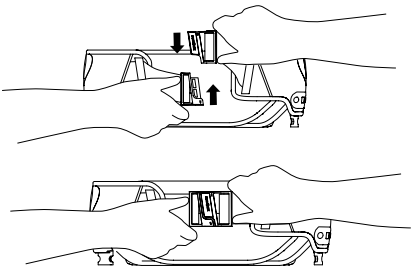


NOTE:
(1) When battery power is low, the status indicator flashes orange alternately with another color.
(2) Refer to Section 3.6 Charging the Device for details.

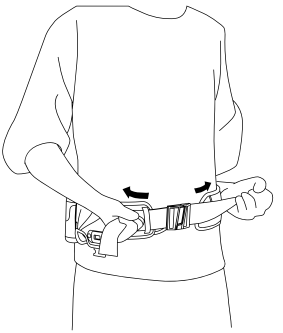
## 3.4 Wearing the Device

### 1. Put on the Waist Belt

Put on the waist belt with the buckle in front and the battery at the back.
Fasten the magnetic buckle in the center, tighten the belt until comfortably snug, and tuck excess straps into the side storage pockets for a cleaner appearance.



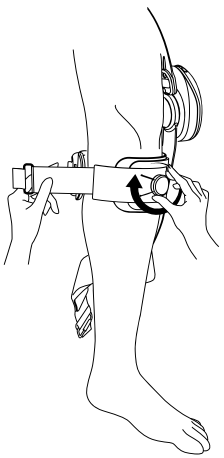
STEP 0-1



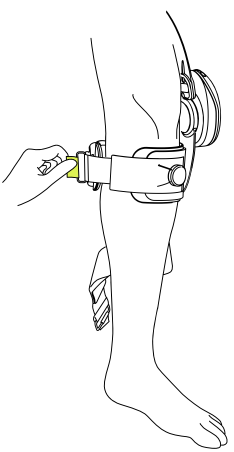
STEP 0-2

### 2. Put on the Leg Structure

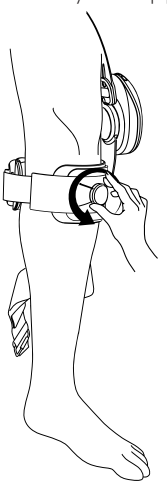
Step 1:
Align the Motor with the Outer Side of Your Knee (Very Important). Position the motor on the outer side of the knee. Secure the Knee Strap first, with the top of the strap directly under your kneecap. Rotate the adjustment knob inward until you hear a "click" to unlock the strap. Pull the strap outward and fasten it into the strap buckle on the support assembly. Then rotate the knob outward to tighten the strap until it fits snugly and comfortably around your upper calf.



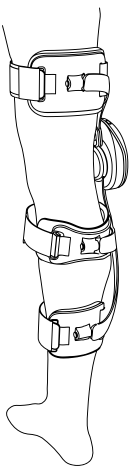
STEP 1-1



STEP 1-2

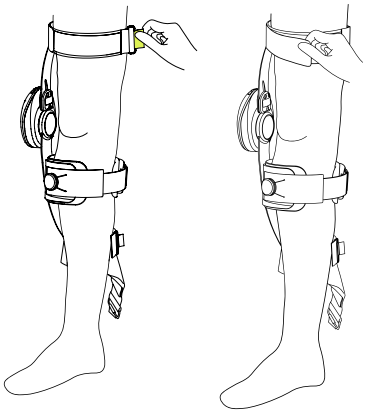


STEP 1-3



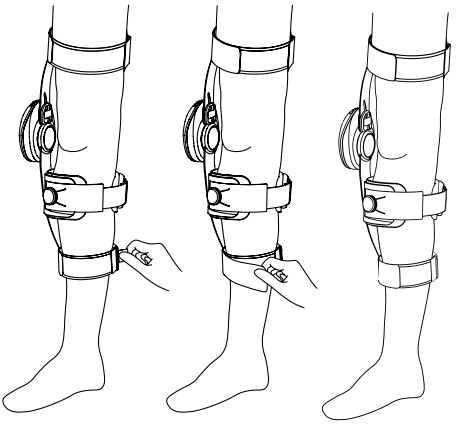
STEP 1-4

Step 2:
Fasten the thigh strap, adjust the Velcro to ensure a snug and comfortable fit.



STEP 2-1 STEP 2-2

Step 3:
Fasten the lower calf strap, adjust until it fits the lower calf securely.

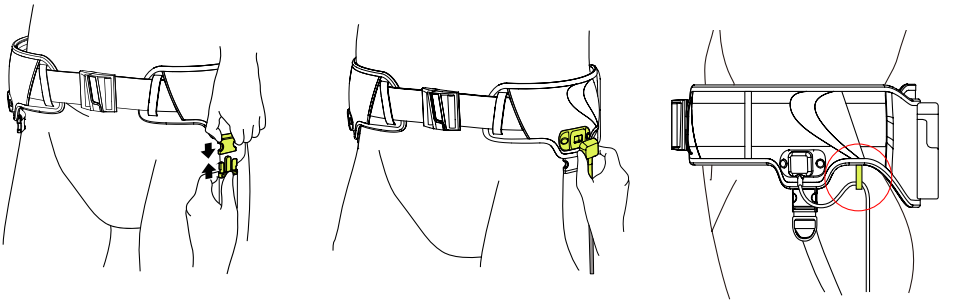


STEP 3-1 STEP 3-2 STEP 3-3

Step 4:
Repeat the same steps for the other leg.

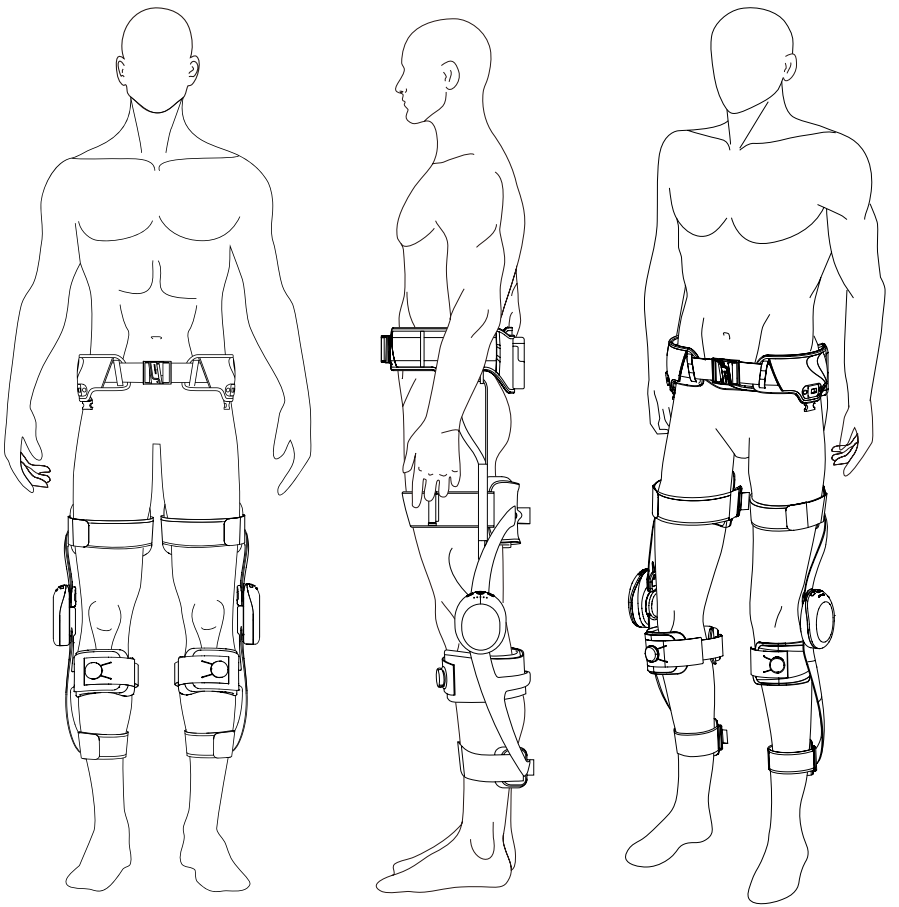
## 3. Connect the Leg structure to the Waist Belt

Fasten the suspension strap buckles, connect the power connector, and pull downward on the suspension straps to adjust the length according to your height. If the suspension strap is too long, use the built-in Velcro keeper to secure the excess strap so it stays neat and does not stick out.

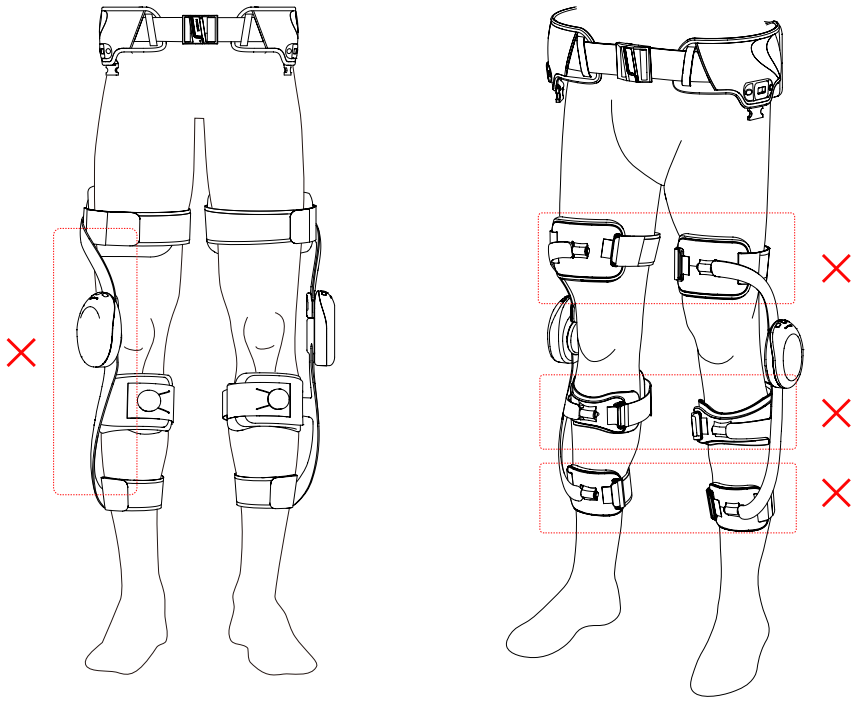


## 4. Final Check

- Both sides are worn at equal height
- Motor position is aligned with the outer side of the knee and parallel to the knee joint
- The knee strap is directly under you kneecap
- If wearing pants, ensure that material isn't bunched up around the straps or motor
- All straps are tightened securely, flat, and not twisted



Correct Wearing Illustration



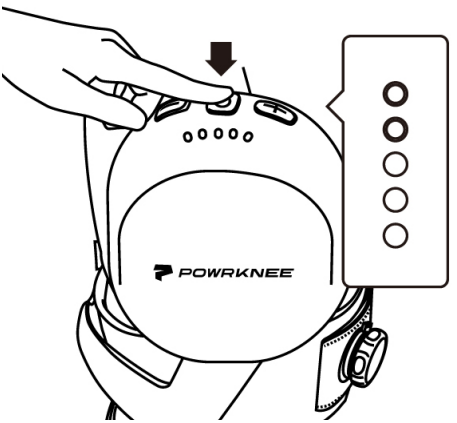
⊗ Incorrect Wearing Illustration

NOTE:
(1) You may also follow the step-by-step wearing tutorial video inside the App.
(2) Incorrect wearing may cause device malfunction or personal injury during movement.
(3) Do not wear long skirts or dresses when using this device.

## 3.5 Starting the Device

### 1. Power On

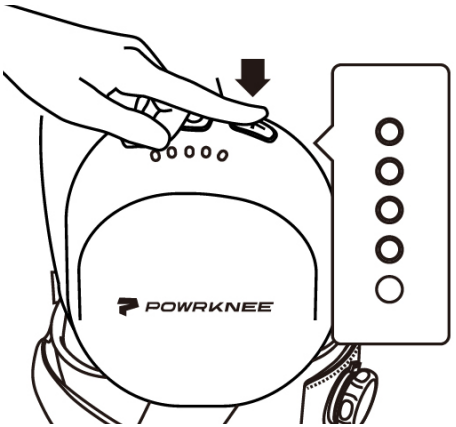
Press and hold the Power Button for 2 seconds until the indicator lights turn on.
For dual-leg versions, power on both sides.



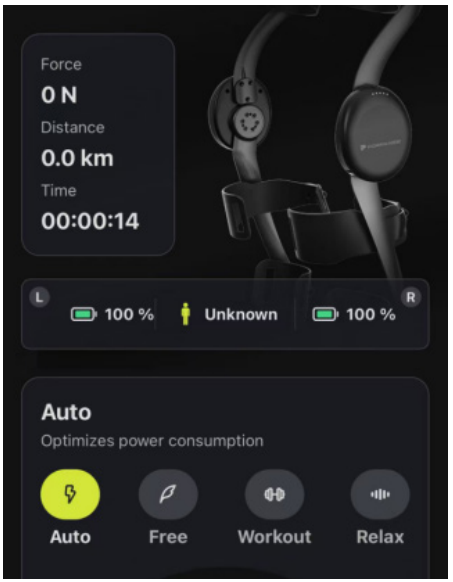

NOTE:
The device automatically enters calibration mode upon startup. Keep both legs still during calibration.

## 2. Adjusting Assistance Levels

The device starts in Auto Mode by default.
Use the "+" and "–" buttons beside the Power Button to adjust assistance levels as needed.
You may adjust levels anytime during use.



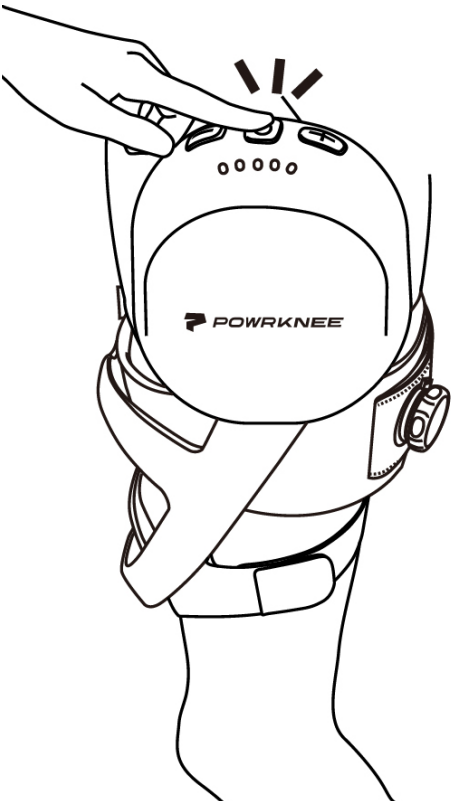

Other modes (Workout / Relax) must be selected and adjusted in the App.




## 3. Mode Descriptions

- Auto Mode: The device automatically detects your movement and provides appropriate assistance.
- Free Mode: No assistance or resistance is applied, allowing natural joint movement.
- Workout Mode: Provides resistance for strength training.
- Relax Mode: Drives rhythmic leg vibration to create a massage effect

Mode Switching:
Short Press Power Button: Toggles between Auto Mode (green) and Free Mode (white).



### 4. Power Off

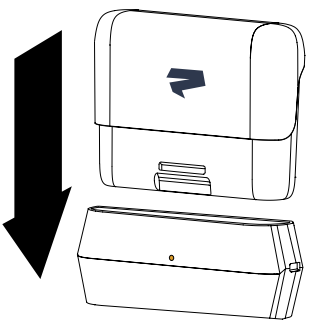
Press and hold the Power Button on each side for 2 seconds until the indicator lights turn off.

### 5. Take off the Device

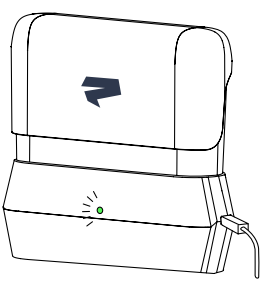
- Power off the device.
- Release knee strap, calf straps and thigh straps on both sides.
- Unfasten the waist belt and remove the device.
- For convenience, you may leave the suspension strap connected to the waist belt for next use.

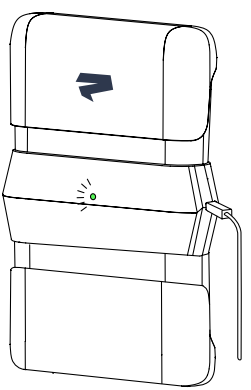
## 3.6 Charging the Device

Step 1:
Remove the battery from the device and insert it into the charging dock. When powered via a Type-C cable, the dock's indicator turns orange, indicating charging.



Step 2:
When fully charged, the indicator turns green.





NOTE:

(1) Do not use any third-party charging dock.

(2) The included charging dock supports charging two batteries simultaneously, or one battery individually.

## 3.7 Device Faults

If the PowrKnee Exoskeleton encounters an error, the status indicator will flash red.
Please contact customer service for warranty, repair, or replacement assistance.

## 3.8 Indicator Light Description

| | LED Status | Mode |
|---|---|---|
| Mode Indicator | Green (steady) | Auto Mode |
| | White (steady) | Free mode |
| | Purple (steady) | Workout Mode |
| | Blue (steady) | Relax Mode |
| | Off | Power Off |
| | Green breathing | Powering On/Off |
| | Green/Orange breathing | Low battery in Auto Mode |
| | White/Orange breathing | Low battery in Free Mode |
| | Purple/Orange breathing | Low battery in Workout Mode |
| | Blue/Orange breathing | Low battery in Relax Mode |
| | Red breathing | Error |
| | Red/Orange breathing | Error + Low Battery |
| Assistance Level Indicator | White LEDs indicate current assistance level (number of LEDs = level). | |
| Charging Dock Indicator | Orange (steady) | Charging |
| | Green (steady) | Fully Charged / Standby |
| | Off | Not Powered |

# Chapter 4: Maintenance & Care

## Cleaning

- Before cleaning or performing maintenance on the PowrKnee Exoskeleton, make sure the device is powered off. You may clean the device using: A soft damp cloth, or a small amount of 75% isopropyl alcohol for disinfection. Important precautions during cleaning: Avoid wiping or allowing liquid to enter the charging port, battery slot, battery connectors, and any electrical interfaces.
- For routine maintenance, wipe the device with a mild, neutral detergent and a soft cloth. Do not use corrosive cleaners or solvents. Do not immerse the device in water or rinse it under running water.
- Prevent any liquid from entering the internal structure of the device, as this may cause short circuits or electric shock hazards.

## Storage

- Storage environment: Temperature – 40° C to 70° C; Humidity ≤93%
- If the device will not be used for an extended period, fully charge the battery before storage.
- During long-term storage, recharge the device every 3–6 months to maintain battery health.

# Chapter 5: After-Sales Service & Support

## 1.Warranty Coverage

- The PowrKnee Exoskeleton comes with a standard one-year warranty, starting from the date of purchase as shown on a valid proof of purchase.
- The warranty does not cover consumable accessories such as: Waist belt; leg straps; other fabric-based components, any non-standard accessories not included with the original product.
- Yrobot may, at its discretion, choose to repair the product, replace components with new or equivalent parts, or exchange the device for a product with similar or improved functionality.
- If the product or parts are replaced free of charge, the new warranty period will be the longer of the following:
  1)The remaining portion of the original warranty period.
  2) 90 days from the date the repaired or replaced product is delivered to you.
  3) Any period required under applicable laws.

- For paid repairs or paid part replacements, the warranty for the replaced parts is 90 days from the delivery date.

## 2. Warranty Documentation

- Valid proof of purchase includes: A tax invoice; A receipt or document bearing an official seal; Online order records from authorized platforms (warranty start date is the logistics delivery date); Handwritten receipts are not accepted.
- If you request warranty service but cannot provide purchase documentation, or if Yrobot cannot verify the seller (e.g., unauthorized auction sellers), the warranty period will be considered to have started one month after the product's manufacturing date indicated on the label or serial number.

## 3. Conditions Not Covered by Free Warranty

Free warranty service does not apply in the following cases:

- The warranty documents have been altered or are illegible
- The product serial number, model label, or production date has been altered or removed
  Repairs or modifications performed by non-authorized personnel
- Damage caused by misuse or incorrect operation
- Damage resulting from excessive use beyond intended conditions (e.g., continuous commercial use)
- Damage caused by using the product outside the environmental conditions stated in this manual
- Damage caused by connecting external devices or accessories not recommended by the user manual
- Damage caused by animals, lightning, abnormal voltage, fire, natural disasters, transportation, or water exposure (except where explicitly stated as water-washable)
- Normal wear and tear that does not affect product functionality
- Use in a country or region for which the device was not originally designed or certified
- Damage caused by third-party apps, firmware, or software not provided by Yrobot

## 4. Extended Warranty Service

Free warranty service does not apply in the following cases:

➤ If you have purchased an extended warranty service, please provide the extended warranty certificate. Yrobot will provide warranty coverage according to the purchased extension plan.

| Product Information | | | |
|---|---|---|---|
| Product Name | PowrKnee Exoskeleton | | |
| Model | ☐ Powr-KNE-1R1 ☐ Powr-KNE-1L1 ☐ Powr-KNE-1B1<br>☐ Powr-KNE-1R2 ☐ Powr-KNE-1L2 ☐ Powr-KNE-1B2<br>☐ Powr-KNE-1R3 ☐ Powr-KNE-1L3 ☐ Powr-KNE-1B3 | | |
| Serial Number | | | |
| Date of Purchase | | | |
| Seller / Distributor | | | |
| **Service Record** | | | |
| Date | Service Details | Technician | User Signature |
| | | | |
| | | | |
| | | | |
| | | | |

### Certificate of Conformity

This certifies that the product listed below has passed quality inspection and complies with relevant safety and performance standards before leaving the factory.

YROBOT

Technology Empowering the Freedom of Life

545 Concord Ave, Cambridge, MA 02138, USA
(617)902-0603
hi@yrobot.com