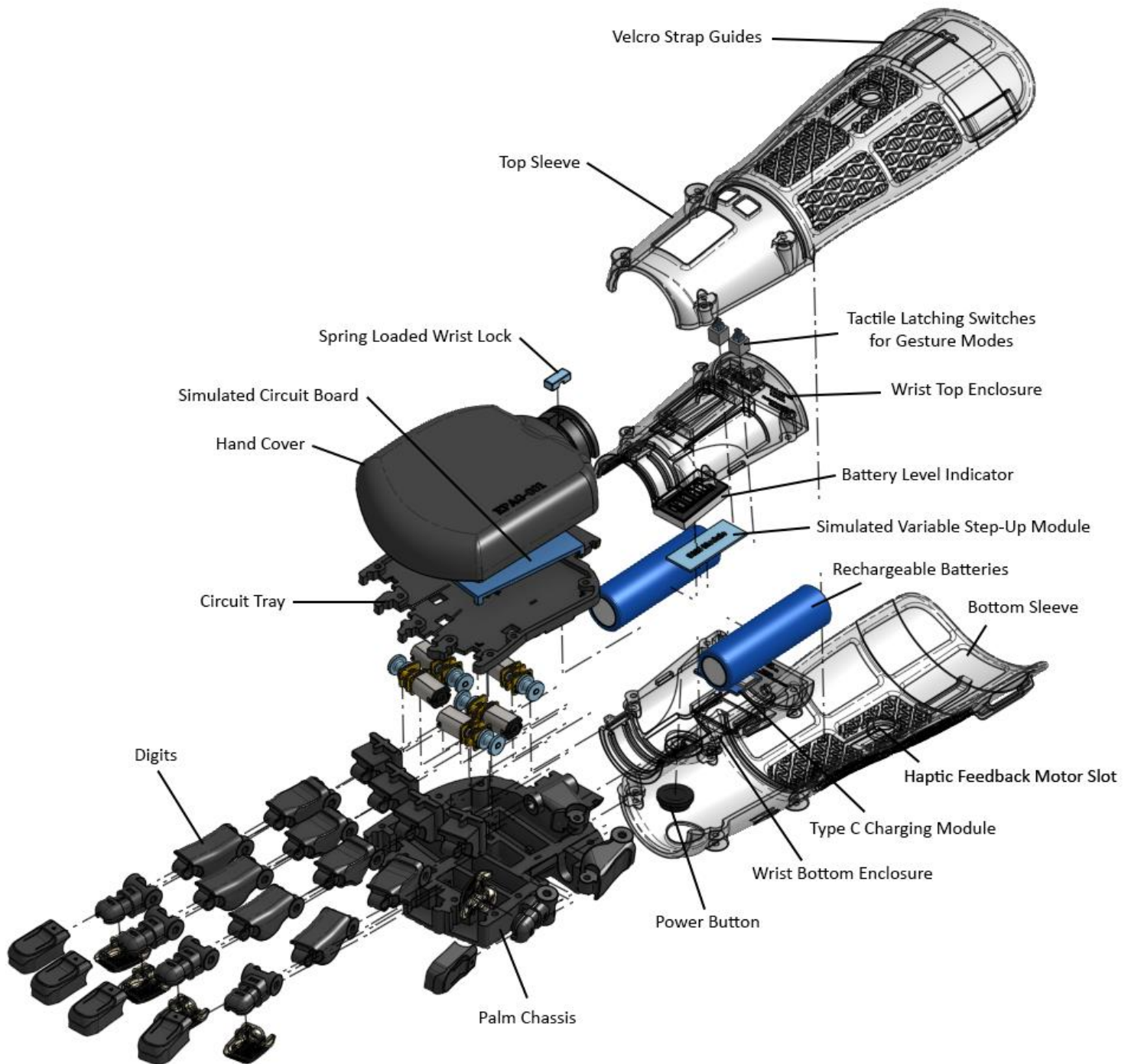


EMG PH V3.1

User Manual

Exploded View of the Device



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Introduction

EMG PH V3.1 is a powered prosthetic hand controlled by your muscles, which use sensors to detect the electrical signals. This technology allows for more natural and intuitive control of the prosthetic hand, allowing users to perform complex tasks with ease.

This user manual will give you overview of how to use, care for, and maintain your device, as well as important safety precautions to follow when using the device. We encourage you to read the manual carefully and to keep it handy for future reference.

We hope that your prosthetic hand device will provide you with greater independence and functionality, and that it will become an integral part of your daily life.

What's in the Box

- | | |
|--------------------------|------------------|
| 1 x Prosthetic Hand | 1 x Wrist Socket |
| 2 x Battery | 2 x EMG Sensors |
| 1 x Type-C Charger Cable | 1 x Strap |
| 1 x Forearm Socket | |

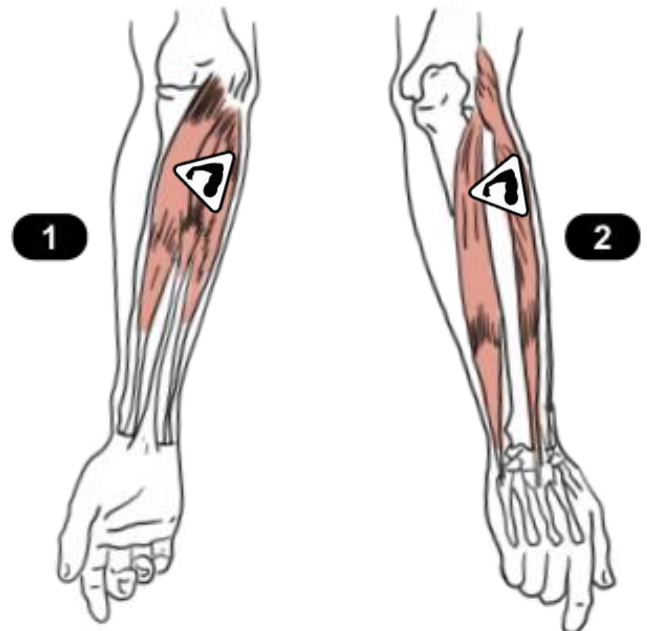
Skin Preparation

To get accurate surface electromyography (EMG) readings, it is essential to ensure good electrode to skin contact. This can be achieved by first cleaning the skin thoroughly with alcohol or sanitizer to remove any inhibitory particles that may interfere with the signal. Additionally, if there are any hairs obstructing the electrode contact, they should be shaved to improve the quality of the readings.



Positioning the Sensors

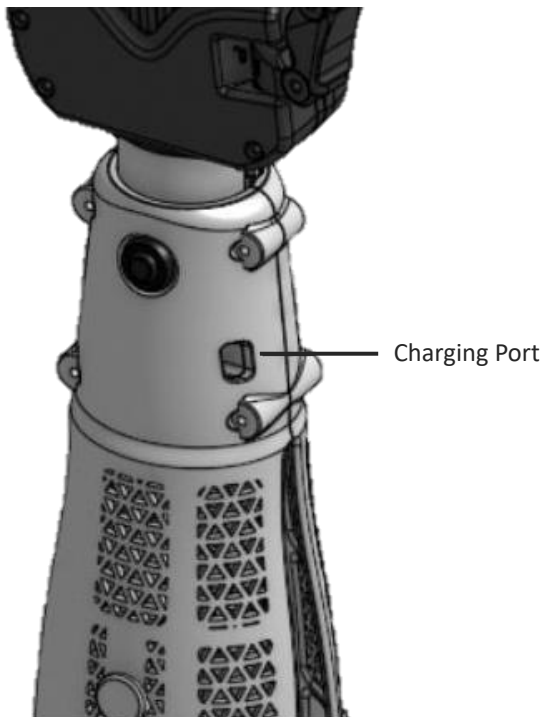
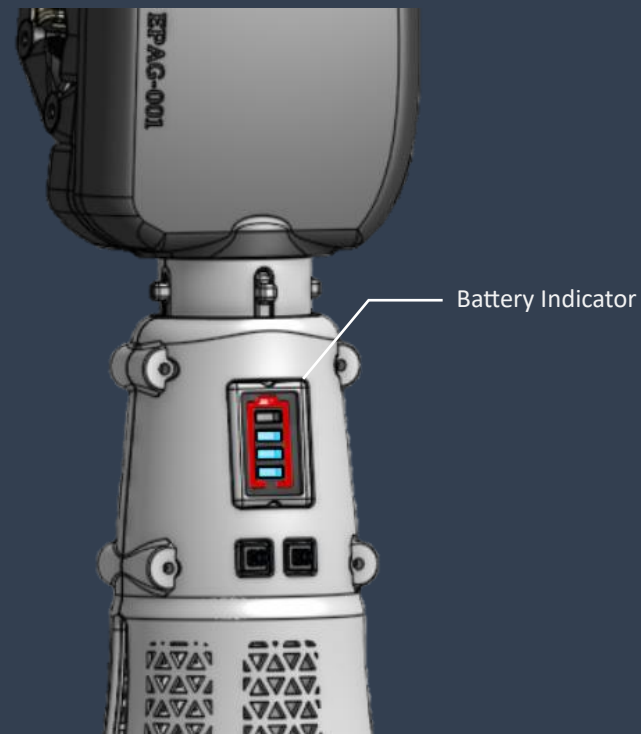
Proper placement of the Myoware Muscle Sensor is important for accurate measurement of muscle activity. To get started, position the sensors to Extensor carpi ulnaris and Flexor digitorum profundus. Place the MID electrode in the center of the muscle belly, with the END electrode aligned along the direction of the muscle fibers. The REF electrode should be placed adjacent to the muscle body.



Battery Indicator Level

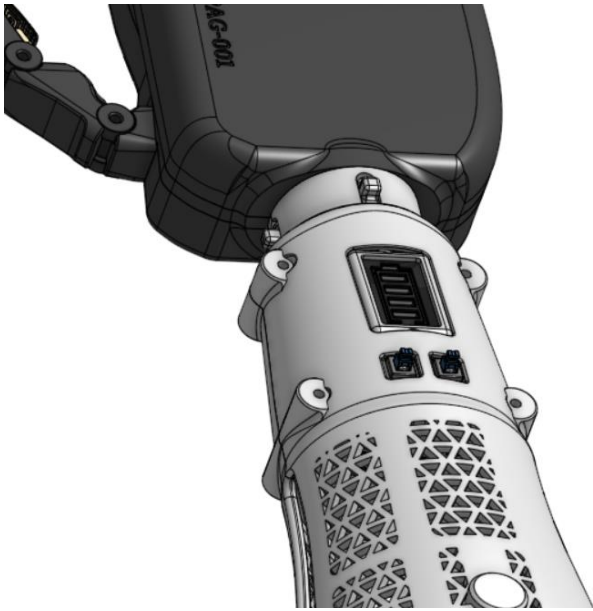
The battery indicator allows users to monitor the level of battery life remaining in the device.

When the prosthetic hand is fully charged, the battery indicator level will display a two (2) bars LED. As the battery life decreases, the indicator level will show fewer LED bar, indicating that the battery is becoming depleted.



Charging the Device

The charging port located on the wrist, the device includes a rechargeable battery and charger. The battery life of your prosthesis will depend on how often and heavily you use it. Please note that it is important to only use the charger provided to avoid any damage to the battery.



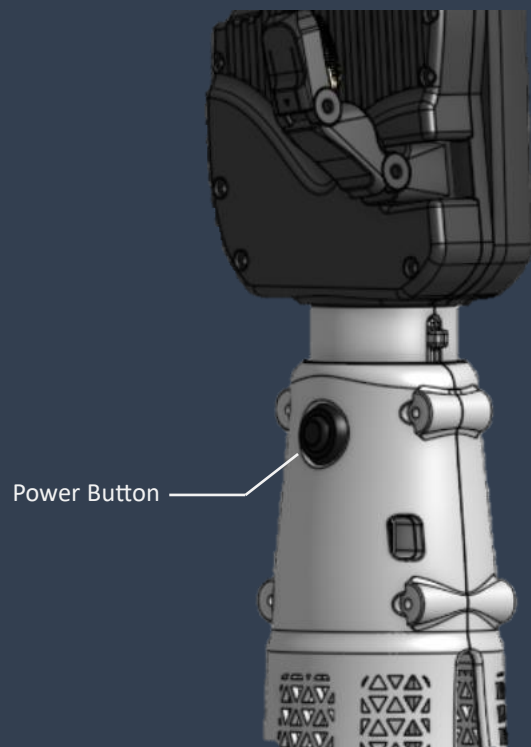
Gesture Buttons

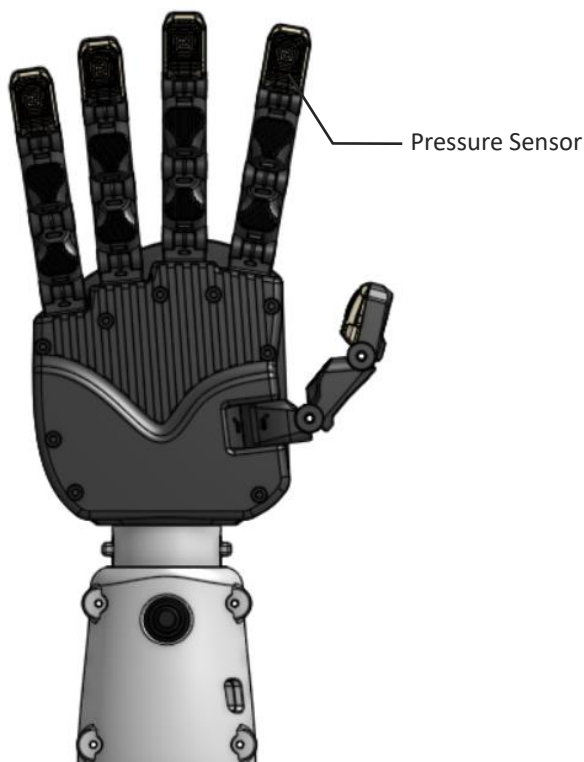
Your prosthetic hand device comes with gesture buttons that allows you to activate different movements with a simple press of a button. The left button has three different movements Pinch, Rest, and Close and the right button have Hook, Rest, and Point. Perform the specific muscle movements with the function you want to activate.

Power Button

Press the button once to turn on the device, you should see a light or battery indicator on the device turn on to confirm that it is powered on and ready to use. To turn off the device, press the button again until the indicator light turns off.

Note: It is important to turn off the device when it is not in use to conserve battery life.



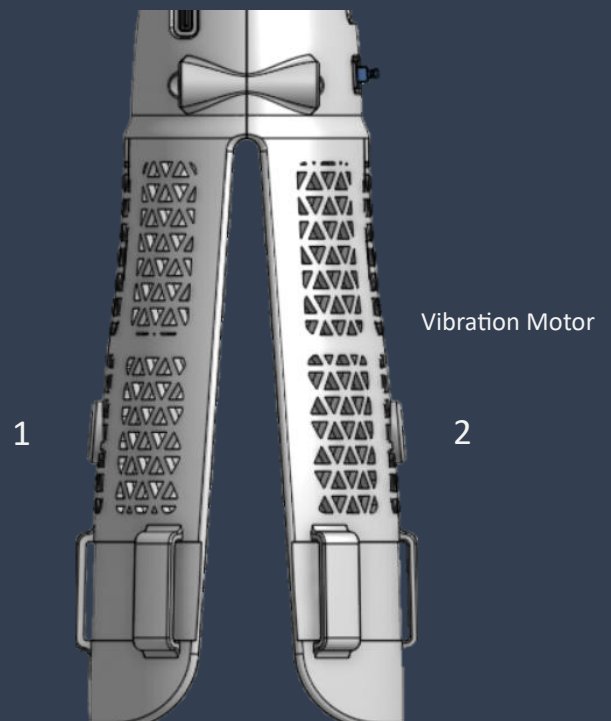


Force Sensitive Resistor

Your prosthetic hand device includes a pressure sensor located on the index finger. When the device comes into contact with an object or surface, the pressure sensor detects the amount of force being applied and provide feedback to the user through vibrations.

Feedback System

Your device includes a vibration motor that is linked to a force sensitive resistor. The force sensitive resistor will detect the amount of force applied and trigger the vibration motor to provide feedback to the user.



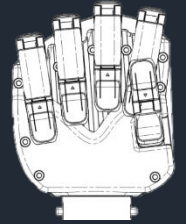
Multiple Grips

The EMG PH V3.1 Hand has two (2) switching options to give you fast access to a multiple of grips. To change grips, you can press the microswitch button.

- The first grip button has fist, hook, and rest
- The second grip button has point, tip, and rest

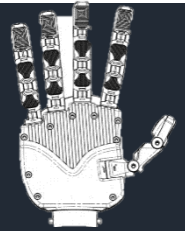
Fist

This grip provides a secure and stable grip that is useful for many everyday tasks, can be used for holding object/s like water bottle.



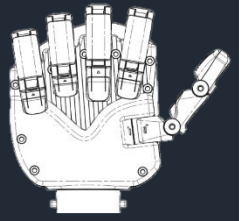
Rest

This grip is used when holding light objects for an extended period, such as when reading a book or holding a plate.



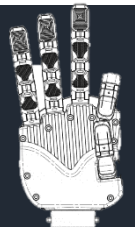
Hook

This grip is useful for activities that require lifting or carrying objects, such as lifting weights or carrying briefcase.



Tip

This grip is designed to provide a small, precise grip that can be used to hold and manipulate small objects, such as bottle cap, card, and key.



Point

This grip can be used to interact with small buttons or switches.



Using Your Prosthetic Hand

1. Put on your prosthetic socket and make sure it fits snugly around your residual limb. Adjust the fit as needed to ensure comfort and stability.
2. Turn on the device by pressing the power button. The device will work and the battery indicator light will turn on to indicate that it is ready to use.
3. Position your residual limb in a comfortable position for using the prosthetic hand. You may need to adjust the position of your body or chair to ensure optimal reach and control.
4. Activate the grasping function of the prosthetic hand by performing a specific muscle movement, such as flexion, extension, and fist. The prosthetic hand will close around the object you want to grasp.
5. Release the object by performing another specific muscle movement, such as extending your wrist or relaxing your forearm muscles and making fist. The prosthetic hand will open and release the object.
6. Experiment with different muscle movements to discover the full range of functions and movements of your prosthetic hand. You can press the mode button to grasp, point, hook, and tip movements.
7. When you are finished using the prosthetic hand, turn it off by pressing the power button. The battery indicator light will turn off to indicate that it is off.
8. Remove the socket and clean it using a soft, damp cloth. Do not use abrasive or harsh cleaning products.
9. Store the prosthetic hand device in a safe and dry location, away from extreme temperatures or moisture.



Caring for the Device

1. Clean the device: To clean the device, use a soft, damp cloth to wipe the surface. Do not submerge the device in water or use harsh chemicals.
2. Store the device: When not in use, store the device in a cool, dry place. Avoid exposing the device to extreme temperatures or water.
3. Replace parts as needed: Over time, certain parts of the prosthetic hand device may need to be replaced.

Safety Precautions:

- ⚠ Always check the device for any signs of damage or wear before using it. Do not use the device if it appears damaged or broken.
- ⚠ Do not use the prosthetic hand device near water or in wet conditions, as this can damage the device and cause injury.
- ⚠ Do not expose the device to extreme temperatures or direct sunlight.
- ⚠ Keep the device out of reach of children and pets.
- ⚠ Always charge the battery in a well-ventilated area and do not leave it unattended while charging.
- ⚠ When not in use, store the device in a cool, dry place away from direct sunlight.
- ⚠ Follow all instructions provided for proper use and care of the device.

Troubleshooting

If you experience any issues with your device, please consult this troubleshooting guide:

Issue: The prosthetic hand is not responding to my commands.

Solution: Check the power supply of your prosthetic hand. Make sure it is properly charged and turned on. If the power supply is not the issue, try resetting the device.

Issue: The prosthetic hand is not fitting properly.

Solution: Make sure that the prosthetic hand is properly adjusted and fitted to your residual limb. Ensure that the strap is secure but not too tight.

Issue: The prosthetic hand is making unusual noises or vibrations.

Solution: Check for any loose components or connections. Make sure that all fasteners and screws are properly tightened.

Issue: Prosthetic hand does not turn on.

Solution: Make sure the battery is fully charged and properly connected to the prosthetic hand. If the battery is fully charged and the device still does not turn on, contact technical support for assistance.

Issue: Prosthetic hand battery life is shorter than expected.

Solution: Make sure that the battery is being charged properly and for the recommended amount of time. Adjust the usage of the prosthetic hand to conserve battery life.

Issue: The prosthetic hand is not moving smoothly or accurately.

Solution: Check to make sure that the device is properly calibrated. Ensure that the device is not obstructed by clothing or other objects.

Issue: The feedback vibration is too strong or too weak

Solution: Ask technical support for assistance to adjust the vibration level.

Issue: Prosthetic hand is not responding to my muscle signals.

Solution: Check to make sure that the device is properly calibrated and that the electrodes are in the correct position. Make sure that your muscles are properly relaxed, and that the device is properly positioned. If the problem persists, contact technical support to have the device evaluated.

If you are unable to resolve the issue, please contact our technical support team for further assistance.

We hope this user manual has been helpful in familiarizing you with your prosthetic hand device. If you have any questions or concerns, please do not hesitate to contact our technical support team for assistance. We are committed to helping you achieve optimal function and mobility with your prosthetic hand.

