MC Powered Flexion Wrist

User Guide

Motion Control
division of
Fillauer®

MC Powered Flexion Wrist

User Guide

Introduction

The Motion Control Powered Flexion Wrist (PFW) provides powered wrist flexion/extension or radial/ulnar deviation with an on-board microprocessor (Figure 1). This controller provides proportional control and switching of function between the terminal device and powered wrist flexion/extension or radial/ulnar deviation. By using an industry standard quick disconnect, the PFW/TD unit can easily be removed from the prosthesis and another manufacturers' terminal device may be inserted in its place. The MC Powered Flexion Wrist is durable and water resistant/ submersible up to the quick disconnect wrist. The microprocessor provides easy adjustability via wireless Bluetooth® communication to iOS devices (iPhone®, iPad®, and iPod Touch®).

Powered Flexion Wrist

Figure 1

Shown with optional MC ETD2, MC ETD and MC Hand

Special Precautions

The Powered Flexion Wrist should be adjusted for individual patients using the MCUI iOS user interface. Factory Settings will seldom be the optimal settings for the user.

The Powered Flexion Wrist should not be used in situations where inadvertent movement or lack of intended motion may cause injury to the user or others, such as driving a vehicle, operating heavy equipment, using power tools or handling hot liquids.

Do not use the Powered Flexion Wrist in environments where it may be subjected to greater than 50 lbs/22.7 kg of force.

The Powered Flexion Wrist has a pinch danger when it is near or at maximum flexion or extension (Figure 2).

Caution should be used when operating the wrist around volatile gases. The wrist utilizes an electric motor that can ignite volatile gases.

Figure 2

Adjustment

See Quick Setup Guide for PFW, later in this document.

Maintenance

The Motion Control Powered Flexion Wrist does not require any routine maintenance. Avoid using any lubricants, liquids, or cleaners on any surfaces of the Powered Flexion Wrist.

The coaxial plug may require periodic cleaning. This is accomplished using a Q-tip and a very small amount of rubbing alcohol.

Follow up visits should be made to the prosthetist, at least yearly, to ensure the user interface settings do not require readjustment.

Figure 3

Extension Stop

The Powered Flexion Wrist includes an extension stop (circled in Figure 3). This stop can be removed easily with a 3/32" hex wrench to increase extension range, if desired.

Quick Disconnect Wrist

The Quick Disconnect wrist is a universal design that allows interchangeability with our other terminal devices, such as the MC ProPlus Hand, and other manufacturers' devices.

Instructions for Use

Insert the quick disconnect wrist on the Powered Flexion Wrist into the wrist on the forearm. While pushing it in firmly, rotate the Powered Flexion Wrist until an audible click is heard. It is advisable to rotate the device in both directions several clicks, then attempt to pull the Powered Flexion Wrist to ensure it has attached firmly.

To disconnect the Powered Flexion Wrist rotate it either direction until a slightly more difficult click is felt.

Overcoming this click will disconnect the ETD from the forearm. This allows interchangeability with another terminal device, such as the MC ProPlus Hand.

iOS User Interface

The Motion Control Powered Flexion Wrist communicates via Bluetooth® directly with Apple® iOS Devices. The MCUI App is available at no charge from the Apple® App Store. No additional hardware or adapters are necessary with the iOS Interface. **Note:** The MCUI App is ***not*** available for Android devices.

MCUI User Interface for iOS

Quick Setup Guide

Quick Setup for Motion Control User Interface (MCUI) for Apple® iOS

1. From the Apple® App Store download and install the MCUI.
2. Choose "Patient".
3. Open the App and follow the Tutorial.
4. Go to the Connect screen and tap Scan.
5. Input the Pairing Key. *Your prosthetist will provide this.*
6. The device is now connected to the MCUI.
7. To disconnect, tap the Connect icon in the lower left corner, then tap Disconnect.

System Requirements

Apple® App Store account, and any of the following devices:

- iPad® (3rd gen and later)
- iPad mini®, iPad Air®, iPad Air® 2
- iPod touch® (5th gen and later)
- iPhone® 4S and later.

Troubleshooting

- Make sure the battery on the device is fully charged
- Check connection of the device in the quick disconnect wrist
- Confirm the device is turned on
- Verify that you are not in “Tutorial Mode” by double tapping the Home key, then swiping MCUI off the screen, and reopening MCUI
- Bluetooth® must be turned on in Settings on the iOS device
- The Information icon provides information about a function
- To repeat the tutorial, go to and tap Reset on Reset Guided Tutorial

iOS Adjustments for Powered Flexion Wrist

1. Motor Speed

   This adjustment allows the user to fine tune the desired speed of the device. Lower speeds result in finer control, higher speeds, quicker response. The slider can be adjusted from Low to High to optimize the speed for the user.

2. Motor Brake

   This adjustment allows for enabling/disabling the internal motor brake. When the motor brake is enabled, passive resistance is substantially increased.

3. Home Position Delay

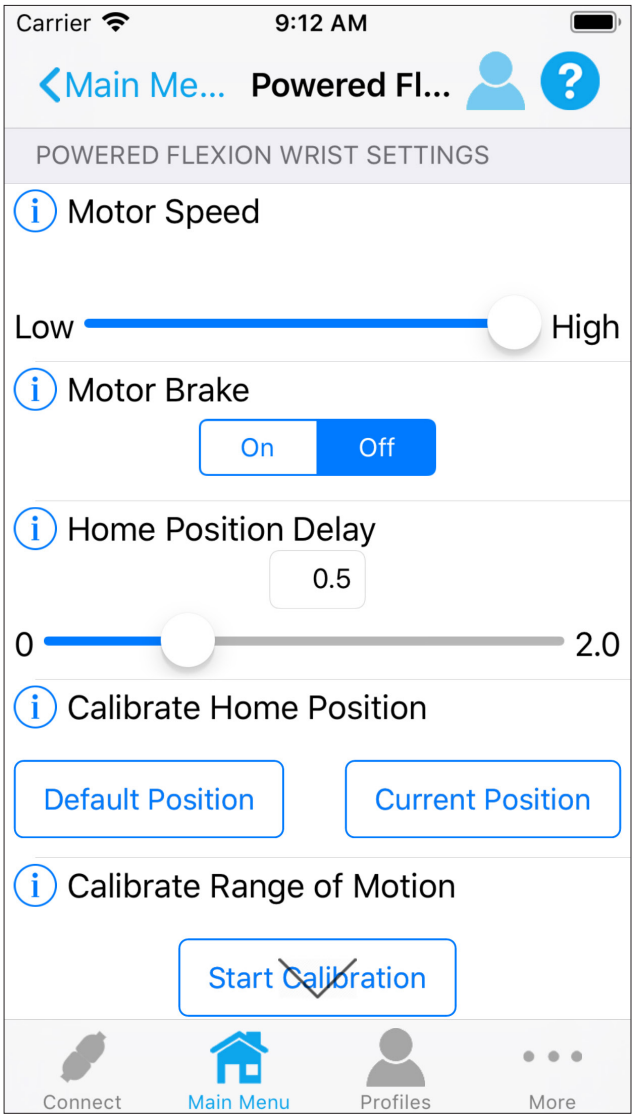
   The PFW will pause at a "Home" position. The length of pause is adjustable. Set Home Position Delay to zero (0) if no pause is desired.

4. Calibrate Home Position

   This will determine where the user would like the Home Position centered in the full range-of-motion. Default Position will set the Home Position centered in the full range of motion. To change the Home Position, move the powered flexion unit to desired Home Position and touch the Current Position tab to set a new Home Position.

5. Calibrate Range of Motion

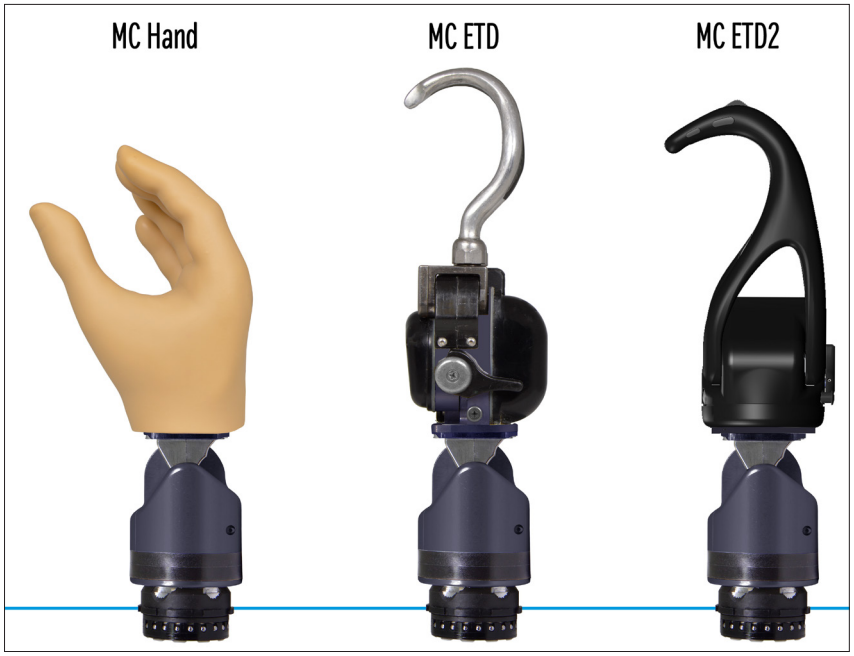
   If you remove or add the physical extension stop (Figure 4) a short calibration sequence will find the correct end points for the new range-of-motion.



Declaration of Conformity

The product herewith complies with the Medical Device Directive 93/42/EEC guidelines, and is registered with the United States Food and Drug Administration. (Registration No. 1723997)

CE RoHS Compliant Bluetooth®



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