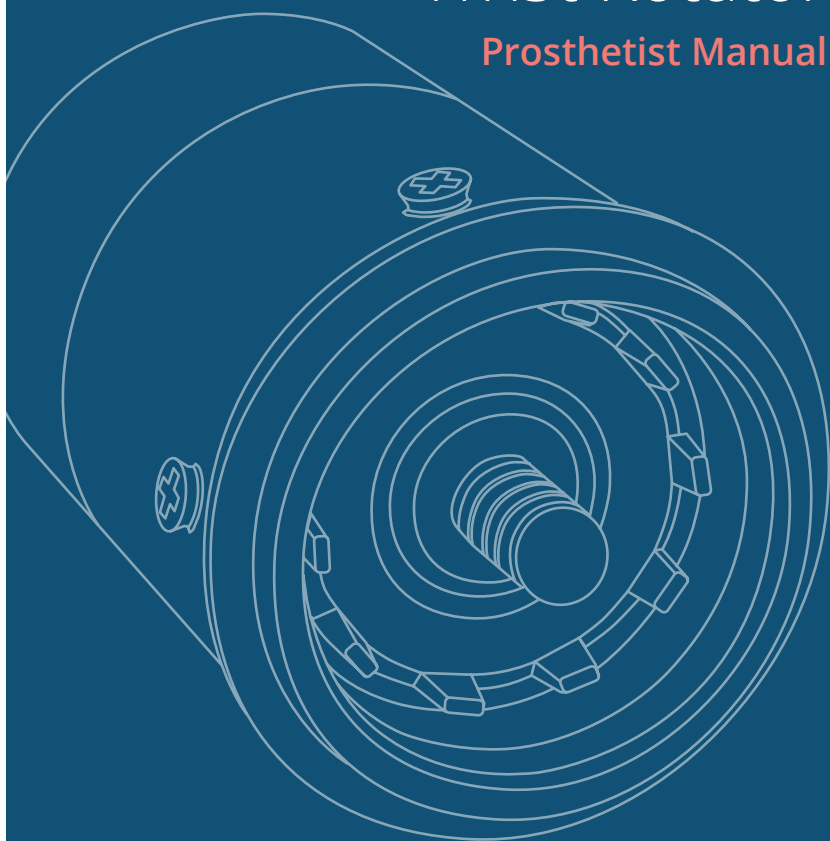


MC Motor Direct Wrist Rotator

Prosthetist Manual



Fillauer[®]
Motion Control

Special Precautions



Risk Management

To minimize the risk of device damage or injury to the user while maximizing the functions of this device, follow the instructions for installation, and use this device as described in this manual.



The MC Motor Direct Wrist Rotator 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, operating heavy equipment, use of power tools or handling hot liquids.



Do not use the MC Motor Direct Wrist Rotator in environments where it may be subjected to greater than 50 lbs/22.7 kg of force.



When removing the MC Motor Direct Wrist Rotator from the lamination collar, use care to not damage the wires and connectors.



The Motor Direct Wrist should be adjusted to the patient via the app software by a qualified prosthetist. Factory default settings are not necessarily the best settings for all patients.



The o-rings on the mounting screws and the o-ring on the rotator provide a waterproof seal for use with the MC Waterproof Collar (PN#3011020) for Quick Disconnect Wrist and the MC Waterproof Collar on the TASKA Hand. These o-rings must be in place for the wrist to be waterproof.



Serious Incidents

In the unlikely event a serious incident occurs in relation to the use of the device, users should seek immediate medical help and contact their prosthetist at the earliest possible convenience. Clinicians should contact Motion Control immediately in the event of any device failure.

Introduction

The Motion Control (MC) Motor Direct Electric Wrist Rotator (Figure 1) provides powered pronation and supination at twice the torque and twice the speed of previous electric wrist rotators, with less noise. The Motor Direct version of the MC Electric Wrist Rotator **does not** contain a microprocessor, therefore a controller must be “upstream”. It is used with the Utah Arm, the E2 Elbow when using pattern recognition such as a Coapt system, as well as some other manufacturer’s powered elbows. The MC Motor Direct Wrist Rotator utilizes an industry-standard quick disconnect and coaxial plug, and therefore is compatible with most manufacturer’s terminal devices.

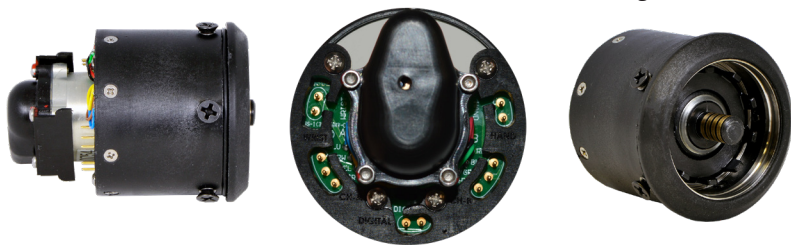


Figure 1

Indications

The MC Motor Direct Wrist Rotator can be used in any case where powered wrist rotation is desired, and adequate space is available in the forearm. An “upstream” controller must be present.

Contraindications

- Inadequate space in the forearm socket such as wrist disarticulation or long trans-radial amputations.
- Patients for whom the extra weight of an electric wrist rotator is intolerable.
- Cases where the prosthesis is likely to be exposed to environments that may be wet, dirty, dusty and high loads (> 50 lbs/22.7 kg).
- Whenever a controller is not located upstream of the Wrist Rotator, a Motion Control ProWrist Rotator would be indicated.

Fabrication

Once a completed evaluation socket is fitted to the patient, a temporary alignment fixture made from PVC pipe can be used to determine optimal alignment of the wrist/terminal device and forearm length (Figure 4). Reinforced with synthetic casting material, this system can be used during trial fitting, for short-term training.

1. When optimal alignment is achieved, remove all electronics and replace with appropriate dummies for each component.

A Wrist Lamination Dummy Kit is required (Figure 3, purchased separately, p/n 3010886). This dummy has an extraction hole that accepts a 3/8"-16 bolt (included).

With this dummy in place of the wrist, the entire prosthesis can now be mounted in a vertical transfer fixture (Figure 4).

2. The prosthetic socket is now filled with Plaster of Paris, and alignment is maintained between the wrist unit and the prosthetic socket.

3. Remove the temporary alignment fixture.

Pay attention to the post on the proximal portion of the Lamination Dummy, indicating the length of the ProWrist. Reserve space to this length for the wrist component (see "Post", Figure 3).

4. Apply adequate parting agent to the inside of the lamination collar and any surfaces not to be bonded to the outer lamination.

5. Use electrical tape to wrap the screw holes in the lamination collar.

Figure 2

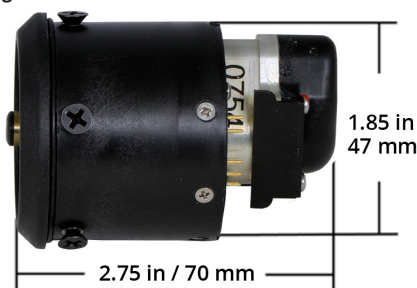


Figure 3

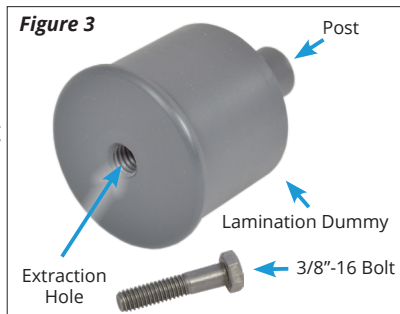




Figure 4 - Vertical Transfer Fixture with temporary alignment fixture fabricated from PVC.

Do not apply parting agent to the outer surface of the lamination collar proximal to the retention screw collar. This area provides the bonding surface to the outer forearm lamination.

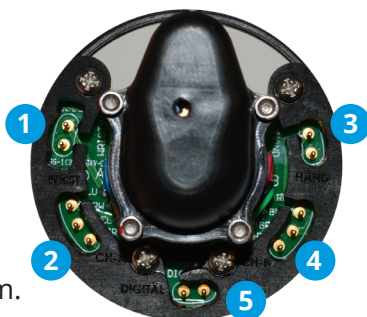
6. Laminate the outer socket.

7. After lamination, remove the excess plastic from the distal surface of the wrist unit and thread a 3/8-16 bolt into the extraction hole (see "Extraction Hole", Figure 3). Firmly pull to remove the Wrist Lamination Dummy.

8. Carefully cut the lamination proximal to the retention screw collar, and remove the lamination to expose the screw holes.

Socket Assembly (See Figure 5.)

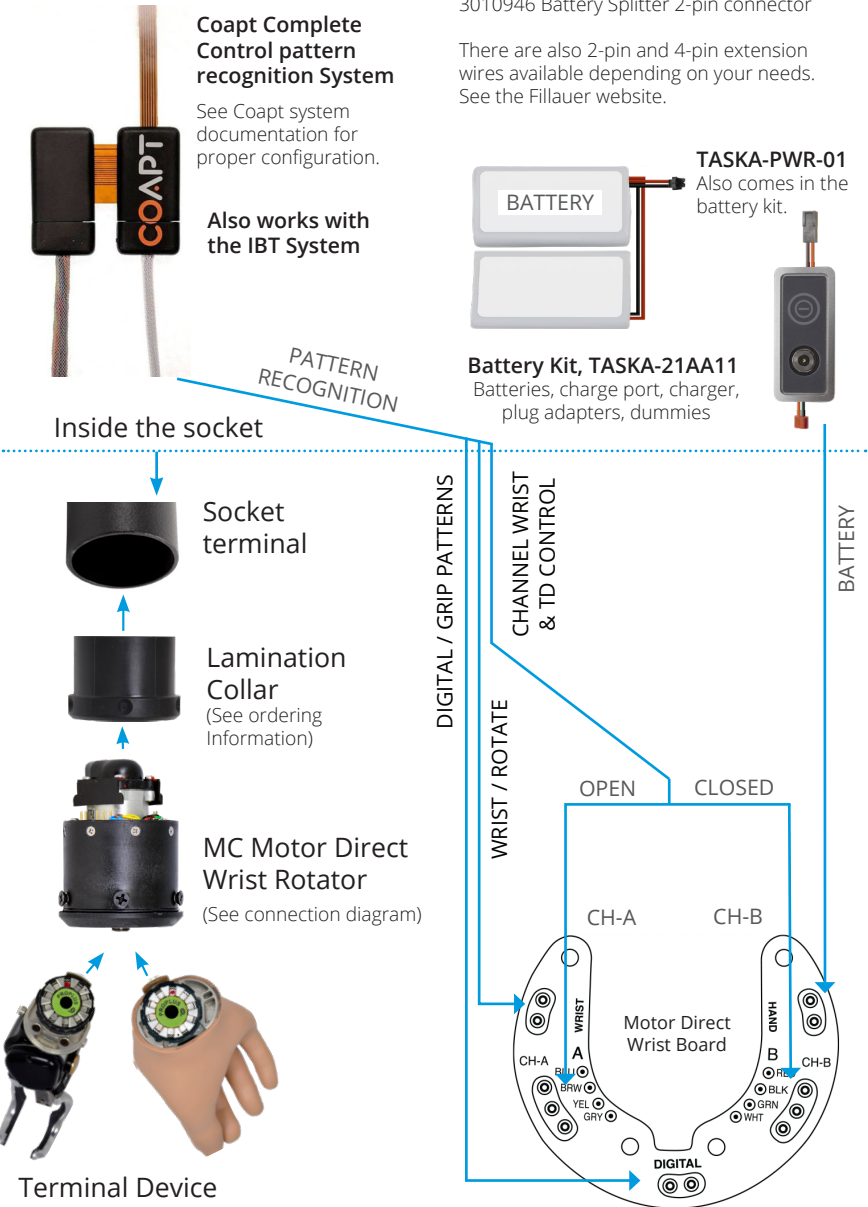
1. Install the battery and charging port in the socket following the instructions for the battery system.
2. Install the pattern recognition system.
3. Insert the Lamination Collar.
4. Connect the pattern recognition system (Coapt or IBT) wires to the wrist rotator board. See the image above. 1) Wrist/Rotate; 2) Ch-A/Open; 3) Ch-B/Closed; 4) Hand/EMG/Battery; 5) Digital. Refer to Figure 5 or the pattern recognition system documents for correct assembly.
5. Connect the battery system to the wrist.
6. Insert the entire assembly into the lamination collar, be careful not to pinch any wires.
7. Align the screw holes, and fasten the screws. No adhesive necessary.



Motor Direct Wrist Connection Board.

Socket Assembly Diagram

Figure 5



Elbow Assembly Instructions

Utah Arm Assembly

1. Remove the End Cap and carefully unplug the wiring.
2. Insert the lamination collar into the forearm cover.
Be careful of the wires.
3. Attach elbow wires to the wrist board according to the information in Figure 6.
4. Orient the wrist motor casing to align with the notch in the Ring Connector inside the forearm cover and insert the wrist rotator.
Be careful to not pinch any wires between the spring clip and the motor. Twisting the wires will help coil the wires around the motor. The wires will also be easier to position with the forearm cover removed from the Arm.
5. Align the screw holes, and fasten the screws. No adhesive necessary.

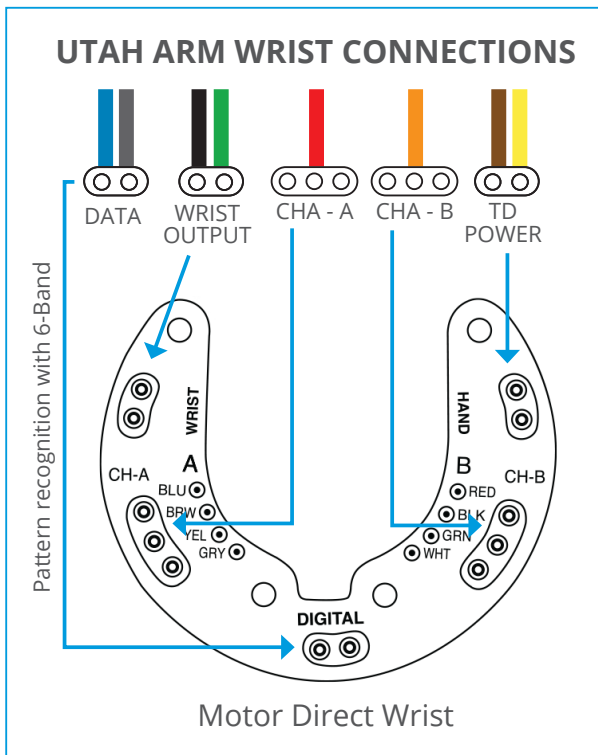


Figure 6

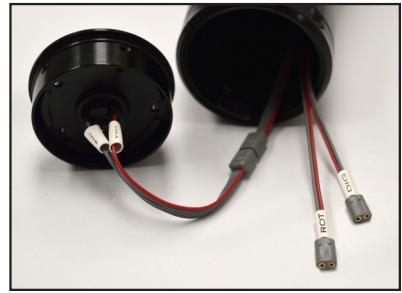
Other Configurations

The Motor Direct Wrist Rotator is compatible with the new E2 Elbow using pattern recognition. Please follow the instructions in the E2 Elbow manual for correct wiring configuration with this wrist. You will need to purchase a lamination collar compatible with the E2.

Note that a ProWrist Rotator would be required for compatibility with an E2 if it's using standard inputs.

Other Motor Direct Wrist compatible elbows include the Steeper Espire, Ottobock Dynamic Arms, other manufacturer's powered elbows, and arms using Coapt and Glide Systems in most cases.

Please see the documentation that comes with these products for proper wiring configurations with the MC Wrist Rotator.



E2 Elbow wiring configuration with the channel adapter cable.

Disassembly

The MC Motor Direct Wrist Rotator fits very snugly into the lamination collar or forearm. The easiest way to remove it is to attach a terminal device to the wrist, remove the five screws and then firmly pull on the terminal device. The MC Wrist Rotator will slide out of the lamination collar or elbow. Disconnect all the connectors.

Follow the User Interface instructions for the controller upstream from the wrist.

Maintenance

The MC Motor Direct Wrist Rotator does not require any routine maintenance. Avoid using any lubricants, liquids, or cleaners on any surfaces of the MC Wrist Rotator. The coaxial plug may require cleaning periodically. This is accomplished with a Q-tip and a small amount of rubbing alcohol.

Single Patient Use

Each amputee is unique. The shape of their residual limb, the control signals each generates and the tasks an amputee performs during the day require specialized design and adjustment of the prosthesis. Motion Control products are manufactured to be fit to one individual.

Disposal/Waste Handling

This device, including any associated electronics and batteries should be disposed of in accordance with applicable local laws and regulations. This includes laws and regulations regarding bacterial or infectious agents, if necessary.

Limited Warranty

Seller warrants to Buyer that the equipment delivered hereunder will be free from defects in materials and manufacturing workmanship, that it will be of the kind and quality described and that it will perform as specified in Seller's written quotation. The limited warranties shall apply only to failures to meet said warranties that appear within the effective period of this Agreement. The effective period shall be two years (24 months*) from the date of delivery to the fitting center that has purchased the components. Refer to the shipping receipt for the date of shipment. *24 Months applies to devices purchased after 1/1/2026

Return Policy

Returns are accepted for a full refund up to 90 days from date of shipment as long as the item is in resalable condition. Beyond 90 days, returns are not accepted.

Declaration of Conformity

The product herewith complies with Medical Device Regulation 2017/745 and is registered with the United States Food and Drug Administration. (Registration No. 1723997)



Ordering Information

Description	Tan	Brown	Jet Black
MC Motor Direct Wrist Rotator, 4-Band Sequential			5010045
MC Motor Direct Wrist Rotator, 6-Band Sequential			5010159
MC ProWrist Rotator, 4-Band Sequential — 2-channel			5010056
MC ProWrist Rotator, 6-Band Sequential — 2-channel			5010157
MC ProWrist Rotator, 6-Band Simultaneous — 4-channel			5010158
ProWrist Disable Switch			3010846
Lamination Collar for MC Wrist	1100292	1100296	1100288
Lamination Collar for MC Wrist for Hosmer Prefab (Large), Boston or AFB	1100295	1100299	1100291
Forearm Endcap			3010758

Use a Motor Direct Wrist Rotator for these elbows:

Utah Arm (U3/U3+), E2 Elbow with pattern recognition, Ottobock Dynamic Arms, Steeper Espire, other manufacturer's powered elbows. Devices using Coapt and Glide Systems in most configurations.

Use a ProWrist Rotator for these elbows:

Motion Arm Hybrid, E2 Elbow standard inputs. Ottobock Ergo, Steeper Classic, etc.

4-Band Terminal Devices:

TD's running open/close dual site systems, ilimb Quantum, Adams Hand, Vincent, bebionic, MC Motor Direct and ProPlus TD's, other manufacturer TD's.

6-Band Terminal Devices:

Taska, Zeus, Covii, Psyonic, Esper, feedback devices.

Suggested LCodes

Description	Feature	LCode
MC Electric Wrist Rotator	Electric Wrist Rotator	L7259
	Hi-Speed, Hi-Torque Motor Drive	L7499*
MC ProWrist Controller	Microprocessor Control (use above codes plus):	L6882
	Proportional Control	L7499*

*Contact Motion Control for MSRP regarding L7499 codes

Specifications

Length: 2.75 in/70 mm

Diameter (without lamination collar): 1.85 in/47 mm

Weight: 5.03 oz/143 g

Voltage: 7.2 v

SPL at full speed: 38.5 dB maximum at 1 meter

Speed: 28 rpm @ 7.2 v

Torque: 15 in-lbs @ 7.2 v

Static Load: 50 lbs/22.7 kg

Device Service Life: 5 Years

Customer Support

Americas, Oceania, Japan

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