

MC Internal Li-Ion Battery Set

Prosthetist Manual

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Introduction

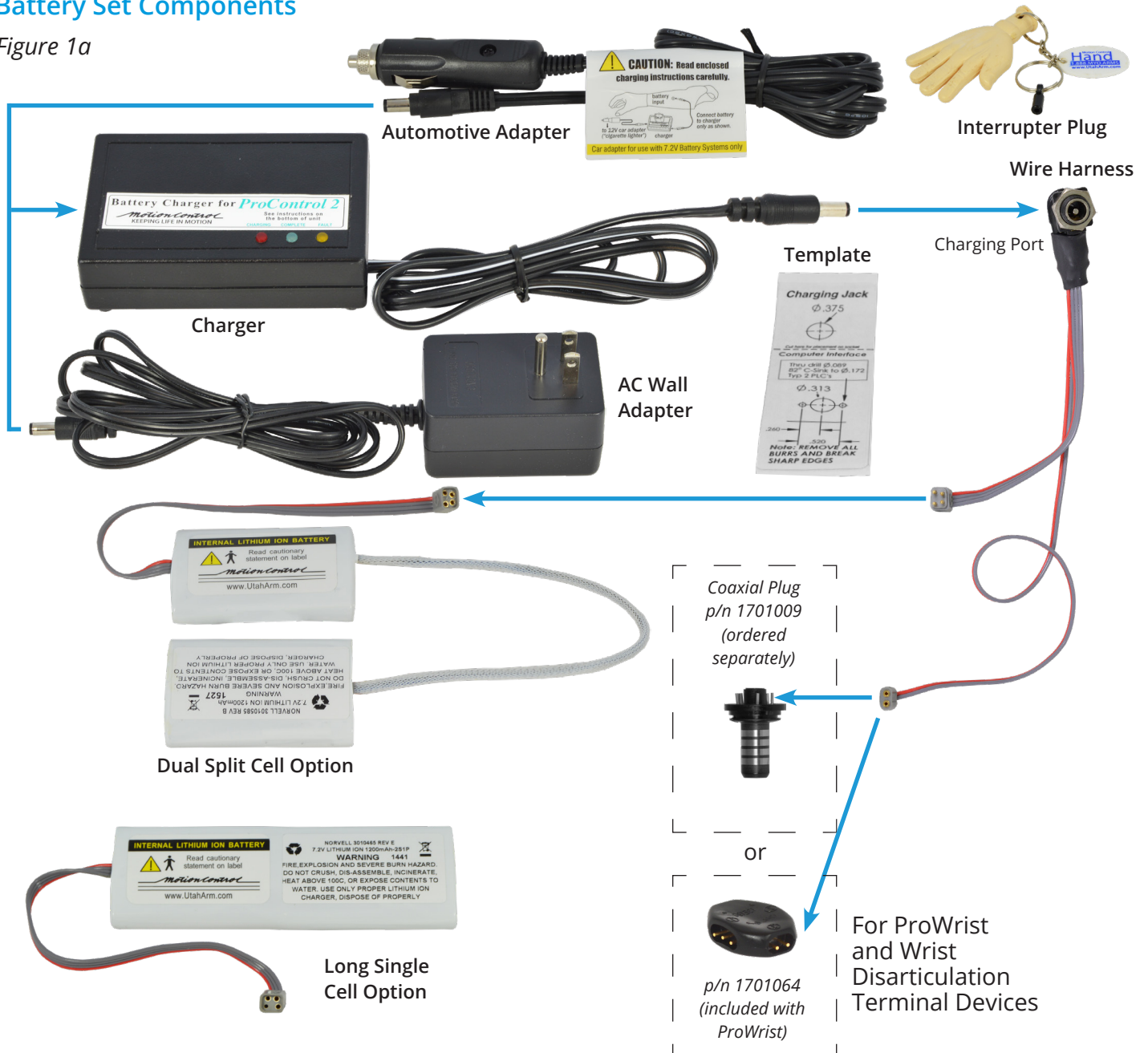
The Motion Control (MC) Internal Lithium-Ion (Li-Ion) Battery Set contains all the components necessary to provide a power source for externally-powered prosthetic systems. The set contains a 1150 mAh battery in either a long single cell or two split cells (see chart on page 7 for part numbers), an internal Wire Harness with Charging Port, Charger, AC Wall Adapter and Automotive Adapter.

Li-Ion batteries provide long battery life at a reduced weight over previous systems. Additionally, Li-Ion technology prevents battery “memory”, eliminating the need to completely discharge the battery before charging.

Li-Ion batteries do have some risks, and Motion Control has designed the appropriate safeguards. It is important that these guidelines are followed to prevent accidental fire or explosion.

Battery Set Components

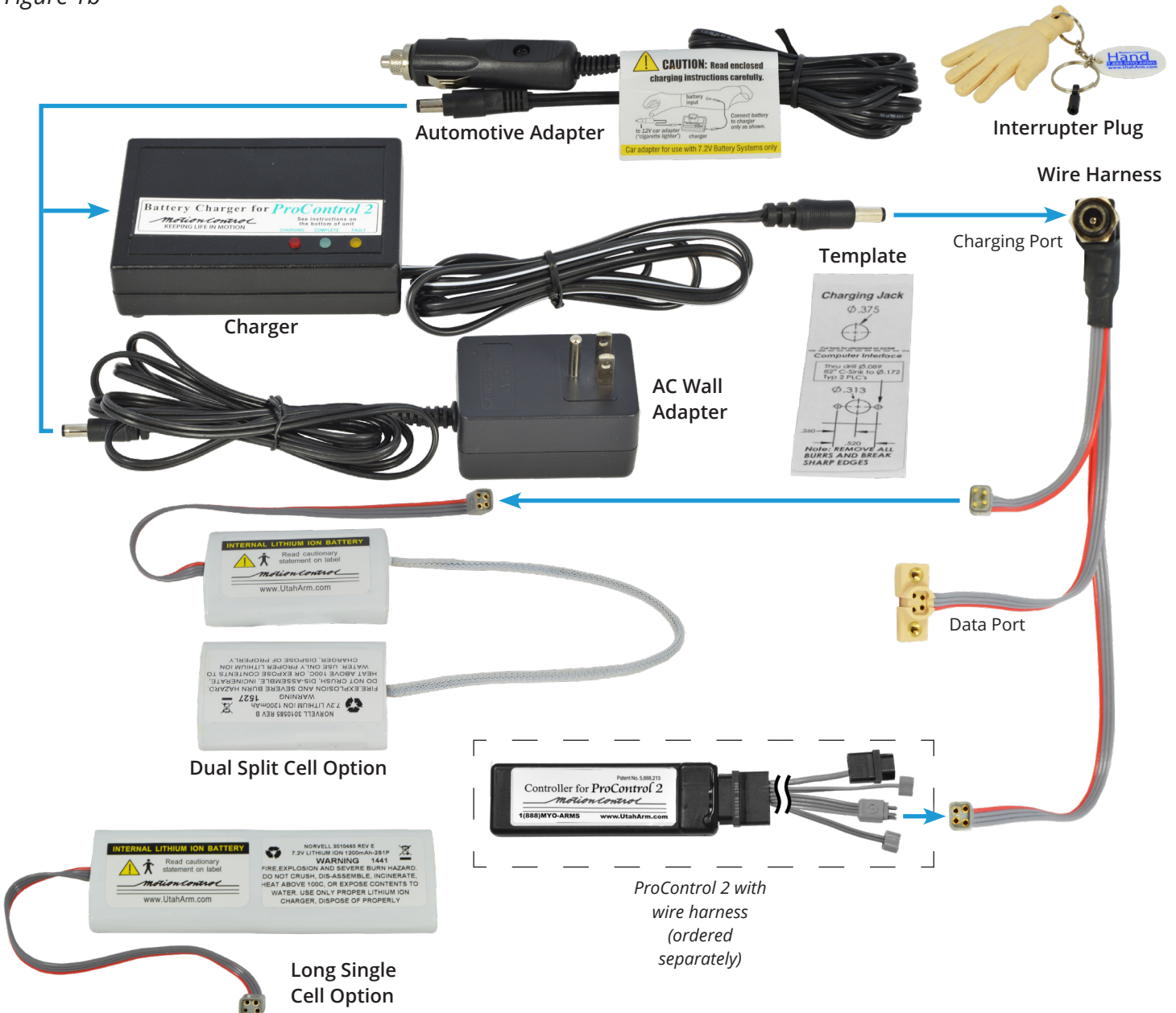
Figure 1a



NOT TO SCALE

Battery Set Components

Figure 1b



NOT TO SCALE

Special Precautions



MC Battery Charger

Use only the Motion Control battery charger and wall adapter with Motion Control batteries. If a replacement charger is needed, contact Motion Control.



Remove the prosthesis before charging

Do not wear the prosthesis while charging. Always remove the prosthesis before plugging the charger into the charging port.



Do not alter

Do not alter the wiring or circuits in the battery in any way. Do not cross the power leads anywhere in the system. This will cause a short circuit in the system that could lead to fire or explosion and will void the warranty.



Keep the battery system dry

Do not allow the battery system to get wet.

Mounting

Once the forearm has been laminated, locate a place for the charging port with adequate space for the internal portion of the charging port. Remove the clear portion of the template from the backing, and affix the template to the outside of the forearm.

Find a location for the data port (if you have one). This can be in line with the charging port as shown on the template, or somewhere else on the forearm, as long as there is adequate space inside the forearm and sufficient wire length.

Use a 3/8 in (9.6mm) drill bit to drill the hole for the charging port.

Use a 5/16 in (8 mm) drill bit for the data port hole. Make sure this lines up exactly with the template.

Using a 5/64 in (2.3 mm) drill bit, carefully drill the data port mounting screw holes on both sides of the data port. Use an 82° countersink bit to countersink these holes.

Mount the charging port and data port inside the forearm.

The battery pack can be mounted inside the forearm with Velcro, or double-stick tape. Ensure that mounting is adequate and will not allow the batteries to become loose.

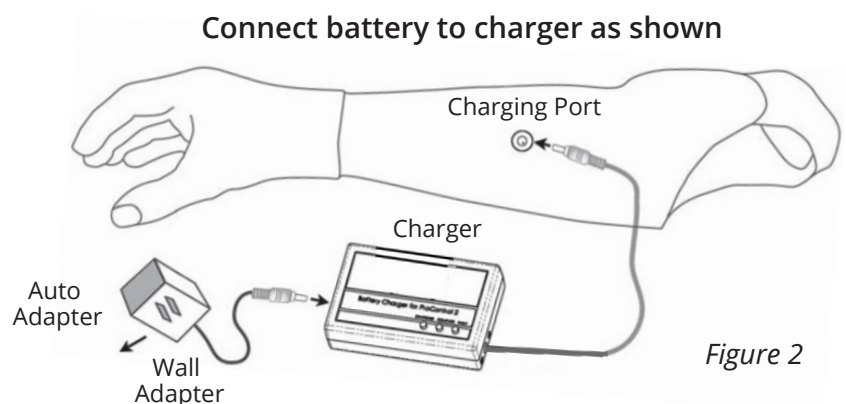
The battery will only plug into one connector of the harness, and the harness will only plug into the wrist end cap or ProWrist in one way. Make these connections (*Figures 1a and 1b*).

Charging

The charger consists of three parts - the wall adapter, automotive adapter, and the charger. Plug the wall adapter (or automotive adapter) into the charger, then plug the charger into the charging port (*Figure 2*).

To charge the battery, plug the wall adaptor into the wall, and the plug into the charger. The yellow "Fault" light should illuminate.

Then plug the cable from the charger into the charging port on the prosthesis. The red "Charging" light should illuminate. The red light will stay illuminated until the battery is fully charged, then the green "Complete" light will illuminate. This usually takes 2-3 hours.



The yellow "Fault" light should illuminate. Then plug the cable from the charger into the charging port on the prosthesis. The red "Charging" light should illuminate. The red light will stay illuminated until the battery is fully charged, then the green "Complete" light will illuminate. This usually takes 2-3 hours.

If the yellow light fails to change to red, check all the charging connections. Then check all the internal connectors to ensure they are still connected and also check for corrosion. If the yellow light still fails to change to the red charging light, the battery and charger must be returned to Motion Control for repair.

If the battery takes longer than 4 hours to charge, or, charge life of the fully charged battery becomes much shorter than when the wearer originally received the prosthesis, return the battery and charger to Motion Control. The battery will likely need to be replaced.

Power On/Off

The MC wire harness does not have an on/off switch. This maintains a robust system since small on/off switches are rather delicate. Additionally, in systems without an electric wrist rotator the switch on the terminal device is adequate to power down the system.

In cases with an electric wrist rotator, such as the MC ProWrist, the system needs to be either plugged into the charger, or powered off when not in use. To power off the system, insert the (provided) interrupter plug into the charging port, and the system is off. This plug is attached to a convenient key fob (*Figure 1*).

Adapters

Motion Control realizes there are many component and battery options available for the patient population. We have responded to this need by manufacturing a variety of adapters to allow other companies' battery systems to be used with our components, and our battery system to be used with other companies' components.

Important: The charging system must match the manufacturer's battery. Do not use one company's battery and a different company's charger.

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 one year (12 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.

For more information regarding the Limited Warranty, see the MC FACT SHEET - Limited Warranty.

Return Policy

Returns are accepted for a full refund (not including any repairs that may be required) for up to 30 days from date of shipment.

Returns 31-60 days from date of shipment will be accepted, subject to a 10% restocking fee.

Returns 61-90 days from date of shipment will be accepted, subject to a 15% restocking fee.

Beyond 90 days, returns are not accepted. Returns must be in re-saleable condition.

Technical Specifications

Operating Temperature: -5° to 60° C (23° to 140° F)

Transport & Storage Temperature: -20° to 50° C (-4° to 122° F)

Battery: Lithium-Ion, 1150 mAh

Voltage: 7.2 Vdc

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).



Parts List for Battery Components

| Category | Description | Part No. | |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------|
| Battery and Charger Sets | Battery/Charger Set - Internal, 7.2V Split-cell, Li Ion, (incl. wiring harness) | 3010596 | |
| | Battery/Charger Set - Internal, 7.2V Long/thin, Li Ion, (incl. wiring harness) | 3010467 | |
| | Battery/Charger Set - Internal, 7.2V Split-cell, Li Ion, 2-pin, (incl. wiring harness) | 3010953 | |
| | Battery/Charger Set - Internal, 7.2V Long/thin, Li Ion, 2-pin, (incl. wiring harness) | 3010954 | |
| Battery and Charger Parts | 7.2V Li Ion Battery, Internal, Long/thin: 4" x 1.3" x 0.31" | 3010465 | |
| | 7.2V Li Ion Battery, Internal, Split Dual cell - each: 2.25" x 1.3" x 0.4" | 3010585 | |
| | 7.2V Battery Wire Harness, Internal, Tan | 3010462 | |
| | 7.2V Battery Wire Harness, Internal, Brown | 3010463 | |
| | Cover, Computer Access | 1100176 | |
| | 7.2V Battery Charger (ProControl 2) | 3010291 | |
| | Car Charger (for ProControl 2 / ProPlus) | 1362022 | |
| | 7.2V Battery Charger Cord (for Internal battery) | 1390030 | |
| | AC Adapter - US (for ProControl 2 / ProPlus batteries Only) | 1390032 | |
| | AC Adapter - Euro (for ProControl 2 / ProPlus batteries Only) | 1390023 | |
| | Battery Plug for Charging Port (turns power to arm off) 7.2V | 1100193 | |
| | Adapters | Battery Adapter Cable for another manufacturer's battery, Tan (with Data Port) | 3010442 |
| | | Battery Adapter Cable for other manufacturer's battery, Brown (with Data Port) | 3010461 |
| MC Battery to OB Coax Plug with Charging Port (no data port) | | 3010696 | |
| Adapter Cable - Otto Bock Battery to MC ProHand Coax (no data port) | | 3010790 | |
| Adapter Cable - MC Battery to OB Coax | | 3010825 | |
| Adapter Cable - OB Switch to Coax and OB Style Battery | | 3010826 | |
| User Interface Adapter | ProHand Adapter T-Cable (for ProWrist or other manufacturers' wire harness) | 3010444 | |



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