



PROTEOR Quattro Microprocessor Knee User Guide

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PROTEOR Quattro Microprocessor Knee



1. Download the Freedom Innovations App from the Apple App Store or Google Play. Store
2. Start the Freedom Innovations App and tap “ Connect.” Tap the serial number (or custom name) of the knee to connect.



Activities



Adjust



Tools



Status



Help

Note: When connecting to the knee with the PROTEOR App, you will be asked to pair your smartphone with QUATTRO.

Activities: The activities button will allow you to select from a list of activities and switch between them as desired as well as create new modes and fine tune them.

Adjust: Allows user to make minor resistance settings changes

Tools: Allows user to engage/disengage the flexion lock as well as the sitting mode, Disconnect or Unpair device.

Status: Displays knee name, battery status, total steps, serial number, part number, firmware and App versions.

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Selecting from the Activities Menu

When the Freedom App connects to your QUATTRO, you will see the Activities menu. This screen shows a list of the available Activity Modes you may choose.

Walking is the default Activity Mode for QUATTRO. It includes the most recently updated knee resistance settings programmed by your prosthetist. It cannot be disabled.

However, you may make small adjustments to the knee resistance settings for any of the enabled Activity Modes, including Walking.

Settings and Modes

Resistance Settings

To fine tune the knee resistance settings for any of the Activity Modes, tap on the Activity Name. Select “Adjust” from the bottom toolbar then scroll up to access all available resistance settings. Use either the slider bars or the [-] and [+] buttons to adjust the knee resistances. Any changes you make in the app are instantaneously transferred to the knee.

Sitting Mode

With Sitting Mode turned on (default), when the knee is unweighted and the thigh reaches a 90 degree angle or greater, the knee flexes without resistance. With Sitting Mode off, the knee will continue to have hydraulic resistance to flexion independent of thigh flexion angle. To turn on/off select “Tools” tab in the Proteor app.

Note: If Sitting mode is turned off, it will also disable Cycle Mode and Obstacle Assist.

Cycling Mode

In Cycling Mode, the Knee will enter in low resistance when the user's thigh is near the horizontal plane (this position occurs when getting on the bike or during normal pedaling). The Knee will remain in low resistance until the user puts weight on the unit in full extension (triggering the QUATTRO to return to normal walking mode).

Note: If Sitting mode is turned off, it will also disable Cycle Mode.

Golf Mode

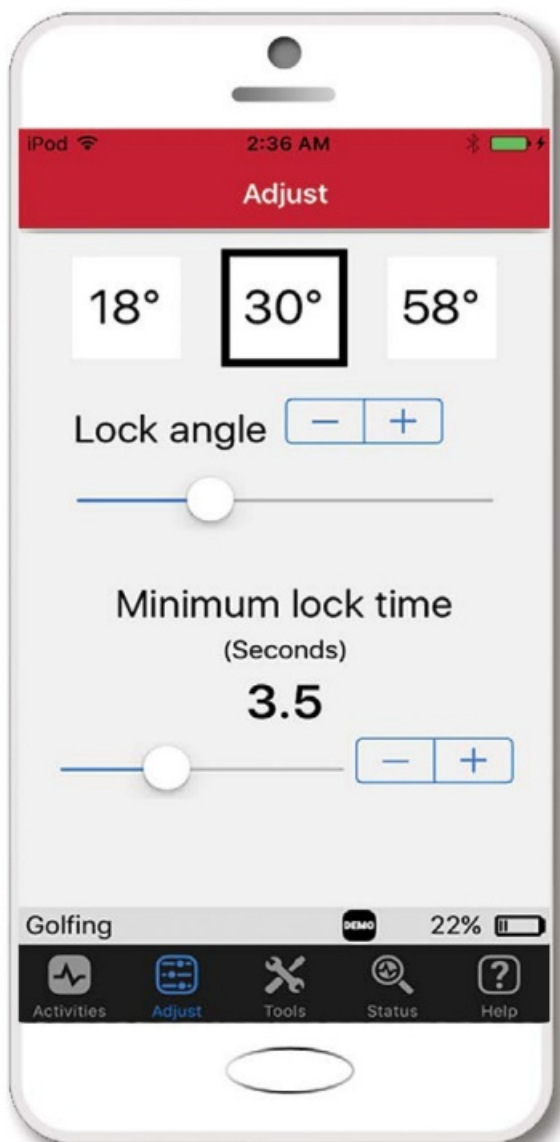
Golf Mode allows you to limit the amount your knee flexes while playing golf. After selecting golf mode in the Freedom app as the alternate mode, navigate to the adjustment screen. On this screen you will have 3 choices for different degrees of flexion that will be allowed. Each of these can be customized by pressing the "+" or "-". This allows you to have 3 custom settings for the amount of flexion needed for a particular golf swing.

Lock angle setting:

Set the preferred angle to lock the knee during Golf Mode.

Minimum lock time setting:

Set the preferred minimum time the knee will remain in selected lock angle. This setting is ideal for users who may shift weight around as they settle into their golf stance.



Using Your Keypad

- **Battery Status Button:**

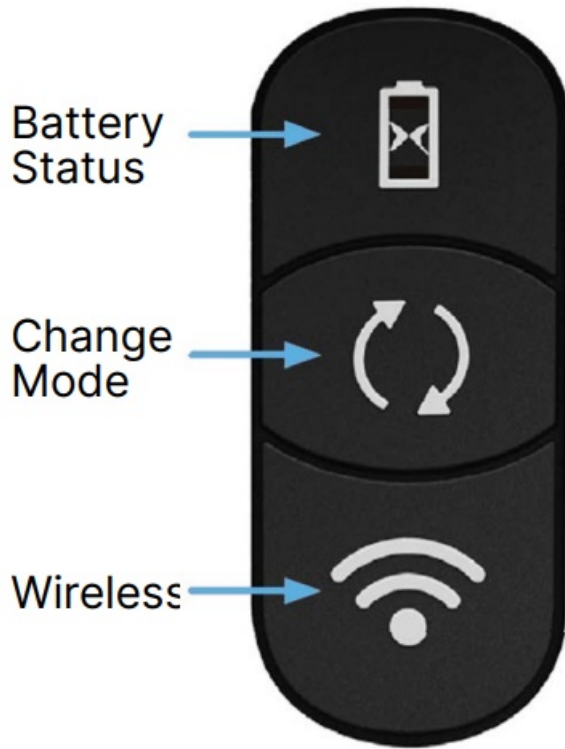
Check battery charge levels

- **Mode Button:**

Switch between preferred activity modes

- **Wireless Button:**

Pair knee to smart device



Check the currently selected Activity Mode using the Keypad

Press and release the mode button. The button will illuminate and blink briefly, indicating which Activity Mode QUATTRO is currently in. A slowly blinking light indicates that the knee is in Walking Mode. A fast blink indicates that QUATTRO is in the Alternate Activity Mode.

Switching Activity Modes using the Keypad

To switch from Walking Mode to the Alternate Activity Mode, press and hold the mode button. The button will illuminate with a rapidly blinking white light indicating that QUATTRO is now in the Alternate Activity Mode. (If an Alternate Activity Mode is not available, the button will instead illuminate with alternating red and white, blinking lights.) For more information on programming and selecting an Alternate Activity, please talk with your prosthetist.

To switch from the Alternate Activity Mode back to Walking Mode, press and hold the mode button again. The button will illuminate with a slowly blinking white light, indicating that QUATTRO has returned to Walking Mode.

Engaging the Flexion Lock

To engage flexion lock, in any Activity Mode, double click the mode button to engage the flexion lock. The button lights up with a solid white light to indicate that the Flexion Lock is engaged. When the lock is engaged, the knee

can straighten but it cannot bend any further than the current angle. If the knee is straightened to a more upright position, the lock re-engages at the new angle. The knee will remain locked at this position until the knee is straightened or the flexion lock is disengaged. The solid white light remains on as long as the Flexion Lock is engaged.

Note: When the Flexion Lock is engaged and the knee is unweighted, it will be locked in both flexion and extension.

Disengaging the Flexion Lock

With the lock engaged, double click the mode button to disengage the Flexion Lock. The solid white light now turns off, indicating that the Flexion Lock has disengaged. The knee returns to the currently selected Activity, i.e. Walking.

Stance Lock

The QUATTRO features a Stance Lock for stability on a flexed knee. When the user stops the thigh at a flexion angle and weights the knee, it will automatically lock further flexion. The lock will automatically disengage when the thigh moves in an extension moment or the knee is unweighted.

Note: Stance Lock is available from 0-70° of flexion.

Checking the Battery Charge Level (while not plugged in)

Press and release the battery button located on the front of the frame. The battery button will illuminate briefly, displaying the charge level. The table below describes the indicator lights when the Quattro is not plugged in, or discharging.

Indicator Light	Charge Level
Solid Green	51%-100%
Flashing Green	31%-50%
Solid Red	11%-30%
Flashing Red	1%-10%

Checking the Battery Charge Level (while plugged in)

Press and release the battery button to monitor charging status. The indicator light flashes at a rate that indicates the amount of charge in the battery. The longer the light stays illuminated during the flash, the higher the charge. Once the knee is completely charged, the indicator light will be solid green.



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Documents / Resources

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References

-  [PROTEOR USA](#)