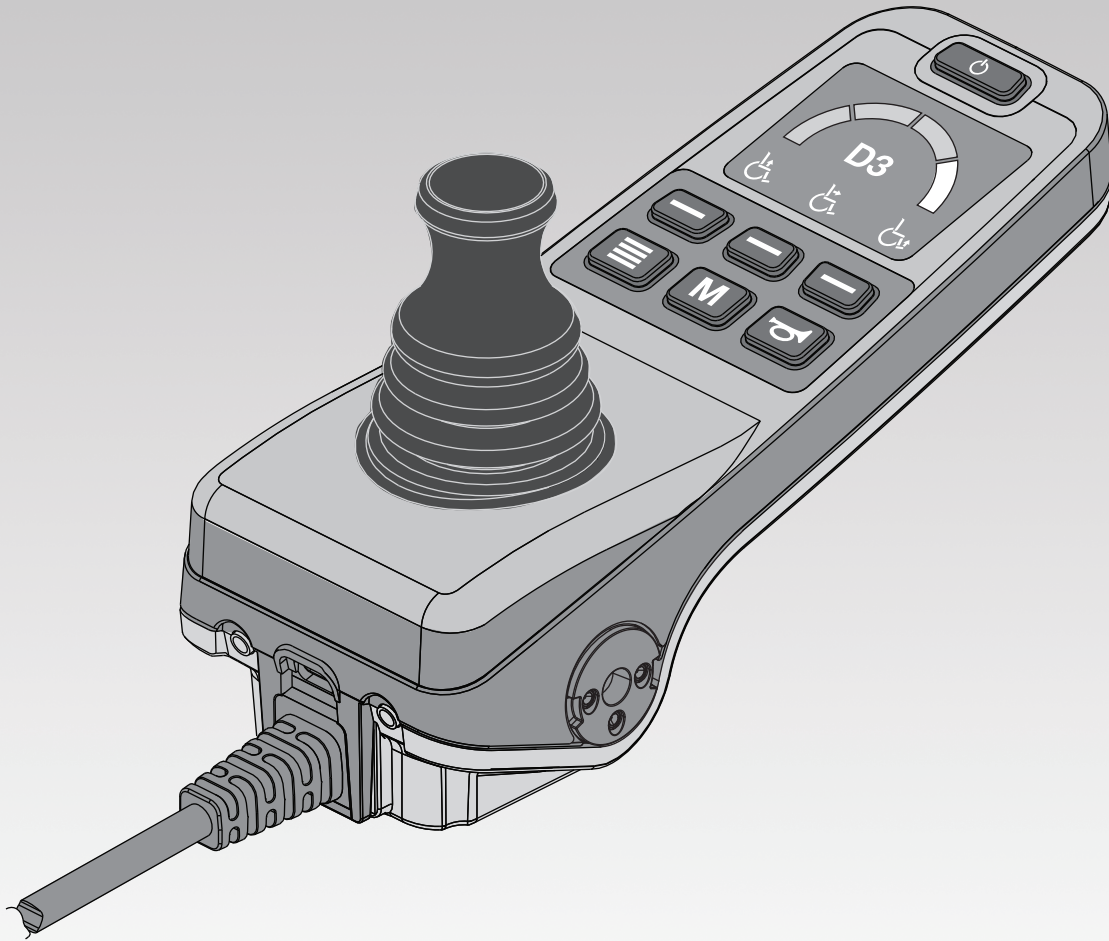


Q·LOGIC 3^e

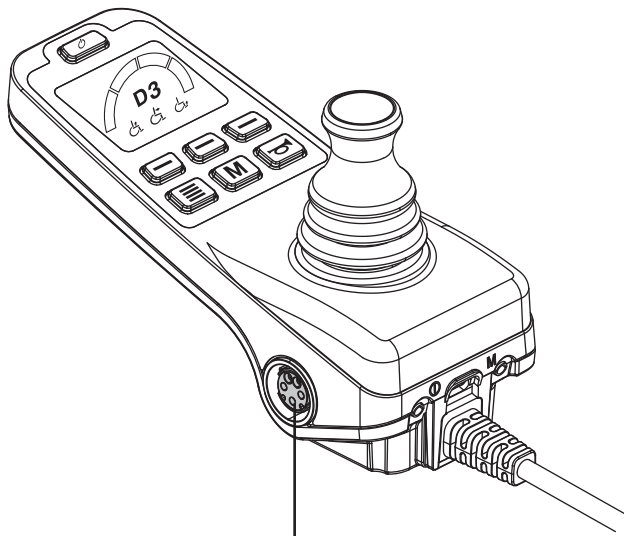


QUANTUM[®]

PROVIDING GREATER INDEPENDENCE

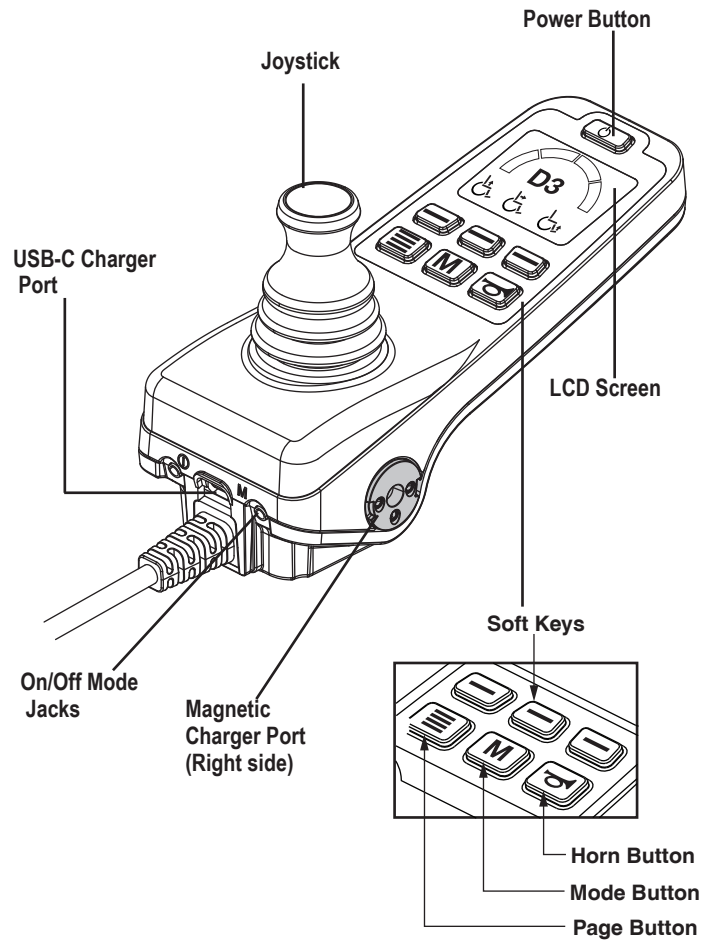
IDENTIFICATION KEY

LEFT SIDE OF CONTROLLER

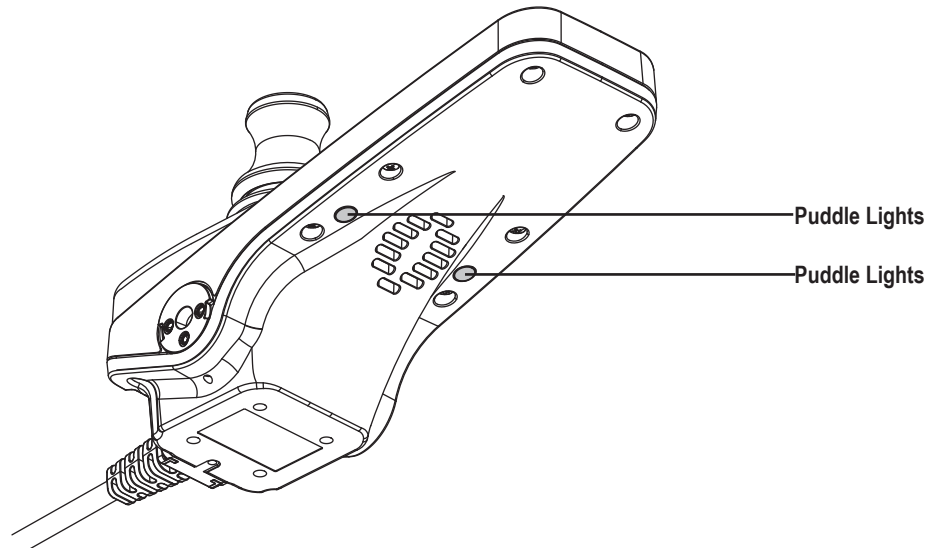


XLR charger port (Left Side)

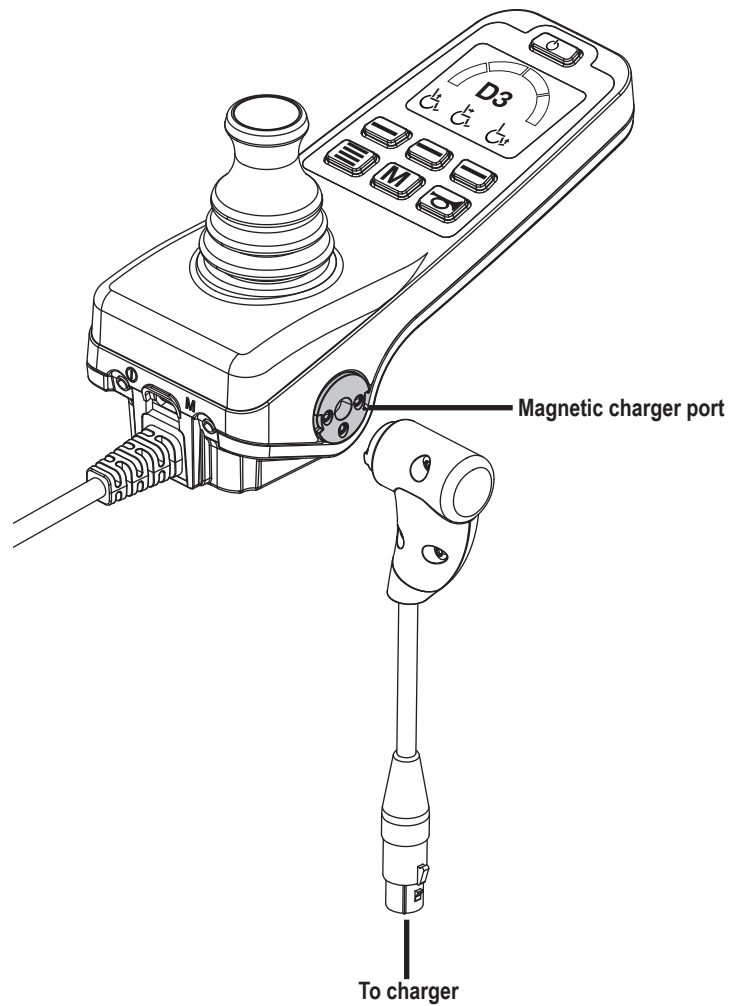
RIGHT SIDE OF CONTROLLER



BOTTOM OF THE CONTROLLER



Magnetic Charger Adapter



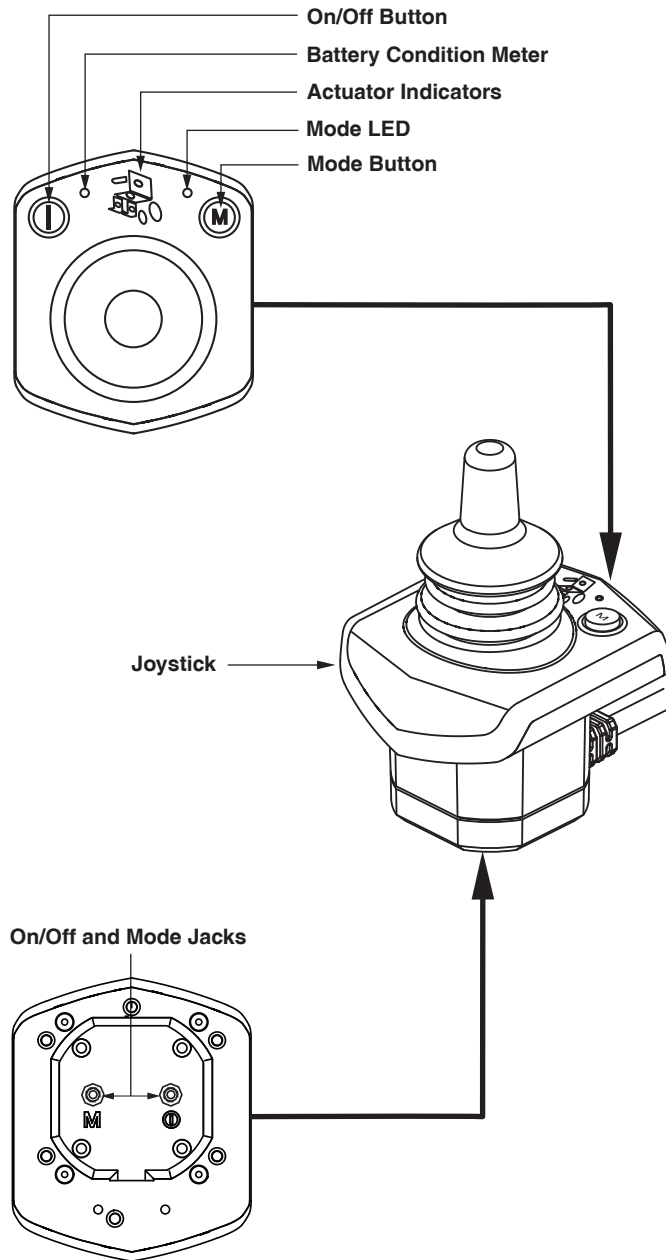
WARNING!

Your controller is equipped with a XLR and Magnetic port for charging the power chair. Do not use two chargers at the same time while charging your chair.



Maintain at least 6" (15 cm) separation between magnetic charger connector and the implanted device.

Attendant Control



Safety Guidelines

WARNING!

A Quantum Rehab Provider or a qualified technician must perform the initial setup of this product and must perform all of the instructions in this manual.

The symbols below are used throughout this owner's manual and on the power chair to identify warnings and important information. It is very important for you to read them and understand them completely.

WARNING!

Indicates a potentially hazardous condition/situation. Failure to follow designated procedures can cause either personal injury, component damage, or malfunction. On the product, this icon is represented as a black symbol on a yellow triangle with a black border.

MANDATORY!

These actions should be performed as specified. Failure to perform mandatory actions can cause personal injury and/or equipment damage. On the product, this icon is represented as a white symbol on a blue dot with a white border.

PROHIBITED!

These actions are prohibited. These actions should not be performed at any time or in any circumstances. Performing a prohibited action can cause personal injury and/or equipment damage. On the product, this icon is represented as a black symbol with a red circle and a red slash.

Intended Use

A wheelchair component is a device intended for medical purposes that is generally sold as an integral part of a wheelchair, but may also be sold separately as a replacement part.

Regarding Devices for Prescription Use

WARNING!

CAUTION! Federal law restricts this device to sale by or on the order of a physician or other certified personnel licensed by the law of the State (US only) or region in which this personnel practices to use or order the use of the device.

NOTE: These instructions are compiled from the latest specifications and product information available at the time of publication. We reserve the right to make changes as they become necessary. Any changes to our products may cause slight variations between the illustrations and explanations in this manual and the product you have purchased. The latest/current version of this manual is available on our website.

NOTE: This product is compliant with WEEE, RoHS, and REACH directives and requirements.

NOTE: This product meets IPX4 classification (IEC 60529).

NOTE: The Q-Logic 3e Controller and its components are not made with natural rubber latex. Consult with the manufacturer regarding any after-market accessories.

ADVISORY STATEMENT REGARDING CERTAIN COMPONENTRY INCORPORATED BY THIRD-PARTY MANUFACTURERS INTO FINISHED POWER CHAIRS: When power bases, seating systems, or other components are incorporated into a finished power chair manufactured or assembled by any third party, that third party is responsible to assure the safety, functionality, and legal compliance of the finished power chair. We make no representation concerning the safety, functionality, or legal compliance of the finished power chair or its componentry manufactured by a third party. While we make every effort to assure that our components are distributed responsibly, manufacturers, distributors, and consumers are reminded that finished power chairs must comply with a variety of standards and requirements for governmental safety and functionality.

If it is necessary to physically modify a power chair, including the addition of third-party componentry, to accommodate the medical needs of the power chair occupant, a risk assessment in conformance with ISO 14971, as outlined in ISO_DIS_7176-19 (preliminary release), should be performed.

Changes to power chairs that are likely to affect conformance and risk evaluation include but are not limited to: moving the securement-point brackets; lowering the back-support height; shortening the seat length; adding secondary postural supports that are not firmly attached to the power chair; adding components that have sharp edges (i.e., edges with less than 0.08 in. [2 mm] radius); or any change that compromises the structural integrity of the power chair frame.

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Product Safety Symbols

The symbols below are used on the controller to identify warnings, mandatory actions, and prohibited actions. It is very important for you to read and understand them completely.



Read and follow the instructions in the owner's manual.



Avoid exposure to rain, snow, ice, salt, or standing water whenever possible. Maintain and store in a clean and dry condition.



EMI/RFI - This product has been tested and passed at an immunity level of 20 V/m.



Disposal and recycling - Contact your Quantum Rehab Provider for information on proper disposal and recycling of your Quantum product and its packaging.

The Q-Logic 3e Controller

The Q-Logic 3e Controller is a fully programmable, modular electronic controller system that allows you to operate your power chair. The hand control will primarily be discussed in this manual along with references to the Attendant Control. Contact your Quantum Rehab Provider for more information.

The controller has been pre-programmed to meet a typical user's needs. The program is adjusted using either a personal computer with software provided by the controller manufacturer or with a handheld programmer, also provided by the controller manufacturer, by your Quantum Rehab Provider or a trained service technician.

WARNING!

The controller program can affect speed acceleration, deceleration, dynamic stability, and braking. If it is programmed incorrectly or outside of the safe limits as determined by your healthcare professional, it can create a dangerous situation. Only your Quantum Rehab Provider or a trained technician should program your controller.

Precautionary Guidelines

Before operating the Q-Logic 3e Controller please read the following. These guidelines are provided for your benefit and will aid you in the safe operation of the seating system.

- Turn off the power to the controller before you are seated in your power chair.
- Always have assistance when you are being seated in your power chair.
- Follow all of the procedures and heed the warnings as explained in your power chair owner's manual and Consumer Safety Guide.

Operating the Q-Logic 3e Controller

The Q-Logic 3e hand control is used to operate your power chair and all of its components.

On/Off Button

The On/Off button turns the system on and off. It also resets the controller if the LCD screen shows a prompt of a finger pressing the power button when programming has been updated

WARNING!

When faced with an emergency situation, release the joystick, then press the on/off to stop the power chair. Use caution. Be advised that pressing the on/off button may cause the power chair to stop abruptly.

Always turn the power off when you are stationary to prevent unexpected movement.

Joystick


The joystick controls the driving speed and direction of the power chair and is used to navigate the menus on the LCD screen. When the joystick is at rest, it is in the neutral (center) position and the chair is stationary. In order to drive the chair, the joystick must be taken out of neutral. Moving the joystick in any direction will switch the chair from neutral to drive, and the chair will move in the direction indicated by the joystick position. The farther away from the neutral position the joystick is, the faster the chair will move in that direction. To stop chair movement, simply release the joystick or move it back to the neutral position. The chair's electromagnetic brakes will engage after the chair has come to a controlled stop.

Lock/Unlock Procedure


The Q-Logic 3e Controller comes with a programmable lock/unlock option.

NOTE: The lock-out feature is not programmed at the factory. To have this feature added, contact your Quantum Rehab Provider.

To lock the controller:

1. Push the On/Off Button once to power on the chair and the controller.
2. Push and hold the Mode Button  until the controller turns off. The controller is now locked.

To unlock the controller:

1. Push the On/Off Button  once to power on the chair and the controller. The "System Lock Icon" will appear on the display screen.
2. Move the joystick to the full forward position until you hear a beep.

NOTE: This will take several seconds.

3. Move the joystick to the full reverse position until you hear a beep.

NOTE: This will take several seconds.

4. Release the joystick. The controller is now unlocked.

Speed Adjustment

The speed adjustment is used to control the speed of the power chair.

To change the speed:

1. Push the On/Off Button once to power on the chair and the controller.
2. To increase your speed, press the speed up soft key.
3. To decrease your speed, press speed down soft key.

The speed indicator arc will increase and decrease as the speed arc keys are pressed, providing a visual display of how fast the chair will move.

Keypad

The keypad is located directly in front of the joystick. It contains the components that you will use to control your power chair.

Horn Button 

The horn button activates a warning horn.

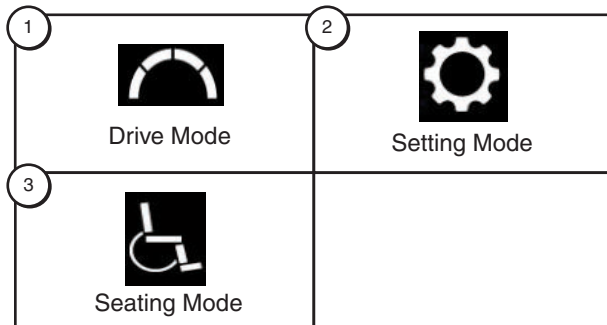
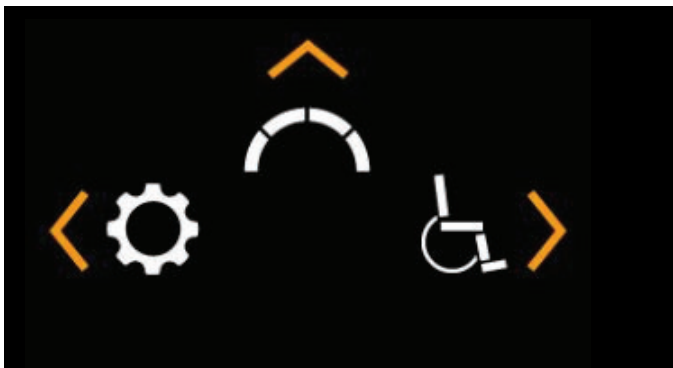
Mode Button 

The mode button is used to cycle through Drive Profiles, Seat Mode (if equipped) and Settings Mode.

Page Button 

The page button is used to cycle through the soft key pages.

NOTE: The soft key pages can be changed by your Quantum Rehab Provider.

**Soft Keys** 

The soft keys will perform the action depicted directly above them. This action may change depending on the screen and it will change with the page button.

NOTE: If your Q-Logic 3e Controller is equipped with a lighting system, the soft key buttons will default to a light and left/right turn indicator.

Light Soft Key 

The light soft key controls the front headlights and rear running lights.

To operate the lights:

1. Push the On/Off Button once to power on the chair and the controller.
2. Press the light soft keys button once to activate the front headlights and rear running lights.
3. Press the light soft key button again to turn off the lighting system.

NOTE: On the Drive Screens a light icon will be displayed above the speed arc when the headlights are on.

Left/Right Turn Indicator Soft Keys

The left/right turn indicator soft keys toggle either the left or right turn indicators.

To operate the turn indicators:  

1. Push the On/Off Button once to power on the chair and the controller.
2. Press the desired turn indicator soft key once to turn on that indicator.
3. Press the same turn indicator soft key again to turn off that indicator.

NOTE: If the left turn indicator is activated, pressing the right indicator soft key will turn off the left indicator and activate the right indicator.

NOTE: On the Drive Screens a Left/Right turn indicator icon will be displayed next to the speed arc when the Left/Right turn indicator is on.

NOTE: The turn indicator soft keys also control the hazard lights. Press both turn indicator soft keys at the same time to activate the hazard lights and press both buttons again to turn off the hazard lights. If the hazard lights are left on and the controller is turned off, the hazard lights will continue to flash. The Q-Logic 3e must be turned back on and both turn indicator buttons must be pressed to deactivate the hazard lights.



NOTE: Your Q-Logic 3e controller is equipped with integrated LEDs per path lighting.

To activate puddle lights:

1. Press the center soft key to activate the puddle lights. Once the lights are active the gray puddle light icon will turn white.
2. Press the puddle light soft key again to turn off the lights. The puddle lights icon will turn gray to indicate they are off.


LCD Screen 

The Q-Logic 3e provides the user with easily intuited feedback information via the LCD screen. The top left corner of the screen will indicate any drive restrictions.

No icon		Full drive speed
Yellow Caution Icon		Limited Drive Speed
Red Warning Icon		Full Drive Lockout

Outdoor Graphic User Interface 

The Q-Logic 3e includes an outdoor Graphic User Interface that increases the contrast of the screen to make it easier to be seen in natural light.

To switch from the indoor to outdoor Graphic User Interface or from the outdoor to indoor Graphic User Interface, press and hold page button until the screen changes. 

Drive Screen

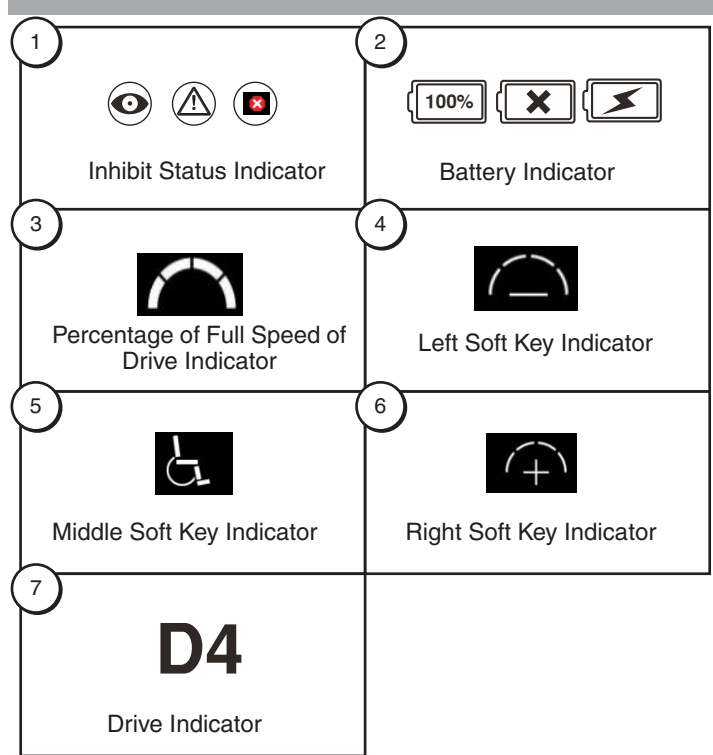
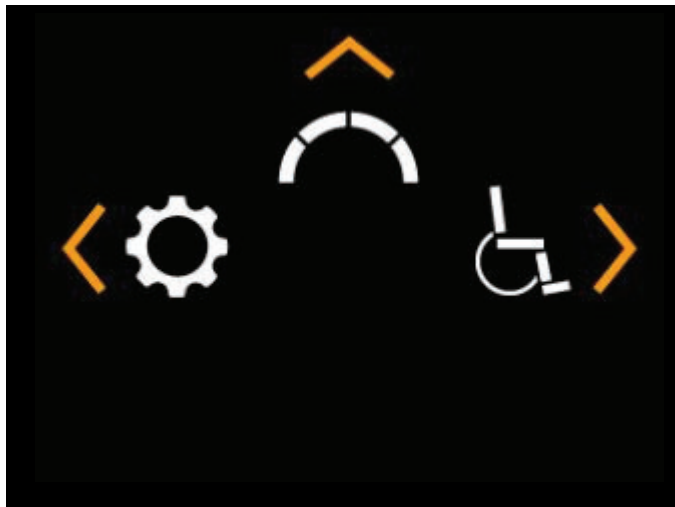
The LCD screen, provides the current profile, drive operation, and the speed adjustment settings.

Drive/Function Inhibit status is depicted as an icon at the top left of the screen. Actuator adjustment will affect the inhibit status. As your seat and/or back angle increases, a red icon will indicate full drive lockout. If your power chair is equipped with a seating system lift, a yellow icon will indicate speed reduction as the seat is elevated. To return your power chair to full speed, reverse operation.

To Access the Drive Screen from the Home Screen 

1. Push the joystick up for the "Drive Screen."

NOTE: To access the Drive Screen from any other screen, press the Mode Button  until the desired Drive Profile is reached.



Drive Profile Selection

Your Q-Logic 3e Controller may be programmed for up to four drive profiles that allow the system to be custom-tailored to your environment. Profiles 1 – 3 may be selected by pressing the Mode button. The selected profile is displayed on the Drive Screen.

NOTE: Drive profiles are set by your Quantum Rehab Provider. Contact your Quantum Rehab Provider to change or add a drive profile.

To select a profile setting using the Mode Button:

1. Push the On/Off Button once to power on the chair and the controller.
2. Push the Mode Button to select a drive profile. Cycle through the four available drive profiles.
3. Continuing to push the button will cycle through the Setting screen and Seat screen (if power positioning is present), then back to Drive profile 1.

! WARNING!

Drive/Function Inhibit status is read-only in your actuator adjustment (seat screen). This function is disabled in drive mode in order to prevent unintended loss of function in your power chair. Take caution when negotiating, obstacles, ramps, and inclines. Whenever possible, use an attendant in these conditions.

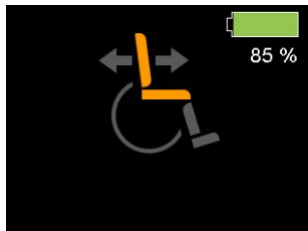
Operating your power chair on inclines and/or with tilt/recline function will affect your power chair's stability.

Actuator Adjustment (Seat Screen)

The Q-Logic 3e Controller can control five power seat actuators, using the mode button and the joystick.

To select and adjust an actuator:

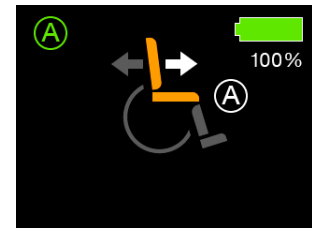
1. Push the On/Off Button once to power on the chair and the controller.
2. Push the Mode Button several times until the seat screen is displayed on the LCD or push the middle soft key button once to go directly to actuator mode.
3. Push the joystick to the left or right to cycle through the available actuators until the desired actuators are illuminated on the actuator indicator. **See figure 1.**
4. When the desired actuator is selected, give a forward command to the joystick to adjust position in one direction or give a reverse command to the joystick to adjust position in the opposite direction. If you continue to push the Mode Button, it will cycle through the Drive screens and Auxiliary screen, and then return to Seat Screen.
5. Push the Mode Button until you return to the desired drive profile.



1. Tilt Mode



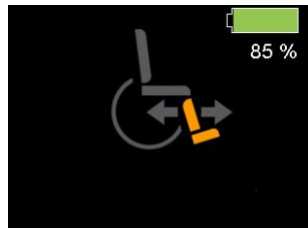
4. Recline & ELR/ ALR Mode (both)



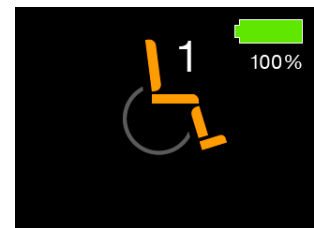
7. **Anterior Tilt Screen



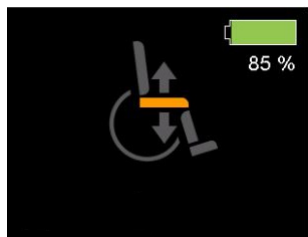
2. Recline Mode



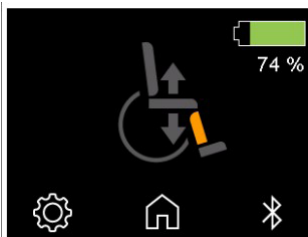
5. Articulating Foot Platform



8. **Memory Seat Screen



3. Elevating Seat Mode



6. **AFP Articulate Seat Screen

Figure 1. Actuator Selection

NOTE: The Drive/Function Inhibit status is affected only in the actuator adjustment (seat screen).

****NOTE:** Only available on seating system with positional feedback.

iLevel Feature (Optional)

Your power chair may be equipped with the iLevel feature that will be used in conjunction with your seating system. The iLevel feature is mounted on a Quantum power base for enhanced stability when the seating system is elevated.

There are certain situations, including some medical conditions, where the power chair user will need to practice operating the power chair equipped with iLevel in the presence of a trained attendant. A trained attendant can be defined as a family member or care professional specially trained in assisting a power chair user in various daily living activities.

As you begin using iLevel during daily activities, you will probably encounter situations in which you will need some practice. Simply take your time and you will soon be in full and confident control.

Elevation (Seat Screen)

The iLevel feature can be activated by selecting the elevating seat actuator.

To select and adjust the seat elevation using the Q-Logic 3e Controller:

1. Push the On/Off Button once to power on the chair and the controller.
2. Push the Mode Button several times until the seat screen is displayed on the LCD or push the middle soft key button once to go directly to seat screen. **See figure 1.**
3. Push the joystick to the left or right to cycle through to the elevating seat mode, this is illuminated on the actuator indicator.

NOTE: If your Q-Logic 3e settings are different than those described, contact your Quantum Rehab Provider. Your Quantum Rehab Provider may have changed the programming of your Q-Logic 3e Controller.

4. When the elevating seat mode is selected, give a forward command to the joystick to adjust position in one direction or give a reverse command to the joystick to adjust position in the opposite direction.
5. If you want to return to another profile, push the Mode Button to return to the desired drive profile.

To activate the iLevel using a single switch:

1. Press once and hold the single switch once to raise the seat and activate iLevel.
2. Press and hold the single switch to lower the seat.

NOTE: The iLevel feature is automatically engaged when the power elevating seat is activated and the iLevel indicator is displayed on your controller. See figure 2.

The power chair should be used on an indoor, level surface, such as malls, offices, and/or medical facilities to activate iLevel. Once the seating system actuator is started, the iLevel boots inhibit movement on the front caster arms. The seating system can be reclined or tilted up to 20° while the iLevel feature is activated.

 WARNING!

The iLevel feature should be used only on a flat, level, indoor surface, such as in malls, offices, and/or medical facilities. Never raise the seat from its lowest position on an inclined surface. Failure to heed this warning can result in the power chair tipping over.

The iLevel feature is intended for limited outdoor use on only flat level, hardscape surfaces. If you are unsure of your environment, do not use iLevel outdoors.

Never raise the seat into iLevel when operating your power chair on bumpy or uneven surfaces. Failure to heed this warning can result in the power chair tipping over.

Always fasten the positioning belt when operating the power chair.

Do not operate the iLevel or change the seat height in any way while your power chair is positioned under a fixed object, such as a table or a desk. Keep area clear prior to and during movement.

 PROHIBITED!

Never use the iLevel outdoors on uneven terrain (gravel, hills or other uneven, non-compact terrain) or in fields.

Never use iLevel while ascending or descending a curb or uneven surface of any height.

NOTE: The iLevel feature is equipped with a system that allows the power chair to drive at a predetermined, safe speed when the seat is elevated. Always check to be sure this system is operating properly before using your power chair.

NOTE: If a warning or visual indicator appears on your controller stating that iLevel is not engaged, the power chair's speed will be reduced to 25% when elevated. If this warning appears while on level ground, please discontinue use of iLevel feature and consult your Quantum Rehab Provider for assistance.

Tru-Balance® 4 Power Anterior Tilt Feature (Optional)

Your power chair may be equipped with the power anterior tilt feature that will be used in conjunction with your seating system. The power anterior tilt feature is mounted on a Quantum power base for enhanced stability when the seating system is tilted forward.

There are certain situations, including some medical conditions, where the power chair user will need to practice operating the power chair equipped with power anterior tilt in the presence of a trained attendant. A trained attendant can be defined as a family member or care professional specially trained in assisting a power chair user in various daily living activities.

As you begin using power anterior tilt during daily activities, you will probably encounter situations in which you will need some practice. Simply take your time and you will soon be in full and confident control.

Tilt (Seat Screen)

The power anterior tilt feature can be activated by selecting the tilt seat actuator.

To select and adjust the seat tilt using the Q-Logic 3e Controller:

1. Push the On/Off Button once to power on the chair and the controller.
2. Push the Mode Button several times until the seat screen is displayed on the LCD or push the middle soft key button once to go directly to seat screen. **See figure 1.**
3. Push the joystick to the left or right to cycle through to the tilt seat mode, this is illuminated on the actuator indicator.

NOTE: If your Q-Logic 3e settings are different than those described, contact your Quantum Rehab Provider. Your Quantum Rehab Provider may have changed the programming of your Q-Logic 3e Controller.

1. When the tilt seat mode is selected, give a forward command to the joystick to adjust position in one direction or give a reverse command to the joystick to adjust position in the opposite direction. A forward command, from zero tilt, will result in power anterior tilt mode, on the seat screen. **See figure 1.**
2. When in power anterior tilt mode, the joystick must be returned to neutral and another forward command given to move in power anterior tilt. A reverse command will return to zero tilt.
3. If you want to return to another profile, push the Mode Button until you return to the desired drive profile.

Note: Your Quantum Rehab Provider may have set an anterior tilt position and a transfer position. If so giving a forward command from zero tilt will move the seat to the anterior tilt position. Releasing the input to neutral and giving another forward command will move the seat to the transfer position.

To activate the Power Anterior Tilt using a single switch:

1. Double press once and hold the single switch once to tilt the seat forward and achieve power anterior tilt.
2. Press and hold the single switch to return the seat to zero tilt.

NOTE: The power anterior tilt feature is automatically engaged when the power tilt seat is activated in the forward direction and the power anterior tilt indicator is displayed on your controller. See figure 2.

The power chair should be used on an indoor, level surface, such as malls, offices, and/or medical facilities to activate power anterior tilt. Once the seating system actuator is started, on chairs with iLevel, the iLevel boots inhibit movement on the front caster arms during power anterior tilt. The seating system can be reclined or elevated fully while the power anterior tilt feature is activated.

WARNING!

The power anterior tilt feature should be used only on a flat, level, indoor surface, such as in malls, offices, and/or medical facilities. Never tilt the seat forward on an inclined surface. Failure to heed this warning can result in the power chair tipping over.

The power anterior tilt feature is intended for limited outdoor use on only flat level, hardscape surfaces. If you are unsure of your environment, do not use power anterior tilt outdoors.

Never tilt the seat forward when operating your power chair on bumpy or uneven surfaces. Failure to heed this warning can result in the power chair tipping over.

Always fasten the positioning belt and/or other physical restraints such as knee blocks or chest bar, when operating the power chair.

Do not operate the power anterior tilt or change the seat height in any way while your power chair is positioned under a fixed object, such as a table or a desk. Keep area clear prior to and during movement.

PROHIBITED!

Never use the power anterior tilt outdoors on uneven terrain (gravel, hills or other uneven, non-compact terrain) or in fields.

Never use power anterior tilt while ascending or descending a curb or uneven surface of any height.

NOTE: The power anterior tilt feature is equipped with a system that allows the power chair to drive at a predetermined, safe speed when the seat is tilted forward. Always check to be sure this system is operating properly before using your power chair.

NOTE: On power chair with iLevel, if a warning or visual indicator appears on your controller stating that iLevel is not engaged, the power chair's speed will be reduced to 0% (full drive lockout) when elevated, during power anterior tilt. If this warning appears while on level ground, please discontinue use of power anterior tilt feature and consult your Quantum Rehab Provider for assistance.

AFP articulate (Seat Screen)

The footplates can be moved towards the ground, when not in anterior tilt, by selecting the AFP articulate actuator.

To select and adjust the AFP articulate using the Q-Logic 3e Controller:

1. Push the On/Off Button once to power on the chair and the controller.
2. Push the Mode Button several times until the seat screen is displayed on the LCD or push the middle soft key button once to go directly to seat screen. **See figure 1.**
3. Push the joystick to the left or right to cycle through to the AFP articulate seat mode, this is illuminated on the actuator indicator.

NOTE: If your Q-Logic 3e settings are different than those described, contact your Quantum Rehab Provider. Your Quantum Rehab Provider may have changed the programming of your Q-Logic 3e Controller.

4. When the AFP articulate mode is selected, give a forward command to the joystick to adjust position in one direction or give a reverse command to the joystick to adjust position in the opposite direction. A reverse command will result in footplates moving towards the ground, a forward command will result in the footplates moving away from the ground.

NOTE: The TRU-Balance 4 system is set in production to stop the footplates before they contact the ground. If the footplates contact the ground, see your Quantum Rehab Provider to get the system reset.

NOTE: When the footplates are close to contacting the ground, the system restrict the AFP articulation in the down position, restrict the elevate in the down position, and put the chair into drive lockout.

Memory Seating

If your seating system is equipped with memory seating, a saved seat position can be recalled via the Q-Logic 3e electronics.

NOTE: A memory seat position must be set before use. Consult your Quantum Rehab Provider for assistance.

The memory seat function is displayed on the Q-Logic 3e seat screen with number 1 through 4. **See figure 1.**

Each memory seat number has a position that can be recalled with a forward command, and another position that can be recalled with a reverse command, for eight (8) possible memory seat positions.

The memory positions can be set to operate in a synched movement (all seat functions move at the same time) or a sequential operation (each seat functions moves, one after the other, in a predetermined order). See your Quantum Rehab Provider for more information.

NOTE: An anterior tilt position can only be saved to a memory seat position set for synched movement.

Memory Seat (Seat Screen)

The memory seat feature can be activated by selecting the memory seat screen.

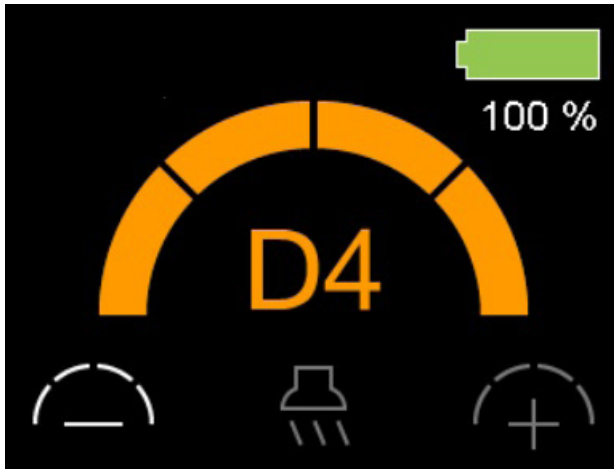
To select and recall the memory seat position using the Q-Logic 3e Controller:





1. Push the On/Off once to power on the chair and the controller.
2. Push the Mode Button several times until the seat screen is displayed on the LCD or push the middle soft key button once to go directly to actuator mode.
3. Push the joystick to the left or right to cycle through to the memory seat mode. This is illuminated on the actuator indicator. **See figure 1.**
4. Push the joystick forward to recall the forward memory seat position.
5. Push the joystick in reverse to recall the reverse memory seat position.

NOTE: When trying to recall a memory position, if the seat does not move or stops moving before reaching the memory position, an actuator restriction may be active.

Example: If starting with the lift fully elevated and operating a memory position with full posterior tilt (memory position is set for sequential movement), the seat will start to posterior tilt but must stop at 115° as the lift is elevated. Bringing the lift down all the way and performing the memory position again will result in reaching full memory seat position.

NOTE: An "Error 174 invalid memory position" message is a result of attempting to perform a sequential memory seat position starting from an anterior tilted position. Move seat to zero tilt, or posterior tilt, to perform the sequential memory seat position.



<p>1a</p>  <p>Safe Elevation</p>	<p>1b</p>  <p>Reduced speed restriction</p>
<p>1c</p>  <p>Full drive lockout</p>	<p>1d</p>  <p>Power Anterior Tilt</p>

Definitions of Indicators

- 1a - Safe Elevation
- 1b - Reduced speed restriction
- 1c - Full drive lockout
- 1d - Power Anterior Tilt



iLevel not engaged



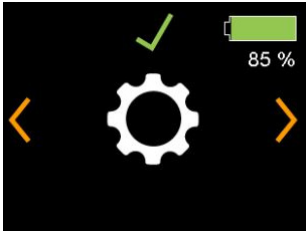
Figure 2. Q-Logic 3e Controller Indicators

User Adjustable Memory Positions

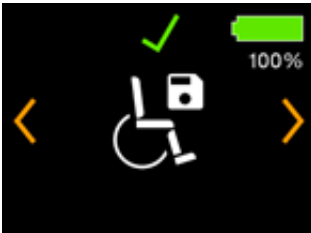
The memory seat numbers 1 through 4 may be designated to be user adjustable. See your Quantum Rehab Provider for more information.

Saving a user adjustable memory position

1. Move the seat to the position to be saved
2. Push the mode key "M" until the settings icon appears.



3. Push the joystick right or left to navigate to the "save memory position" screen.



4. Push the joystick forward to enter the memory positions enabled.



5. Push the joystick right or left to navigate to the memory position to be saved.

NOTE: Each enabled memory position will have 2 programmable positions. One for when the joystick is operated in the reverse position (shown in picture above) and one for operation in forward direction.

6. While the memory position for programming is on the screen, push the joystick forward to begin the save process.
7. Push the the joystick forward to confirm you would like to save the new memory position. If you would like to cancel this process a reverse command on the joystick will bring you back to step 5.

NOTE: The disc next to the green checkmark will flash during the saving process.



8. Once the save process is complete the screen will return to step 3
9. Repeat the steps to save the second position.


NOTE: The memory positions are customizable. Forward or reverse can be set for whichever position or method of operation that is best for the user.

NOTE: If the icon for "save memory positions" is not available when navigating through the menu selections, then no positions have been designated for user adjustable. See your Quantum Rehab provider for more information.

Settings Screens 


The following pages explain the various screens you will use with the Q-Logic 3e Controller. Contact your Quantum Rehab Provider with any questions you may have.

NOTE: Some screens in this Basic Operating Instructions may differ from your system depending on configuration and options selected.

To change the horn volume: 

1. Push the Mode button, until setting screen is displayed.
2. Push the joystick up to enter the available setting subjects. Push left or right to change the settings.
3. When the desired subject is displayed on the screen, push the joystick up or down to adjust that setting.

After "Horn" is displayed, an up command will increase volume, a down command will decrease volume.

NOTE: Any time a setting is changed, the system will back up the configuration to the power base. When the system is turned off, "parameter backup"  will be displayed on the screen before the system turns off.


To change the display brightness:

1. Push the Mode button, until setting screen is displayed.
2. Push the joystick up to enter the available setting subjects. Push left or right to change settings subject.
3. When the desired subject is displayed on the screen, push the joystick up or down to adjust that subject.

After "Display Brightness" is displayed, an up command will increase brightness and a down command will decrease brightness.

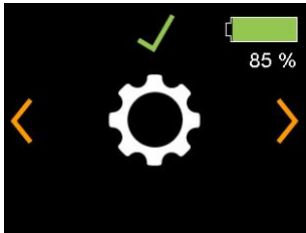
To change the horn volume: 

1.



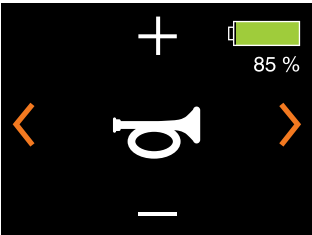
Drive Screen

2.



Settings


3.



Sound


To change the display setting:

1.



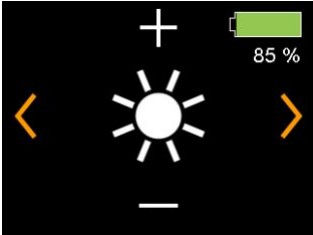
Drive Screen

2.



Settings

3.



Brightness

USB Charging Port

The Q-Logic 3e hand control includes a USB-C port for charging small devices.

The USB port will output up to 1.5 Amps depending on the adaptor.

The Q-Logic 3e system includes Bluetooth that can be used to program the Q-Logic 3e electronics.

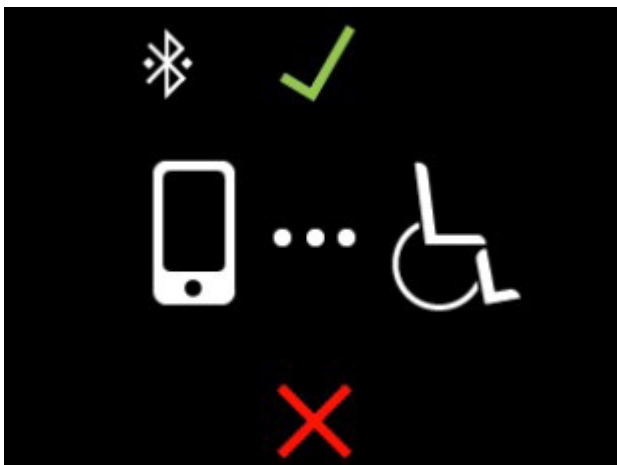
If a programmer is connected to the power chair, the Q-Logic 3e screen will ask the user to accept Bluetooth access by programming device.

1. To accept the Bluetooth connection, perform a forward command on the power chair's input device.

Interactive Assist

The Interactive Assist uses the Q-Logic 3e's Bluetooth connection to allow your provider access to the Q-Logic 3e's Diagnostic information. The connection requires the user to accept access similar to the Bluetooth programming. Refer to the Interactive Assist manual for details.

To accept Bluetooth access by programming device:



NOTE: This product has been tested for Electromagnetic and Radio Frequency Interference (EMI/RFI) and has met standard requirements. Please refer to the Consumer Safety Guide for more information regarding EMI/RFI. Although we do not recommend using a cell phone while operating a power chair, the system is capable of receiving and/or making calls through a cell phone device, accessing music files or contact lists, and navigating a device menu.

Bluetooth Electronic Specifications

Bluetooth Output Power	10 mW
Operation Range	40 m LOS (Line of Sight)
Operating Temperature	-40°F to 185°F / -40°C to 85°C
Storage Temperature	-67°F to 302°F / -55°C to 150°C
RF Wireless Technology Type	Co-existence with IEEE 802.11 (AWMA, AFH)
Encryption Security	128-bit

EMC Testing on Sample Wheelchair

Susceptibility	Tested to 20V/m to IEC 61000-4-3
Emissions	To CISPR11, Group 1, Class B
ESD	To IEC 610000-4-2

FCC ID

FCC Information contains transmitter module

FCC ID:	T7V1316
IC:	216Q-1316

Attendant Control

For more information on this applications, contact your Quantum Rehab Provider.

The Attendant Control is laid out:

- On/Off Button
Enables/disables power
- Mode Button
Cycle through Drive Profiles and Seat Mode (if equipped)
- Battery Condition Meter
Indicates battery charge
- Actuator LEDs
Indicates actuators in use
- Mode LED
Used for profile selection
- Joystick
They joystick controls speed and direction in Drive mode. Push the joystick to the right to select actuators in Seat mode. Move the joystick forward or backward to activate the desired actuator(s).
- On/Off and Mode Jacks
Allow for remote On/Off and Mode switch installations

Thermal Rollback

The Q-Logic 3e Controller is equipped with a thermal rollback circuit that monitors the temperature of the power chair's motors and controller. If either exceeds the safe operating temperature, the controller reduces the output to 20% of full operation level. This reduces the power chair's speed and allows a cool-down period. Once the temperature returns to a safe level, the power chair will resume normal operation.

Battery Condition Meter

The battery condition meter is in front of the joystick on the controller and as an LED on the Attendant Control.

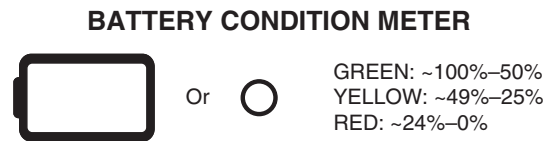
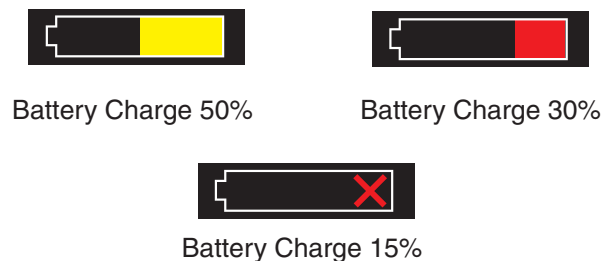


Figure 3. Battery Condition Meter

Battery Life Indicator

The Q-Logic 3e Controller system uses pop-ups to indicate the remaining battery life of the power chair. The system will show information screens when the battery voltage is at 50%, 30%, and 15%. If the pop-ups are not needed, this feature can be disabled, using a programmer, such as Econ-W or Econ-I, under the display settings.



Q-Logic 3e Error Codes

The Q-Logic 3e Controller displays two types of messages: warning and error. **See figure 4.**

- **Warning:** Alerts you to conditions that may affect power chair functionality and performance.
- **Error:** Alerts you to conditions that influence power chair functionality and performance.

Error codes are displayed on the LCD by number. The following table identifies the error codes that may be easily rectified, probably causes, and possible solutions. If you receive one of these error codes, follow the recommended solution, and if the problem persists, you receive any other error code or experience any other problem with your power chair, contact your Quantum Rehab Provider.



INFORMATION



WARNING



ERROR

Figure 4. Error Codes

Care and Maintenance

Refer to your power chair owner's manual for proper cleaning and disposal instructions.

Temperature













Some of the parts of your power chair are susceptible to extreme changes in temperature. Always keep your power chair between the temperatures of 18°F (-8°C) and 122°F (50°C).

Warranty









Refer to your power chair owner's manual for specific information on controller warranty.

Error Code	Popup Text	Description (programming device)	Help text (programming device)
1	Motor 1 not connected	Error: Motor 1 not connected	Motor 1 error detected. 1. Turn power off. 2. Inspect motor connections. 3. Turn power on.
2	Motor 2 not connected	Defect: Motor 2 not connected	Motor 2 error detected. 1. Turn power off. 2. Inspect motor connections. 3. Turn power on.
3	Brake 1 not connected	Error: Brake 1 not connected	Brake 1 error detected. 1. Turn power off. 2. Disengage then re-engage brake lever. 3. Inspect motor connections. 4. Turn power off.
4	Brake 2 not connected	Error: Brake 2 not connected	Brake 2 error detected. 1. Turn power off. 2. Disengage then re-engage brake lever. 3. Inspect motor connections. 4. Turn power off.
20	Undervoltage	Error: Undervoltage	Charge Battery.
21	Overvoltage	Error: Overvoltage	Check the battery voltage. Batteries may be overcharged. Avoid driving downhill fast with fully charged batteries.
23	Motor 1 output defect	Error: Motor 1 output defect	Motor 1 error detected. 1. Turn power off. 2. Inspect motor connections. 3. Turn power on.
24	Motor 2 output defect	Error: Motor 2 output defect	Motor 2 error detected. 1. Turn power off. 2. Inspect motor connections. 3. Turn power on.
25	Brake 1 error	Error: Brake 1 error	Brake 1 error detected. 1. Turn power off. 2. Disengage then re-engage brake lever. 3. Inspect motor connections. 4. Turn power on.
26	Brake 2 error	Error: Brake 2 error	Brake 2 error detected. 1. Turn power off. 2. Disengage then re-engage brake lever. 3. Inspect motor connections. 4. Turn power on.
32	Speed reduction (Overtemperature)	Error: Speed reduction (Overtemperature)	Chair speed is reduced to protect system electronics. 1. Turn power off to let system cool down. NOTE: This is the normal system behavior.
34	Joystick not centered	Error: Joystick not centered	Joystick deflected at power up. 1. Turn power off. 2. Release joystick to neutral position. 3. Turn power on.
35	Joystick out of center	Defect: Joystick out of center	Joystick deflected at power up. 1. Turn power off. 2. Release joystick to neutral position. 3. Turn power on.
46	Bluetooth not working	Defect: Bluetooth not working	Bluetooth error detected. Please reboot system. 1. Turn power off. 2. Wait 5 seconds. 3. Turn power on.
47	Suspension lock not engaged - Seek level ground	Defect: Suspension lock not engaged - Seek level ground	Suspension lock not engaged. 1. Seek level ground. 2. Check suspension lock mechanism.
174	Invalid memory position	Error: Memory position invalid	Memory position contains inconsistent data or position cannot be reached Action 1. Bring system out of anterior tilt and retry memory position 2. Memory position could not be achieved, reset memory position, and retry





Graphic User Interface - General System

Icon Name	Icon visual	Comments
Power Cycle		Shown when power cycle is required. Indicates a required action/input.
DB backup		Shows when system is backing up any changes made.
DB restore		Shows when system is restoring parameters from Power base.
Animated bar; Animated element		Shows when system is processing internally.
Firmware update		Shown if system has detected an update and asks to confirm the installation upon a forward input command. Similarity to BT connection x. Icon Select on top, "Update" text on the bottom. Indicates a required action/input.
Home drive		A forward command will move to the first drive profile.
Home seat		A right command will move to the seat screen.
Home settings		A left command will move to the settings screen.
Battery outline; Battery X, Battery charging		The battery state shall have the following state indications: 1. Green, 100% segments (total, full) 2. Green, 80% segment 3. Green, 60% segment 4. Yellow, 40% segment 5. Red, 20% segment 6. Red Cross (empty) Percentage is shown below. While charging, an indication shall be added in front of it.
BT visible		Shows when Bluetooth is enabled.
BT connected		Shows when Bluetooth is connected.
Configuring network		Item that indicates that the system modules are being configured. Shows animated bar below.

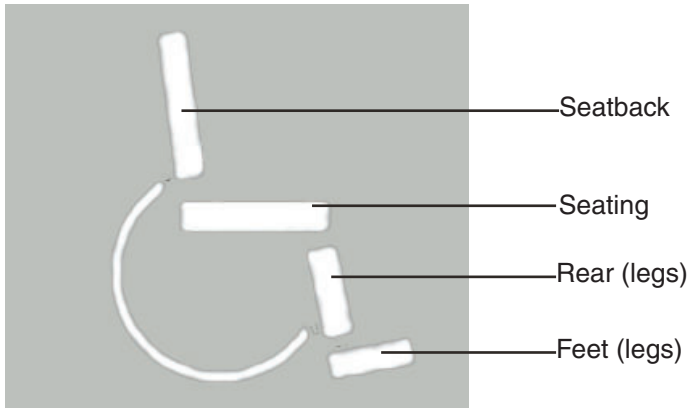
GUI Icons - Drive

Icon Name	Icon visual	Comments
Drive 1 to 4		Shown while in drive profile. 4 profiles. Example: D1.
Drive Indoor slow; Drive indoor moderate; Drive outdoor fast; Drive school; Drive work; Drive ramp; Drive sport		Icon to represent drive profile as opposed to Dx, must be programmed by the dealer. Outdoor fast icon shown.
Drive green circle; Drive purple pentagon; Drive white square; Drive red triangle; Drive blue cross; Drive yellow star		Icon to represent drive profile as opposed to Dx, must be programmed by dealer. Yellow star symbol shown.
Drive 5 - 100		Shows reachable profile speed with speed adjust setting. 19 items. Example. 60%.
iLevel		Shown if iLevel drive mode is active while seat is elevated. Shown in drive and seat screens.
Drive restricted		Shown if a drive speed restriction of any source is active. Shown in drive and seat screens.
Drive Inhibited		Shown if driving is inhibited. Shown in drive and seat screens.
Attendant Drive 1/2		The attendant drive has 2 profiles.

Lights, Indicators, Hazard

Icon Name	Icon visual	Comments
Light on		Icon shows while light status "on". No icon shows if light status "off."
Indicator left on		Icon shows while left indicator "on". Shall alternate on and off. No icon shows if left indicator "off."
Indicator right on		Icon shows while right indicator "on". Will alternate on and off. No icon shows if right indicator "off."
Hazzard on		Icons show while hazard status "on". Will alternate on and off. No icons show if hazard "off." Use indicator icons.



Seat













Seat Icons

Icon Name	Icon Visual	Comments
Main Seat Tilt Forward		Seating and seatback icon, both highlighted. Direction arrows, forward highlighted.
Main Seat Tilt Backward		Seating and seatback icon, both highlighted. Direction arrows, backward highlighted.
Main Seat Recline Forward		Seatback icon highlighted. Direction arrows, forward highlighted.
Main Seat Recline Backward		Seatback icon highlighted. Direction arrows, backward highlighted.
Main Seat elevate up		Seating highlighted. Direction arrows, up highlighted.
Main Seat elevate down		Seating highlighted. Direction arrows, down highlighted.
Main Seat AFP, Legs out		Used, if both legs operate at the same time: -AFP -Legs -Left leg & right leg combined Foot platform, consisting of 2 elements (1 rear, 1 feet), both highlighted. Arrows, forward highlighted.
Main Seat, AFP, Legs in		Used, if both legs operate at the same time: -AFP -Legs -Left leg & right leg combined Foot platform, consisting of 2 elements (1 rear, 1 feet), both highlighted. Arrows, forward highlighted.
Main Seat Legs up		Consisting of 2 elements (1 rear, 1 feet) feet highlighted. Left side chair view. Arrows, reverse highlighted (same placement as 4.1)
Main Seat Legs down		Consisting of 2 elements (1 rear, 1 feet) feet highlighted. Left side chair view. Arrows, reverse highlighted (same placement as 4.2)








Seat Icons continued

Icon Name	Icon Visual	Comments
N/A		Seat right leg up. Seat left leg up remains in place
N/A		Seat right leg down. Seat left leg remains in place..

Auxillary Functions












Icon Name	Icon Visual	Comments
Settings		Settings menu icon, selected with forward input. Left or right input lead to Bluetooth or information menu icon. Shown as well: Select/Next/Previous
Select		Select menu item. Highlighted if activated by input device forward input.
Previous		Navigates through menu and settings items. Highlighted if activated by input devices right input (all).
Next		Navigates through menu and settings items. Highlighted if activated by input device right input (all).
Change plus		Highlighted if activated by input device forward input.
Change minus		Highlighted if activated by input device reverse input.
Brightness		Large brightness change icon. Shown as well: Next/Previous/Change plus/minus
Beep		Large beep volume change icon. Shown as well: Next/Previous/Change plus/minus
Horn		Large horn volume change icon. Shown as well; Next/Previous/Change Plus/minus.
BT Main Menu		Main Bluetooth, press up to enable.

Auxillary Functions continued



Icon Name	Icon Visual	Comments
BT Programming		Wireless Bluetooth programming access icon (tablet/phone).
BT Connection ID		Shows Power Chair Bluetooth Identification number
BT Connection		Bluetooth connected push up to abort. Device ID connected on bottom.
BT Access confirm		Icon shows symbolic chair with a dotted line to the tablet/phone device.
BT key confirm		Icon shows symbolic key. Shown as well: C2: "BT visible". C3: 'Select' C4: System ID (font size as used for battery) Key number
Abort		Shown as well: M: 'BT programming' icon T1-T3: Paired device name C2: 'BT connected'
Provider information		Information menu icon leading to provider information page, shown as well: Select/Next/Previous.

Soft Key Functions
















The seat soft key icons will correspond to the respective seat screen icons.

Icon Name	Icon Visual	Comments
Speed up		Allows to adjust upwards (in steps) max profile; speed down on Drive X (speed arc).
Speed down		Allows to adjust downwards adjust (in steps) max profile speed shown on Drive X (speed arc).
Light control		Allows light on/off function.
Indicator left control		Allows left turn on/off function.
Indicator right control		Allows right turn on/off function.
Home shortcut		Allow access to Home screen.
Settings shortcut		Allows access to Setting menu.
BT shortcut		Allows access to Bluetooth menu.
Seating Shortcut		Allows access to Seating menu.
Path Light - white		Allows access to the Path Light. When path light is white, lights are on.
Path Light - grey		Allows access to the Path Light. When path light is grey, lights are off.

General exceptions

Icon Name	Icon Visual	Comments
Warning		Shown on warning as generic icon for most warnings. T2# and warning number. Exceptions for specific user warnings see below.
Error		Shown on error as generic icon for most errors. T2: # and error number. Exceptions for specific user errors see below.

User exceptions

Icon Name	Icon Visual	Comments
Information battery yellow		Large battery icons show upon a transition into the following levels. -Green (51%) into yellow (50%) -Yellow (31%) into red (30%) -Red (16%) into red cross Required large icons: -Yellow (50% filled) -Red (30% filled) -Red cross (empty)
Information battery red		See above
Information battery empty		See above
Error battery empty		Error will show an empty battery icon integrated into error icon.
Error no charging		Error will show a disconnected power plug icon integrated into error icon.
Error brakes		Error will show a brake icon integrated into error icon. Drive is inhibited.
Error overtemperature		Error will show high temperature integrated into error icon. Drive is inhibited.
Warning speed reduction temperature		Warning will show high temperature integrated into warning icon. Drive at reduced speed with warning icon in C1.
Warning speed reduction overvoltage		Warning will show an overcharged battery icon integrated into warning icon. Drive at reduced speed with warning icon in C1.
Warning joystick deflected		Warning will show deflected joystick integrated into warning icon.
Warning joystick deflected		Error will show deflected joystick integrated into error icon.
iLevel warning		Warning will show iLevel icon and a level ground line integrated into warning icon.
Warning Traction error		Warning will show a traction control (ABS) icon integrated into warning icon for Quantum 4Front.
Encoder Active		Shows encoder enabled on drive screen.
Encoder Error		Shows encode error on drive screen.

Q·LOGIC 3^e

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