mackworth

CPP Ceiling Track Hoist

Commissioning Manual

Contents

# 1.0 Introduction

Welcome to the Mackworth CPP Ceiling Track Hoist Commissioning and Decommissioning Manual, this manual includes the CP130P and CP200P hoist. Here it will explain on how to successfully install the Hoist into a pre-existing ceiling track safely and securely, as well as how to remove the hoist from the track. Use the contents page for easier navigation around the manual to discover the required section. The aim of the manual is that to help and assist you, so that you can provide a successful installation and removal of the hoist for the satisfaction and safety of the customer.

The Mackworth CPP is available in different configerations dependent on track profile. The track profiles are shown below:

| Type 1 | Type 2 | Type 3 | Type 4 | Type 5 |
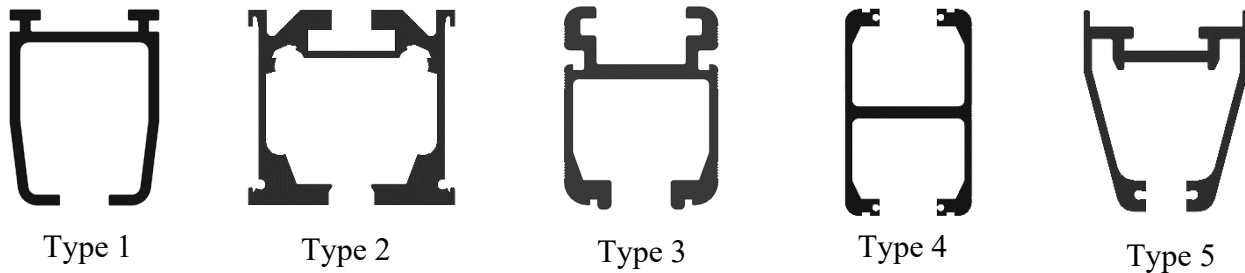
When Commissioning the CPP Hoist, one of the above track profiles should match the track the hoist is about to be installed into.
To ensure the hoist available is compatable with the pre-installed track, refer to the table below.
This following guide covers the following CPP models below:

Hoist Type	Carry Bar Type	Track Type
CP440P – 108761	Black Carry Bar	Type 1
CP440P – 108778	White Carry Bar	Type 1
CP440P – 108762	Black Carry Bar	Type 2
CP440P – 108779	White Carry Bar	Type 2
CP440P – 108763	Black Carry Bar	Type 3
CP440P – 108780	White Carry Bar	Type 3
CP440P – 108764	Black Carry Bar	Type 4
CP440P – 108781	White Carry Bar	Type 4
CP440P – 108765	Black Carry Bar	Type 5
CP440P – 108782	White Carry Bar	Type 5
CP440P FSG – 108766	Black Carry Bar	FSG
CP440P FSG – 108783	White Carry Bar	FSG

Table 1

2.0 Safety Precautions

Read and understand this manual in its entirety before installing the hoist.

The information in this manual is important for the safety of anyone near the CPP Hoist and must be read and understood to help prevent injuries.

The CPP hoist has been specifically designed to be installed in both the professional and home health care environments.

No matter the environment, health and safety factors should be considered to ensure the safety and essential performance of the hoist and to avoid unnecessary damage or injuries to people within the area of the hoist.

Typical examples include radiated heat (e.g. from a heater or fireplace), excessive moisture impacting electrical performance (e.g. from a bathroom or kitchen area) and the correct storage of the hoist after use (e.g. handset position on the carry bar).

The hoist is not intended to be used in environments where there are rapid changes in the environmental temperature and humidity during intended use.

Any commissioning or decommissioning of the Hoist that has not been carried out by an authorised Mackworth personnel will void the product warranty.

- Mackworth authorised personnel must be the only engineers who commission and decommission the CPP hoist.

- The hoist must be turned OFF during installation and removal for the safety of the engineer and customer.

- Always ensure suitable clearance when installing and removing a hoist into/from a ceiling track.

- Ensure that all the below procedures are followed correctly as instructed in this manual.

- All listed tools and equipment stated in this manual must be used to safely commission and decommission the hoist.

- The CPP hoist has been specifically designed to be installed in both the professional and home health care environments only and should not be installed elsewhere.

⚠️ Unauthorised modifications on any Mackworth product may affect its safety. The manufacturer will not be held responsible for any accident, incident or deficiencies of performance that occur as a result of any unauthorised modification to its products.

2.1 Required Tools and Equipment for Hoist Commissioning and Decommissioning

When carrying out work on the Ceiling Track Hoist you will require the following:

Tools Required

2mm T Bar Allen wrench
2.5mm T Bar Allen wrench
3mm T Bar Allen wrench
4mm T Bar Allen wrench
5mm T Bar Allen wrench
5.5mm combination spanner
8mm combination spanner
13mm combination spanner x2
No. 2 Pozi drive screwdriver
Small slotted screwdriver
External Circlip pliers 3-10mm
Long nose pliers
Side snips
Power Drill
Drill Piece set up to 8.5mm

Equipment Required

Step Ladder
Marker Pen
Cloth
Lint Free Cloth
The correct documentation
Service Stand

3.0 Hoist Unboxing

This section will summarize the layout of the Hoist Packaging and what is included in the Box. It is recommended a small pocketknife is used for smoother unpacking of the Hoist. The Hoist is packed into a single box (280x670x365), weighing approximately 15kg. Below is a list of components that are included in the box.

Item	Description	Part Numbers
1	CPP Hoist	See Table 1:
2	Carry bar	300501, 300512
3	Handset	108032
4	Hoist charger	104037
5	Trolley	108060, 108130, 108120, 108220,
6	Reacher Pole	430046
7	User manual	999086

Table 2

Figure 1

Using a knife to open the box down the middle, the box should open to a similar view to the image on the right. It will include all the above components.

Below is an image of all the included components for easier reference.

Remove the components from the box, taking the parts out in the following order:

1. Carry bar
2. Reacher Pole
3. Packaging foam
4. Handset
5. Hoist battery charger
6. Trolley
7. User Manual
8. Hoist

Figure 2

Once removed from the box, remove each individual component from their plastic bag ready for Track Installation.

Figure 3

4.0 Hoist Installation

This section will cover the following guidelines on how to remove the safety components from the pre-installed track, how to install the trolley into the track and how to attach the hoist onto the installed trolley.
This section will cover all variant types of the CPP hoist range.

(The images in this section all refer to a Track Type 1 installation, but the same process applies for all the remaining track types)

4.1 Ceiling Track Access

Prior to installing the Trolley into the pre-installed track, the track entrance must first be opened. A pre-installed track should include an end stop, safety bolt and an end cap. If these parts are not installed, it is essential that they are once the Trolley is installed.

Follow the guidance below to remove the ceiling track components. It is recommended that a step ladder is used to perform the task safer and easier.

1. Remove the end cap from the end of the track. (Figure 4)
2. Using two 13mm spanners, loosen the safety bolt and remove the securing nut from the end. (Figure 5)
3. Remove the safety bolt from the track and remove the large rubber bumper held within the track. (Figure 6)
4. Using a 5mm Allen Key, release the two screws securing the end stop and slide the end stop out of the track. (Figure 7)

To refit the end stop, safety bolt and end cap, follow the steps above in reverse order noting the following points:

- Ensure the end stop bumper is facing into the ceiling track.
- Ensure all fasteners are secure and cannot come undone without the use of tools.
- When fitting a charging dock, an end stop is not required at that end of the track.
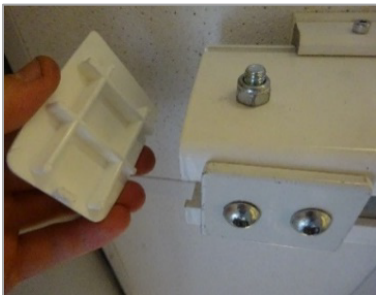

Figure 4

Figure 5

Figure 6

Figure 7

4.2 Installing the Trolley

The section below will cover the Installation of the Hoist Trolleys into their specified Tracks. Refer to the Table in the introduction to determine if the trolley available is compatible with the pre-installed track. Do not use a variant trolley and track together as they are incompatible.

To install the CPP Trolley, follow the guidance below:

1. Complete all the relevant steps in section 4.1.
2. A step ladder is recommended for easier and safer installation.
3. Align the trolley horizontally with the Ceiling Track entrance, with the attachment hook facing downward. (Figure 8)
4. Carefully place the Trolley into the track without damaging the component. (Figure 9)
5. Using the wheels, slide the Trolley away from the end of the ceiling track for safety. (Figure 10 and 11)
6. Reverse the Steps in section 4.1 to secure the ceiling track entrance. Fitting the end stop, safety bolt and end cap correctly.
7. Trolley Installation Complete.

To remove the Trolley, follow the steps above in reverse.

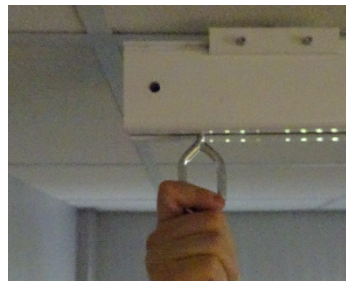|			
Figure 8	*Figure 9*	*Figure 10*	*Figure 11*

4.3 Installing the Hoist onto the Trolley

The section below will cover the Installation of the Hoist onto their given Trolleys.

To install the Hoist onto the Trolley, follow the guidance below:

1. Complete all the relevant steps in section 4.1 and 4.2.
2. A step ladder is recommended for easier and safer installation.
3. Raise the CPP to the height of the Trolley as shown. (Figure 12)
4. Hold the CPP at a horizontal angle to align the quick release hook locking mechanism with the trolley. (Figure 12)
5. Raise the CPP to allow the trolley to push the locking mechanism down as shown. (Figure 13)
6. Once the Trolley has entered the Hook and the locking mechanism has closed behind itself, rotate the Hoist to its natural position as shown. (Figure 14)
7. Hoist installation complete.

To remove the Hoist, follow the steps above in reverse order noting the following points:

- To remove, the locking mechanism must be pulled downward using your finger to open and allow the trolley to be removed.
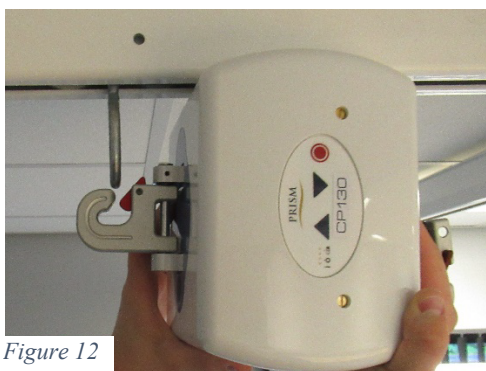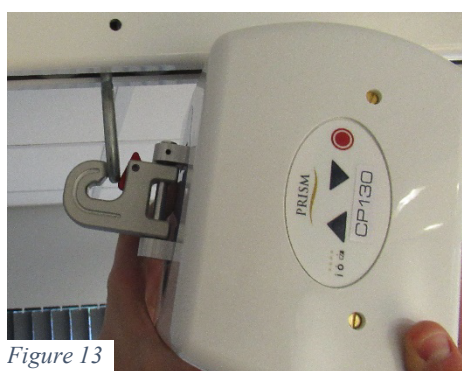
Figure 12	*Figure 13*	*Figure 14*

4.4 Installing the Hoist onto a Free-Standing Gantry (FSG)

The section below will cover the Installation of the Hoist onto a pre-installed FSG. Refer to the Table in the introduction to determine if the hoist available is compatible with an FSG.

To install the Hoist onto the FSG, follow the guidance below: (A step ladder is recommended for easier and safer installation)

1. Raise the CPP to the height of the FSG Trolley as shown. (Figure 15)
2. Hold the CPP at a horizontal angle to align the quick release hook locking mechanism with the FSG trolley. (Figure 16)
3. Raise the CPP to allow the trolley to push the locking mechanism down as shown. (Figure 17)
4. Once the Trolley has entered the Hook and the locking mechanism has closed behind itself, rotate the Hoist to its natural position as shown. (Figure 17)
5. Hoist installation complete.

To remove the Hoist, follow the steps above in reverse order noting the following points:

- To remove, the locking mechanism must be pulled downward using your finger to open and allow the trolley to be removed.
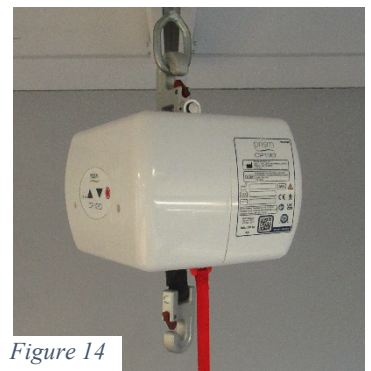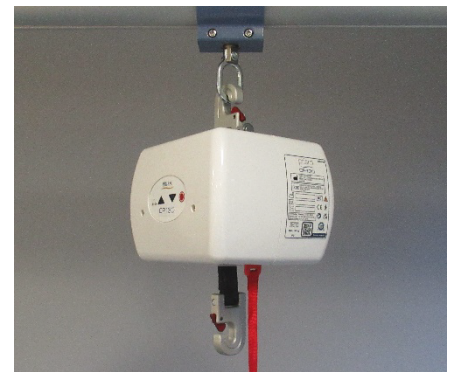

Figure 15

Figure 16

Figure 17

5.0 Component Attachment

The section below will cover the attachment of the carry bar and handset to the hoist, as well as other essential requirements to fully commission the Hoist for use. The below procedure is relevant for all CPP Hoists.

⚠️ A sturdy ladder or steps may be required in order to access the underside of the Hoist to attach the handset.

5.1 Attaching the Handset

In this section the correct procedure on attaching the Handset will be determined.
The Electric Handset is attached to the Hoist through the handset port protruding through the bottom cover as shown below.
To attach the Handset, align the groove circled in the image in the same orientation shown. The groove will be perpendicular to the front face of the Hoist.
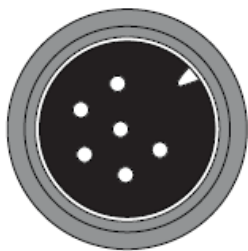The Electrical handset is connected to a female connector located on the underside of the hoist.

Figure 18

Handset controller connector

Figure 19

Hoist connector

⚠️ The orientation of the socket pins – this will only fit into the hoist socket in one position – once aligned press the connection home

When the profile of the two mating parts are aligned. Push the handset connector upward into the port until it is fully located. (Figure 20)
To fully secure the handset, twist the threaded lock on the handset connector until it is fully closed. (Figure 21)
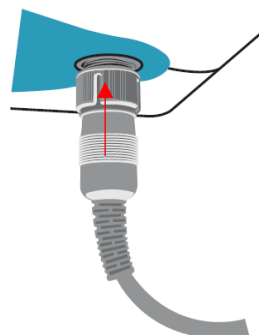
Figure 20
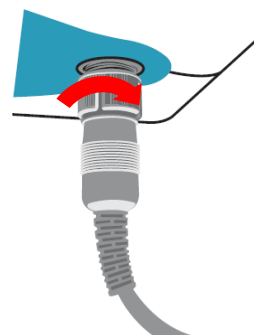
Figure 21

Perform a brief test to ensure proper connectivity. Turn the Hoist ON and OFF and also use the hand controller to raise and lower the carry bar. If these functions all work correctly, then the hand controller is correctly installed to the hoist.

If the Hoist does not work as expected after connection of the hand controller to the device, then please check firstly that the unit has power to operate. This will be indicated by the LED indicator status on the unit.

To remove the handset, follow the procedure above in reverse.

5.2 Attaching the Carry Bar

Attach the carry bar (type 'BF applied part) into the hook on the lift tape, located at the end opposite to the hoist, in the following way:

1. On the hook, move the locking mechanism into the hook by pressing down on the tab (Figure 6 and 7).
2. With the carry bar positioned sideways along the length of the bar, move the pin at the top of the carry bar into the hook (Figure 8).
3. Alternatively, with the carry bar positioned sideways, the pin at the top of the carry bar can gently push the locking mechanism out of the way as the pin is carefully moved into the hook.
4. Once the pin is in the hook, rotate the carry bar 90° down so the carry bar is hanging below the hook on the pin in the hook. Move the locking mechanism into place by pushing up on the tab, securing the carry bar on the hook and lifting tape. (Figure 10 and 11)
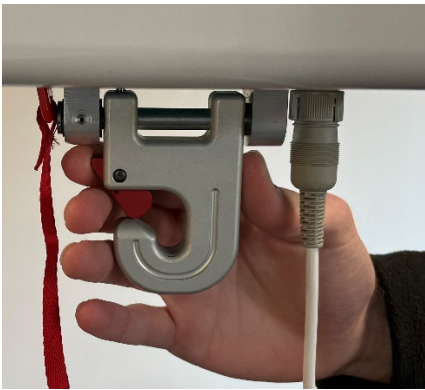

Figure 6

Figure 7

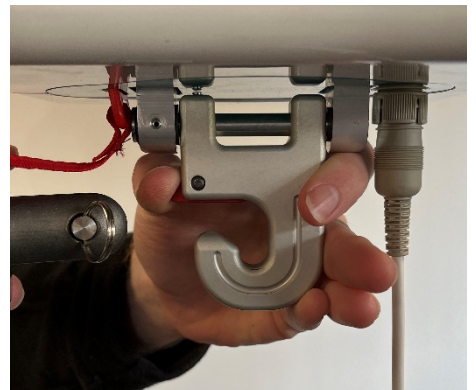
Figure 8

Figure 9

Figure 10

Figure 11

The black and white carry bar are both attached to the Quick Release Hook (QRS) in the same fashion as described above, see images below for reference.

Figure 12

Figure 13

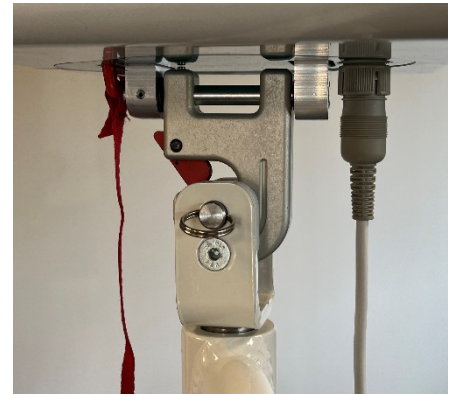*Figure 14*

Figure 15

Figure 16

Figure 17

5.3 Fixing the Charging System

The CPP Hoist charging system is designed to charge the Hoist through the Handset.
The charging dock is fitted to the wall, and when not in use, the handset is placed into the dock, and will begin charging. The Hoist cover is fitted with LED's which will indicate that the Hoist is charging, what stage of charging, or is fully charged.

Follow the procedure below to install the charging system:

1. Remove the charger from the clear bag.
2. Open the small white box and choose the correct plug adapter for the available wall socket.
3. Fit the adaptor to the plug as shown. (Figure 34)
4. Choose a suitable location within the buildings wall where the charging dock can be fitted. The wall must be of good structure to fit two screw fixing points. The location must also be close to the pre-installed ceiling track to allow the hoist and the handset to be docked. (Figure 35)
5. Remove the two brown raw plugs and two screws from the small white box.
6. Drill two 7mm holes into the wall that will allow the two given brown raw plugs to be fitted, measure the gap between the two drilled holes to match the profile of the dock.
7. Place the raw plugs into the drilled holes. (Figure 36)
8. Align the charging dock fixing point with the holes and use a pozi head screwdriver to fix the two screws and secure the dock to the wall. (Figure 37)
9. The mains power supply can now be turned on.
10. The charging dock is ready for use.

Figure 34

Figure 35

Figure 36

Figure 37

6.0 Hoist Start Up and Function Checks

The section below will show how to start up the Hoist for the use of the customer as well as completing some basic functional checks to ensure the Hoist is in working order. The images below refer to the CP200P, but the same procedure applies to all models.

6.1 Turning the Hoist ON and OFF

To operate the Hoist, it must first be turned ON via the "ON" cord on the Hoist itself (see figure 38). The cord operates a toggle switch within the Hoist. Pressing the toggle switch upward will turn the hoist ON, while pulling the cord down will turn the Hoist OFF. On the side cover of the Hoist, the LED's will turn GREEN to indicate that power is available. The hand controller will "wake up" once any functionality button is pressed.
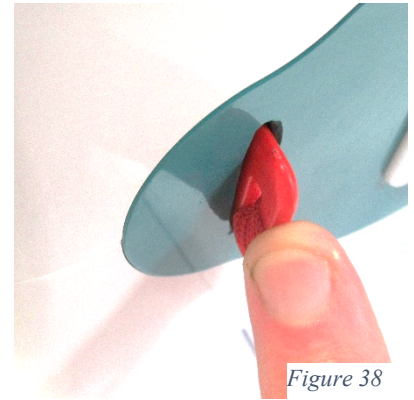
Figure 38

To conserve battery, the Hoist will automatically shut off after approximately two minutes of non-use.

If the batteries of the Hoist are low and require charging, the LED indicator lights located on the hoist will flash yellow (see LED status indications further in the user manual) depending upon the level of discharge and an audible buzzing alarm will sound when the level gets critical until charging takes place.

6.2 Operating Controls

By pressing the UP or the DOWN arrow button on the handset, the carry bar can be raised or lowered to the correct height for attaching the sling or positioning an individual. The UP/DOWN functions of the handset buttons are in relation to the travel of the Hoist. That is, the grey button at the top end of the handset activates the UP motion of the carry bar and the Green button activates the DOWN motion (Figure 39). The Red Button is the Emergency Lowering function. This should only be used in an emergency when the normal functions cannot lower the patient during a lift. The Hoist cover also provides these abilities, with the same colour coding performing these functions.
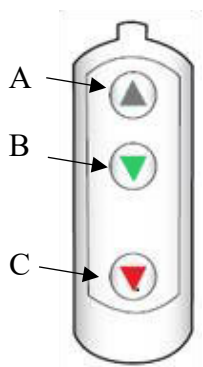
Shown in the image opposite are the 3 functions of the hand controller for the hoist.

A. "UP" when pressed
B. "DOWN" when pressed
C. "EMERGENCY LOWER" when pressed
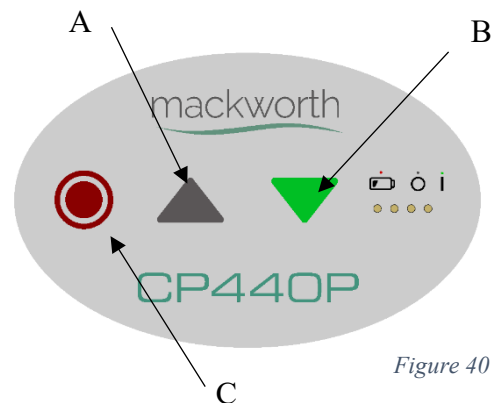
Figure 39

Figure 40

It is recommended that the operator hold the carry bar with one hand while raising/lowering is being done. This will stop the bar accidentally swaying and/or coming into contact with an individual or close object.
For the same reasons, raise the carry bar above head height when not in use and when traversing the unloaded hoist.

6.3 Moving the hoist along the track system

⚠️ Always use extreme care when moving the hoist along the track. Watch out for and avoid any obstructions that may cause injury to the individual in the sling, damage to the hoist and/or to the obstruction.

After use, the hoist should be located at the correct end of the track system for re-charging.

When needed, the hoist should be moved along the track to a position directly above the person using the following appropriate method:

The operator shall lower the carry bar to a comfortable height so that it can easily be held by hand.

Gently pushing the carry bar, move the hoist along the track to the required position, where the person can be safely loaded into the sling.

⚠️ NEVER pull the hoist along the track using the handset as this could have a detrimental effect on the performance of the hoist.

6.4 Charging the Hoist

The CPP Hoist is charged through the Handset. A charging dock should have been fitted onto the wall nearby, usually at the end of the ceiling track system.

The charging dock is also used as a handset hook, meaning at the end of each use of the hoist, the hoist should be traversed to the charging docks location and the handset should be placed into the charging dock for placement and charging.
This will ensure that the batteries are charged on a regular basis for peak performance and maximum life expectancy. The hoist may remain connected to the charger indefinitely because the hoist has a built-in regulator, removing the danger of overcharging.

To charge the hoist, you must first open the small blue bung at the base of the handset to open the charging port. Then you must place the handset into the charging dock as shown in the figures below. The handset front face will be facing towards the wall with the attachment hook facing away. Slide the handset all the way into the dock and carefully push until the dock has attached to the handset port.
To ensure the Hoist is charging, check the LED's on the Cover are showing, charging or charged.

Figure 42

Figure 43

Figure 44

Figure 45

6.5 LED Display

Should a problem arise with the use of the Hoist review the table below gives an indication as to the status of the device through reference to the LED's shown on the hoist unit.

Find the fault and complete the recommended solution.

If the fault is not found and/or the solution does not correct the problem, contact your local Mackworth authorized dealer immediately – contact details are provided on the last page of this manual.

LED 1	LED 2	LED 3	LED 4	Buzzer	Function	Action
				No	75% - 100% Battery Capacity	None
				No	50% - 75% Battery Capacity	None
				No	25% - 50% Battery Capacity	None
				No	10% - 25% Battery Capacity	None
				2 Beeps (1 sec apart) x 3 cycles	0% - 10% Battery Capacity	Charge Hoist
				No	Hoist Charging	None
				No	Hoist charged (connected to charger)	None
				· 2 Beeps (0.5 sec apart)	Upper limit reached	Release Up button
				2 Beeps (1 sec apart)	Lower limit reached	Release Down button
				Solid Beep	Emergency lower Activated	General Information
				No	Hoist Standby/Switched Off	General Information
	·					
				1 Beep (1 sec apart) x 2 cycles	Maximum patient load exceeded	Review loading
				No	Motor -Max temperature exceeded	Allow Hoist to cool
				No	Battery - Max temperature exceeded	Allow Hoist to cool
				3 Beeps (0.5 sec apart) x 2 cycles	Motor current delta limit exceeded	Call Engineer Promptly
				4 Beeps (0.5 sec apart) x 2 cycles	Battery voltage delta exceeded	Call Engineer Promptly
				5 Beeps (0.5 sec apart) x 2 cycles	Battery temperature sensor fault	Call Engineer Immediately
				6 Beeps (0.5 sec apart) x 2 cycles	Charging system fault	Call Engineer Immediately
				7 Beeps (0.5 sec apart) x 2 cycles	Motor temperature sensor fault	Call Engineer Immediately
				8 Beeps (0.5 sec apart) x 2 cycles	Limit switch fault	Call Engineer Immediately

Table 3

LED'S are solid
LED's are flashing.

7.0 Accessories

The remaining parts provided include the User Manual and the box/packaging. These should be given to the customer for safe keeping. The box should also be kept with the User and stored in a safe place. The box will be required for decommissioning and transportation.

8.0 Decommissioning

The following section will instruct on how to correctly decommission the CPP hoist at the end of use. This section is relevant to all CPP variants.

⚠️ The product may be contaminated and has to be disinfected before decommissioning.
See section on 'Cleaning' in the User Manual for details of how to do this.

8.1 Hoist Removal

The removal of the Hoist is essentially the Commissioning Steps in reversal. A summary of the correct order on how to remove the CPP and its components has been listed below. For in detailed information on each of the below steps, see the relevant section within Commissioning for assistance.

1. Lower the hoist using the handset until the hoist is placed onto a supportive surface.
2. Turn OFF the Hoist by pulling the power cord on the underside of the hoist.
3. Detach the Carry Bar from the Hoist.
4. Detach the Handset from the Hoist and charging dock.
5. Detach the Hoist from the Trolley using the reacher pole.
6. At the end of the Track, remove the End Cap, Safety Bolt and End Stop.
7. Carefully slide the Trolley out of the Track.
8. Turn OFF the Charger at the Wall Socket and remove the plug.
9. Remove the charging dock from the wall using a pozi head screwdriver.
10. Ensure the End Stop, Safety Bolt and End Cap are refitted to the Track once all the above steps are complete.
11. Hoist Removal is complete.

8.2 Hoist Dismantling

All serviceable components of the Hoist should be dismantled prior to the disposal of the Hoist. For guidance on how to dismantle all of the Hoist components, refer to the CPP Service Manual, document number: 995085.

8.3 Hoist Disposal

When the Hoist has completed its life cycle and can no longer perform to its intended use safely the Hoist must be decommissioned by an approved trained professional. The following specifies the importance of correct disposal procedure including local laws and being environmentally friendly.

Please observe the local laws on recycling and respect the current laws for disposal within the community the device is being used within. If there is any uncertainty of the below guidelines, contact your local authorities to determine the proper method of disposal of potentially biohazardous parts and accessories.

The relevant components utilised in the manufacture of the device that can be recycled at the end of the device life are:

Fully recyclables:	Consideration when Recycling:
Chassis	Batteries
Plastic Covers	Wiring Looms – electronics
Metallic Internals – Hub etc.	PCB
Initial packaging of the device (cardboard)	Hand Control
Metallic fixing – Screws etc.	Motors
Plastic Mouldings – Wheels etc.	Lift Tape
Carry Bar	Charger
Trolley	
Reacher Pole	

Ensure that this list is used as guidance and that the local laws in the given community overrule the suggested component disposal in the table above.

Dealer/service contact details:

Manufacturer contact details:

Address: Unit 1 • Tir Llwyd Industrial Estate • St Asaph Avenue • Kinmel Bay • Conwy • LL18 5JZ

Telephone Number: 01924 840100

Disclaimer

While every effort has been made to ensure the accuracy of information contained in this user manual, no liability can be accepted by Mackworth for any errors or omissions. Mackworth operates a policy of continuous improvement. Specifications and other data are subject to change without notice.

Unit 1• Tir Llwyd Industrial Estate • St Asaph Avenue • Kinmel Bay • Conwy • LL18 5JZ