HI-POW Battery Powered Trolley & Platform Truck

(500Kg Capacity)

User Guide

Handle-iT Ltd Unit 19,
Bulleigh Barton Farm and Commercial Units, Ipplepen, Devon TQ12 5UA
Tel:+44 (0)1803 875222
Email:info@handle-it.com
Web:www.handle-it.com

SAFETY WARNINGS

It is essential to read and follow all the instructions and safety information contained in this Operation Manual prior to use. Before you operate the trolley, we recommend that you practice in an open area for at least one hour to get familiar with controls and gain the operation skills. Please remember Official Training is Required for this equipment.

ALWAYS disconnect the battery before adjusting, repairing or shipping the trolley.

ALWAYS disengage the clutch, Manual/Operation Mode Leaver before transport.

ALWAYS ensure you are trained to an adequate standard

ALWAYS wear appropriate PPE

NEVER exceed the stated maximum Uniform Distributed Load (UDL).

SAFETY RULES

DO NOT try to climb or descend kerbs.

DO NOT drive over obstacles exceeding 3 cm in height.

DO NOT make abrupt changes of direction at high speed or especially when on an incline. Unless in the event of an emergency.

DO NOT climb/descend inclines greater than 11 degrees or a rise of 2 meters in 10 meters.

DO NOT operate your unit when the red battery indicator light is flashing. Immediately charge the battery to ensure safe operation and prevent damage to the battery.

DO NOT use hand-held personal communication devices, such as radios and cellular phones, while using the Power Trolley, remain focused at all times.

DO NOT operate the unit whilst under the influence of alcohol or drugs.

DO NOT allow anyone under 18yrs old to operate the unit.

DO NOT allow any person to ride on the trolley,
ENSURE all operators are suitably trained.

TRANSPORTING OR MOVING TROLLEY MANUALLY

Failure to follow these instructions when transporting or manually moving the trolley may result in serious permanent damage, which will in validate the warranty.
When shipping, transporting or manually moving the trolley the Manual/Power Operation lever (J) (See page 4) must be raised to the Manual Operation position.

SAFETY FEATURE

Power Turntable trolleys are equipped with an additional safety feature. When the tiller handle is in the fully raised or fully lowered position the trolley will become disabled. This is to avoid the operator being hit, raise the handle to the upright, if the operator slips or falls the handle will automatically return to the upright, halting the trolley. If the operator slips or falls and takes the handle to the floor the auto brake function will again halt the trolley.

The trolley will operate normally once the tiller handle is returned to normal operating height, the key switched off and back on again.

INTRODUCTION

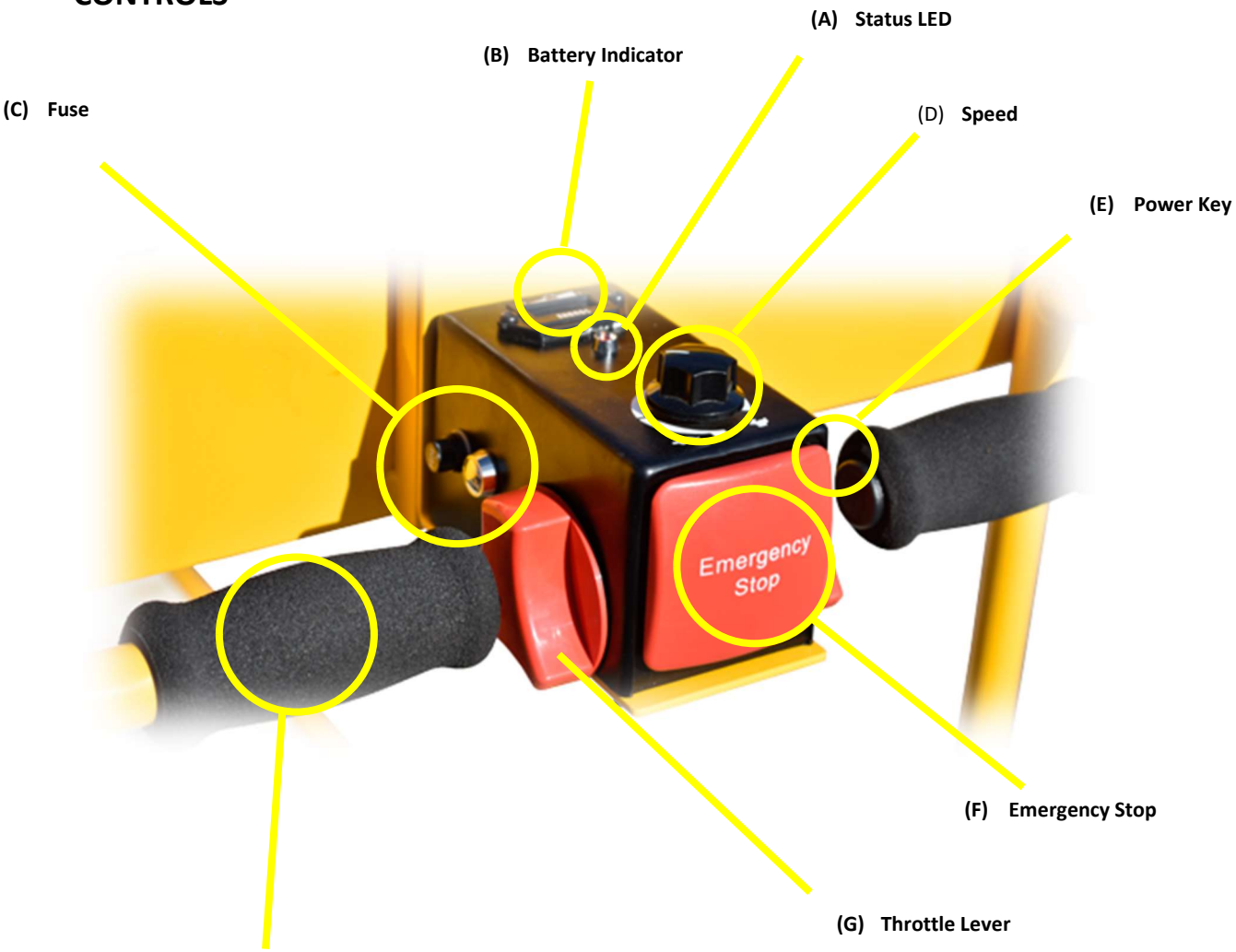
We hope the Handle-iT Battery Powered Trolley will make your manual tasks easier and provide you with many years of reliable service.

Follow the information in this manual to ensure you operate the Power Trolley properly and safely.

SPECIFICATION

Motor	24 volt/370 watts
Battery	2 x 12 v/33 Ah sealed lead acid battery OR 2 x 12 v/35 Ah sealed LiON battery
Battery Charger	Input 180-240VAC 50Hz <1.5A Output 24VDC/4A DC
Std Charge Time	7 hours
Controller	DC Motor Controller 1212P 24V

CONTROLS



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BASIC OPERATION

1. Turn ON Power

   Insert the Power Key(F) into the switch lock and turn clockwise to the “ON” position.

   Power Turntable trolleys are equipped with an additional safety feature. When the tiller handle is in the fully raised or fully lowered position the trolley will become disabled.

   The trolley will operate normally once the tiller handle is returned to normal operating height.

2. All the Battery Indicator(B) lights should be on indicating the batteries are full and ready to work.

3. Check the Status LED

   The RED Status LED(B) should be on steadily, this indicates the electric and driving systems are OK.

   If the RED Status LED(B) flashes in a sequence of 3 Flashes followed by 2 Flashes, the Power/Manual Operation Lever (J) is in the manual mode position.

4. Setting the Speed.

   Adjust the Speed Controller (E) to a suitable speed, starting at the lowest speed and gradually increasing the speed to suit the task, conditions and operators experience

5. Moving Forwards

   Stand behind the Tiller(H) and hold the handles firmly with both hands and look straight ahead. Press the Throttle Lever (I) forwards with your thumbs, the speed will increase as you press more. Release the Throttle Lever(I) and the trolley will stop.

6. Moving in Reverse

   Stand behind the Tiller(H) and hold the handles firmly with both hands and look over your shoulder, checking for obstacles. Press the Throttle Lever (I) backwards by your thumbs, the speed will increase as you press more. The trolley will beep as it moves backwards. Release the Throttle Lever(I) and the trolley will stop

7. Emergency Stop Button

   Is there to stop the operator being pinned against static obstacles such as, Racking, Walls or Parked Vehicles, as the trolley backs up, the Emergency Stop button will contact the operator, disable the trolley and push the trolley forward slightly so as that the operator is not trapped.

   If the trolley is out of control the operators should use reverse polarity (forward to reverse or reverse to forward to halt the trolley in the speediest method.

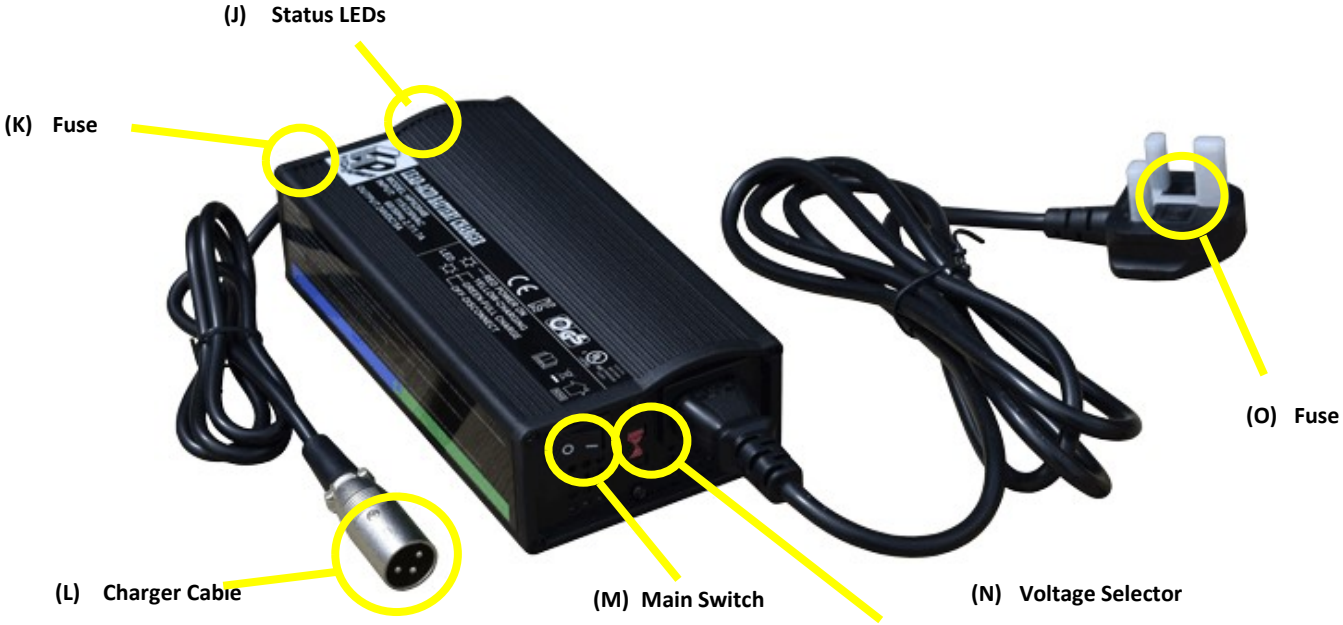
   Manually (Freewheeling – Certain Models Only)

   The trolley can be pulled/pushed manually by disengaging the clutch in the transaxle raise the Manual/Power Operation lever (J) to the Manual Operation position, and the trolley can pushed or pulled to the required location.

CHARGING THE BATTERIES

WARNING: The Power Key (F) must be switched off before charging. Otherwise damage may occur to the control circuit.

Only use the battery charger supplied with the power trolley.
Ensure the Voltage Selector (O) is correctly set to 110V or 230V



To ensure the best performance and maximum battery life, we recommend frequent battery charging. It is not possible to overcharge the battery as the charger is fully automatic; you may start charging at the end of the day and disconnect the charger the following morning, please ensure the trolley remains turned off throughout this cycle, as this may cause damage to the Micro processor/controller.

The Battery Indicator (B) displays the current battery charge. When the battery is fully charged the right-most green LED will be lit. As the battery charge decreases, successive LEDs light up from right to left as the battery discharges. The 3rd-from-left red LED flashes, indicating “energy reserve” (30% charge). The 3 left-most LEDs alternately flash in RED, indicating “empty” (20% charge).

Follow these steps for battery charging.

1. Park the Power Trolley on a dry level surface.
2. Switch the Power Key (F) to off.
3. Ensure the Main Switch (P) on the charger is switched off.
4. Plug the Charger Cable (N) into the Power Trolley.
5. Plug the AC cord into a wall plug socket.
6. Switch on Main Switch (P) on the charger.

DO NOT TURN THE IGNITION KEY ON THE TROLLEY WHEN THE CHARGER IS PLUGGED IN

The battery will take 6-8 hours to fully charge depending on the state of the battery.

Observe the Status LEDs (L) as below.

	Mains supply disconnected		Battery charger disconnected.
	Main supply connected		Battery charging
			Battery fully charged

When charging is complete….

7. Switch off the Main Switch (P) on the Charger.
8. Disconnect the Charger Cable (N) from the Power Trolley.
9. Remove the AC cord from the wall outlet.
10. Switch the Power Key (F) to on.
11. Check the Battery Indicator (B)

If the battery charger does not function, check fuses (K) and (M).

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LiON (LITHIUM ION) BATTERIES

DO NOT attempt to open the batteries.

IMMEDIATELY REPORT any damage to the batteries.

WARNING: The Power Key (F) must be switched off before charging. Otherwise damage may occur to the control circuit.

Only use the battery charger supplied with the power trolley.

Lithium Ion (LiON) batteries are available as a cost option. They provide more consistent powered to the drive system providing better performance, faster charging, and a longer service life than the standard lead acid batteries.

The power output from standard lead acid batteries gradually reduces as the trolley is used. Lithium-ion batteries give full power for much longer, until approximately 10% of the battery life, then the trolley performance will drop, which will mean you will need to find a charge point soon.

To ensure the best performance and maximum battery life, we recommend discharging the battery to 20% charge and then fully recharging the battery.

It is not possible to overcharge the battery; you may start charging at the end of the day and disconnect the charger the following morning. Do not leave the charger connected for days on end.

The Battery Indicator (B) displays the current battery charge. When the battery is fully charged the right-most LED will be lit.

We advise the batteries are recharged before the BDI reaches the RED level or approximately 20% charge

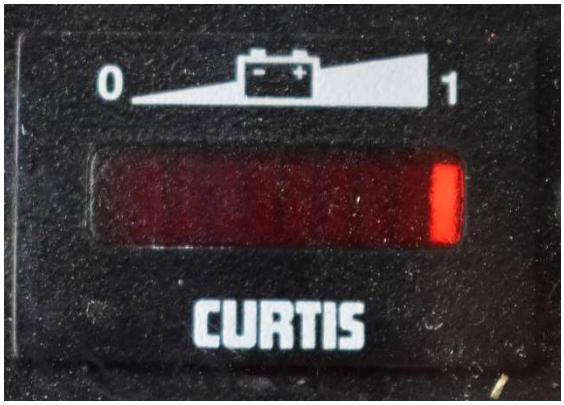
Follow these steps for battery charging.

1. Park the Power Trolley on a dry level surface.
2. Switch the Power Key (F) to off..
3. Plug the Charger Cable (N) into the Power Trolley.
4. Plug the AC cord into a grounded wall outlet.

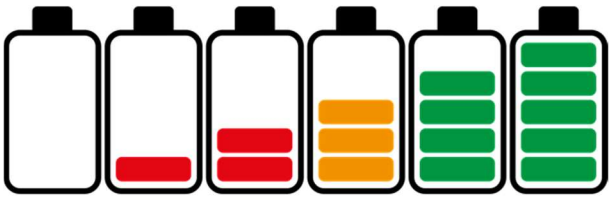
The battery will take 2-3 hours to fully charge depending on the state of the battery.

When charging is complete….

1. Disconnect the Charger Cable (N) from the Power Trolley.
2. Remove the AC cord from the wall outlet.
3. Switch the Power Key (F) to on.
4. Check the Battery Indicator (B)



BATTERY CARE



Taking care of the batteries in your power trolley is vital to ensure not only the safe operation of the trolley, but also the longevity of the batteries and the performance of the trolley throughout its life.

Incorrect charging will reduce the amount of power the battery can store, and reduce the performance of the trolley, meaning you lose the productivity gains you wanted.

All batteries have a finite life, just like the batteries in your mobile phone, but with a little thought and care the batteries in our power trolleys will give years of reliable service.

DO's	**DON'TS**
•Store the trolley in ambient temperature. •Charge the Trolley for a full charge cycle, until the charger cuts out. •Leave the charger to charge the trolley, the charger is fully automatic and will switch off when fully charged. •Visually check the battery every 3 months, or as part of you daily/weekly/monthly check for terminal corrosion, leakage, or bulging, and that the cabling is secure to the terminal. •Only use the charger that is specified for the trolley. •Discharge the battery to between 10-20% before recharging.	•Do not store out in the rain and the elements, batteries are susceptible to extreme temperatures. •Do not charge every night, regardless of battery status. •Do not leave the battery charged plugged in constantly, when the battery is full, unplug the charge •Do not "Opportunity Charge", ie plug in and charge over lunch time for a bit of extra juice. •Do not charge the trolley whilst the trolley is switched on. •Do not leave the trolley idle and unused for a period longer than 2 weeks, as the battery will degrade.

What if I run out of power? If the trolley runs out of power, it can be put into manual mode. Lever (J). The trolley can then be pushed to the nearest suitable electricity supply where the trolley can be charged safely.

Do Lithium Batteries require further attention? No, Lithium Ion batteries are typically quicker to charge from empty, whereas standard lead acid batteries typically take 7 hours.

******PLEASE NOTE OVER CHARGING YOUR BATTERIES WILL RESULT IN A SHORTER LIFE*****

DAILY CHECKLIST

	Date	Pass	Fail
	Completed by		
BASIC CHECKS			
Visual Check	Damage/Missing Parts		
	No Rust		
	No Sharp Edges		
	No Missing/Loose Nuts & Bolts		
Load Area	No Splits, Dents, Cracks		
	No Excessive Wear		
Wheels/Tyres	No Chips, Cracks or Flat spots		
	Even tyre pressures 40-50psi		
Castors	No excessive wear		
	No Chips, Cracks or Flat spots		
	No Debris in Castor Head Bear or Wheel Roller Bearing		
POWER TROLLEY COMPONENTS			
	Battery charge not in Red		
	Warning beep in reverse		
	Emergency stop operates		
	Speed control (Hare & Tortoise) operates		
	No sign of battery leaks		
	Control module LED remains steady		
	Trolley moves smoothly forward/reverse		
LIFT TABLE OPTION			
	No leaking fluids		
	Release handle operates correctly		
	Load platform holds position		
	Load platform rises/lowers smoothly		
MESH/PLASTIC CLAD OPTION			
	Sides securely fixed		
	Gas struts keep lid raised.		
	Restraining chains in Place.		
BEACON OPTION			
	Warning beacon Operation		
BELL/SOUNDER OPTION			
	Bell/Sounder Operation		
RESULT			
	Pass/Fail		

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TROUBLESHOOTING

Issue	Solution
No power	Check battery is connected. Recharge batteries. Check fuse (D)
Trolley moves slowly	Recharge the batteries.
Trolley Status LED(C) flashing.	Flash Sequences ● ● Over temperature ● ●●●● Check battery charge ●●● ●● Manual/Power Operation Lever(J) in manual. All other flash sequences see below and seek product support.
Battery fails to charge	Remove battery box and visually check battery condition. Check the Battery Charger Cable (N) for damage. Check battery charger Status LEDs(M) as above. Check Fuse(D) on Power Trolley Check Fuse (O) on the Charger. Check Fuse (P) in the AC plug

STATUS LED FAULT CODES

*=Cycle Power Switch (F) to clear fault code.

LED Status Code	Fault
● ●	Thermal Fault
● ●●	Throttle Fault
● ●●●	Speed Pot Fault
● ●●●●	Undervoltage Fault
● ●●●●●	Overvoltage Fault
●● ●	Main Off Fault
●● ●●	EMR Sequencing Fault/Motor Stalled
●● ●●●	Main Fault *
●● ●●●●	Main On Fault
●● ●●●●●	Pump SRO Fault
●●● ●	Wiring Fault *
●●● ●●	Brake on Fault
●●● ●●●	Pre-charge Fault *
●●● ●●●●	Brake Off Fault
●●● ●●●●●	HPD Fault
●●●● ●	Current Sense Fault *
●●●● ●●	Hardware Fail Safe *
●●●● ●●●	EE Checksum Fault
●●●● ●●●●	Motor Open
●●●● ●●●●●	Battery Disconnect Fault *

GENERIC RISK ASSESSMENT

*** Please note this risk assessment is provided as a technical document to help highlight areas of consideration. You own risk assessments should be carried out and should encompass further information with regards to operators, capabilities, and the environment in which the equipment is operating. ***

RISK ASSESSMENT	**HI-POW**	SUBJECT	**Power Trolley Operation**
ASSESSMENT DATE	**15/10/2019**	ASSESSOR	**Daniel Farrar**
TASK ASSESSED			
Generic Operation of Electrically Powered Trolley HI-POW			

Hazards Identified	Potential Outcome	Control Measures in Place	Like-lihood	Score	Rating
Overload Trolley	8	Safe working load displayed on trolley. .	2	16	Low
Trolley Toppling Over	10	Trolley should only be used on flat level surfaces. Loads should be uniformly distributed. Follow Operators Manual.	1	10	Low
Foot Crush Injury	8	Operators to wear safety Personal Protective Equipment .	2	16	Low
Collision with Operators	8	Trolley stops immediately once controller is released. Emergency Stop button. When in reverse Beeps when reversing. Cost Options: Flashing Beacons and Bell/Siren can be fitted	2	16	Low
Collision with Pedestrians	8	Trolley stops immediately once controller is released. Emergency Stop button. Cost Options: Flashing Beacons and Bell/Siren can be fitted	2	16	Low
Acid Burns, Splashes or Fumes from Batteries.	8	Batteries are completely sealed and do not require any maintenance.	1	8	Low
Fire	10	Batteries are of 24v sealed lead acid type and do not have the fire risk associated with Lithium batteries. Lithium-ion batteries pose a significant fire risk due to the presence of flammable electrolytes and high energy density [1]. Damage, overcharging, or short-circuiting can lead to thermal runaway, a self-sustaining reaction causing intense heat, fire, and potential explosions This necessitates robust safety management	1	16	Low

Electrocution	10	The trolley operates on 24v so there is no risk of electrocution. The charger operates on 110v/230v and is fused. The charger should be annually PAT tested, and should be set at the correct input voltage	1	10	Low
Lift Table - Product Option					
Overload Lift Table	8	Safe working load displayed on trolley. .	2	16	Low
Finger Traps when lowering table.	8	Lift table is of standard CE marked design. Labels warn of finger trap areas. Always check the gas strut is operable and clean from ingress.	2	16	Low
Plastic Clad/Mesh Clad with Lid – Production Option					
Trap Hand/Arm in Falling Lid	3	Lid is supported by a chain. Cost option gas strut can be fitted to provide soft close lid.	5	15	Low

Assessment Review Date: (Maximum annually)		Assessment Review Date: (Maximum annually)	
New Risk Assessment Required:		New Risk Assessment Required:	
Completed by (Name):		Completed by (Name):	
Position:		Position:	
Signature:		Signature:	

10	8	5	3	1		10	8	5	2	1			
Fatality	Severe Injury	Lost Time Injury	Minor Injury	No Injury		Certain/ Imminent	Very Likely	Likely	Unlikely	Remote		High Medium Low	50-100 20-49 1-19

LIMITED WARRANTY

This warranty is extended only to the original purchasers of the Handle-iT Battery Powered Trolley.

The warranty is split into 2 parts

- The chassis All electronics of the trolley is warranted against defects for 3 years from the date of purchase

This warranty excludes wear and tear, and faults caused by customer abuse or by lack of maintenance.

This warranty does not include any shipping charges incurred in replacing parts or repair of the unit.

Handle-iT's sole obligation and your exclusive remedy under this warranty shall be limited to such re-pair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your unit.
In the unlikely event that you do not receive satisfactory service, please contact HANDLE-IT LTD directly at the above address, providing dealer's name and address, date of purchase and indicating the nature of the defect.

DO NOT RETURN THE TROLLEYS TO US WITHOUT FIRST OBTAINING A RETURNS AUTHORISATION.

CE DECLARATION OF CONFORMITY

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CE Declaration of Conformity

The manufacturer

Handle-iT Ltd
Unit 19, Buelleigh Barton Farm & Industrial Units
Ipplepen
Devon, TQ12 5UA
United Kingdom

Hereby declares that the following products ranges

HI-POW Range of Battery Powered Trolleys

Are manufactured and delivered in accordance with the following directives.

Electromagnetic Compatibility EMC:	Directive 2014/30/EC
Low Voltage Directive	Directive 2014/35/EC
Machinery Directive	Directive 2006/42/EC

Daniel Farrar - Managing Director
On behalf of Handle-iT Ltd
19th December 2019

CE