

PF7S

User Manual



HEARTWAY





Manufacturer. Electrically powered scooter Class C (EN 12184)



Heartway Medical Products. Co. Ltd. No 18th Jingke Central 1st Road Nantun Dist. Taichung City 408, Taiwan ROC.



The users need to consult the instructions of the device for information on how to use it properly

Moving of adult disabled persons by self-driving. Maximum user weight:

160 kg; Classified in Class C (EN12184) Maximum safe slope: 10°

(Not intended for indoor use).

The product is not intended for visually impaired people. The drivers need to be mentally and physically suitable to drive the scooters. The fingers need to work functionally. The device can't be used by children until age of 12. The driving distance will be reduced if the power scooter is used frequently on slopes, rough ground or to climb kerbs. The scooter is not for use as a seat in motor vehicle.



WARNING



All adjustments can be adjusted by both occupant and assistant. This vehicle is suitable for land and/or air transport. Please refer to our official website for general product information at www.heartway.com.tw

User Manual Version: V1 2020

Don't operate your power scooter without completely reading and understanding this user manual!

Do not operate the scooter with depleted batteries, since the occupant could be stranded.

The end user is NOT allowed to change the parameter.

The occupant can switch off the key to stop the scooter for any emergency stop

Please remove the battery package from the scooter unit before long term storage

PF7S should be turned off prior to entering or existing the seat. Make sure the scooter is fully un-folded before driving.

Please refer to our official website for general product information at www.heartway.com.tw

Environmental conditions may affect the safety and performance of your power scooter. Water and extreme temperatures are the main elements that can cause damage and affect performance.

A) Rain, Sleet and Snow:

If exposed to water, your power scooter is susceptible to damage to electronic or mechanical components.

Water can cause electronic malfunction or promote premature corrosion of electrical components and frame.

B) Temperature:

Some of the parts of the power scooter are susceptible to change in temperature.

The controller can only operate in temperature that range between -20 ° C and +45 ° C

At extreme low temperatures, the batteries may freeze, and your power scooter may not be able to operate.

In extreme high temperatures, it may operate at slower speeds due to a safety feature of the controller that prevents damage to the motors and other electrical components.

SAFETY SYMBOL

The following symbols are used in the scooter to identify warnings, mandatory actions and prohibited actions. It is very important that you read and understand them completely.



Read and follow the information in the instruction manual.



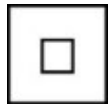
Caution. Observing notes and accompanying documents

Scooter Class C

It is classified in category C according to EN 12184. Outdoor use.



For ambient conditions



Protection class II



Charger IPX0 "Protect from moisture" / Scooter IPX4 "Splashproof"



Does not meet the ISO 7176-19 standard and cannot be used as a seat in a motor vehicle. Labeling on the product.



Devices for decommissioning the drive system
Warning: Switch on the drive system again before leaving a user unattended.



Charge the batteries fully before use. Remove the key from an unattended scooter.



Year of manufacture see label on the product.



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The scooter PF7S is designed for outdoor use for adults with mobility restrictions. It is classified in category C according to EN 12184. It is compact, manoeuvrable and able to overcome obstacles outdoors; The maximum load is 160 kg.

INDICATIONS

Inability to walk or severe walking disability due to
• paralysis • Loss of limbs • extremity defect / deformity • joint
• joint damage (not on both arms) other diseases

A supply with a scooter (or also electric wheelchairs) is indicated when the use of hand-driven wheelchairs is no longer possible due to the disability, but the correct operation of an electric motor drive is still possible.

CONTRAINDICATIONS

The supply of scooters is unsuitable for people:

- with severe balance problems
- with reduced and insufficient eyesight
- with severe cognitive impairments

CONFORMITY

This mobility meets the requirements of EN 12184: 2014 and the requirements for class I medical devices in accordance with Class I of Regulation MDR 2017/745 annex VIII.

SAFETY INSTRUCTION

◆ General



Always use a seat belt and keep your feet on the scooter all the time.



Never operate the scooter while you are under the influence of alcohol.



Never use electronic radio transmitters such as walkie-talkies, or cellular phones.



Make sure that there are no obstacles behind you while reserving your scooter.



Do not make a sharp turn or a sudden stop while riding your scooter.



Do not rider your scooter in traffic.



Do not attempt to climb curbs greater than limitation show on Technical Specification.



Do not leave your hands and legs off the scooter when driving.



Do not rider your scooter during snow in order to avoid accident on slippery road.



Do not allow unsupervised children to play near this equipment while the batteries are charging.



WARNING

1. Don't operate scooter on public streets and roadways. Be aware that it may be difficult for traffic to see you when you are seated on the scooter. Obey all local pedestrian traffic rules. Wait until your path is clear of traffic, and then proceed with extreme cautions.
2. To prevent injury to yourself or others, always ensure that the power is switched off when getting on or off of the scooter.
3. Always check that the drive wheels are engaged (drive mode) before driving. Do not switch off the power when the scooter is still moving forward. This will bring the chair to an extremely abrupt stop.
4. Do not use this product or any available optional equipment without first completely reading and understanding these instructions. If you are unable to understand the warnings, cautions or instructions, contact a healthcare professional, the dealers or technical supports before attempting to use this equipment, otherwise, injury or damage may occur.
5. There are certain situations, including some medical conditions, where the scooter user will need to practice operating the scooter in the presence of a trained attendant. A trained attendant can be defined as a family member or care professional especially trained in assisting a scooter user in various daily living activities. Consult with your physician if you are taking any medication that may affect your ability to operate your scooter safely.
6. Do not attempt to lift or move a power scooter by any of its removable parts including the armrests, seats or shrouds. Personal injury and damage to the power chair may result.
7. Never try to use your scooter beyond its limitations as described in this manual.
8. Please do not sit on your scooter while it is in a moving vehicle.
9. Keep your hands away from the wheels (tires) while driving scooters. Be aware that loose fitting clothing can become caught in the drive tires.
10. Consult your physician if you are taking prescribed medication or if you have any certain physical limitations. Some medications and limitations may impair your ability to operate scooters in a safe manner.
11. Be aware when the drive mode is unlocked or locked.
12. Don't remove anti-tipper if there is any-tipper equipped with the scooter.
13. Contact with tools can cause electrical shock and do not connect an extension cord to the AC/DC converter or the battery charger.
14. Do not attempt to lift or move your scooter by any of its removal parts, such as the armrests, seats, or shroud.
15. When climbing an incline, don't drive at an angle up the face of the incline. Drive your scooter straight up the incline. This greatly reduces the possibility of a tip or a fall.
16. Don't climb a slope steeper than the scooter's limitation.
17. Don't attempt to have your scooter proceed backward down any step, curb or other obstacle. This may cause the scooter to fall or tip.
18. Always reduce your speed and maintain a stable center of gravity when cornering sharply. Don't corner sharply when driving scooters at higher speeds.

19. Operating in rain, snow, salt, mist conditions and on icy or slippery surfaces may have an adverse affect on the electrical system.
20. Never sit on your scooter when it is being used in connection with any type of lift or elevation product. Your scooter is not designed with such use in mind and any damage or injury incurred from such use is not the responsibility of Heartway.
21. Surfaces of the power scooter that can come into direct contact with the occupant's skin and/or assistant's skin during normal use and that are within occupant reach shall not exceed 41 °C. The motor surface can reach temperatures greater than 41°C after driving. Do not touch these parts when disassembling the scooter or wait until the motor is cooled down.
22. The programming of the controller shall only be carried out by personnel, which is authorized by his manufacturer. A wrong programming can result in safety hazards for the occupant!
23. Drive-wheel needs to be switched to engaged-mode while transporting the power scooter with a car or airplane.
24. Surface temperatures can increase when exposed to external sources of heat.

MODIFICATIONS

Heartway Medical Product has designed and engineered power scooter to provide maximum utility. However, under no circumstances should you modify, add, remove, or disable any part or function of your power scooter. Personal injury and damage to the power scooter may result.

1. Do not modify your power scooter in any way not authorized by Heartway. Do not use accessories if they have not been tested or approved for Heartway products. Changing of controller parameter shall be only performed by authorized technicians due to the safety concern.
2. Get to know the feel of your power scooter and its capabilities. Heartway recommends that you perform a safety check before each use to make sure your power scooter operates safely.

Inspections prior to using your power scooter:

1. If equipped with pneumatic tires, please check for proper tire inflations.
2. Please check all electrical connections and make sure they are tight and not corroded.
3. Please check all harness connections and make sure they are secured properly.
4. Please check the brakes.

★ Weight limitation.

1. Please refer to the specifications table for weight capacity information. Power scooter is rated for a maximum weight capacity.
2. Stay within the specified weight capacity for your scooter. Exceeding the weight capacity voids your warranty.
Heartway will not be held responsible for injuries or property damage resulting from failure to observe weight limitations.
3. Don't carry passengers on scooters.
4. Carrying passengers on scooter may affect the center of gravity, resulting in a tip or a fall.

★ Tire inflation

1. If your scooter is equipped with pneumatic tires, it is necessary to check the air pressure at least one time a week.
2. Proper inflation pressures will prolong the life your tires and ensure the smooth operation while riding.
3. Do not under-inflate or over-inflate your tires. It is critically important that 30–35 psi tire pressure be maintained in pneumatic tires at all times.
4. Inflating your tires from an unregulated air source could over-inflate them, resulting in a burs tire.

★ Temperature

1. Some of the parts of the power scooter are susceptible to change in temperature. The controller can only operate in temperature that ranges between $-20^{\circ}\text{C} \sim 45^{\circ}\text{C}$.
2. At extreme low temperatures, the batteries may freeze, and your power scooter may not be able to operate. In extreme high temperatures, it may operate at slower speeds due to a safety feature of the controller that prevents damage to the motors and other electrical components.
3. The scooter can generally be operated at outside temperatures from -10° to $+45^{\circ}\text{C}$.
4. Some parts of the scooter tend to be temperature dependent. The controller works best at temperatures between 25°C and 45°C .
5. Below -15°C the batteries can freeze and the scooter may not work.
6. At extremely high temperatures $> 45^{\circ}\text{C}$, the safety function of the control, which prevents damage to the motors and other electrical components, can lead to slower maximum speeds.

ELECTROMAGNETIC INTERFERENCE (EMI)

The rapid development of electronics, especially in the area of communications, has saturated our environment with electromagnetic (EM) radio waves that are emitted by television, radio and communication signals. These EM wave are invisible and their strength increases as one approach the source. All electrical conductors act as antennas to the EM signals and, to varying degrees, all power scooters and scooters are susceptible to electromagnetic interference (EMI). The interference could result in abnormal, unintentional movement and/or erratic control of the vehicle. The United States Food and drug Administration (FDA) suggests that the following statement be incorporated to the user's manual for all power scooter like the **PF7S**. Power scooters may as susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy emitted from sources such as radio stations, TV stations, amateur radio (HAN) transmitter, two-way radios, cellular phones and alarm systems of shops. The interference (from radio wave sources) can cause the power scooter to release its brakes, move by itself or move in unintended directions. It can also permanently damage the powered scooter's control system. The intensity of the EM energy can be measured in volts per meter (V/m). Each powered scooter can resist EMI up to a certain intensity. This is called "immunity level". The higher the immunity level the greater the protection. At this time, current technology is capable of providing at least 20 V/m of immunity level, which would provide useful protection against common sources of radiated EMI.

Following the warnings listed below should reduce the chance of unintended brake release or powered scooter movement that could result in serious injury:

1. Do not turn on hand-held personal communication devices such as citizens band (CB) radios and cellular phones while the powered scooter is turned on.
2. Be aware of nearby transmitters such as radio or TV stations and try to avoid coming close to them.
3. If unintended movement or brake release occurs, turn the powered scooter off as soon as it is safe.
4. Be aware that adding accessories or components, or modifying the powered scooter, may make it more susceptible to interference from radio wave sources
(Note: It is difficult to evaluate the effect on the overall immunity of the powered scooter).
5. Report all incidents of unintended movement or brake release to the powered scooter manufacturer, and note whether there is a radio wave source nearby.

TURN OFF YOUR POWERED SCOOTER AS SOON AS POSSIBLE WHEN EXPERIENCING THE FOLLOWING:

- Unintentional scooter movements.
- Unintended or uncontrollable direction.
- Unexpected brake release.

The FDA has written to the manufacturers of power scooters asking them to test new products to be sure they provide a reasonable degree of immunity against EMI. The FDA requires that a powered scooter should have an immunity level at least 20 V/m, which provides a reasonable degree of protection against more common sources of EMI. The higher the immunity level the greater the protection. Your powered scooter has an immunity level of 20 V/m which should protect against common sources of EMI.



- The scooter itself can disturb the performance of the electromagnetic fields such as emitted by alarm systems of shops.
- **The driving performance of the scooter can be influenced by electro magnetic fields.**

PRODUCT SPECIFICATION

MODEL	PF7S
WEIGHT CAPACITY	160kg (350lbs)
SEAT: TYPE/SIZE	20" Captain Seat 20KG
DRIVE WHEEL	18"*4.7" Pneumatic Tire, 30~35PSI
FRONT CASTER (WHEEL)	14"*3.5" Pneumatic Tire, 30~35PSI
MAX SPEED	15 KM/H
BATTERY SPECIFICATIONS	80 AH X 2
BATTERY RANGE	50 KM
CHARGER TYPE	8Amp, Off Board 120/240 Volt, 50/60Hz
CONTROLLER TYPE	S-DRIVE 200Amp
MOTOR TYPE	1500W 4-Pole
WEIGHT: W/ BATTERY	205kgs
WEIGHT: W/O BATTERY	151kgs
WEIGHT: BATTERY	54KG
TURNING RADIUS	2200mm
SUSPENSION	FULL SUSPENSION
LENGTH	1690mm
WIDTH	750mm
HEIGHT	1730mm
SEAT WIDTH	508mm(20")
SEAT HEIGHT	711mm(28")
SEAT DEPTH	460mm(18")
BACK HEIGHT	750mm
WHEEL BASE	1090mm
GROUND CLEARANCE	120mm
MAXIMUM GRADIENT	10 DEGREE
FOOTRESTS	330mm
LIFE TIME	5 Year

PF7S seat is tested according to EN 1021 regarding resistance to ignition, but it is recommended to avoid the use of flame near the power scooter and of smoking during sitting on the power scooter.

Remarks: The stability tests were performed in the least stable positions of the seat (height and front/rear position).

The distance will be reduced if the wheelchair is used frequently on slopes, rough ground or to climb the kerbs.

WARNING

The stopping distance on the slope can be significantly greater than on the level ground.

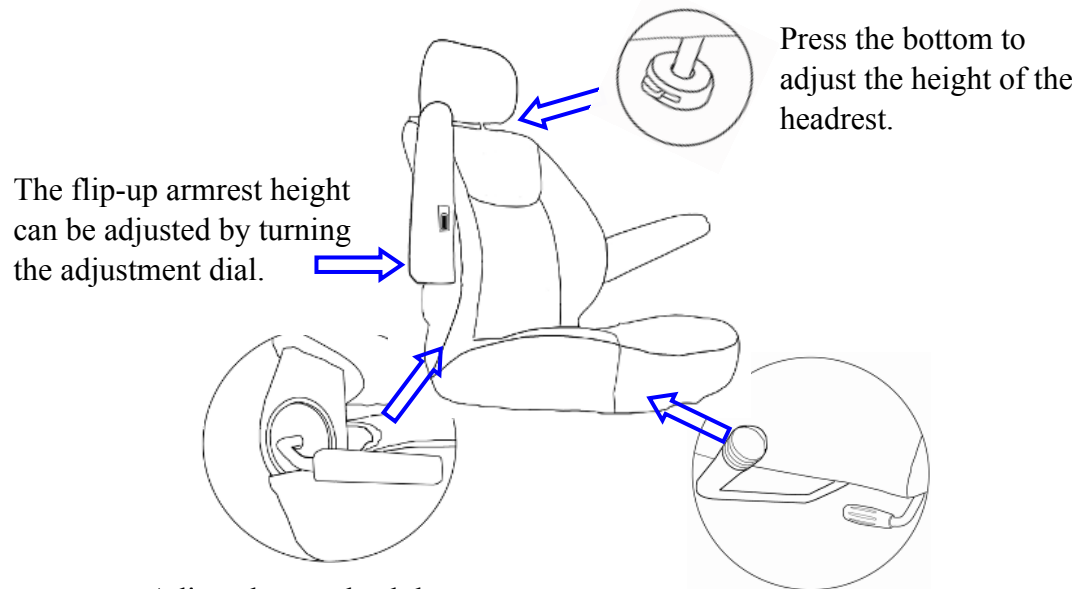
Indication/ Intended Purpose (intended of use):

Moving of disabled by self driving.

This medical equipment is intended to provide mobility to persons restricted to a seated position, e.g. for patient, especially for the leg disabled person.



ADJUSTMENT FOR SEATING COMFORT



The flip-up armrest height can be adjusted by turning the adjustment dial.

Press the bottom to adjust the height of the headrest.

Adjust the seat back lever for seating back angle.

- Turn the swivel lever downwards to rotate the seat.
- Push the front lever upwards to move the seat forward and backward.

Seat belt is regarded as a standard device for this power scooter



WARNING

- ⇒ **Changing (setting) the back-rest angle adjustment** could seriously affect the overall scooter stability.
- ⇒ The temperature of scooter surface can increase when the scooter is exposed to external source of heat (e.g. sunlight)
- ⇒ For any mechanical adjustment on the tiller or on the seat, be aware of trapping and squeezing of your fingers.

ADJUSTMENT FOR SEATING COMFORT

How to remove the seat

Please refer to the following instructions.

- 1) Press the swivel lever
- 2) Swivel the seat
- 3) Pull the seat upward (Two persons are required to remove the seat)
- 4) Removing the battery and seat from the scooter is allowed before transporting.



Heaviest part (Seat): 20 KG

OPERATION OF CONTROL PANEL

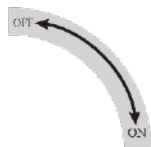
Function Descriptions

FUNCTION		SPECIFICATION
1	Speed Sensor	7 Segment display (2.5 digits +1 decimal) + “km/h / mph” symbol
2	High / Low / Turn Speed	Indicated as “H” and “L” symbols
3	Power Indicator	Battery remaining capacity and charging indicator (6 squares + Battery Icon)
4	Clock	Hour / Minute / Second display and setting
5	Odometer	ODO (99999 km max), TRIP (99.9 max)
6	Main-Beam (Headlight)	“Power-saving” mode, Blue LED
7	Back-up Lamps	“Brake / Reverse” modes, Orange LED
8	Right-Indicator	Flash mode, Green LED
9	Left-Indicator	Flash mode, Green LED
10	Parking Lamp	Including “Reverse Mode”, left- indicator and right-indicator flashing simultaneously, Red LED
11	Malfunction Message	Malfunction code: 7 Segment display (1digit) + Warning symbol + Red LED
12	Power-on Scan	All LED turn on
13	Temperature (TEMP) Gauge	“°C / °F” modes
14	Reverse Light	“Reverse” symbol flashing


















KEY ON

Insert the key and rotate it clockwise to power on the scooter. To turn off the scooter rotate the key anti clockwise.



OPERATION OF CONTROL PANEL

Button & LED

FUNCTION	SPECIFICATION	
Buttons	 "MODE" switch	 Function set
	 Left-Indicator control	 Right-Indicator control
	 Parking Light control	 Headlight control
	 High / Low speed switch	 Back-up lamps control
	 Horn	
LED Indicators	 Left-Indicator (Green)	 Right- Indicator (Green)
	 Parking (Red)	 Headlight (Blue)
	 Warning (Red)	 Back-up lamp (Amber)
LCD Backlight	Illumination: 700 mcd min (Orange color)	
LOGO Backlight	Blue color	
Connecter	CON1: 20PIN	

OPERATION OF CONTROL PANEL

Usage Conditions

ITEM	SPECIFICATION
Voltage	DC 24 V
Operation Voltage	DC 16 ~32 V
Storage Temperature	-40°C ~ +65°C
Operation Temperature	-10°C ~ +45°C
Meter Angle at Handle Cover	30° of elevation while scooter assembly (LCD orientate to six o'clock)

Characteristics Test General Characteristic Performance Test (20 ± 5°C)

Hardware Circuit:




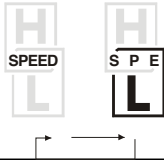
ITEM	SPECIFICATION	RESULT (n =)
Lowest Operation Voltage	16V max	__ V
Consuming Current ($V_B = 24.0V$)	Dynamic: 200 mA max -- Backlight and LED light status Static: 5 mA max -- Key OFF status	__ mA __ mA

OPERATING INSTRUCTION 5-1. Speed Sensor and Display

ITEM	SPECIFICATION
Operation Features	Speed detection by speed sensor from transaxle with conversion at 1400rpm equal to 60km/h.
Tolerance	15~20%
Digits range	≤ 19.9: 0~19.9 > 19.9: displayed by integer “20~199” (199 max)
Display Switch Button	Initial setting at km/h, switch to MPH by <u>MODE</u> and <u>SET</u> buttons









OPERATION OF CONTROL PANEL

High / Low / Turn Speed

ITEM	SPECIFICATION
Operation Features	<p>(1) Switch High / Low speed by pressing button  once. (TRN as control signals) Press one time: High-speed <<--->> Low-speed (with memory storage).</p> <p>(2) Take exterior turn-switch as determinant signal (TRN as control signals).</p>
Symbols on LCD	<p>" H " symbol means "High Speed":</p>  <p>" L " symbol means "Low Speed":</p>  <p>" L " symbol flashing means "Turn Speed":</p> 
Flicker Frequency	1 sec.

OPERATION OF CONTROL PANEL

Power Indication

ITEM	SPECIFICATION		
Battery Remaining Capacity	Remaining Capacity (%)	Voltage (V)	Scale Bar
	100 (6)	> 25.42	
	85 (5)	\cong 25.42	
	70 (4)	\cong 25.12	
	55 (3)	\cong 24.78	
	40 (2)	\cong 24.42	
	30 (1)	\cong 23.88	
			and  Flashing
20	Low-power Warning	 Warning LED Flashing	

OPERATION OF CONTROL PANEL

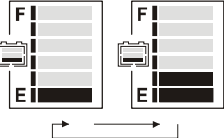
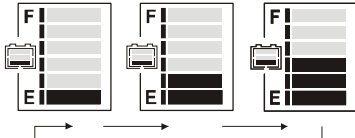
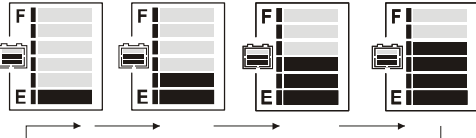
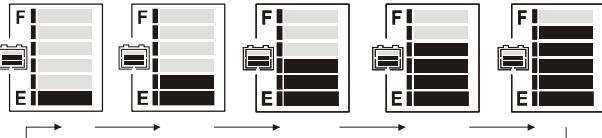
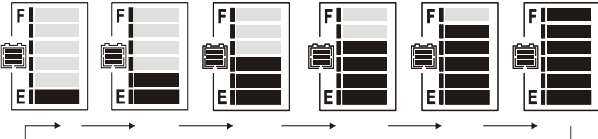
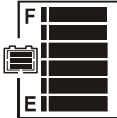
Power Indication

ITEM	SPECIFICATION
Flicker Frequency	2 sec.
Operation Characters	<p>(1) Scale status only decrease, won't increase.</p> <p>(2) When the remaining capacity was less than 30%, warning sound ("Be-Be" two short sounds) act at 5 seconds intervals.</p> <p>While (a) Key Off (b) Charging Mode (c) Sleep Mode, warning sound released.</p>



OPERATION OF CONTROL PANEL

Charge Indication

ITEM	SPECIFICATION		
Charge Indication	Remaining Capacity (%)	Voltage (V)	Scale Bar
	40 (2)	< 25.44	
	55 (3)	> 25.44	
	70 (4)	> 26.18	
	80 (5)	> 26.92	
	90 (6)	> 28.5	
100 (7)			

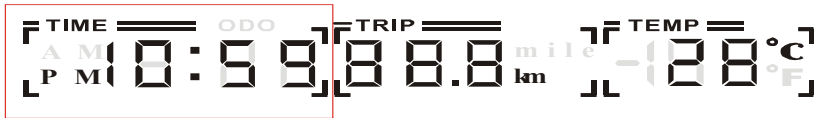
OPERATION OF CONTROL PANEL

Charge Indication

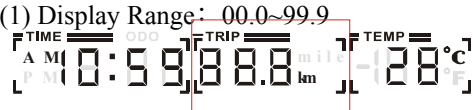
ITEM	SPECIFICATION
Increase Frequency	0.5 sec.
Operation Character	(1) Scale status only decrease, won't increase. (2) Take the PIN3(CH3) of charger as determinant signal, enter 「Charging Mode」 when CH3 grounding (L), not only “KEY ON” or “KEY OFF”.
Remarks	Above scale bar status only for reference, must take the indicator of charger as the precise diagnosis.

OPERATION OF CONTROL PANEL

CLOCK



ITEM	SPECIFICATION
Tolerance (per day)	±2 sec.
Initial Setting Value	『Hour: Min』 mode : 『AM 12:00』
『Hour : Min』 Setting (12-Hour format)	Display range : AM12:00 ~ PM11:59  When 『Hour』 is between 1 and 9 o'clock, displayed at 1~9.

Odometer

ITEM	SPECIFICATION
Operation Features	Odometer detected by the signal of Opto Coupler then converts into distance.
Display Switch Button	「km/h」 means the odometer displayed as kilometer. 「mph」 means the odometer displayed as mile.
Accumulative Display [ODO]	(1) Display Range: 00000~99999 (2) Once the total mileage up to 99999km or 62149mile (99999÷1.609mile), the counter will restart from “00000”.
TRIP Counter	(1) Display Range: 00.0~99.9  (2) When over 99.9km, display stop counting (won't restart from “00.0”).
Operation status	(1) Odometer indication display on ODO mode when Power On, then switch to TRIP mode after 5 seconds. (2) TRIP can be reset to “00.0”.



OPERATION OF CONTROL PANEL

Headlight Control

ITEM	SPECIFICATION
Operation Feature	<p>Take exterior headlight switch as determinant signal.</p> <p>(1) Switch on/off the head light by pressing button  once, then LED  will turn on/off simultaneously.</p> <p>(2) LCD backlights turn on / turn off with head light.</p>
Power Saving Mode	<p>When motor stop, the modulation down to 30% (Headlight)</p> <p>When motor act, 100% output power (Headlight)</p>
Usage Condition	While (a) KEY OFF (b) Power-Saving mode (c) Sleep mode , all functions closed.
Determinant Condition	<p>(1) $2.2V > WIP > 2.8V$ (100% Full-power)</p> <p>(2) $2.2V < WIP > 2.8V$ (100% Full-power)</p> <p>(3) Full / Half power switch at real time.</p> <p>(4) The determination of “Reversing Mode” need to consider the motor direction and panel setting.</p>
Remarks	<p>(1) Loop Load: 24V/50W max</p> <p>(2) With “short circuit” and “overload” protection</p>














OPERATION OF CONTROL PANEL

Back-up Lamp Control

ITEM	SPECIFICATION
Operation Feature	Take exterior back-up lamp switch as determinant signal. (1) Switch on/off the head light by pressing button  once, then LED  will turn on/off simultaneously. (2) LCD backlights turn on / turn off with head light.
(Control Mode) Brake-lamp Mode Reversing-lamp Mode	When motor changes from act (go forward) to stop, the lamp reinstated after flashing for 3 sec. Determine as “Reversing Mode”, back-up lamp keep flashing. Reverse warning sound can be set by panel (Turn on / Turn off)
Usage Condition	While (a) KEY OFF (b) Charging Mode (c) Sleep Mode, all functions closed. * Brake-lamp & Reversing-lamp Mode won't be limited by Back-up lamp switch on or off.
Flicker Frequency	1 sec.
Determinant Condition	(1) $2.2V > WIP > 2.8V$ (50% Half-power) (2) $2.2V < WIP > 2.8V$ (100% Full-power) (3) Full / Half power switch at real time. (4) The determination of “Reversing Mode” need to consider the motor direction and panel setting.
Remarks	(1) Loop Load : 24V/50W max (2) With “short circuit” and “overload” protection

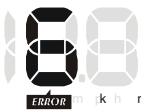
OPERATION OF CONTROL PANEL



Indicators and Parking-Lamp Control

ITEM	SPECIFICATION
Operation Feature	Take exterior left-right indicators and parking-lamps switch as the determinant signal.
Control Mode (Left-direction lamp)	Press button  once, the right-indicator and  turn off, left-indicator and  flashing, warning sound act. Press  again to turn off left-indicator.
(Right-direction lamp)	Press button  once, the right-indicator and  turn off, left-indicator and  flashing, warning sound act. Press  again to turn off right-indicator.
(Parking lamp)	Press button  once, turn on, right-left indicators and   flashing, warning sound act. Press  again to turn off  parking lamp function.
Usage Condition	While (a) KEY OFF (b) Charging Mode (c) Sleep Mode, all functions closed.
Flicker Frequency	1 sec.
Warning Sound Frequency	One short “Bi” sound per second
Determinant Condition	Left-Right indicators have priority to Parking lamp. <Ex.> If “Parking lamp” turned on already, now you start “Right indicator” function, the flashing indicator lamps will change from both side (left & right) to right side, and the “Parking lamp” function will be closed.
Remarks	(1) Load circuit for left-direction light: 24V/50W max (2) Load circuit for right-direction light: 24V/50W max (3) With “short circuit” and “overload” protection

OPERATION OF CONTROL PANEL

Malfunction Message

ITEM	SPECIFICATION
Operation Feature	Take the connector pin (KEY) of controller as determinant signal, then converts it into digital code.
Usage Condition	When the controller send out an error message, red LED flashing with controller signal at same time, the “Error message code” will show on LCD. 
Flicker Frequency	1 sec.


Controller message (Flicker)	Message code	 symbol	 LED (Flicker)	Status
1	--	--	Flashing, opposite to controller message.	Battery needs charge soon.
2	2	On		Low-voltage, needs charge now
3	3	On		Over-voltage
4	4	On		Over-current
5	5	On		Park Brake lost or faulted
6	6	On		Accelerator not align center
7	7	On		Accelerator broken or faulted
8	8	On		Motor broken or faulted
9	9	On		Others

OPERATION OF CONTROL PANEL

Power On Self Test


ITEM	SPECIFICATION
Initial Status	When scooter power on, the control panel will go through a self-test routine; the backlight and all LCD segments will be tuned on for 3 seconds, then switch automatically to the general operation mode (ODO).

Temperature meter (TEMP)

ITEM	SPECIFICATION
Operation Feature	Temperature detected by temperature sensor (NTC) from transformation with signal.
Tolerance	$\pm 2^{\circ}\text{C}$
Display Range	$-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ $-4^{\circ}\text{F} \sim 122^{\circ}\text{F}$ 
Display Switch Button	When display $^{\circ}\text{C}$, degree stand for Celsius thermometer When display $^{\circ}\text{F}$, degree stand for Fahrenheit thermometer

OPERATION OF CONTROL PANEL

Reverse Indicator



ITEM	SPECIFICATION
Operation Feature	Take exterior forward / backward switch as determinant signal.
Power Saving Mode	When switch direct to “forward”, no symbol on LCD.
	When switch direct to “backward”,  symbol flashing on LCD.
Flicker Frequency	1 sec.

LCD Backlight

ITEM	SPECIFICATION
LCD Backlight	When pressing <u>MODE</u> and <u>SET</u> buttons, the backlight will be turned on voluntarily and turned off No any operation of ADJ button more than 5 sec.

OPERATION OF CONTROL PANEL

Adjust Buttons

ITEM	SPECIFICATION	
Button	 “MODE” switch	 Function set
General Display Mode (TRIP)	Press <u>SET</u> for 3 seconds to reset TRIP at “00.0”.	
Setting Mode	<p>Press <u>MODE</u> and <u>SET</u> simultaneously for more than 2 seconds. to enter “Setting Mode”, then 『Hour: MIN』 start flashing.</p> <p>(1) When 『Hour』 flashing: Press <u>SET</u> to increase of number, then press <u>MODE</u> to enter “Setting Mode” of 『MIN』 .</p> <p>(2) When 『MIN』 flashing: Press <u>SET</u> to increase of number, then press <u>MODE</u> to enter “Setting Mode” of 『km/h & mph』 .</p> <p>(3) When 『km/h』 or 『mph』 flashing Press <u>SET</u> to choose “km/h” or “mph” type, then press <u>MODE</u> to enter “Setting Mode” of 『°C / °F』</p> <p>(4) When 『°C』 or 『°F』 flashing Press <u>SET</u> to choose °C or °F .</p>	
Escape from Setting Mode	<p>Under setting mode, if below situations happened, will auto save the last setting value then escape to general operation mode.</p> <p>(1) No any operation of ADJ button for 20 sec.</p> <p>(2) Press <u>MODE</u> and <u>SET</u> at same time for more than 2 sec.</p>	
Operation Status	<p>(1) 『Hour: Min』 , 『km/h』 or 『mph』 , 『°C』 or 『°F』 offer Cyclical Switch function.</p> <p>(2) When adjusting 『Hour: Min』 , press <u>SET</u> to increase number, if press <u>SET</u> for more than 2 seconds, the number will increase continuously until button released, setting value with Cyclical Switch function (only 2 seconds from 0 to 9).</p> <p>* If 『Hour』 less than 10, the denary “0” doesn’t display.。</p>	
Remarks	Button tones: one short “Bi” sound	

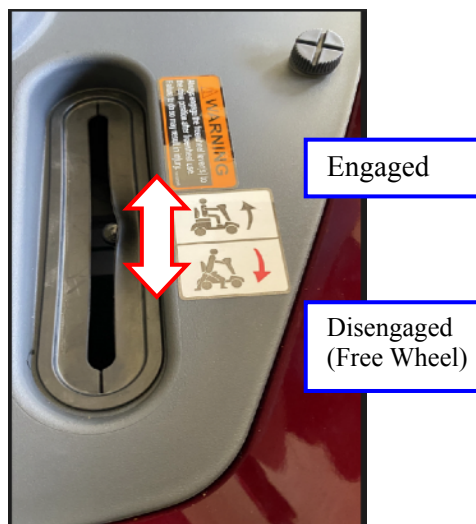
OPERATION OF CONTROL PANEL

System Configuration

ITEM	SPECIFICATION
<u>Controller</u>	S-Drive 200AMP
Charger	CTE 8A
Battery	REC 80-12*2 (Series connection)
WigWag	CTE NCW-K001
Bulb	24V / 50W max
Tire-Diameter Circumference	Tire diameter circumference of ____ mm

WARNING

- Please be noted that the scooter will be at free-wheel mode, when the motor is disengaged.
- To use the parking brake, you must move and lock the lever into the engaged position!
- When your power scooter is in freewheel mode, the braking system is disengaged!
- Use the freewheel mode only with an assistant!
- The assistant may operate the engaging lever to apply the parking brake.



WARNING

- ⚠ PLEASE TURN OFF THE POWER BEFORE FOLDING/UNFOLDING POWER SCOOTER
- ⇒ PINCH POINT-BE AWARE OF FINGERS WHEN FOLDING AND UN-FOLDING POWER SCOOTER



- ◆ Two persons are needed to lift this power scooter – PF7S
- ◆ Never open the battery box. If you have any question, please contact your local authorized dealer or technical supports for further support and assistance.
- ◆ The power scooter needs to be folded properly before any transporting.
- ◆ If applicable, a warning that the wheelchair may come to a sudden stop at any time during operation
- ◆ A warning not to operate the wheelchair if it is behaving abnormally or erratically

Storage

Your power scooter should be stored in a dry place, free from temperature extremes. When storing, disconnect the batteries from the power scooter. If you fail to store the unit properly, the frame can rust and the electronics can be damaged.

Batteries that are regularly and deeply discharged, infrequently charged, stored in extreme temperatures, or stored without a full charge may be permanently damaged, causing unreliable performance and limited service life. It is recommended that you charge the batteries periodically throughout periods of prolonged storage to ensure proper performance. You may wish to place several boards under the frame of your power scooter to raise it off of the ground during periods of prolonged storage.

Seat Belt

Seat belt is regarded as standard device for PF7S power scooter. Seat belt can be installed onto the seat (see photo below). Please consult with the local authorized dealer for safety belt installation.



If you plan on not using your power scooter for an extended period of time, it is best to: Fully charge its batteries prior to storage. Disconnect the batteries from the scooter.

Store your power scooter in a warm, dry environment. Avoid storing your power scooter where it will be exposed to temperature extremes.

Operating conditions (-10 °C ~ +45°C) and Storage conditions(-40 °C~+65 °C) Make sure the batteries are fully charged before use after long-term storage. Batteries that are regularly and deeply discharged, infrequently charged, stored in extreme temperatures, or stored without a full charge may be permanently damaged, causing unreliable performance and limited service life. It is recommended that you charge the power scooter batteries periodically throughout periods of prolonged storage to ensure proper performance.

CHARGING INSTRUCTION

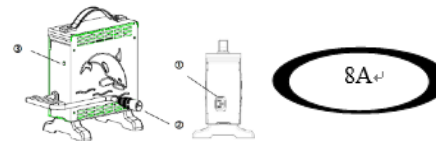
Battery Charger Instruction

① Power Cord ② Output Plug to Battery ③ Indicator

Green Flash	Power On
Orange Flash	Pre Charge
Orange	Charging
Green & Orange Flash	Charged 80%
Green	Full Charge
Red Flash	Defect

Specification

Item	BATTERY CHARGER (SWITCHING MODE)
Model	4C24080A
Output Current(DC)	8A±5%
Charging Voltage(DC)	28.8V±0.2V
Floating Voltage(DC)	27.6V±0.2V
Input Current (AC)	3.8A max.
Input Voltage(AC)	100 ~ 240 V 50/60Hz
Efficiency	AC-DC 85% min
Operating Temperature	-25°C ~ 40°C
Performance	Switching Mode
Charging Method	Constant current two stage constant voltage
Battery Application	24V Lead Acid Rechargeable Battery or Gel Cell (26Ahr ~ 75Ahr)
Output Detection	1.Short Circuit Protection 2.Reverse Power Protection3.Overheat Protection 4.Charging Plug Protection5.Automatic cut off when reaches 12hr constantly charging
Measure	L 180mm×W 130mm×H 195mm
Weight	1.7kg



WARNING

DO NOT operate this scooter with depleted batteries since the occupant could be stranded.

Please remove the battery package from the scooter unit before long term storage.



Forbidden! Although the travel scooter has passed the required IPX4 water spray test requirements, keep electrical connections away from sources of moisture, including direct exposure to water or body fluids, and incontinence. Check the electrical components frequently for signs of corrosion and replace if necessary.

Warning! The charger should only be used in a dry interior. Protect from moisture and wetness.

Depending on the use, terrain and driving conditions, the batteries will provide a range of 50 KM of travel.

However, even if the power scooter is not in use, we recommend that the batteries are charged periodically.

Note: Do not use any automotive batteries.

They are not designed to handle a long, deep discharge and also are unsafe for use in power scooter.

The useful life of a battery is quite often a reflection of the care it receives.

CHARGING INSTRUCTION

OPERATING INSTRUCTION

- (1) Make sure the battery charger output voltage is the same as the connecting battery.
- (2) Plug in the power cord. LED indicates green flash when AC power on.
- (3) Connect the battery charger to the battery.
- (4) Start charging; please refer to 4. LED INDICATION

LED INDICATION

- (1) Green Flash: Power on
- (2) Orange: Charging
- (3) Orange Flash: Pre charge
- (4) Green & Orange Flash: Charged 80%。
- (5) Green: Full charged (Floating charge)。
- (6) Red: Error / Abnormal temperature

⇒ Red indication keeps flashing: $1V < \text{Battery voltage} < 9V$




⇒ Red indication keeps flashing X 2: a) Wrong connection b) Short circuit c) $V_{BAT} < 16V$

⇒ Red indication keeps flashing X 3: a) $V_{BAT} > 28.8V$ (can't charge the battery) b) Battery and Jimmy are defective

⇒ Red indication keeps flashing X4: a) Charging system defective b) Battery defective partially

⇒ Red indication keeps flashing X5: a) Charging hours exceeds 24 hours

⇒ Red indication keeps flashing X6: a) Battery voltage $< 16V$ (12V Battery)

⇒   () is flashing X7: a) Abnormal temperature occurs during battery charging



Off-Board Charger Port.
The off-board charger port
is mounted on the tiller

Warning! The charger should only be used in a dry interior. Protect from moisture and wetness.

Forbidden! Although the travel scooter has passed the required IPX4 water spray test requirements, keep electrical connections away from sources of moisture, including direct exposure to water or body fluids, and incontinence. Check the electrical components frequently for signs of corrosion and replace if necessary.

CAUTION

- Before using the battery charger, read all instructions and cautionary markings.
- Use the battery charger in a well-ventilated area
- To avoid the risk of injury, charge only lead-acid or gel cell type rechargeable batteries.
- Please turn off the power after charging

Plug the off-board charger power cord into the charger port during battery charging.

CHARGING INSTRUCTION

TROUBLE SHOOTING

(1) If green indicator is off:

⇒ Check AC input. If it works functionally, the battery charger may be defective.

(2) If green indicator keeps flashing and cannot turn to charging indication:

⇒ Check if the battery connector is connected successfully.

⇒ Check if there is any short circuit on the output connection.

⇒ The battery charger may be defective if the battery connection works functionally.

(3) If red indicator keeps flashing:

⇒ Check if the battery connection is reversed.

⇒ Check if there is any short circuit on the output connection.

⇒ Check if the environment temperature is too low (0°C)

⇒ The battery charger may be defective if the red indicator still keeps flashing.

⇒ Charging indicator (orange) cannot turn to green:

⇒ The battery might be defective, please stop charging and have the battery be repaired.

(4) If the charging indicator (orange) turns to green (fully charged) immediately:

⇒ The battery may be in well-charged condition.

⇒ The battery may be defective if the battery is not fully charged.



WARNING

- ◇ Always charge your batteries in well ventilated areas.
- ◇ The charger is intended for indoor use only. Please protect it from the moisture.
- ◇ For maximum performance, it is recommended that you replace both batteries at the same time if the batteries are weak.
- ◇ If the scooter will not be used for a long period of time, arrange to have the batteries recharge at least once every month to avoid deterioration of the batteries.
- ◇ **Can we use a different charger? Please understand that chargers are selected specifically for particular applications and matched to the type and size of specific batteries. In order to charge your scooters safely and efficiently, we recommend use of the charger supplied as original equipment with your Heartway product only. Any charging method resulting in batteries being charged individually is prohibited.**

BATTERY INSTRUCTION & MAINTENANCE

Safety Precautions for Lead Acid Batteries

Danger!! Failure to follow these precautions may result in serious risk.

- Read through the charger operating instruction before using it.
- If you use your scooter every day, please charge its batteries as soon as you finish using it for the day. Your scooter will be ready each morning.
- Avoid deeply discharging your scooter's batteries.
- Charge the battery at least 24 hours a week if the power chair or scooter has not been used.
(This is to make sure that the electrolyte is always at the top level)
- If the battery cannot be charged (Orange light cannot turn to Green) or if the Orange light turns to Green immediately, please check it with the technicians. The battery may be defective.
- The voltage difference between the two batteries on a power unit cannot be more than 0.5 V; the battery case should be inspected for cleanliness and evidence of damage.
- If the charger indicates red light, please kindly check if the charger is defected or if the cable wiring connection is poor.
- Please keep the battery ⊖ and ⊕ connectors clean otherwise the charging condition will be poor.
- When installing batteries, please do not use sealed containers. Use of sealed containers may cause explosions, fires, injury, or equipment damage.
- Do not place batteries in enclosed environments or near open flames. Batteries may produce hydrogen which can cause explosions or fires.
- Do not use metal wires to connect batteries and prevent tools from making short circuit between batteries terminals. This can cause fire or cause the battery to leak acid, overheat, or explode.
- Do not transport or store batteries together with tools or metal wire. This can cause fire or cause the battery to leak acid, overheat, or explode.
- Charge batteries using specified chargers or as directed by the manufacturer. Charging batteries by any other methods can lead to overheating, excessive hydrogen leaks, acid leaks, or explosions.
- Pliers, torque wrenches and other metal tools should be insulated with PVC tape before use. Failure to do so could cause short circuits which could lead to sparking or high temperature which could cause fire, damage or explosions of the battery.

BATTERY INSTRUCTION & MAINTENANCE

- Ensure that short circuits is not formed between the positive and negative terminals. Short circuits may lead to leaks, fires, or explosions.
- Do not use these batteries together with different type of the batteries such as Ni-MH or Ni-Cd and so on. It could lead to leaks, overheating, or explosions of the batteries, and human injury.
- If the battery catches on fire, please use dry powder fire extinguisher or carbon dioxide fire extinguisher. Do not use water to fire fighting.
- Do not expose batteries to heat or flames. This can cause leakage, fire, or explosion of the batteries.
- Do not dismantle, modify, or damage batteries. This can cause leakage, fire, or explosion of batteries.
- Replace batteries within the period recommended in battery user manual or indicated on the equipment. Overuse may cause internal short circuits or battery case damage which can lead to leakage, fire, or explosion of the batteries.
- When installing batteries, ensure that positive and negative polarity is correct. Connection with incorrect polarity can lead to excess current, fire, and damage to chargers.
- Batteries contain dilute sulfuric acid. Any acid leaked from damaged batteries should be immediately rinsed from clothing or skin. If acid comes in contact with eyes, rinse with a large quantity of water and seek medical attention immediately. Acid can burn skin and can cause blindness.
- Batteries showing signs of terminal corrosion, leakage, distortion of battery case, or any other abnormalities should not be used. Continued use could result in leakage, fire, or explosion of the batteries.
- Do not use or store batteries near transformers or other heat sources, inside of the car left outside, in direct sunlight, or in other high temperature environments. Doing so can lead to increased battery temperature, which can cause leakage, fire, or explosion.
- When installing batteries in metal enclosures, fill the space between the battery and enclosure with acid resistant, heat resistant insulating materials, to avoid contact between the battery and the enclosure. Batteries with acid leakage can create smoke and flames.
- When handling batteries wear rubber gloves and rubber shoes. Failure to do so can lead to electric shock, burns, or fire.
- Do not place batteries where they might be exposed to water as an electric leak may cause electric shock, or fire.

BATTERY INSTRUCTION & MAINTENANCE

- Do not position batteries at more than 90° from the upright position as this can lead to leakage, fire, or explosion.
- Do not clean batteries with dry cloths or feather dusters as this can produce static electricity and cause explosions. Use damp cloths only.
- Attach all required insulator caps to battery terminals and link as specified. Failure to do so may result in electric shock, burns, short circuit, battery damage, fire, or explosion.
- When used in medical equipment, it should be equipped with not only this battery systems but another different backup system. Failure to do so could lead to injury in the event of this battery system failure.
- Do not directly connect batteries to power outlets or automobile cigarette lighter socket. This can lead to burns or overheating.
- Use batteries in the following temperature range. Discharge (equipment in use): -15°C~50°C; Charge: 0°C~40°C; Storage: -15°C~40°C.
- Do not apply thinner, gasoline, benzene, lubricants, fats, or any other organic solvents or detergents. This may lead to the crack of the battery case, leakage, and fire.
- Batteries should be checked regularly. Batteries not conforming to specifications listed in the user's manual should be adjusted following user's manual. Continued use without adjustment could lead to damage or burns.
- Used batteries can be recycled. Do not dispose of directly without consulting sales company or our agents.
- When cleaning and inspecting batteries, first discharge static electricity from your body. Static electricity can cause sparks which can lead to explosions.
- Batteries' maximum discharge current should not exceed the specifications in the user's manual.
- Excessive discharge current can cause leakage, overheating, and explosion.
- Immediately after purchase, if any rust, cracks, deformities, overheating, or any other abnormality is discovered, discontinue use and contact the sales company. Continued use could result in leakage, overheating, or explosion.
- When using multiple batteries at the same time, the batteries themselves should be properly connected before they are connected to the charger or load. Firmly connect the positive terminal of the battery to the positive terminal of the charger or load. Incorrect polarity can lead to explosions or fires harming the batteries or equipment, and can cause injury to humans.
- Do not bump, drop, or strike batteries. Batteries should not be used in environments subject to strong vibration as these can damage the batteries.

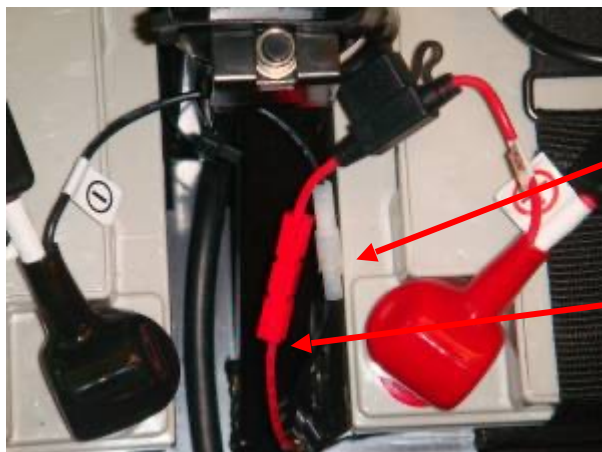
BATTERY INSTRUCTION & MAINTENANCE

- Do not use batteries in dusty environments as this can lead to short circuits (if batteries must be used in dusty environments they should be periodically inspected).
- Do not use batteries from different manufacturers in the same string. Small differences between the batteries can affect operational stability, and can significantly reduce battery life and lead to deformation and overheating. In case suitable batteries spec for the equipment is not known, consult with the manufacturer prior to use.
- In case of long periods of non-use, disconnect batteries from equipment.
- Batteries are heavy; care should be taken when handling to avoid back injury.
- Battery powered equipment should be separated by the distances specified in manuals or on labels in order to prevent failure. In certain cases the minimum distances are specified by laws.
- Battery powered equipment should be inspected as specified in the user manual; except when inspections are regulated by law. For details please consult the manufacturer.
- Battery powered equipment requires special power distribution cabling set up that should be performed by professionals. In certain countries the work must be done by nationally certified electrical engineers.
- Certain countries have laws covering battery powered equipment that must comply with.
- Do not use batteries except for specified application. Inappropriate use could lead to leakage, fire, or explosion.
- To avoid making leak circuit by the acid leaked from batteries, take preventive measure on the circuit or place an insulating layer or insulating tray between the batteries and the frame.

BATTERY INSTRUCTION & MAINTENANCE

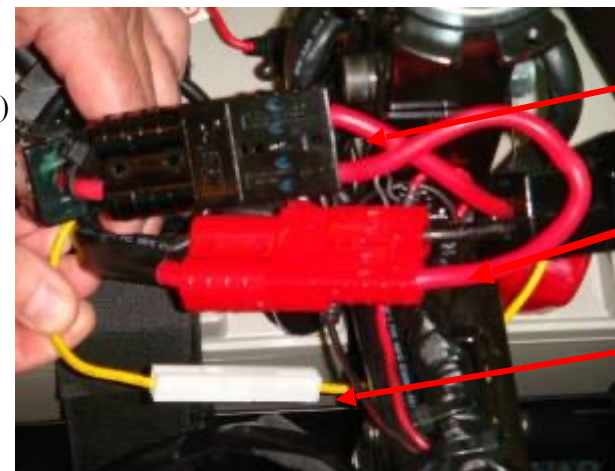
To Change the batteries in your scooters:

- Remove the battery cover and captain seat.
- Unfasten the battery tie-down strap.
- Disconnect the battery harnesses properly.
- Disconnect the battery by opening two gray main connectors and also three smaller connectors (two white and one red).
- Remove the old batteries from the battery wells.
- Place a new battery in each battery well.
- Reconnect the gray connectors.
- Check the terminal boots for correct position..
- Reconnect the battery tie-down strap.
- Reinstall the battery cover and seat back to the scooter.
- Removing the battery and seat from the scooter is allowed before transporting.
- Please remove connectors (A, B, C, D, E) first before removing the battery.



Connector A (White)

Connector B (Red)



Connector C (Black)

Connector D (Red)













Connector E (White)



WARNING

- ◇ Please remove connectors (A, B, C, D, E) first before removing the battery.
- ◇ If you hand is wet or sweaty, Do NOT replace the batteries.
- ◇ Please always use two batteries of the same type at the same amp-hour capacity.
- ◇ Always replace both batteries at the same time. Please do not mix old and new batteries together.

Your power scooter is designed for minimal maintenance. However, like any motorized vehicle it requires routine maintenance. To keep your power scooters or power wheelchairs for years of trouble-free operation, we recommend you follow the following maintenance checks as scheduled.

Maintenance Job	Daily	Weekly	Monthly	Semi-Annual
Electrical System				
◇ Battery meter – Inspect the battery meter to determine if batteries are needed to be re-charged				
◇ Controller / Display panel – Make sure they are not frayed or have any exposed wiring				
◇ Check all plug & wiring connections for firm condition				
◇ Have the batteries been fully charged before the daily operation				
◇ Are all holder and screws firmly fixed and safe?				
◇ Are all electric lighting system (if applicable) in working order				
Tyres & Wheels				
◇ Have pneumatic tyres checked for necessary air pressure				
◇ Front & Rear wheels must be able to spin smoothly without any interference				
◇ Rear & Front wheels must spin without wobbling				
◇ Visually inspect the tire tread. If less than 1mm (1/32”), please have your tires replaced by your local dealer.				
Others				
◇ Motor brushes. We recommend that your authorized dealer inspect the brushes every six-month if your power scooter or power wheelchair is not operating smoothly. If the inspection determines excessive motor bushes worn out, they must be replaced otherwise the motor damage will result.				

DAILY CHECKS

1. Visual check on the conditions of tires.
2. Inspect the battery condition meter on the controller to determine if batteries need to be charged.

WEEKLY CHECKS

1. Your power scooter comes with standard pneumatic tires. If your power scooter comes with optional air tires, make sure to maintain the pressure of the tires between 30-35 psi.

MONTHLY CHECKS

1. Visually inspect the controller harnesses. Make sure that they are not frayed, cut or have any exposed wires.

CHECKS:

- Make sure to keep the controller clean while protecting it from rain or water. Never hose off your power scooter or place it in direct contact with water.
- Keep wheels free from lint, hair, sand and carpet fibers.
- Visually inspect the tire tread. If less than 1mm (1/32”), please have your tires replaced by your local dealer.
- All upholstery can be washed with warm water and mild soap. Occasionally check the seat and back for sagging, cuts and tears. Replace if necessary. Do not store your scooter in damp or humid conditions as this will lead to mildew and rapid deterioration of the upholstery parts.
- All moving mechanism will benefit from simple lubrication and inspection. Lubricate using petroleum jelly or light oil. Do not use too much oil, otherwise small drips could stain and damage carpets and furnishings etc. Always perform a general inspection of the tightness of all nuts and bolts.

The maximum height of kerb the scooter can descend safely which 100mm



WARNING

Can only go up obstacles in the direction of progress. Forward & Backward obstacle with run up.

Scooters require a minimal amount of care and maintenance. The following areas require inspection and/or care and maintenance.

Wheel Assembly - Replace the Inner tube and outer tire

Step:

(1) When the tire tread has worn down to the safety line (circle means), please replace the tire immediately.

Note1 : The tread depth is less than 0.5mm, consider replacing.

Note2 : The tread depth is less than 0.3mm, replace immediately.

Note3 : The pneumatic tire was punctured, replace immediately.

(2) Raise the wheel assembly off the ground for subsequent to replacement

(3) Using a flathead screwdriver, remove the wheel cover. (Some models without wheel cover)

(4) Using socket wrench, remove the nut of transaxle

(5) Take off wheel assembly.

(6) Using the socket wrench, remove the screw of hub

(7) Use a special valve tool remove needle or sharp tool to do deflate tire.

(8) Apply pressure to deflate the inner tube.

(9) Using hex-key wrench and take off the outer/inner rim, inner tube and outer tire.

(10) To take out the inner tube

(11) If the inner tube is damaged, please replace a new one.

Note: After installation, it is recommended to inflate the inner tube of the wheel to 30-35 psi or the pressure psi indicated by the outer tube.

Note: Please refer to reverse step for installation.

CLEANING AND DISINFECTION

- ⇒ Use a damp cloth and mild, non-abrasive cleanser to clean the plastic and metal parts of your scooter. Avoid using products that may scratch the surface of your scooter.
- ⇒ If necessary, clean your product with an approved disinfectant. Make sure the disinfectant is safe for use on your product before application.
- ⇒ Follow all safety instructions for the proper use of the disinfectant and/or cleaning agent before applying it to your product. Failure to comply may result in skin irritation or premature deterioration of upholstery and/or scooter finishes.

BATTERY TERMINAL CONNECTIONS

- ⇒ Make certain that the terminal connections remain tight and uncorroded.
- ⇒ The batteries must sit flat in the battery wells.
- ⇒ The battery terminals should face towards the inside of the scooter.

CARE AND MAINTENANCE

WIRING HARNESSSES

- ⇒ Regularly check all wiring connections.
- ⇒ Regularly check all wiring insulation, including the charger power cord, for wear or damage.
- ⇒ Have your authorized dealer repair or replace any damaged connector, connection, or insulation that you find before using your scooter again.

AXLE BEARINGS AND THE MOTOR/TRANSAXLE ASSEMBLY

These items are all prelubricated, sealed, and require no subsequent lubrication.

WHEEL REPLACEMENT

If your scooter is equipped with pneumatic tires and you have a flat tire, you can have the tube replaced. If your scooter is equipped with a solid tire insert either the solid insert or the entire wheel must be replaced depending on the model. Contact your authorized dealer regarding replacement wheels for your scooters.



WARNING

- ⇒ Wheels on your scooter should only be serviced/replaced by a qualified technician.
- ⇒ Completely deflate pneumatic tires before dismantling the rim or attempting repair.
- ⇒ Be sure that the key is removed from the key switch and the scooter is not in free-wheel mode before performing this procedure repair.

MOTOR BRUSHES

The motor brushes are housed inside of the motor transaxle/assembly. They should be inspected periodically for wear by your authorized dealer.

CONSOLE, CHARGER, AND REAR ELECTRONICS

- ⇒ Keep these areas free of moisture.
- ⇒ Allow these areas to dry thoroughly if they have been exposed to moisture before operating your scooter again.

CARE AND MAINTENANCE

STORING YOUR SCOOTER

If you plan on not using your scooter for an extended period of time, it is best to:

- ⇒ Fully charge its batteries prior to storage.
- ⇒ Disconnect the batteries from the scooter.
- ⇒ Store your scooter in a warm, dry environment.
- ⇒ Avoid storing your scooter where it will be exposed to temperature extremes.
- ⇒ Operating conditions (-10 C~ +45C) and Storage conditions (-40. °C~+65°C)

Batteries that are regularly and deeply discharged, infrequently charged, stored in extreme temperatures, or stored without a full charge may be permanently damaged, causing unreliable performance and limited service life. It is recommended that you charge the scooter batteries periodically throughout periods of prolonged storage to ensure proper performance.

Disposal of Your Power Scooter

Your power scooter must be disposed of according to applicable local and national statutory regulations. Contact your local waste disposal agency or authorized dealer for information on proper disposal of power scooter packaging, metal frame components, plastic components, electronics, batteries, neoprene, silicone, and polyurethane materials.

CHECKS:

- Make sure to keep the controller clean while protecting it from rain or water. Never hose off your power scooter or place it in direct contact with water.
- Keep wheels free from lint, hair, sand and carpet fibers.
- Visually inspect the tire tread. If less than 1mm (1/32”), please have your tires replaced by your local dealer.
- All upholstery can be washed with warm water and mild soap. Occasionally check the seat and back for sagging, cuts and tears. Replace if necessary. Do not store your scooter in damp or humid conditions as this will lead to mildew and rapid deterioration of the upholstery parts.
- All moving mechanism will benefit from simple lubrication and inspection. Lubricate using petroleum jelly or light oil. Do not use too much oil, otherwise small drips could stain and damage carpets and furnishings etc. Always perform a general inspection of the tightness of all nuts and bolts.

Cleaning and Disinfection

- Use a damp cloth and mild, non-abrasive cleanser to clean the plastic and metal parts of your power scooter. Avoid using products that may scratch the surface of your power scooter.
- If necessary, clean your product with an approved disinfectant. Make sure the disinfectant is safe for use on your product before application. Follow all safety instructions for the proper use of the disinfectant and/or cleaning agent before applying it to your product. Failure to comply may result in skin irritation or premature deterioration of upholstery and/or power scooter finishes.

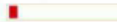






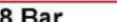


TROUBLE SHOOTING & FAULT REPLAY

S-Drive controller: Your scooter is fitted with S-Drive controller, which continuously monitors the operating conditions of your scooter. If it detects a problem it will indicate with error message by flashing light on the power ON/ OFF light. You must count the number of the flash, and see the list to check what kind of error has happened according to the number. If you experience any technical problems, it is recommended that you check with your local dealer before attempting to troubleshoot on your own.

The following symptoms could indicate a serious problem with your power scooter. Contact your local dealer if any of the following arises:

1. Motor noise
2. Frayed harnesses
3. Cracked or broken connectors
4. Uneven wear on any of tires
5. Jerky motion
6. Pulling to one side
7. Bent or broken wheel assemblies
8. Does not power up
9. Powers up, but does not move

PG S-Drive controller: PG D-Drive Controller continuously monitors the operating conditions of your scooter. If it detects a problem it will indicate with error message by flashing light. You must count the number of the flash, and see the list to check what kind of error has happened according to the number)

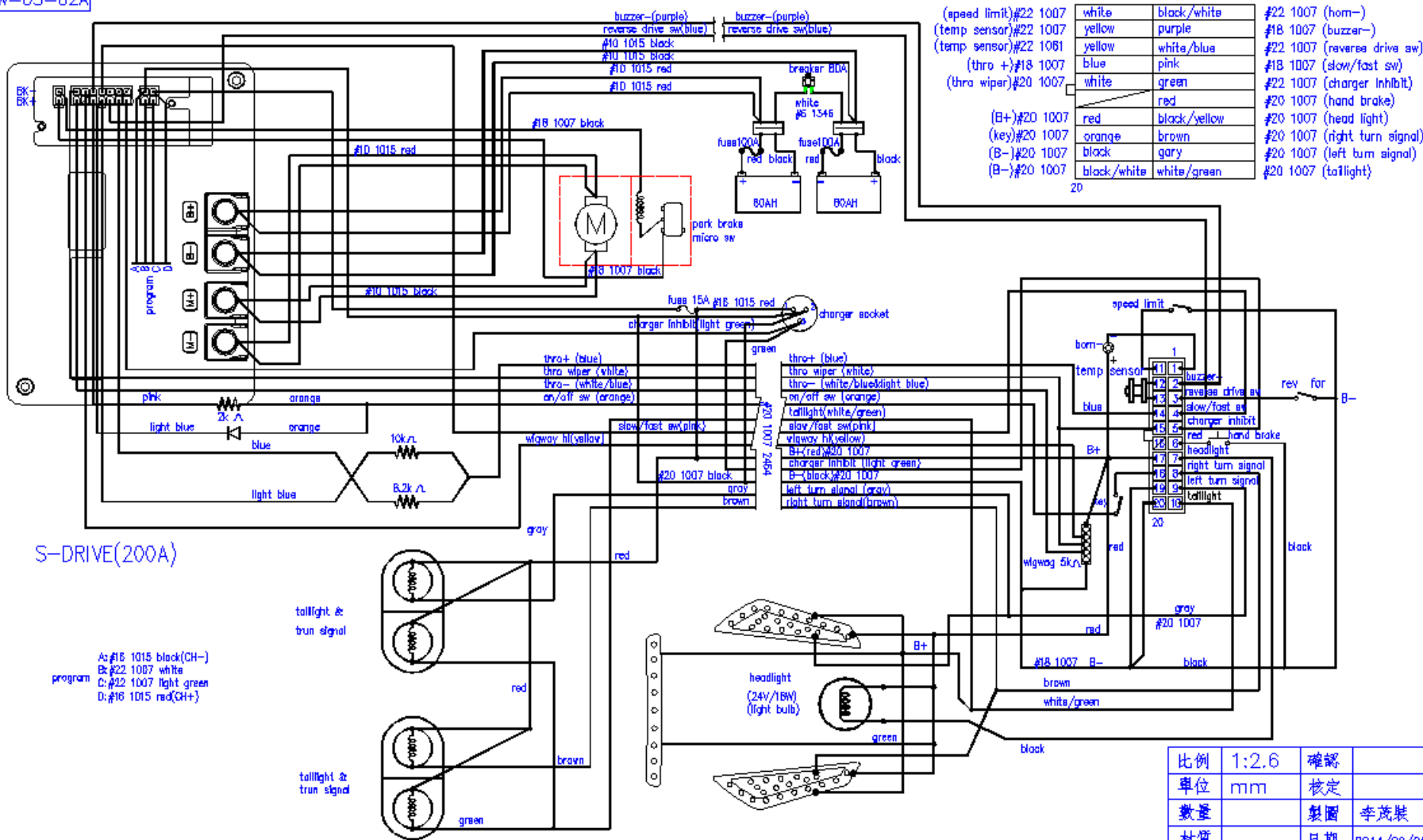
1 Bar 	The battery needs charging or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try charging the battery.	電瓶電量不足
2 Bar 	There is a bad connection to the motor. Check all connections between the motor and the controller.	馬達斷線
3 Bar 	The motor has a short circuit to a battery connection. Contact your service agent.	馬達接地
4 Bar 	The freewheel switch is activated or the manual brake disengagement mechanism is operated. Check the position of the switch or lever.	推車開關作動
5 Bar 	The motor is stalled. Or, The controller is over temperature or in current foldback.	過溫或過電流保護
6 Bar 	'The S-drive is being inhibited from driving. Inhibit 2 is active'. This may be because the battery charger is connected or the seat is not in the driving position.	限速2開關作動
7 Bar 	A throttle fault is indicated. Make sure that the throttle is in the rest position before switching on the scooter.	撥桿發生故障
8 Bar 	A controller fault is indicated. Make sure that all connections are secure.	控制器可能發生故障
9 Bar 	The parking brakes have a bad connection. Check the parking brake and motor connections. Make sure the controller connections are secure.	電磁煞車發生故障
10 Bar 	An excessive voltage has been applied to the controller. This is usually caused by a poor battery connection. Check the battery connections.	電瓶電壓過高

S-Drive Controller – Troubleshooting

TROUBLE SHOOTING & FAULT REPLAY

CIRCUIT DIAGRAM

HW-05-02A



S-DRIVE(200A)

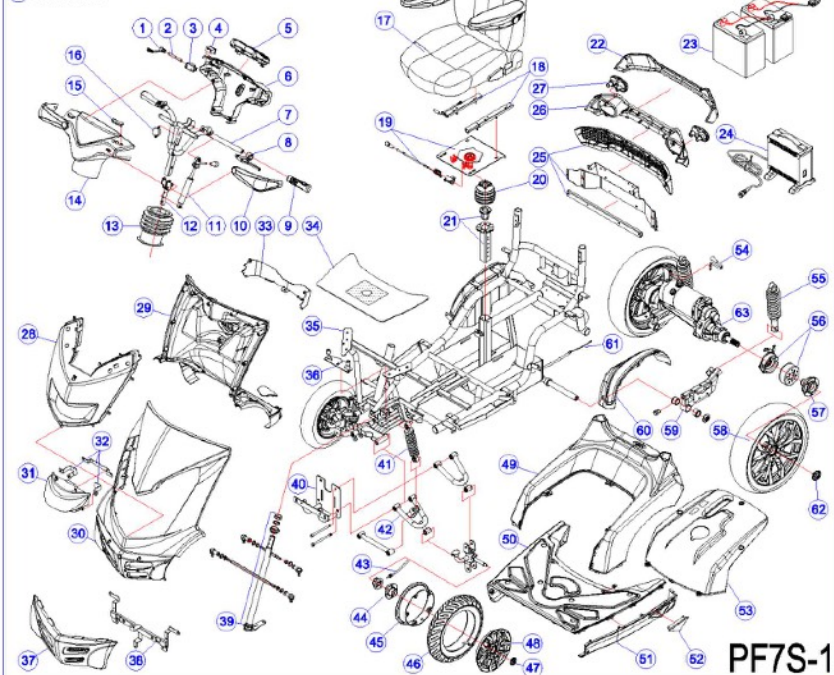
program
 A: #16 1015 black(CH-)
 B: #22 1007 white
 C: #22 1007 light green
 D: #16 1015 red(CH+)

taillight & trunk signal

taillight & trunk signal

比例	1:2.6	確認	
單位	mm	核定	
數量		製圖	李茂裝
材質		日期	2014/09/05

- | | | |
|-------------------------|-------------------------|----------------------|
| 1 WIGWAG LEVER | 24 CHARGER | 44 FRONT HUB |
| 2 WIGWAG PAD | 25 REAR BUMPER | 45 INNER RIM |
| 3 WIGWAG | 26 LAMP BASE | 46 TYRE |
| 4 FR SWITCH | 27 BACKLIGHT | 47 WHEEL CAP |
| 5 CONTROL PANEL | 28 FF CAP | 48 OUTER RIM |
| 6 REAR TILLER COVER | 29 FR COVER | 49 REAR COVER |
| 7 TILLER FRAME | 30 FF COVER | 50 FLOOR |
| 8 BRAKE LEVER | 31 HEADLIGHT | 51 SIDE COVER |
| 9 HANDEL GRIP | 32 HEADLIGHT BRACKET | 52 TRIANGLE LIGHT |
| 10 HANDEL CAP | 33 REAR BASKET | 53 BATTERY CAP |
| 11 TILLER RAM MECHANISM | 34 MATTING | 54 RELEASE SHAFT |
| 12 FOLD BRACKET | 35 MAIN FRAME | 55 REAR SUSPENSION |
| 13 RUBBER DUST COVER | 36 STEERING STEM | 56 BRAKE |
| 14 FRONT TILLER COVER | 37 FRONT BUMPER | 57 REAR HUB |
| 15 REAR-VIEW MIRROR CAP | 38 FRONT BUMPER BRACKET | 58 REAR WHEEL |
| 16 BUZZER | 39 STEM | 59 TRANSAXLE BRACKET |
| 17 CAPTAIN SEAT | 40 FF COVER BRACKET | 60 REAR FENDER |
| 18 SEAT SLIDING RAIL | 41 SUSPENSION SPRING | 61 BRAKE CABLE |
| 19 SEAT BASE | 42 A ARM BRACKET | 62 WHEEL CAP |
| 20 SEAT DUST COVER | 43 SPEEDOMETER LINE | 63 TRANSAXLE |
| 21 SEAT SLIDING POST | | |
| 22 LAMP CAP | | |
| 23 BATTERY | | |



PF7S-1



WARRANTY DECLARATION

Quality/ Warranty Declaration

Products are fit for purpose and of excellent quality and performance.
For valid warranty claims Heartway will, at their discretion, replace/ repair/
refund items mutually agreed to be defective.

Heartway's Warranty as Following:

Frame: Two-year limited warranty

Controllers: One-and-a-half-year limited warranty

Electronic Components and Charger: One-year limited warranty

Warranty Exclusion. The following items are not covered by warranty.

Motor brushes	Wheel Tires	Arm Pads
Seat Cushion	Fuses / Bulbs	Ttiller Cover
Rear Shroud	Front Shroud	Batteries and Consumable parts

Any damage or defect of any nature occurring from the misuse, abuse of the product,
improper operation or improper storage is not to be covered.

The warranty is to start from the date of arrival of our products.

Normally, the average lifespan of a scooter will last 5-year long.

Heartway will be able to provide the spare-part support for five-year long after scooters
purchased. Note: If you encounter a damaged or cracked battery; please enclose it in a plastic
bag and call the local authorized dealers immediately for instructions on disposal and recycling.



(01) 0 4719871 23378 8 (11) 200213 (10) HTM014 (21) K202001

2020-02-13 LOT HTM014 SN K202001

Trade Name: PF7S POWER SCOOTER ITEM:14189018

Heartway Medical Products Co., Ltd
No.18, Jingke Central 1st Rd., Nantun Dist Taichung City 40852,Taiwan
Manufacturer <http://www.heartway.com.tw>

EC REP European Authorized Representative
Emergo Europe
Prinsessegracht 20 2514 AP The Hague The Netherlands
Tel: (31) (0) 70 345-8570 Email: EmergoVigilance@ul.com
Distributor :
Address :
Maximum User Weight 160 kgs
Outdoor Use only, Class c

Attention: Read the user manual before use

2025-06 MD CE 20°C 45°C

www.heartway.com.tw