

METRO ELECTRIC TRUCK USER MANUAL



1. Introduction

This User Manual provides information about the vehicle you have purchased. You will find most of the information you need in this manual, which shall allow you

Understand the functions of the vehicle,

Use the vehicle most effectively

Carry out simple maintenance of the vehicle

With regards to main services and maintenance, please contact your authorized service centre. When calling the service centre, you need to quote your vehicle VIN number and the date of purchase the vehicle.

Please note there may be instances that the functions and options of your vehicle are not found in this Manual if they are non-standard item offered.

The vehicle uses symbols complied to the regulation and requirement of the OEM country. You are required to understand their meanings and adapt to your country before use.

Safety, wording and symbols

The following symbols and wording will appear in the manual, they concern safety and precautionary notes, you are required to fully understand their meanings when reading this manual.

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WARNING symbol

This indicates there are risks which will result in potential bodily harm.

Warning! Operating the vehicle not according to the warning instructions in this manual could result in serious injury or fatal incident.

The operation of a pure electric vehicle differs from a traditional vehicle. It may result in vehicle accident or rollover if safety measures are not observed.

- Read this manual and understand all safety symbols carefully before operating the vehicle. Keep this manual in the vehicle.
- Those do not have valid driving license are not permitted to operate this vehicle.
- Do not operate this vehicle before reading this manual and understand all its symbols.
- This vehicle can only be operated on the public and private road that have limited speed as specified in the vehicle specifications.

Vehicle Plate

Vehicle plate is located at the right-side door frame of the cabin.

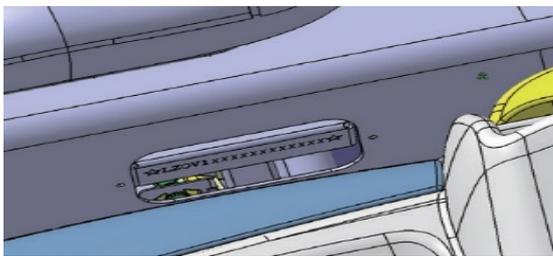


Vehicle Identification Number (VIN)

VIN contains information about year of production, vehicle model number and serial number.

VIN can be found.

Engraved on the chassis, located below the driver seat



Motor Plate

Motor plate can be found on the top side of the motor



Fill the following information after purchase:

VIN	□□□□□□□□□□□□□□
Vehicle model	
Motor serial number (if any)	
Ignition key number (engrave on the key)	
Purchased date	

2. Safety

◆ Safety information

For your own safety, please read and understand all safety labels on this vehicle. All warning labels are placed at appropriate position of the vehicle. If the labels are not readable, faded or missing, please contact your authorized dealers to have them replaced.

Restrict use.

This is a pure electric vehicle, or EV

Your vehicle could have different attachments such as box body, pick up body or other special applications body. Its usage must adhere to specific restriction impose on different applications by local authority, such as

- Restricted to drive on the highway
- Speed limit
- Weight limit

Low noise

Unlike combustion engine vehicle, EV is incredibly quiet during operation, you may feel uncomfortable initially. You should pay attention to pedestrians and other road users, they might not notice your vehicle due to its quietness.

General warnings

- Read this manual before operating the vehicle
- Forbid to operate this vehicle after consumed alcohol and drugs
- The maximum speed of this vehicle is 85km/hr(Some vehicles are 45km/hr)
- Do not exceed the permitted maximum loading
- Ensure everyone in the vehicle has their safety belts buckled before starting the vehicle
- Do not turn steering wheel abruptly at slope or during high speed (which might cause rollover)
- Reduce vehicle speed on wet road surface or when turning corner
- Do not leave young children alone in the vehicle
- Pull up handbrake and remove ignition key before leaving the vehicle
- Ensure no obstacles (include goods and people) when reversing the vehicle

Failure to pay attention to the above warnings may result in serious or fatal accidents.

Warning!

When the vehicle is moving, do not allow any person to sit or stand on the cargo body. The person may fall from the vehicle which results in serious injury or even fatal.

Warning!

Goods must be placed evenly (distributed evenly) inside the cargo body. To ensure safety of people and goods, do not exceed maximum loads permitted.

Warning!

To avoid bodily harm or fatal accident, driver and passengers must buckle safety belts.

Warning!

Do not exceed weight of goods indicated below

	Weight
Weights of passengers (driver + passenger)	130kg
Weight of goods	500kg

◆ Safe driving

Driver safety

- Do not carry goods exceeding 500 kg
- The structure of the cabin has no rollover protection, driver must prevent vehicle rollover
- Ensure there is no obstacle or people behind the vehicle when reversing. Reverse the vehicle slowly, do not abruptly turn steering wheel during reversing.
- Only use correct tires size and model number provided in this manual. Ensure proper tire pressure at all time
- Do not modify this vehicle without professional evaluation.

Modification

Forbid any modification that will result in increased vehicle speed and power. Any vehicle modifications will change the original design characteristics which might cause potential safety and bodily harm. The warranty shall be deemed terminated if the vehicle has been modified without permission, such as adding of lawn cutter, blades, tires, enlarge frame, etc.

Safe driving

- When no one looks after the vehicle, must apply parking brake and take out the ignition key
- Electric electrocution from High voltage of the battery pack may kill a person. Unless you receive professional training, do not service the drive system and battery pack.
- Do not carry a passenger unless you have at least two hours of driving experience on this vehicle
- Keep your hands inside the cabin at all time when driving
- Place both hands on the steering wheel, both feet on the vehicle platform during driving
- Do not drive the vehicle if you have consumed alcohol or drug
- Do not overspeed
- Inspect the vehicle for safety before driving
- Do not operate the vehicle on extreme rough, extreme smooth road surface and road with high inclined slope
- Do not drive at high speed on winding road
- Inspect the safety of the vehicle by an authorized service centre after encountered accidents

Safety in load carrying

Ensure do not exceed maximum load permitted, this includes

- Weight of driver
- Weight of passenger
- All accessories carried by the driver and passenger
- Weight of all other accessories
- Goods in the vehicle

Warning!

Pay attention to all warning signs. Drive the vehicle under improper operation may result in out of control, collision, and rollover, which might result in serious injury or fatal.

Age limit

Only those who possesses valid driving license are permitted to drive this vehicle.

Safety belt

Driver and passenger must wear safety belts at all time during driving.

◆ Potential risks

Operate the vehicle without undergo training

Operate this vehicle without undergo training will increase risks of potential accidents. Driver must understand driving the vehicle under different terrains and conditions. Understand different symbol and warning labels before operating this vehicle.

Ventilation during battery charging

Charging of batteries should be done at places with good ventilation, failure to do so may result in battery explosion.

- Ensure charging areas has sufficient ventilation
- Unload all the goods first before charging

Always inspect the vehicle first before driving vehicle

Before driving this vehicle, carry out routine inspections described in this manual ensure safety operation.

Operate the vehicle under the influence of alcohol or drug

Consumed alcohol or drug will influence driver judgement, reaction time, and senses; do not drive this vehicle after consumed alcohol or drug.

Operate damaged vehicle

Operating a damage vehicle may cause accident. Dealers must inspect the vehicle thoroughly after each major failure or accident. Inspections include (but not limited to) brake system, acceleration system, steering column, and electrical system.

Overspeed

Drive the vehicle at high speed may result in accident. Driver should drive at appropriate speed based on various road and traffic conditions, and visibility etc.

Inappropriate turning of vehicle

Inappropriate turning of vehicle may result in losing control and traction, accident or rollover. The driver should take all measures before turning. Do not abruptly turning the vehicle at high speed.

Rollover

Rollover may cause serious injury or fatal. Driver and passenger must buckle safety belt while driving, avoid sudden abrupt turning of steering wheel.

Loading of goods

Do not stand on the cargo platform during loading and unloading, this might cause the vehicle to tilt and topple.

Do not place the goods on the top of cargo box.

Do not exceed weight allowed. Goods shall be placed evenly (distributed evenly) and properly secured.

Incorrect maintenance of tire

Use of incorrect tire or incorrect tire pressure may result in out of control and accident. Must use correct size of tires and tire pressure described in this Manual.

Remove ignition key if the vehicle is not in-use

Remove ignition key when not using the vehicle to prevent unauthorized person operate the vehicle.

Elevated temperature in drive system

The surface temperature of motor, controller and battery pack will increase during operation. Do not touch drive systems components and make sure inflammable materials are not in contact with these components.

Lithium batteries may cause explosion/fire during accident. However, if the packaging of lithium batteries is not damage, it should not release inflammable gas which results in explosion/fire.

In case of fire, only professional trained personnel or fire fighters should deal with the fire. Use only carbon dioxide or dried chemical material to put out fire, do not use water or liquefied extinguisher. Untrained driver and passengers must move away from the vehicle quickly.

Precautionary measures

Warning! High voltage of battery pack may cause electrocution. Unless you have been trained, do not work on drive system components.

Warning! Do not work on drive components and battery pack during charging.

Warning! Before performing service and maintenance of the electrical system, first disconnect the main supply, then other axillary supply such as the 12 V battery.

Follow the following instructions before performing service and maintenance:

- Secure the vehicle properly
- Ensure safety of the chassis if require carrying out under carriage works
- Switch off electrical supply, remove ignition key
- All equipment and tools near the battery pack should have good insulation properties to prevent short-circuit, spark or explosion.

Check with your authorized workshop if more information is required.

Warning! Strictly forbid washing the vehicle during charging.

Warning! Liquid/chemical leak from the batteries are highly corrosive. Avoid leaked liquid/chemical to come in-contact with skin and eyes.

◆ Starting the vehicle

Key to start the vehicle

Make sure that the gear is in N gear and pull up the handbrake

After inserting the key, turn it clockwise, the display will light up, and all electrical equipment can be used.

Rotate the gear switch to select the gear

Release the handbrake and push the accelerator pedal to start the vehicle.

Warning! When not in use, turn the ignition key to the OFF position

Warning! To prevent unauthorized use, please remove the key from the ignition device

Warning! When the ignition key is removed, the steering column will automatically lock

Warning! When the vehicle is running, do not turn the ignition key to the OFF position, otherwise it will cause the vehicle to lose control, which may lead to a serious fatal accident.

Warning! Starting the car when charging is prohibited. First unplug the plug, then start the car

Keyless start vehicle

Make sure that the gear is in the N gear, pull up the handbrake, press the one-key start switch, the display will light up, and all electrical equipment can be used.

Rotate the gear switch to select the gear

Release the handbrake and push the accelerator pedal to start the vehicle.

Warning! When not in use, always keep the one-key start switch in the button up state.

Warning! To prevent unauthorized use, please lock the door.

Warning! When the vehicle is driving, please do not pop up the one-key start button, otherwise it will cause the vehicle to lose control, which may lead to a serious fatal accident.

Warning! Starting the car when charging is prohibited. First unplug the plug, then start the car

The gear switch is located on the central instrument panel. There are 3 gears to choose from

N gear position (neutral gear mode)

No driving force

D gear (forward mode)

This is the normal driving mode

R gear (reverse mode)

Use when reversing

Warning! When a person leaves the car, please make sure that the reverse gear switch is in the N position and the handbrake is tightened

Warning! Starting the car when charging is prohibited. First unplug the plug, then start the car

◆ Dashboard control



Turn the knob (1) to position (2)

Light off  Side lamp 

During operation, indicator lamp on the dashboard will light up

Head lamp or Dipped lamp  

Fog lamp will only operate when the ignition key is turned on

To select the fog lamp, move the turning knob to position (3) Light switch off 

Front fog lamp: switch on front and rear fog lamp 

Front and rear fog lamp: switch on front and rear fog lamp at the same time 



Flash lamp

Left and right turn lamp  

1



Windscreen wipers

For single wipe, lightly push the control knob inwards

Wipers

Wipers will work only after the vehicle has been started, selection of control knob

- Continuous wipe
- Intermittent wipe, low
- Intermittent wipe, fast



Rear fog lights indicator



Front fog lights indicator



High beam indicator



Low beam indicator



Left turn indicator



Right turn indicator



Daytime running lights indicator

000005 MILES

Total mileage driven

0 RPM

Current motor speed

0V

High voltage battery current voltage

0A

Current output current of high voltage battery

HO .00V

Current highest single battery voltage

LO .00V

Current lowest cell voltage

87

Speedometer



Gear indicator



Error code



Brake light indicator



Door indicator



Battery failure indicator



Vehicle communication failure indicator



Motor overheating indicator



ABS indicator



Low voltage indicator



ready indicator



Percentage of current voltage

If brake component or brake system fails, brake indicator lamp will light up

Check the following items if brake indicator lamp light up

Item in Brake System	Possible solutions
Parking brake	Release Parking Brake
Brake fluid position	Add brake fluid if it is too low
Brake system	Check if any crack and worn sign on the brake hose. Do not operate the vehicle brake hose exhibits crack or worn sign. Send the vehicle for services.

Warning! Replace the brake hose once it shows sign of crack or worn.

◆ Hand Brake



Hand brake rod is located between the two seats shown
Hand brake applies brake on the front wheels.

Pull hand brake by pulling control rod

Release hand brake by pushing control rod and at the same time press button

Warning! Must first release hand brake before driving, it will damage the vehicle if drive the vehicle with hand brake still engaged.

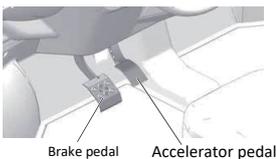
Warning! For the first 500 km of new vehicle, do not abruptly pulling hand brake, let the brake pad seasoned

◆ Brake and accelerator pedal

Brake pedal

Step brake pedal downward to reduce speed or stop the vehicle.

Warning! Continuously applying brake pedal will elevate the temperature of brake pad, hence makes braking less effective. This might cause serious accident or fatal. Do not continuously apply brake pedal.



Accelerator pedal

Accelerator pedal is located on the right side of brake pedal. Step down the accelerator pedal to increase speed. Lift the foot from accelerator pedal and apply it on the brake pedal to reduce speed.

Warning! Apply parking brake when leaving the vehicle. When Parking Brake indicator lamp light up, the vehicle will not move. Pull parking brake rod to set parking brake; push down the parking brake rod to release parking brake.

Attention: Ensure parking brake is completely released before moving the vehicle, otherwise, it will cause the brake pedal to overheat.

Attention: Parking brake is adjustable; it should be inspected regularly. See Regular Maintenances Table

◆ Cleaning of windscreen

Open the front cover to access to the windscreen cleaning liquid container



1. Push down the front cover with fingers
2. Pull out the front cover

Push the rod inwards to rotate wiper

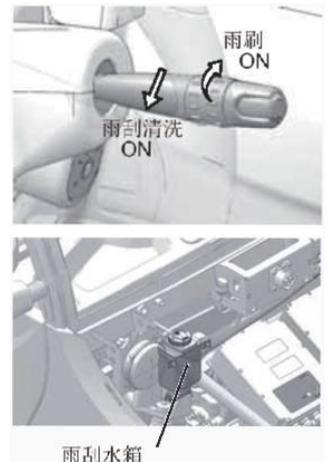
Move the rod towards driver to start wiper

Regularly inspect level of liquid in the container, refill water. For places where temperature drops below -25 F (-31 C), anti-freeze liquid for windscreen (please take note this is different from anti-freeze liquid in radiator) should be added.

Warning! If windscreen cleaning feature does not operate properly, it can lead to accident, collision, out of control and rollover, which might lead to serious injury or even fatal.

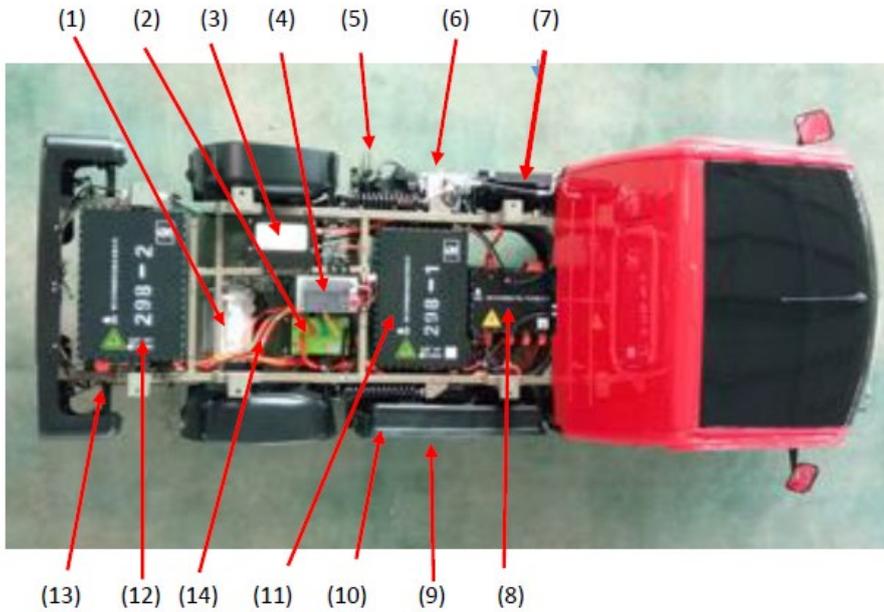
Remove fog

Remove fog can be done by opening the air inlets on both sides of the cabin.



4. Drive system

◆ Drive system



1. Drive motor
2. Drive motor controller
3. On-board charger
4. 1 KW DC/DC converter
5. Starter battery
6. Air conditioner compressor
7. Air conditioner condenser
8. PDU High Voltage Distribution box (HVDB)
9. On-board charger
10. Electrical box
11. Battery pack #1
12. Battery pack #2
13. Vehicle chassis
14. Orange coloured high voltage wire cable

◆ Battery

Battery Pack

Battery pack in the vehicle provides energy require for the vehicle.

To maintain optimize battery pack performance, it is best to completely charged the battery regularly. A good practise is to charge battery pack daily or after each use.

Attention: Each battery pack has factory serial number. This information must be provided when replacing the battery pack by authorized dealer.

Battery pack characteristics

- A new battery pack will reach optimum performance after 20-30 charge and discharge cycles.
- New battery pack must be completely charged before use.
- Charge the battery pack each day or after each use
- To maintain good battery performance, avoid letting battery pack to discharge to less than 20% SOC

On-board battery charger

On-board battery charger is located on the vehicle side panel.

Information of the battery pack(s) state of charge are display on the dashboard.

The vehicle should be charged at least once every 10 days even if it is not used.

Important note: Avoid parks the vehicle at places with extreme temperature.

◆ Charging of battery pack

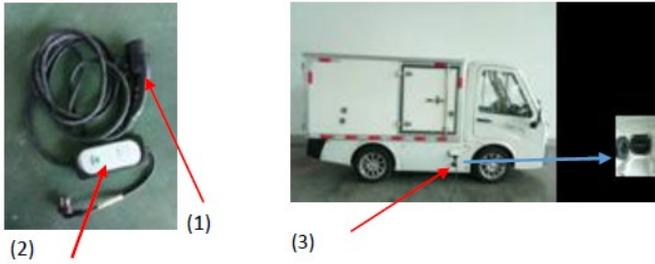
Warning! Must always use factory recommended charging cable (as well as length).

Use of non-recommended or extended cable may cause fire and damage the charger, which might result in serious harm or fatal accident.

Warning! When using electrical plug that are not conform to factory charging requirements, care must be taken to ensure the charging cable has at least of 20A of current rating.

Warning! Charging the batteries at places without good air ventilation may result in fire. Do not smoke in the charging area.

- Park vehicle on a flat surface. Ensure charging area has good air ventilation.
- Ensure ignition key is at OFF position
- Inspect the charging cable has no crack, loose or worn out. Do not use a worn-out charging cable.
-
- First plug in the charging cable to the charging socket (located at the right side of vehicle panel), then plug in the charging cable to wall outlet or charging station.
- Use only 220 volts, alternating current (A/C), 16 A socket as shown in (2)
- Connect the charging gun as shown in (1) to the vehicle socket as shown in (3)
- Charging cable should be directly connect to wall charging point, do not share with other appliances to ensure it is not overload
- When disconnecting the charger, first unplug the charging cable from wall socket or charging station, then disconnect charging cable from the vehicle.



Note: to be replaced by charging gung

Start charging

Select a charging place that can charge for long hours, ensure connection are safe.

Switch ignition key to OFF or Pop up the one-key start button, and gear selector to N.

One end of charger connects to the socket of the vehicle, and another end to home socket (110-230 V,16 A) or standard charge station.

Charging status will be displayed with % of SOC information.

Charging time

Charging time depends on

- Balance SOC in the batteries pack
- Electrical source voltage and current

It takes an approximately 6-12 hours to complete charging from low SOC.

Finished charging

Remove connector from the 110-230V socket first, then from the vehicle. Safe keep the charging gun.

First time charging or after vehicle not been used for a long time

If the battery pack is at low SOC, the temperature of battery may become low because internal regulator does not function.

Note: When a vehicle has not been used for a long time, it is better to pre-heat the battery pack (for 10hours) before use. Charging in this situation may be extended to 24 hours.

During driving, battery indicator will indicate percentage of batteries SOC as shown in (1)



As shown, when the indicator turns orange, must charge batteries as soon as possible.

Warning! Immediately charging of charging is necessary when the indicator turns red

Warning! Allow the batteries SOC to red zone will reduce the life of batteries, owner may lose warranty

Warning! Must always keep note of the following to prevent serious damage to your vehicle.

Precautionary notes about batteries

Warning! During batteries charging, do not carry out any electrical works on the vehicle or in the vicinity area.

Warning! Disconnect the main supply before attempt to perform service and maintenance of battery pack, subsequently disconnect all other electric accessories (if any), then disconnect the negative terminal of the 12 V battery, finally disconnect the negative terminal of the battery pack. These steps will discount battery supply to the motor, the vehicle will not able to operate. However, completing the above steps do not eliminate high voltage (in the battery pack), therefore, no one should touch the terminals of the battery box.

- Ensure all 12 V accessories connect directly to negative terminal. Do not connect to the virtual ground of chassis or vehicle body.
- Do not connect any accessories to 12V battery directly. Connect the accessories to 12 V junction box
- Do not connect jump start cable to any batteries of the vehicle
- Always wear safety glasses when servicing and doing maintenance works. Always wear protection mask and glove when working on connecting electrical components or batteries.
- Use only insulated tools whenever working on the batteries bank
- Always maintain cleanliness and ensure no corrosion on batteries terminals.

A 12 V socket is provided in the cabin, this is a “cigarette lighter” socket, it has a maximum power rating of 120w (10A). Only accessories lower than this rating can be used. This socket will only supply power when the vehicle is operating.

◆ Motor and controller

The drive come from permanent synchronous motor. The energy of is provided by the lithium battery pack.

Motor

The motor is in the middle of chassis, it is connector to the controller, which regulate the output power delivers to the motor.



Controller



Motor

Both the controller and the motor are air cool. It is not required any maintenance by the

user.

5. Comfort

◆ Door lock functions

The vehicle is equipped with an electric lock, it is controllable through the locking system located on the left side door

Lock door: Turn the key clockwise

Open door: Turn the key anticlockwise

The door will be automatically locked when the vehicle speed reaches 20 km/hr.



Warning! The door structure does not provide adequate protection during accident. Therefore, driver and passenger must always wear safety belt during operation to minimize potential injuries.

Rear mirror

There are two rear mirrors in the vehicle.

Adjustment of rear mirror is done manually.

Rear mirror can be folded during parking.

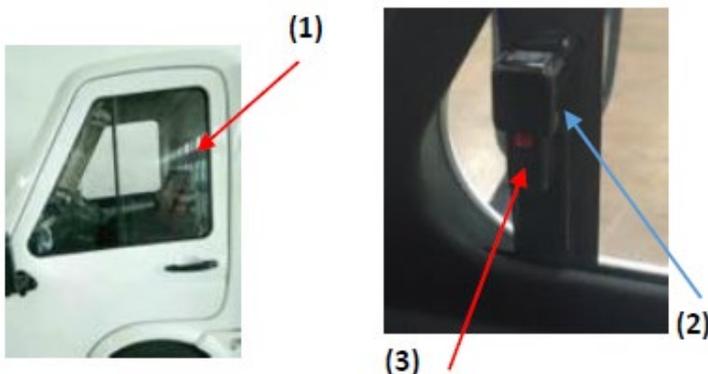


◆ Side window

The door has two lockable slots to open or close the side window.

Open window: press the lock button (2), push the side window backward.

Close window: press the lock button (3), push the window forward until it falls in the slot.



◆ Seat Adjustment

Seat can be adjusted forward or backward by pulling/pushing the rod (1) under the seat



◆ Safety belt

To fasten safety belt

The display will indicate “safety belt not fasten” sign when seated. Pull the safety belt across the body.

Insert the belt tongue into the slot (1).

To release safety belt, press down the red button (1), safety belt will automatically release and return to original position.

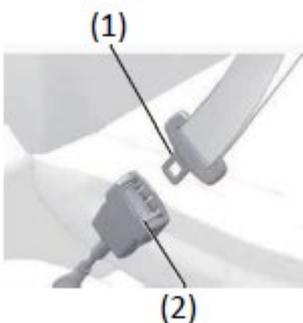
Warning!

- Children are prohibited to travel on the vehicle as the vehicle safety belt is not suitable for children
- Driver and passenger must wear safety belt and ensure they are safe.
- Pregnant ladies should wear the safety belt on the laps, and ensure safety belts are not tie to the stomach.

Proper way of using safety belt

The safety belt is 3-point diagonal type. Ensure proper way of using safety belt

1. Safety belt should be tight across the body. Avoid wearing bulky clothing, e.g. winter coat
2. Insert safety belt tongue (1) into the buckle belonging to that seat, as shown in the figure (1)
3. Let go the hand, safety belt should be tight around the body
4. To release safety belt, push down red square button as shown in (2), safety belt should return to original position.



6. Other equipment

◆ Air conditioner system (optional)

Air conditioner is to provide heating and cool air. Its energy is supplied by the lithium battery pack. Use of air conditioner will reduce autonomy range.

Heating operation:

Press power switch button(6);
select button(2) for heating;
press button (3) to set heating temperature;
press button(4)or(5)to to adjust temperature setting.

Stop heating operation:

Press button (2) first, then power switch (6).

Cooling operation:

Press power switch button (6); select button (1) for cooling;
press button (3) to set cooling temperature;
Press button (4) or (5) to adjust temperature setting.

Stop cooling operation:

Press button (1) first, then power switch (6).

Heating operation(only heating air condition):

Rotate button (1) adjust wind speed;
Rotate button (2) adjust wind speed;

Stop heating operation:

Rotate button (2) ;
Rotate button (1) ;



◆ Interior lamp and 12 V supplementary power supply

Cabin light is located below the roof Switch to

- ☰ For continuous lighting
- For off lighting



12V socket



◆ Hazard lamp

Hazard lamp can be turn-on even if the ignition is not switched on.

Operation:

1. Press down hazard lamp as show in(1)
2. When the hazard lamp is in operation, the hazard lamp sign will display in the dashboard.
3. Both left turn and right turn signal will brink at the same time.
4. To switch off hazard lamp, press button (1) upward.



◆ Horn

Push the edge of the left control rod lightly or middle of the wheel



Warning! Ensure horn works properly, otherwise it may result in accident or collision with other vehicles.

◆ Audio system (optional)

Customer may request to install audio system, such as radio, MP3, blue tooth and other accessories.

7. Operation

◆ Inspection before driving

Each time before driving, the driver should inspect the following items to ensure the vehicle is safe, otherwise, it might lead to risk of accident.

Item	Note
Accelerator	Ensure proper operation
Brake system/brake peddle	Ensure proper operation
Brake fluid	Ensure proper fluid level
Indicators lamp/switches	Ensure working
Head lamp	Ensure working
Brake lamp/rear lamp	Ensure working
Turning signal	Ensure working
Mirror	Adjust mirror to be able to see rear view
Horn	Ensure working
Safety belt	Ensure it is not worn, ensure the tongue work proper
Steering column	Ensure free movement
Tires	Inspect surface and tire pressure
Shafts	Ensure all shafts work properly
Batteries	Ensure terminal are clean
Batteries cables	Inspect for proper connection
Wheel & fasteners	Ensure no loosen screw and bolts

◆ Procedures on driving

1. Disconnect charging cable
2. Wear safety belt when seated on the driver seat. Ensure passenger buckle the safety belt.
3. Adjust rear mirror, if necessary
4. Turn ignition key clockwise
5. Step on brake pedal
6. Release parking brake, set the gear selector to “N”
7. Select turn signal left or right, if necessary
8. Check surrounding to ensure no obstacle
9. Hold the steering wheel with both hands, lift off the foot from brake pedal
10. Step the accelerator to move the vehicle

Procedure on driving

1. Indicate turning signal either left or right, before making a turn
2. The driver must have at least two hours of driving experience before he can take passenger, the driver must always ensure passenger wears safety belt.
3. Stop the vehicle, lift off the foot from accelerator, apply brake to stop the vehicle.
4. Pull parking brake, set the gear selector to “N”,
5. Turn ignition key anticlockwise, lock the vehicle door.

Reverse

Pay attention to the following before reversing the vehicle

1. Always ensure no people or obstacle behind the vehicle, always looks left and right to ensure safety
2. Reverse the vehicle slowly
3. Lightly tap the brake pedal, stop the vehicle
4. Avoid turning vehicle in acute angle
5. Do not accelerate suddenly

Operate the vehicle on slippery surface

Operate the vehicle on slippery surface may result in out of control, accident and rollover. It must be driven in exceptionally low speed. Must always pay attention to the following precautionary notes:

1. Do not operate on extreme slippery surface
2. Drive the vehicle very slowly
3. Do not overspeed, do not do abrupt turning
4. Do not apply "hard" brake while driving on slipper surface

Parking

1. Apply brake
2. Park the vehicle in area with good air ventilation. Do not park the vehicle near potential fire or sparks
3. Shift the gear selector to "N"
4. Pull up the parking brake
5. Pull out the ignition key to ensure no unauthorized person drive the vehicle

8. Repair and Maintenance

◆ Monthly maintenance

Monthly maintenance
Check battery voltage
Check battery cables and terminals
Check battery insulator for any sign of wear
Check to ensure battery pack are secured
Check tires for proper pressure and wear
Check level of brake fluid
Check brake hose, for sign of wear and leaks
Check proper operation of safety belts
Check indicator lamp, brake lamp, lightings, horn, turning signal, wiper
Check steering column

Warning! Always wear safety glass during vehicle maintenance. Wear face mask protector and gloves when working on batteries pack. Always use insulated tools to avoid serious injuries or fatal accident.

Attention: Do not physically take out any electrical component/accessories before first disconnect the main supply. Otherwise, it could damage electrical components/accessories.

Warning! Before performing any maintenance on electrical system, first must disconnect the main supply, then all other electrical accessories, then the negative terminal of the 12 V auxiliary battery, finally the negative terminal of main battery pack.

Regular maintenance will ensure the safety performance of the vehicle as well as ensure it is kept at optimum conditions. Inspect, clean, add lubricant, adjustment and replacing the right components when necessary.

Maintenance table

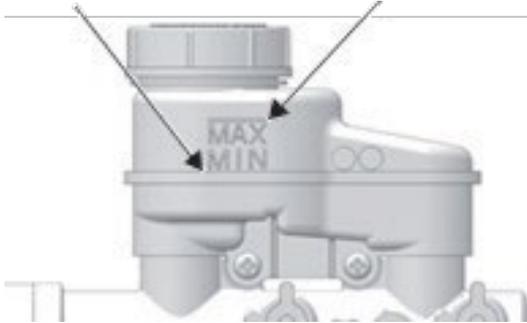
Item \ standard	Fixed interval inspection item	Periodic inspection	Replacement
Tires	Pressure 2.6 Mpa	3,000 km	Actual condition
Shock reduction	-	12,000 km	Actual condition
Brake pad	-	-	Actual condition
Brake fluid	Brake fluid level	5,000 km	10000 km or every 2 years
Differentials lubricant		5,000 km	10000 km or every 2 years
Windscreen liquid	Liquid level	Actual condition	-
Wiper	-	-	Actual condition

◆ Brake maintenance

Brake fluid

Regularly inspect brake system and brake fluid level. Add brake fluid if the level is low.

There are four hydraulic controlled disc brake in the vehicle. Brake fluid container is in the front end of the vehicle as shown. Check the height of fluid regularly.



Open cap, add fluid to Max, then close the cap.

Warning! Once the brake fluid is being opened, must discard any unused portion. Do not keep it for future use, because brake fluid will absorb water moisture in the air which will cause the brake system to lose its effectiveness.

Warning! Use only DOT4 Brake Fluid.

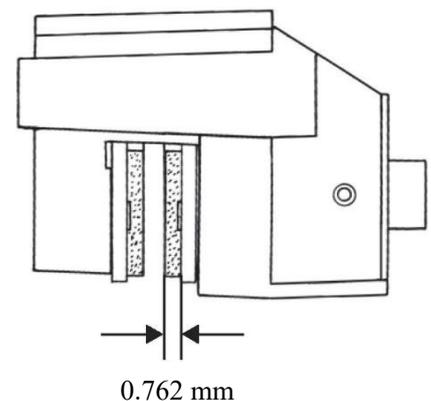
Changing of brake fluid should be done at least once every two years, or when the fluid level is lower than “Min” level.

1. Park the vehicle on a flat surface, open the front cover, the brake fluid container is located on the driver side.
2. Check the level of fluid, it should be between “Max” and “Min”.
3. Add brake fluid If the fluid level is below “Min”

◆ Brake

Inspection of brake

1. Check whether there is any sign of brake fluid leaks
2. Check if brake pedal shows higher resistance (difficult to push down)
3. Check if brake system components have worn out or loosening
4. Check if brake disc and brake pad have overly worn out
5. Replace the brake pad if it has worn more than 0.762 mm



Steering column

Check to ensure the steering is smooth and can rotate freely

1. Park the vehicle on a flat surface
2. Rotate steering wheel lightly, the steering should rotate lightly
3. Send the vehicle for service If the rotation is not smooth or if unusual noise is detected

◆ High voltage box maintenance

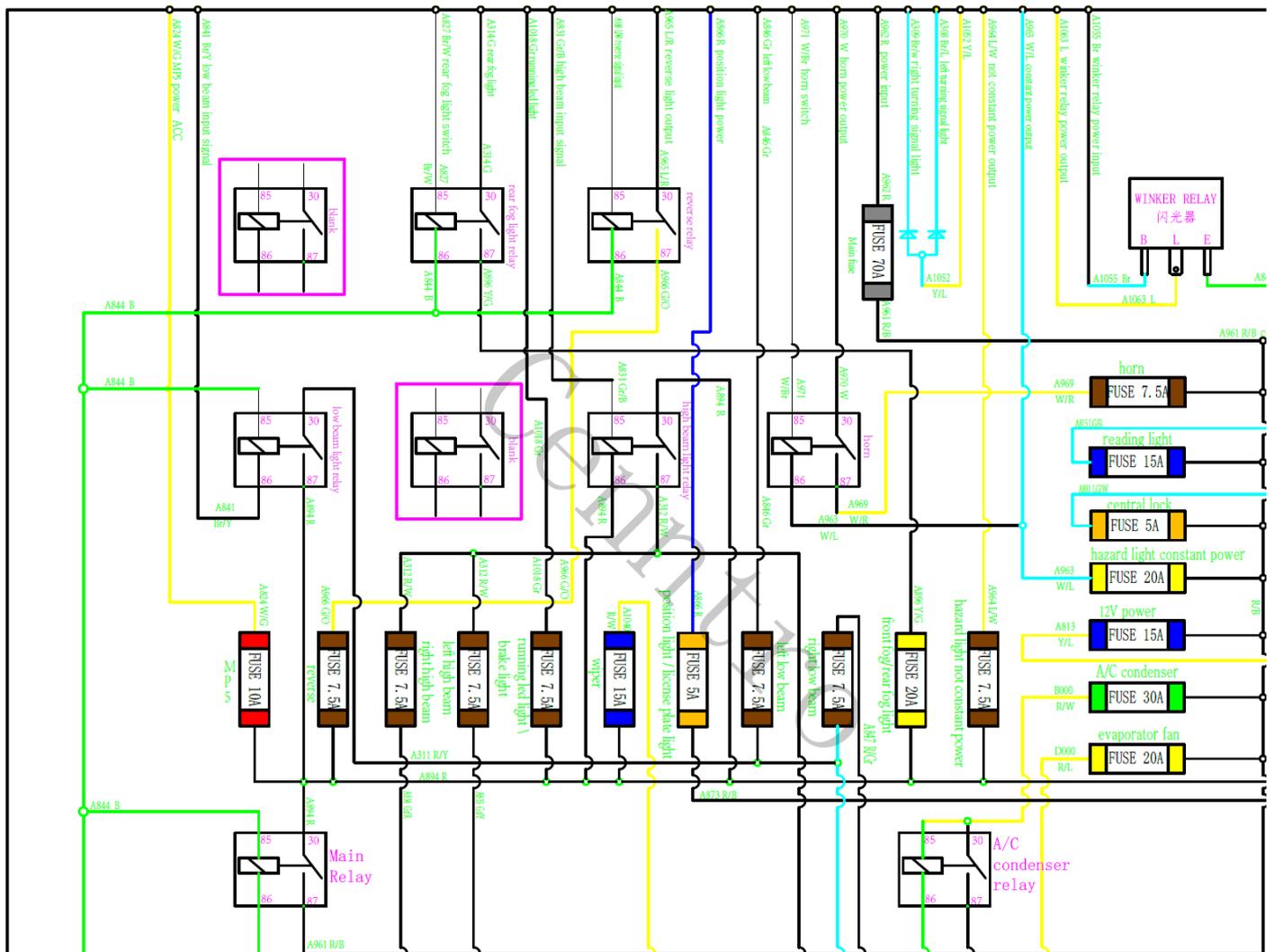
Fuse and relay

Warning! Before performing any maintenance on electrical system, first must disconnect the main supply, then all other electrical accessories, then the negative terminal of the 12 V auxiliary battery, finally the negative terminal of main battery pack.

If encounter electric system failure that is not related to battery, it could be solved by changing fuse or relay.

Open the fuse box to access to fuse and relay, you will see the label of each fuse and relay

Attention: the fuse for 12 V and 86.4 V are not interchangeable



Tire pressure

Warning! Incorrect tire pressure could result in vehicle losing of control and cause accident, serious injury and fatal.

Check tire pressure regularly once a day or before driving the vehicle. Follow the tire pressure recommended in this Manual.

Tire thread

Incorrect tire thread may result in bad balancing of vehicle.

Change the tire if the depth of tire thread has been worn to less than 3 mm.

Bolt of wheel rim

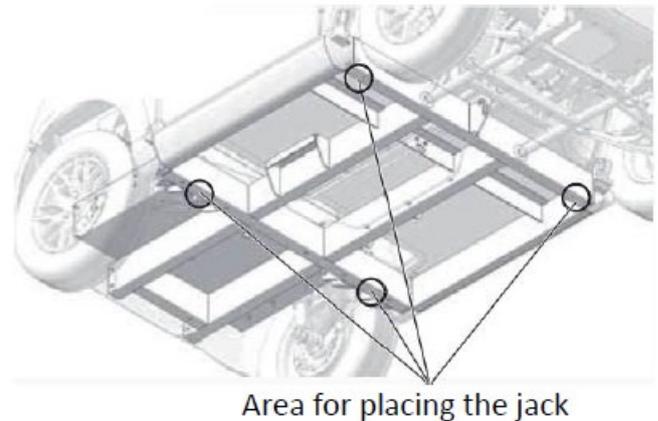
Always check to ensure bolt of wheel rim are not loosen. Do not apply lubricant on the bolt. The correct torque of the bold should be 115 Nm.

Dismantling of wheel

Attention: place the jack outside the designated area may damage the chassis integrity

Warning!

1. Park the vehicle on a flat, solid ground
2. Ensure to pull up the parking brake
3. Turn ignition key to OFF and remove ignition key
4. Place the jack between the front and rear wheel, as shown
5. Remove the bolts from wheel rim
6. Remove the wheel



Installation of wheel

Warning! Installing incorrect wheel or worn out wheel may result in bad balancing of vehicle, which might cause accident, injury or fatal.

1. Park the vehicle on a flat, solid surface
2. Pull up parking brake
3. Place the wheel hub correctly.
4. Tighten all wheel bolts to correct torque (115 Nm)

Lamps maintenance

Replacing head lamp

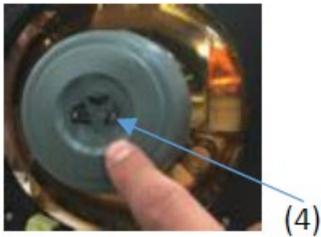
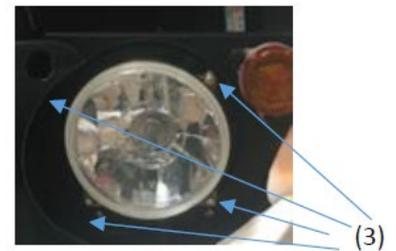
Replace head lamp if it cannot operate properly.



Dismantling cover of indicator lamp

Use fingers to press in the cover to release the snap pin as (1).
 Pressed the lower side of the lamp cover to release the snap pin below as (2)
 Dismantle lamp cover, dismantle lamp.

Use TORX T30 screw driver to open 4 screws as shown in (3), remove head lamp.



To install head lamp: insert the lamp and secure it on the three locating pins as shown in (4)
 Install lamp cover.

Replacing front/rear turning signal and brake light

Use TORX T30 screw driver to remove 3 screws as shown in (5)

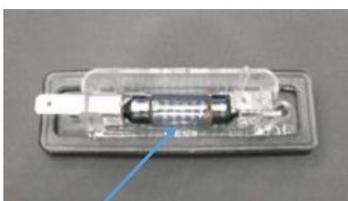


Rear lamp

Once the attachment on the rear end is removed, lamp can be removed and replaced by hand.



Rear plate lamp



Use a TORX T20 screw drive to open two screws.
 Rear plate lamp and be remove and replaced by hand as shown in (6)
 Note: the lamp is C5W

(6)

◆ Battery maintenance

Warning! High voltage from battery pack may cause electrocution, unless you have been trained by qualified technician, do not attempt to work on battery pack.

Warning! Battery cell and terminal of battery pack contains lead and other poisonous chemicals. Wash hands thoroughly if contact these components.

Warning! Attempt to charge a damage battery cell will cause serious harm. Do not attempt to repair a damaged battery or deformed battery.

Warning! Improper way of connecting or cutting battery cable may result in explosion, serious accident or fatal.

Warning! Electrolytes in batteries contains sulphuric acid and other poisonous substances. It causes burnt to skins and clothes.

Precaution measures when contact with electrolytes:

External body: wash with running water

Internal body: drink plenty of water or milk, consult doctor or admit to hospital immediately.

Eyes: wash with running water for 15 minutes, then consult doctor or admit to hospital immediately.

Batteries could release explosive gas, must keep away from spark, fire, cigarettes. Ensure good air ventilation when working with the battery in a confined space. Precautions on eye protection must be observed at all time.

Setting up of batteries

Attention: Keep all metals, include cable, tongue of safety belt etc. away from battery, before setting up of batteries pack, to prevent electric short circuit.

Checking and maintenance of battery pack

Check battery box to ensure it has good insulation property, no sign of damage on battery terminals.

Warning! If battery terminals are damaged or corroded, clean or replace them immediately. Damaged or corroded terminals could generate extreme heat in the process which might cause fire, resulting in serious accident or fatal.

Torque of bolts for securing batteries

Battery cells should be held tightly by pressing rods in the battery pack when the vehicle is in operation. But the pressing rod should not to be too tight which might cause batteries to crack. The torque for fastening bolt should be 9.5 lbs (or 13 Nm).

Changing of batteries

Changing of batteries and electrical components can only be carried out by authorized service center.

Attention: must always install correct batteries type and model, the same as the original pack. Use of or mix other battery type/model may damage other electrical components,

Warning! Improper use of batteries and electrical components may lead to serious injuries or fatal. Do not dismantle batteries and batteries cable. Pay attention to correct terminals (+) or (-).

When a vehicle is not used for more than 10 days, it must be recharged.

Attention: if the battery is stored below 0 C, follow the instruction below.

Battery storage item	
Storage period	Charging procedures
Less than 10 days	Completely charged, park the vehicle, switch off supply. During this period, some batteries energy may be lost
10 days to 24 weeks	Disconnect on-board charger. Remove 70A main fuse
Indefinite or unknown	Disconnect on-board charger. Schedule monthly charging

Cleaning of windscreen, window and visor

Windscreen, window and visor should be cleaned regularly.

Storage of vehicle

If the vehicle has not been used for more than 10 days, follow the following storage methods:

1. Clean the vehicle regularly
2. Clean batteries
3. Observe batteries storage procedures
4. Ensure the storage area are well ventilated
5. Lock the vehicle
6. Ensure tire pressure compliance to the standard
7. Ensure the vehicle not slipping off

Use of vehicle after a long storage

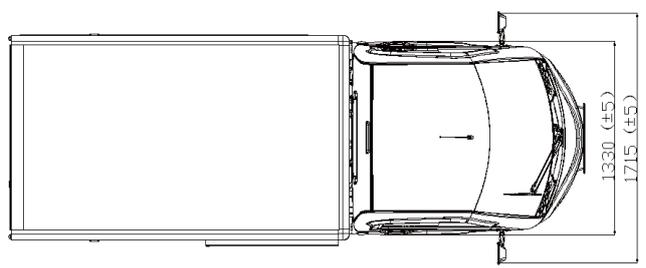
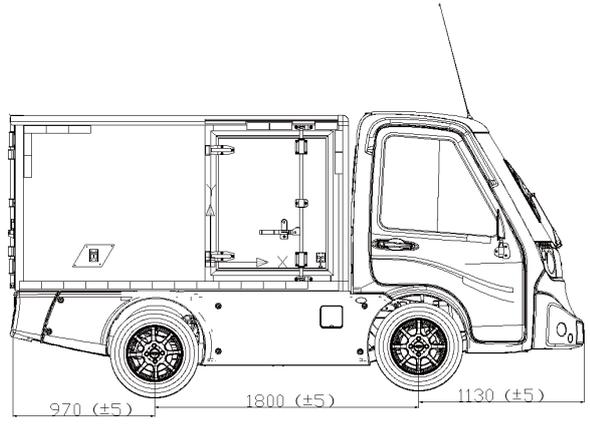
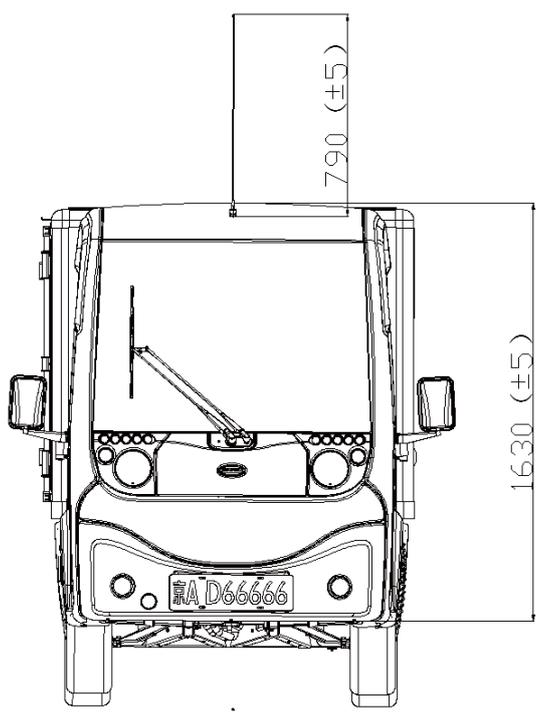
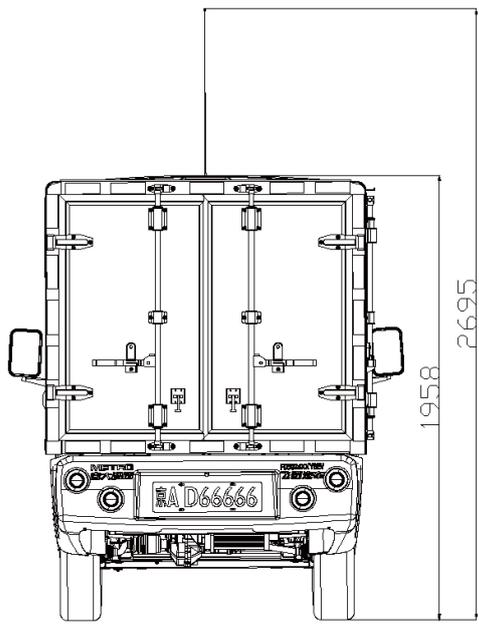
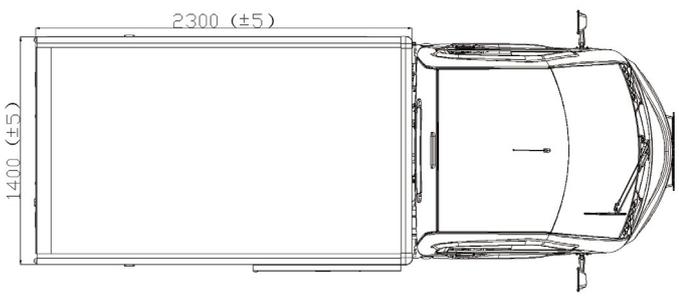
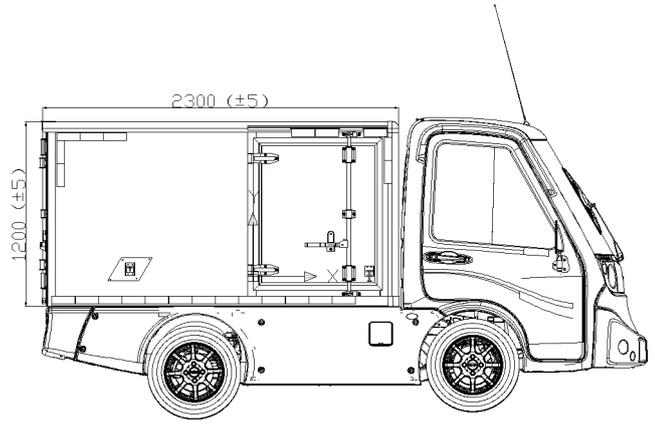
1. Check all battery connections, ensure batteries are fully charged
2. Ensure correct tire pressure
3. Test the vehicle by driving slowly first
4. Ensure all bolts and screws are not loosen

9. Product specifications and Attachments

◆ Specifications

Vehicle model number	FD5024XXYBEV
Total mass (kg)	1700
Unladen weight (kg)	1070
External dimensions	3910x1400x1905
Energy type	Pure batteries
Motor rated power/peak power	10 kW/24 kW
Maximum speed (km/hr)	85
Battery voltage	86.4V
Battery capacity	300 AH
Passengers (driver + passenger)	2
Steering type	Steering wheel
Axle distance (mm)	1800
Tire specification	175/65 R14
Front axle distance (mm)	1095
Axle load kg (front/rear)	765/985
Front suspension/rear suspension (kg)	1125/985
Axles	2
Spring leaf (front/rear)	1/-
Number of tires	4
Approach angle/departure angle (°)	15/25





10. CAN Box connection instructions

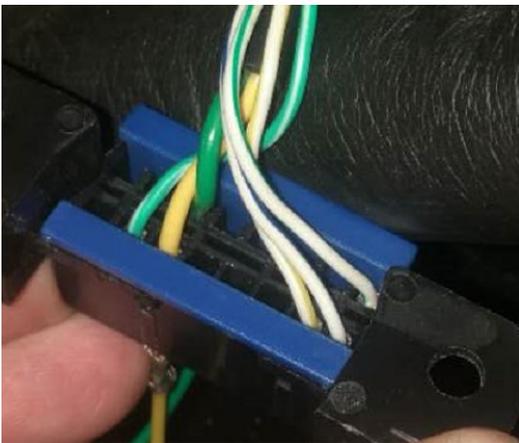
1. CAN BOX terminal connection

Yellow wire connected to H (CAN high)

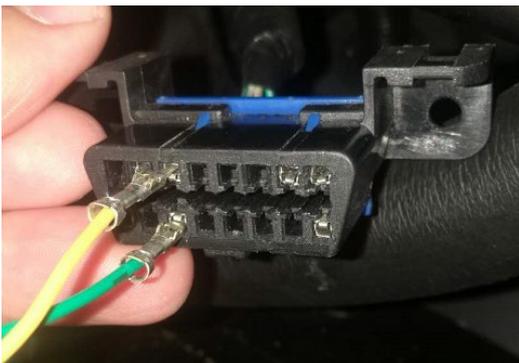
Green wire connects to L (CAN low)



2. Find the CAN bus under the copilot net pocket



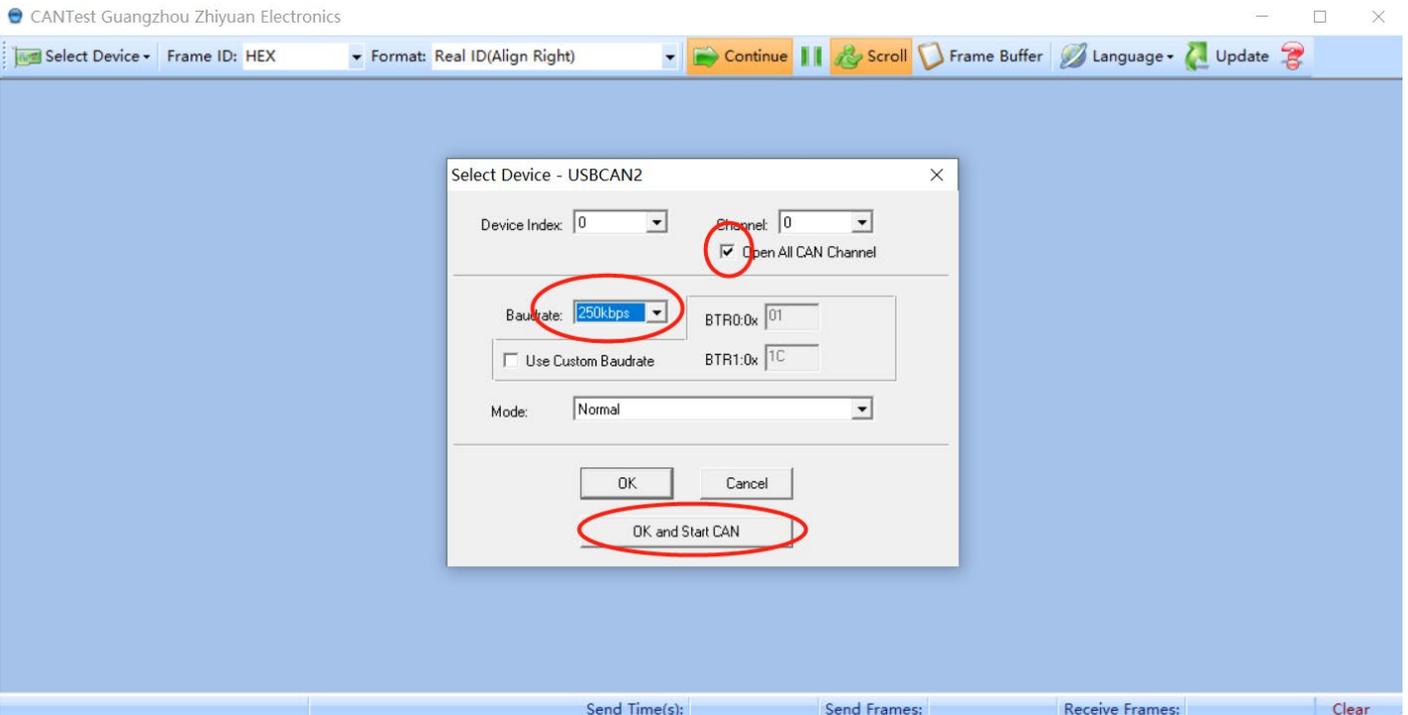
3. Connection line



4.USB port connected to computer

5. Double-click to open the software, select parameters, click OK and start CAN





6.View information



Change the language

