NIPPONIA

EN

Owner's manual

F3

Contents Page

General Instructions Before Riding

1. To ensure the vehicle is functioning correctly, do a quick check of the vehicle's tires and make sure that the brakes are working (for more detailed maintenance instructions, see the Maintenance Schedule). Your vehicle has been thoroughly checked by our engineers before delivery, but it is important that you also check it before operation.

2. When the key is inserted and turned to the "ON" position, the power indicator will illuminate. If the power consumption exceeds 80A, the power will be automatically cut off to avoid overheating.

3. To avoid unplanned acceleration, always turn the key to the "OFF" position before dismounting or when leaving the motorcycle unattended.

4. SAFETY NOTICE: Be sure that you are seated on the motorcycle and that the stands are clear of the floor before touching the throttle grip. If you twist the throttle before you are ready to go or while you are mounting the motorcycle it may move unexpectedly and could lead to an accident.

5. Attention: The side stand retracts automatically.

6. This vehicle may be operated in wet conditions, however, avoid soaking it while cleaning to avoid damaging any of the electric components.

7. The vehicle should not be left in strong, direct sunlight for extended periods as some of the electric components may overheat.

8. Motorcyclists must abide by the same traffic rules and regulations as other motorists. Before taking your motorcycle on a public road, familiarize yourself with the traffic rules and regulations and any special requirements for motorcycles.

9. Never drink and drive. Alcohol slows reflexes and greatly limits your ability to operate a motorcycle. Even a very small amount of alcohol may reduce your ability to operate a motorcycle safely.

10. Driving frequently at an economical speed will help extend the battery range and life cycle, especially with crowded city traffic.

Inspection points before every use

Item	Action
Front Brake (Right lever only controls the front brake).	Squeeze the right-hand brake lever and push the vehicle forward to see whether it rolls easily. If it does, then the brake must be adjusted.
Rear Brake (Left lever controls the front and rear brake simultaneously).	Listen for any noticeable grinding or squealing from the tires while the brake is applied. If so, contact the dealer. Set the motorcycle on the centre stand and turn the rear wheel by hand. If it does not turn freely, contact your dealer.
Brake Fluid	Check the fluid container on the left handlebar to ensure that the brake fluid is above the indicated level. If not, refill the fluid in the container with DOT3 or DOT4 brake fluid.
Accelerator grip handle	Turn the throttle counterclockwise, then release. The throttle should spring back to the initial position. If not, contact your dealer.
Tires	Check that the tire pressure is 36 PSI (rear and front).
Battery	Check that the Li-Ion battery power level is between 84V-60V by a voltage meter.
Indicator	Make sure that the indicator lights function properly.
Nuts and Bolts	Check to make sure that all nuts and bolts are tightened and secured.

Important Notes

1. Regularly perform a routine maintenance check. Doing so will help protect yourself and your vehicle.
2. If any parts are damaged, including expendable parts, please check with the supplier before riding.

Assembly Instructions

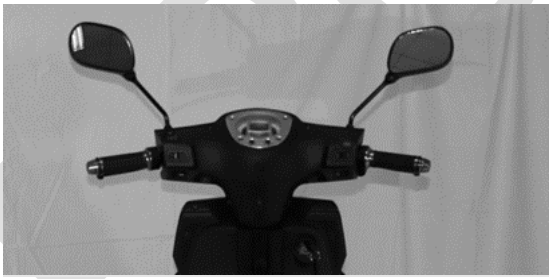
Installing the mirrors

1. Mirrors can be easily attached to the handlebars between the grips and the brake lever.

2. Screw in the mirror clockwise. The mirror that goes on the left controller is curved to the left and the mirror that goes on the right controller is curved to the right.

3. Tighten the bolt to secure the mirror.

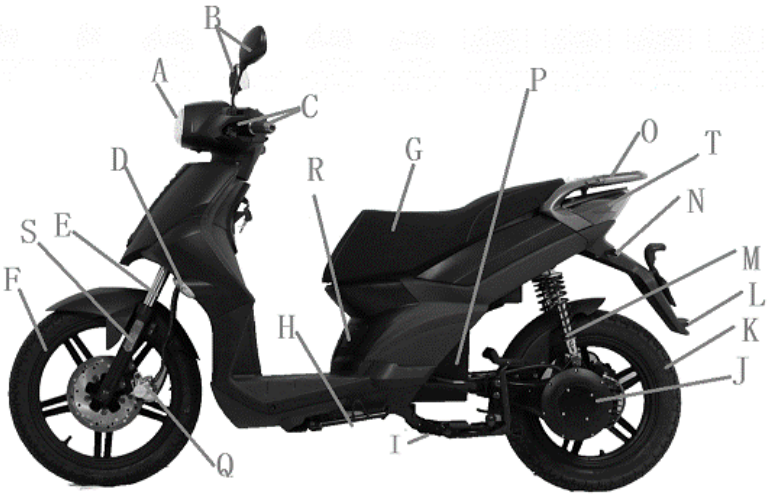
4. Clean and adjust both mirrors before you ride. Adjust each mirror so you can see the lane behind you and as much of the lane next to you as possible. When the mirror is properly adjusted you can see the edge of your arm and shoulder.



Technical Specifications

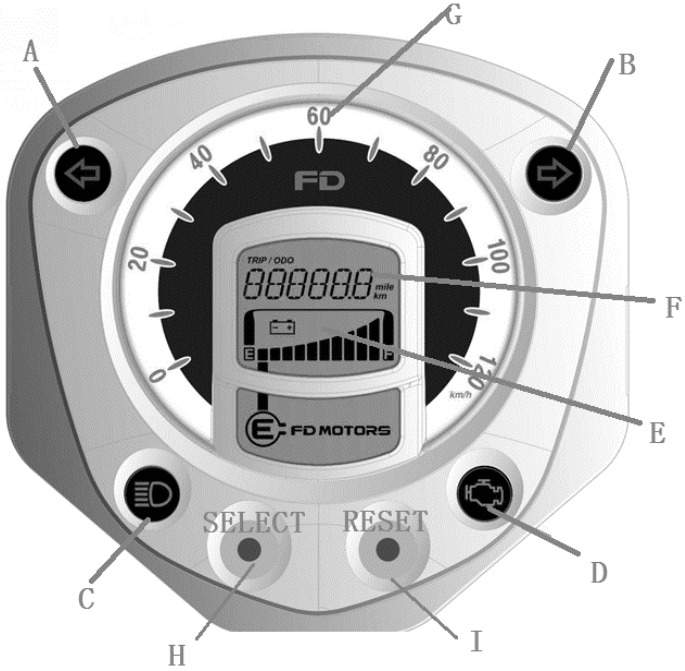
F3 TECHNICAL DATA rear wheel side motor		
Motor (W)	**72V 2000W**	
Battery (V)(AH)	Li-ion 72V/16Ah x2	
Communication System	CANbus	
Speed	speed	range
	45KM/h	92KM
E-mark certificate No.	e13*168/2013*00689*00	
Category	L1e-B	
Charger Input Voltage	110V-230V	
Charger	84V 10A	
Charging Time	3.5 hours	
Max. Load	261 Kg	
Climbing Capacity	15%	
Brakes (F/R)	disc/ disc with CBS	
Brake Control	hand brake	
Tire front/ rear	FR: 100/80-16, RR: 120/80-14	
Wheelbase	1435mm	
Weight (with 2 batteries included)	111kg	
Overall size	1995x690x1115mm	

Parts List



A. Headlight
B. Rear View Mirror
C. Throttle and Brake Lever
D. Front Indicator
E. Front Shock Absorber
F. Front Tire
G. Seat
H. Side Stand
I. Centre Stand
J. Rear Side Motor
K. Rear Tire
L. Rear Reflector
M. Rear Shock Absorber
N. Rear Indicator
O. Rear Carrier
P. Battery Box
Q. Front disc Brake
R. Charging Socket
S. Rear Side Reflector
T. Taillight

Dashboard



Part	Item	Function
A	Left Indicator	Light flashes green when indicator is on
B	Right Indicator	Light flashes green when indicator is on
C	High beam	Indicates high beam activation
D	MCU[1] light	Lights in amber and indicates an error with the CANbus function
E	Battery SOC[2]	Total 10 segment indication
F	Three mode	SOC%; Odometer; Trip meter
G	Speedometer	Indicates speed
H	Select	See Page 9 point 2 for details
I	Reset	See Page 9 point 2 for details

[1] MCU: refers to Micro-Controller Unit

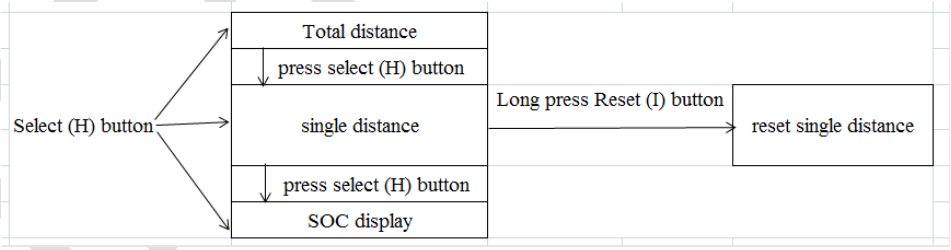
[2] SOC: refers to State of Charge of the battery

DISPLAY

1. Battery SOC: the battery SOC% is controlled by CANbus communication.

LCD display	SOC (%) via CANbus
1st segment displayed	0~10
1st-2nd segment displayed	11~20
1st-3rd segment displayed	21~30
1st-4th segment displayed	31~40
1st-5th segment displayed	41~50
1st-6th segment displayed	51~60
1st-7th segment displayed	61~70
1st-8th segment displayed	71~80
1st-9th segment displayed	81~90
1st-10th segment displayed	91~100

2. Select (H) button: (Unspecified, long press for 3 seconds)



2.1 With the CANbus function, if there is an error code in odometer display, long press Select (H) button to enter the error codes menu. The error codes are displayed in sequence. When the error is resolved, the display mode will be exited. If the error is not resolved, press the Select (H) button for 5 sec to exit the error display.

2.2 Adjusting screen rear light brightness: Press Reset to adjust the brightness of the rear light in 4 increments (100%->75%->50%->25%->100%)

2.3 Press Reset and Select for 3 sec simultaneously to switch to the metric system

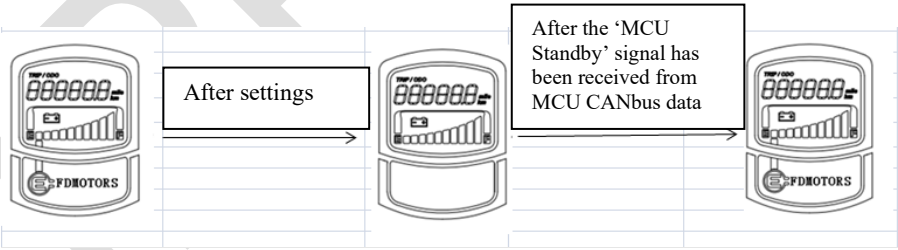
2.4 LCD characteristics:

1. Operating temperature: -30 °C ~ +80 °C
2. Storage temperature: -35 °C ~ +85 °C
3. Viewing angle: 90° - 270°

2.5 Display backlight colour: blue (the default rear light brightness is set to 100% backlight level. The adjusted level of the rear light brightness remains to the recent adjustment after the motor is turned off).

3. MCU CANbus <0×100>: 'MCU Stand by' [Byte4, Bit 1]

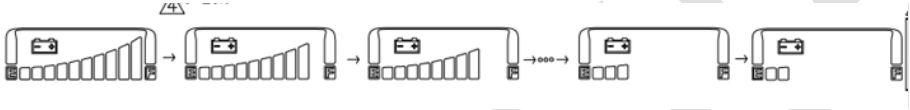
3.1 LCD SEGMENT OPERATION



3.2 BUZZER OPERATION:

After the KEY is turned to ON, and "MCU Stand by" is shown, the buzzer sounds once for 2 seconds.

4. BATTERY CAPACITY WARNING SEGMENT:
(When entering 0~20% SOC via CANbus)



5. BATTERY CANbus (0×A0A0): "Charging condition"
[Byte1 BIT 0]
When this data is shown, do not engage MCU CANbus signal error “C10”

6. Diagnostic Trouble Code (DTC)

6-1. BATTERY (ID: 0x0000A0A1，0x0000A1A1)

DTC Express on the display		CANbus Message		Description
Battery 1	Battery 2	Byte	Bit	
A10	F10	No data		BMS CANbus Signal Failure
A11	F11	1	0	Charging voltage is too high
A12	F12		1	Charging with too high current
A13	F13		2	Discharging voltage is too low
A14	F14		3	Discharging with too high current
A15	F15		4	Short circuit
A16	F16		5	Charging at too high temperature
A17	F17		6	Discharging at too high temperature
A18	F18		7	Charging at too low temperature
A19	F19	2	0	Discharging relay failure
A20	F20		1	Charging relay failure

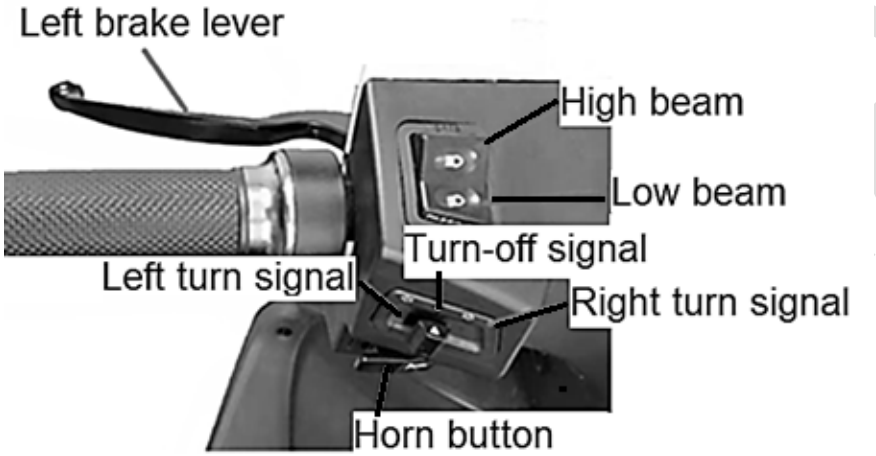
6-2. MCU (ID: 0x00000101)

DTC Express on the display	CANbus Message		Description
	Byte	Bit	
C10	No data		MCU CANbus Signal Failure
C11	5	0	Identification Error
C12		1	Voltage too high
C13		2	Low voltage
C14		3	-
C15		4	Motor did not start
C16		5	Internal voltage error
C17		6	Overheated
C18		7	Throttle error at power-up
C19	6	0	-
C20	6	1	Internal reset
C21		2	Throttle open or short
C22		3	-
C23		4	-
C24		5	-
C25		6	Motor Overheated
C26		7	Hall galvanometer sensor error

Ignition Key

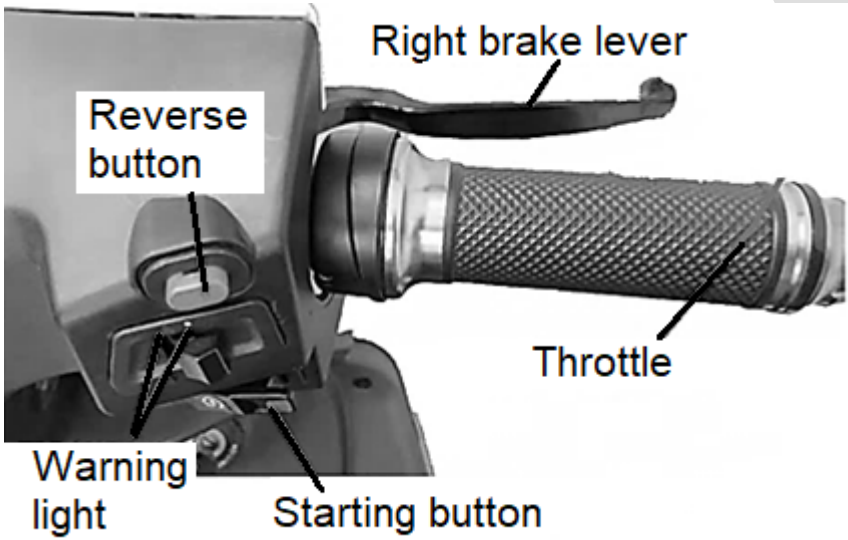
Key Position	Description
On	Key cannot be removed while the power is on.
Off	Key can be removed when the power is off
Handlebar lock	To prevent theft always lock the steering when parked. Turn the handlebar all the way to the left and turn the key to the locked position. The key can be taken out when handlebar is in the locked position.

Left handlebar controls



Headlight Switch	High Beam – Push switch up Low Beam – Push switch down
Indicator Switch	Left Turn Indicator – Slide switch to the left Right Turn Indicator – Slide switch to the right Cancelling Indicator– Press the central release button
Horn Button	To sound horn – Push the button on the left.
Left Brake Lever (CBS)	When the left brake lever is engaged, the front and rear brakes will activate together.

Right handlebar controls



Right Brake Lever	When the right brake lever is engaged the front brake will activate. To engage, turn the throttle clockwise.
Throttle	Turn throttle counterclockwise to increase speed.
Warning Light	1. Slide switch to the left, front and rear light turn on. 2. Slide switch to the right, front and rear light turn off.
Reverse	1. Press down (red button), the vehicle is in reverse mode. 2. Press again (red button), the vehicle reverts to forward mode.

Accelerating and Braking

Throttle Tips

1. Turn the key to the 'ON' position and press the start button. You will hear a beeping sound and the brand name will appear on dashboard. You can then start driving the scooter.
2. To prevent losing control of the vehicle, twist the throttle slowly for the speed to increase.
3. Do not engage the throttle until you are ready to drive.
4. To stop, release the throttle and apply the front and rear brake simultaneously.
5. To move, release the brakes and turn the throttle gradually. The motor makes a small electromagnetic noise when twisting the throttle to start. This is normal.
6. For your own safety and security, remove the key from the ignition when you are not using the vehicle.

Braking Tips

1. This vehicle has a CBS system for improved safety. When applying the rear brake lever, the front and rear brake pumps operate simultaneously. When applying the front brake lever, only the front brake pump operates.

2. When riding at high speed, do not continually operate at full throttle. Frequently release the throttle if possible and allow inertia to help increase your range. This motor has considerable torque and the inertia momentum is enough to cover some distances without propulsion.

Battery and Charging Instructions

Battery display	Description
10 segments	While riding, when the battery is fully charged, the dashboard displays 10 segments.
2 segments	When the dashboard shows 2 segments, that means there is not much power left in the battery. Drive at reduced speed to extend the range and find the nearest charging point.

Charging

- The maintenance free DC battery in this vehicle can be charged while it is installed on the vehicle or while removed. Only use the factory-supplied charger with an 110V or 220V outlet.

- Turn off the ignition switch while charging the battery. Plug one side to an 110V or 220V outlet and the other into the charging socket on the vehicle (located under the seat).

- The charging time is 3.5 hours (80%) for the Li-ion battery. It takes 4 to 5 hours to fully charge the battery.

- After charging is completed, unplug the charger on both ends.

  To keep the battery in good condition, charge it after each use. Only fully charge the battery once a month, even when the vehicle has not been used.

  Always check the battery SOC while you are riding and be sure that it does not get too low too often.

Battery Longevity

The driver should, if possible, charge the battery after every trip as this will help to improve the battery life. The life of the Li-ion battery is 1200 deep cycles (80% deep discharged), but if you do not charge the battery frequently or when the battery level drops below 50%, the battery life will decrease. We therefore recommend charging the motorcycle as often as possible. Frequently ride at economical speed will improve the battery life and range.

Note: Stop charging when the charging display is around 90% as this will extend the battery life.

Performance

A range of 100km (60 miles) has been recorded, but the distance and speed depend upon various factors such as driving style and road conditions. A 45km/h constant speed will provide the longest range, but our figures include riding at full speed as well. Other factors include weather, vehicle condition, and battery charge. Drivers must be cautious when driving on rough roads, in poor weather, or when the battery charge is low.

After each trip, the driver should turn off the vehicle, take out the key and charge the battery. This battery does not have a memory (i.e. you do not have to run it out completely to achieve a good charge. On the contrary, regular charging will extend the life of the battery) and it can be charged at any time in the life cycle of the battery.

Maintenance

This electric motorcycle represents a new generation of environmentally friendly two-wheeled transportation. Good maintenance will therefore play a major role in keeping your vehicle in good working condition and prolonging the life of the battery. Please follow these suggestions:

- To prevent rust, always keep your vehicle dry and clean.
- Regularly check the front and rear tires, suspension, body frame and all fasteners.
- When riding in rain, do not pass through deep puddles or muddy areas as excessive water may cause unnecessary damage to the motor and other electrical components.
- To prevent rust forming on the vehicle, avoid parking your vehicle in high humidity and corrosive areas.
- To avoid damage to the electrical parts of this vehicle, especially the controller, do not park the vehicle in direct sunlight or in heavy rain.
- Due to the complexity of the electronic production of this vehicle, customers should never attempt to remove any of the parts or attempt any maintenance without consulting your dealer (this will also invalidate the warranty).
- Never overload or operate the vehicle for an extended period of time. Prolonged use with excessive weight may cause serious damage to the electronic and mechanical parts.
- Always check your vehicle and perform the required maintenance on tires, brakes, nuts and bolts.
- For your safety, perform routine maintenance on your vehicle. This will reduce the potential for damage.

Maintenance Schedule

Mileage km	400	Every 1000	Every 2000	Every 6000	Every 10000
Battery			C	C	C
Charger			C	C	C
Tire Pressure	C	C	C	C	C
Tire Wear				C	C
Brake System	C		C	C	C
Brake Pad				A	A
Nuts and Bolts	T		T	T	T

A: Adjust **C: Check** **T: Tighten**

Frequently Asked Questions

1. **Q. When fully charged, what is the range of the electric vehicle?**
   A. The range is affected by the weight of the rider, the type of terrain and the speed at which the vehicle is driven. Under optimal conditions at a steady speed of 45km/h), a range of 93 km has been recorded on a single charge.
   B. See the specification sheet for the full range and speed of the models.

2. **Q. Is riding an electric vehicle a comfortable riding experience?**
   A. Riding an electric vehicle is indescribably more comfortable than riding a gasoline motor vehicle. The silence and the smoothness of a direct drive electric-motor-powered vehicle are incomparable

3. **Q. Is it necessary to warm-up the electric vehicle before riding it?**
   A. When the driver turns the ignition key, two beeps will immediately follow to inform the driver that the vehicle is ready to drive. Absolutely no warming up time is needed. Just turn the throttle and you are ready to go. It cannot be any easier.

4. **Q. What about maintenance?**
   A. This motorcycle is designed for minimum maintenance. This vehicle has no combustion engine, no transmission, no belts, no chains, no gasoline, no lubricants, no ignition plugs and no carburetor. The modular designed components are practically maintenance-free. The unique design of the direct drive system and the total absence of belts or chains make this vehicle much easier to maintain than other electric scooters. Practically any scooter dealer can do most of the maintenance that may be required. The brushless motor also means that it is never necessary to change the brushes.

5. **Q. What about parts, is it difficult to get parts for the F3 model?**
   A. All parts are available and can be purchased from the local dealer, including batteries, tires, lightbulbs, bodyshells, seats, etc.

6. **Q. Can water be used to clean or wash the vehicle?**

A. Due to its waterproof wiring bundle, Direct Current source and 72V system design, there is no risk involved when the vehicle gets wet. However, be careful not to pour water directly into the charger outlet, the controller and the internal battery set when washing or cleaning.

7. **Q. Do you need to wear a helmet to drive the electric vehicle**
   A. For safety reasons we always advise wearing a helmet. Local laws may also require wearing a helmet.

8. **Q. Is it easy to recharge the batteries?**
   A. Yes, it is very easy. Simply plug the Battery Charger into any regular AC110V or AC220V wall outlet and plug the other side in the charging point on the right rear side of the vehicle, which is clearly marked. This will start the recharging of the batteries. It is recommended to only charge up to 90% of SOC to increase the life cycle of the battery.
9. **Q. How long will the batteries last, i.e. what is the life cycle of the battery?**
   A. The life cycle of the battery will be reduced or damaged if an insufficient charge level is retained for a long period of time. The lithium battery is rated at 1200 Deep Cycles, but that depends on the usage habits of the operator.
10. **Q. How do I see the condition and charge level of the battery?**
    A. The dashboard clearly shows the charge level of the battery.
    I. FULL: 10 segments

    II. Low Voltage:  starts to blink，SOC below 20%.

11. **Q. If one of the cells has a problem, do I need to change all the cells?**
    A. Yes, this is necessary. If the vehicle is still covered by the warranty, return it to the dealer for the change.

12. **Q. Is there any danger of the rider getting burned while riding the electric vehicle?**

A. Riders will not get burned from riding the electric vehicle. The vehicle does not have an exhaust pipe like in gasoline scooters. No parts heat up.

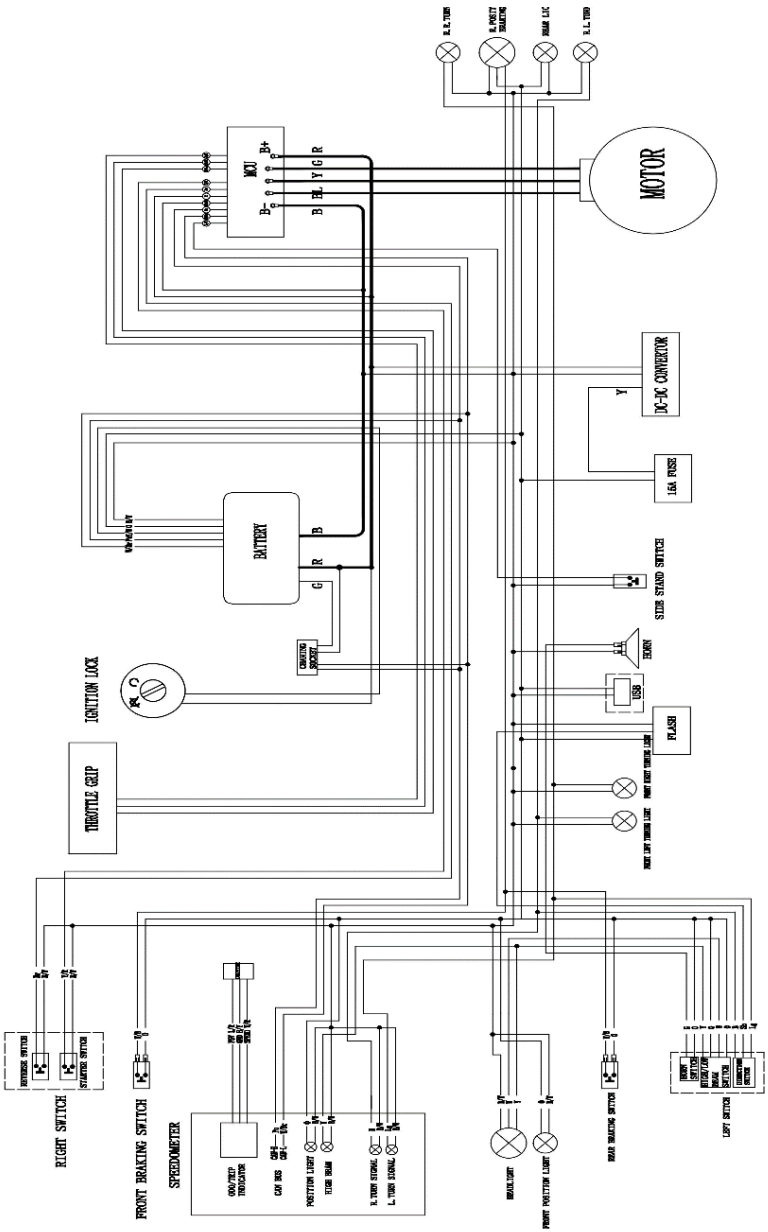
13. Q. Why is this product the best available in the world today?
It has a brushless motor. We emphasize "**brushless**" not just because it is the latest technology, but because these permanent magnet motors are supremely reliable! These more expensive motors produce high torque at low speeds, while keeping an acceptable balance of torque and energy across the entire speed range. Often other types of electric vehicles on the market today still use sealed brush-type motors that are dependent on brush life and that accumulate brush dust (residue). They are susceptible to wear over time, which may affect the maximum speed and electrical noise or become problematic in other ways. Because these brush-type motors are sealed an expensive motor replacement is often required to get them working again.

14. Q. What is the Manufacturer Warranty?
Check this with your local dealer.

Troubleshooting

Problem	Condition	Check	Solution
When I turn my vehicle on nothing happens. (lights off, speedometer off, horn off)	1. Light off, horn off, press start button, throttle, motor functions	Check if the DC-DC input and output voltage is correct. Check if the plug is secured. Check if the fuse has blown.	Change the DC-DC convertor, secure the plugs, or change the fuse.
	2. Light off, horn off, press start button, throttle, motor does not function	2. Check that the battery connectors and ignition lock connectors are secure, and check if the battery output voltage is normal.	2. Reconnect all connectors or change the battery to check.
The throttle does not work or switch on, the vehicle moves without acceleration.	The throttle does not return to the stop position.	Check the grip for damage	Use a hex key to adjust the throttle or change a new one.
	The throttle works, but the vehicle does not respond	Check that the connectors between the throttle and MCU are secure.	Reconnect the connectors.
The battery does not charge.	Charger light is off	Check the charger plug position.	Check by unplugging the charger and plugging it in again.
Remark: Please contact your local dealer if you cannot resolve an issue.			

Circuit Diagram



SERVICE PLAN

The Warranty can be granted only if the vehicle has been serviced in accordance with this service plan.

400 km Stamp / Signature	2000 km Stamp / Signature
4000 km Stamp / Signature	6000 km Stamp / Signature

VEHICLE IDENTIFICATION NUMBER: _____

NAME OF THE CUSTOMER: _____

MODEL: _____

SIGNATURE OF THE CUSTOMER: _____

SERVICE PLAN

The Warranty can be granted only if the vehicle has been serviced in accordance with this service plan.

8000 km Stamp / Signature	10000 km Stamp / Signature
12000 km Stamp / Signature	14000 km Stamp / Signature

VEHICLE IDENTIFICATION NUMBER: _____

NAME OF THE CUSTOMER: _____

MODEL: _____

SIGNATURE OF THE CUSTOMER: _____

SPACE FOR NOTES

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