



The Power to Surprise

soul ev

Customer Response Guide





The Power to Surprise

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Q01

How far can a Soul EV go on a single charge?

A01

The Soul EV can run an average of 92 miles on a single charge. The range can be different based on weather conditions, battery lifespan, road conditions, driver's habit, A/C or heater operation. The driving distance under various conditions could range between 62 - 143 miles.

Q02

How is Distance to Empty (DTE) or Driving Range calculated?

A02

The DTE is calculated based on the past driving pattern. It is calculated by using the average distance of past 20 cycles considering the operation of A/C and heater or the road condition classified by navigation.



**DTE : Distance To Empty*

If the driving pattern is changed, an estimation error may occur.
e.g. Driving on the highway (High-speed) on the weekend after you have driven on the city (Slow-speed) during weekdays.

Q03

Will the use of accessories (i.e., audio, heater, A/C, etc.) affect the driving range of the Soul EV?

A03

The A/C and heater consumes energy from the high voltage battery, causing the range to decrease. It is recommended to set HVAC to 73°F auto for optimal energy consumption. Also, if the use of the A/C or Heater is not needed, please turn off to help manage the high voltage battery and increase your driving range.

Q04

If I turn off the Active ECO system for better acceleration, will the EV system remember this setting the next time I drive the vehicle?

A04

Yes. It remembers the ECO on/off status (ECO Memory). If the vehicle is turned off, it will maintain the memory on the next start.

**The driving distance could be decreased in the ECO OFF mode.*

**Q05**

If water flows into the modules related in the high voltage system, due to heavy rain, will it have any effect on the vehicle?

A05

No. The high voltage components in the motor room are designed to be waterproof, so accidental electric shock or system failure is unlikely.

For reference, as the result of completing a water pressure test while charging a vehicle and in EV Ready status, no problem was found with the high voltage system or vehicle operation.

Q06

Can driving on the speed bumps damage the high voltage battery which is installed under the vehicle?

A06

During vehicle development multiple safety tests for collision were performed. The high voltage battery is safe and has no danger of damage when driving over speed bumps or in case of collision. However, it is still recommended that you drive carefully over speed bumps for your safety.

Q07

Is there a possibility that extremely cold weather can affect the vehicle performance?

A07

At temperatures below -4°F, it is normal for the soul EV to have performance reduction because of high voltage battery output reduction.

**Q08**

Why is there a sound at low speeds, even though there is no engine?

A08

A pedestrian may not recognize the Soul EV moving as there is no engine sound. The Soul EV has an integrated Virtual Engine Sound System (VESS) that generates a virtual engine sound for pedestrian's safety when the vehicle is driven below 13mph; this alerts the pedestrian of the approaching vehicle.

**The Virtual Engine Sound System does not operate when the vehicle is not moving. The VESS operates in the range of 1 - 13mph.*

Q09

Why do I hear a fan noise in the trunk area of my Soul EV?

A09

The Soul EV comes with high voltage battery cooling fan that is mounted in the trunk area next to the tire mobility kit. You may hear a noise generated by the fan operation which is considered normal. The cooling fan operates to maintain the optimal temperature of the high voltage battery ; Below 140°F .



Cooling fan in the trunk

Q10

When washing the car, is there a possibility that electric shock or system failure can happen?

A10

No. The high voltage components are designed to be waterproof. You can wash your car without any risk.

Q11

Can I wash my Soul EV with pressurized water like a conventional vehicle? What if water flows into the high voltage battery or motor room?

A11

The high voltage components are designed to be waterproof. When the Soul EV was tested using pressurized water, no problems found with the high voltage components. For your safety, we do not recommend to pressure wash the high voltage components.



Q12

Can I wash the under-body of the vehicle? Is there any problem for the battery?

A12

You can wash the under-body of the vehicle without any risk. There is no risk to the high voltage battery while washing the vehicle because the high voltage battery and connectors are designed to be waterproof.

Q13

What parts must I not touch with hands for safety?

A13

Be careful not to touch the high-voltage cable (orange color) and parts with a high voltage warning labels for preventing the electrical accidents.



Orange color cable

Q14

Can the EV be jump started? If need, how can I jump start the vehicle?

A14

Yes. If the auxiliary battery (12V) is discharged, you cannot start the vehicle (READY). When discharged, the auxiliary battery will need to be jump started in the same method as standard vehicles.

Connect your Soul EV with the other vehicle's battery using a set of jump cables.

**Jump start can be risky so if you are unsure of how to proceed, please contact a professional for help.*



1. Make sure that the rated voltage of the auxiliary battery is 12V.
2. If you do jump start using another vehicle's battery, make sure that the two vehicles are at a reasonable distance from each other.
3. Turn off "ALL" electric systems.
4. Connect the jump terminal (+) of the discharged battery in the EV with the battery terminal (+) of the assisting vehicle.
5. Connect the battery terminal (-) of the assisting vehicle in the metallic parts around the battery of EV.

**Connecting the jumper cables to the battery directly, could result in fire hazard or explosion*

6. Turn on the ignition of the assisting vehicle, and wait for a few minutes.
7. Turn on the ignition of the EV.
8. Once you are able to startup the motor, disconnect the (-) terminal and then disconnect the (+) terminal.

Q15

Are there any precautions when I park the vehicle for a long period?

A15

The vehicle performance is not affected by the length of parking period. The State of Charge (SOC) must be checked at least once every six months and if the SOC warning lamp turns on, charge the high voltage battery.



※SOC (State Of Charge) : The status of high voltage battery charging

Q16

Should only authorized Kia EV dealers perform routine maintenance such as refrigerant or coolant replacement?

A16

For safety, all EV warranty repairs must be completed by EV trained service technicians at authorized Kia EV dealers. In addition, we recommend that all maintenance services are also performed at authorized Kia EV dealers.

Q17

What items should the driver check regularly?

A17

The following items should be checked regularly as in standard vehicle; coolant, brake fluid, climate control air filter, tire, 12V auxiliary battery etc. For detailed information on regular maintenance items and intervals, please see the "Maintenance" section of Owner's Manual.

Q18

Does my EV require any special type of tire or tires? Will conventional tires work on my EV?

A18

The Soul EV is equipped with 205/60R16 Super Low Rolling Resistance (SLRR) tires, different from the regular gas engine Soul tires. Conventional tires may be installed but driving range may be affected.

Q19

Does the EV use different coolant from a standard vehicle?

A19

The Soul EV uses same coolant with the standard vehicle.

**Recommend using an ethylene glycol-based coolant*



Coolant Reservoir Tank

Q20

How far can I drive after the high voltage battery warning lamp turns on ?



A20

Depending on the driving speed, A/C or heater, weather, driver's habit etc., usually you can drive about 12 - 25 miles after the warning lamp is on.

Q21

What should I do when the power down lamp turns on?



A21

The power down lamp turns on when the high voltage battery SOC drops below 7% or the cooling system has failed. Do not accelerate excessively or abruptly. If the SOC is too low, charge the high voltage battery. If the power down lamp does not turn off, contact your local authorized Kia dealer for service.

Q22

What should I do when the service lamp turns on?



A22

If the service lamp turns on when starting the car and turns off within 3 seconds, it is normal. If the service lamp does not turn off or turns on while driving, contact your local authorized Kia dealer for service, as there are problems with the Soul EV control system.

Q23

What is the regenerative braking system?

A23

It charges the high voltage battery by converting the kinetic energy to electric energy during deceleration. This is achieved by using the electric motor as a generator, increasing the energy efficiency of electric vehicle that has limited energy.

Q24

How much energy efficiency does the regenerative braking system help to improve?

A24

The energy gain factor of regenerative braking system ($\frac{\text{Regenerative energy}}{\text{Driving energy}}$) is about 30% based on the city driving.

It means that the energy efficiency is improved by about 30% based on the city driving from regenerative braking system.

Q25

What's the difference between the reduction gearbox installed on the Soul EV and a transmission installed on a conventional vehicle?

A25

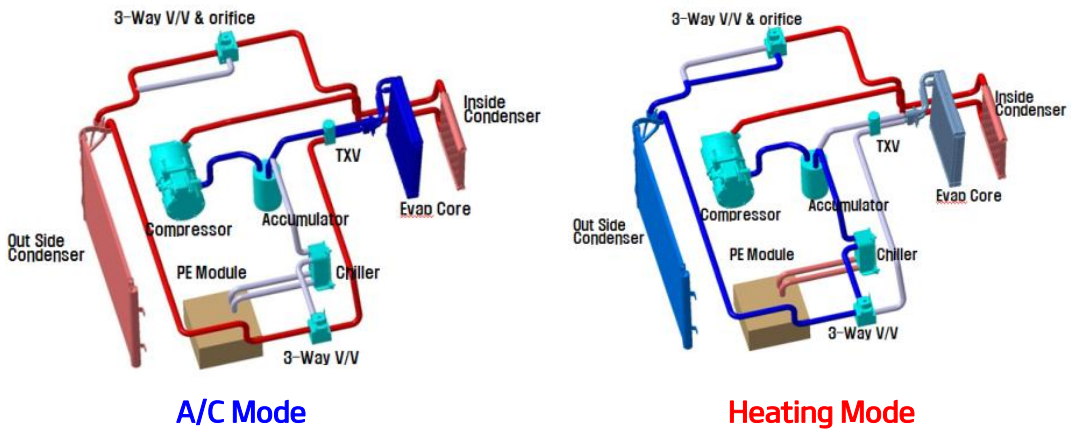
The transmission transfers the power by changing the gear ratio as the vehicle is driven. The reduction gear is designed to transfer the power by reducing the electric motor RPM. The motor is always connected to the drive wheels and reverse is obtained by changing the direction of the motor rotation.

Q26

What is the heat pump system?

A26

The Heat pump is the system that provides heating as well as cooling by changing the refrigerant-cycle. When in Heating mode, the inside condenser is heated. As air passes over the inside condenser, it warms, increasing the air temperature in the cabin area. The driving distance is increased by minimizing the energy consumption of the high voltage PTC heater.



Q27

Is there a great difference in the driving distance when I'm not using the heat pump?

A27

The driving distance of electric vehicle is decreased when the heater is on. Conventional vehicles use engine heat as the heater source but there is no heat source in the electric vehicle. The Soul EV uses high voltage battery to heat (PTC heater). If the heat pump system is equipped on your car, the driving distance range is affected.

Compared to using PTC heater, using the heat pump in winter may save energy consumption by about 50%, hence increasing the driving distance by about 10%.

**The Soul EV is equipped with a world-class level heat pump system.*

Q28

What's the useable high voltage battery life?

A28

The high voltage battery design life is 10 years / 155,000 miles.
The warranty period is 10 years / 100,000 miles.

Q29

Is the recharge performance of the high voltage battery reduced depending on its duration of use?

A29

The charging time is affected by the charger output. The more charger outputs, the faster charging time. If you use the high voltage battery for long periods, the charging time may be reduced by the battery degradation resulting in slightly shorter drive distance range.

Q30

Can I check the high voltage battery life?

A30

There is no way to check the high voltage battery lifespan visually. If you notice your driving distance is recently shortened, please visit an authorized KIA dealer to check the high voltage battery.

Q31

How is the end-of-life high voltage battery handled?

A31

The end-of-life high voltage battery will be replaced with a new. Also, Kia is working with battery recyclers to properly dispose of failed high voltage batteries.

Q32

How long does a full charge of high voltage battery take?

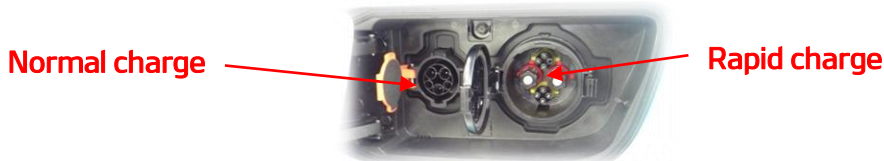
A32

Normal Charge Level 1 110V AC : 24 hours +

Normal Charge Level 2 220V AC : 4 hours 20 minutes (full charge available)

Direct DC Rapid Charge Level 3 : 24 minutes with 100kW charger

33 minutes with 50kW charger



**The battery is charged up to 84% at rapid charge. If you reconnect the cable, you can charge up to 94%.
But, additional charge can be unavailable with cold weather to prevent high voltage battery degradation.*

Q33

How can I know the charging status through charge lamp?

A33

- Normal Charge : Status indicated by cluster or charge lamp
 - No.1 lamp blinking : 0 ~ 33% SOC
 - No.1 lamp ON and No.2 lamp blinking : 34 ~ 66% SOC
 - No.1/2 lamp ON and No.3 lamp blinking : 67 ~ 99% SOC
 - No.1/2/3 lamp ON : 100% SOC

- Rapid Charge : Status indicated by cluster

**Charge lamp is only for normal charge.*



Charge Lamp



Cluster

Q34

If I use the rapid/DC charging frequently, will it damage the high voltage battery?

A34

No. It doesn't matter how many times you use the rapid charge. The frequent use of rapid charge does not affect the high voltage battery lifespan or the performance.

Q35

Is the charge connector different by country? Can I charge the vehicle in other countries?

A35

The Soul EV is equipped with a Type 1 socket for normal AC charging and a CHAdeMO socket for rapid DC charging.

There are two main types of connectors for normal charge, type 1 (5 pins) for North America and type 2 (7 pins) for Europe. In order to charge Soul EV on a charger with Type 2 socket an adapter cable is needed, available as an accessory.

There are also several types of connectors for rapid charge, CHAdeMO, SAE-Combo and Combo Type 2. Currently, CHAdeMO is common globally, whereas Combo systems are starting to be introduced. In Europe, public stations will be equipped with both Types.

Soul EV			SAE Combo (North America)
Normal / AC		Rapid / DC	
Type 1	Type 2 + Adapter Cable	CHAdeMO	
			Combo Type 2 (Europe) 

Q36

Do I need special equipment to charge at home?

A36

You can charge the Soul EV at home by using In Cable Control Box (ICCB) that comes standard with your Soul EV. By connecting it to normal charge port, it takes about 24 hours to full charge, because the charging capacity is very low compared to other charging methods.



Home based Level 2 chargers are available. Contact your local authorized Kia dealer for assistance

Q37***Are there any precautions for charging the high voltage battery?*****A37**

1. Do not touch the charger with wet hands.
2. If a charger port is moist, be sure to remove moisture before charging.
3. Connect the connector properly and be sure to check the locking status.
4. Do not touch the connector/cable/charger while charging the battery.
5. Do not remove the charger connector while charging the battery.
6. Be careful so that the moisture does not get into the charging device.

Q38***Why is a full charge unavailable on a rapid charge/DC charger?
Why does charging stop at 84% of SOC? How can I charge more?*****A38**

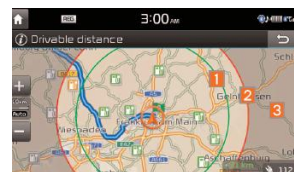
The high voltage battery is unable to be 100% charged using a level 3 rapid charge/DC charger as to prevent overcharge. During rapid charge, the voltage rises quickly due to 160A of current allowing the charge to reach 84% SOC within 25 minutes. Charging stops at 84% SOC.

Reconnecting the charge connector may increase the charge up to 94% SOC.

※SOC (State Of Charge.) : The status of high voltage battery charging.

Q39***How can I find the charging stations?*****A39**

You can locate charging stations within driving range by using the EV mode on the AVN system.

**Q40*****Is it safe to plug in the charger when parking the EV for a long period?*****A40**

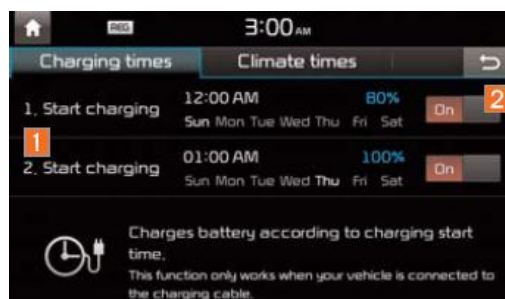
Yes. It's safe. Once charging is completed, the charge cycle is automatically disengaged. It is safe to leave the charger connected to the Soul EV for an extended period of time. If at a public charging station, this practice would not be courteous to other users.

Q41

Is it possible to set the charging schedule using an AVN or smartphone?

A41

You can set the charging schedule through the AVN. If you select the 'set charging times' on the AVN, you can set the *time to charge*, *charging ratio (80% / 100%)* and the *repeat days*. You can also set the charging time with smartphone UVO service.



**This function is available only when the charging cable is securely plugged in.*

Q42

Is it possible to set the climate time using an AVN or smartphone before I get on the Soul EV?

A42

You can turn on the climate control inside the Soul EV before you drive. If you select the 'set climate times' on the AVN, you can set the *time to start driving*, *desired temperature* and the *repeat days*. The climate control turns on 30 minutes prior to departure and the inside temperature will reach the desired temperature at the time you drive. You can also set the climate schedule with smartphone UVO service.



**This function is available only when the charging cable is securely plugged in.*

Q43

Is there a risk of electric shock from the high-voltage parts in the event of a collision or accident?

A43

The high voltage battery is insulated and the insulation status is checked by the Battery Management System (BMS) allowing the vehicle to be safe in case of collision or accident. If there is a problem on the high voltage line or insulation, the high voltage current is shut off by relay operation. In the event of a collision or accident, it is recommend to turn off the vehicle and evacuate to a safe location away from the vehicle. Contact local rescue authorities for assistance.

Q44

What should I do if the vehicle is submerged in water?

A44

Evacuate to a safe place. If possible, turn off the vehicle before leaving the vehicle. And then contact local fire department or rescue authorities.

**The risk of electric shock is unlikely when treating the submerged car. Because Battery Management System (BMS) is always checking the high voltage system and if there is a problem on the high voltage line or insulation resistance, the high voltage is shut off by relay operation (BMS checks the insulation resistance and wire status to turn off the relay if there is a problem). Be sure to wear the personal protective equipment before working on the Soul EV.*

Q45

If the high voltage battery is penetrated, is there any problem?

A45

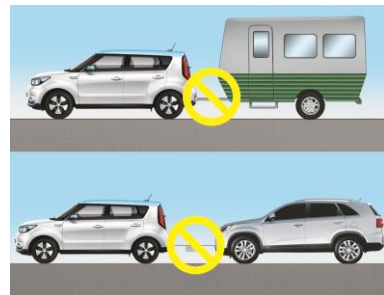
The high voltage battery of Soul EV helps to ensure penetration stability by incorporating a ceramic coating membrane. Each cell of high voltage battery is coated in ceramic. If an object or road debris was to penetrate the high voltage battery, the ceramic will protect the battery. This ceramic membrane inserted into the high voltage battery separates each cell and protects them from short circuits.

Q46

Can the Soul EV tow other cars in emergency?

A46

The motor can be overloaded and damaged if it is used as a tow vehicle. We do not recommend towing other cars or trailers using the Soul EV.



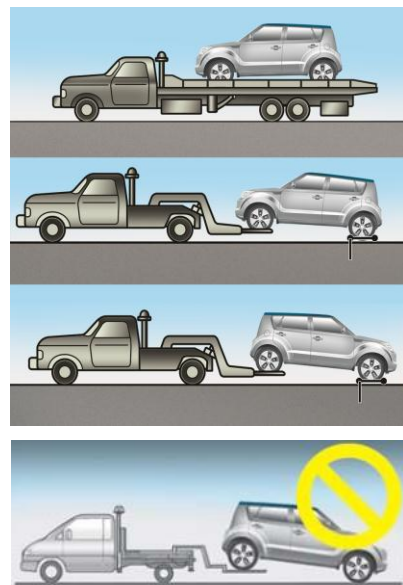
Q47

How should the EV be towed? Is there any caution to take?

A47

The Soul EV can be towed in the same method with standard vehicles. If you need emergency towing, we recommend that you contact your local authorized KIA dealer.

When towing the car, use a flatbed or wheel dolly for safety. The EV is equipped with a front wheel drive motor and EPB. If the front wheels touch the road surface while being towed, they will rotate and this can cause the motor to generate electricity. And if the rear wheels touch the road surface even though the EPB is locked, it can cause unwanted failure of the EV.



Q48

What should I do if the EV catches fire?

A48

If the vehicle catches on fire, the preferred method to extinguish the fire is by using a fire extinguisher. If you cannot extinguish the fire immediately, evacuate to a safe area because the high voltage battery can explode when heated. Contact your local fire department. Do not get close to your car until the fire department has fully extinguished the fire.

**Powder, CO2 or Halon fire extinguishers are available to extinguish the fire.*

Q49

In case of fire, can I use water to extinguish the fire?

A49

You may use large amounts of water to extinguish the fire if you do not have a fire extinguisher. Trying to extinguish the fire with a small amount of water may cause electric shock accident. So we recommend using a fire extinguisher instead of water for your safety.

Q50

Can the high voltage battery explode by overheats in very hot weather?

A50

The storable temperature range of high voltage battery is -40 - 158°F and the driving temperature range is -31 - 140°F.

The cooling system is designed so that the high voltage battery temperature is maintained below 140°F. Testing has verified the high voltage battery operation in Death Valley, CA. high heat regions.

