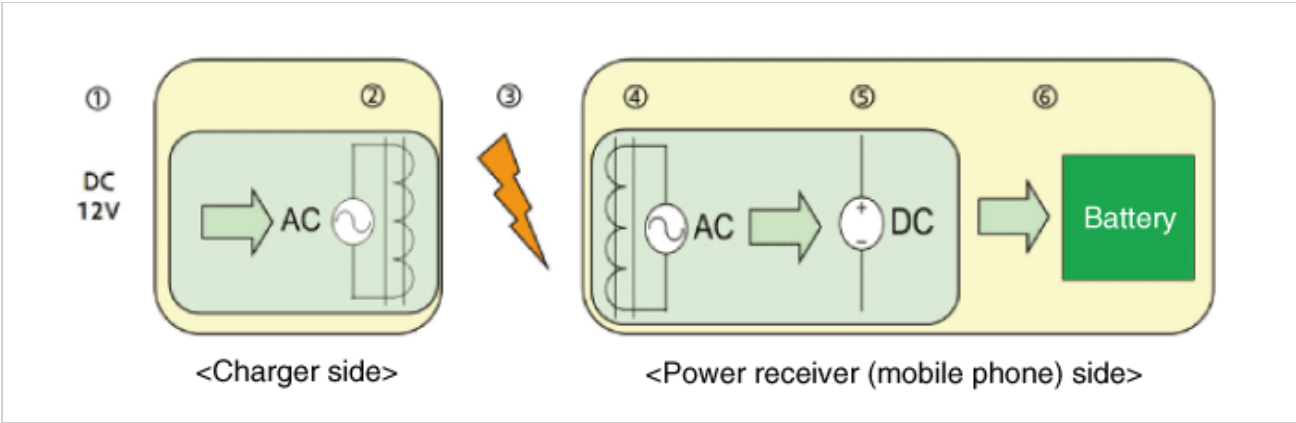


Description and Operation

Wireless Power Charger System

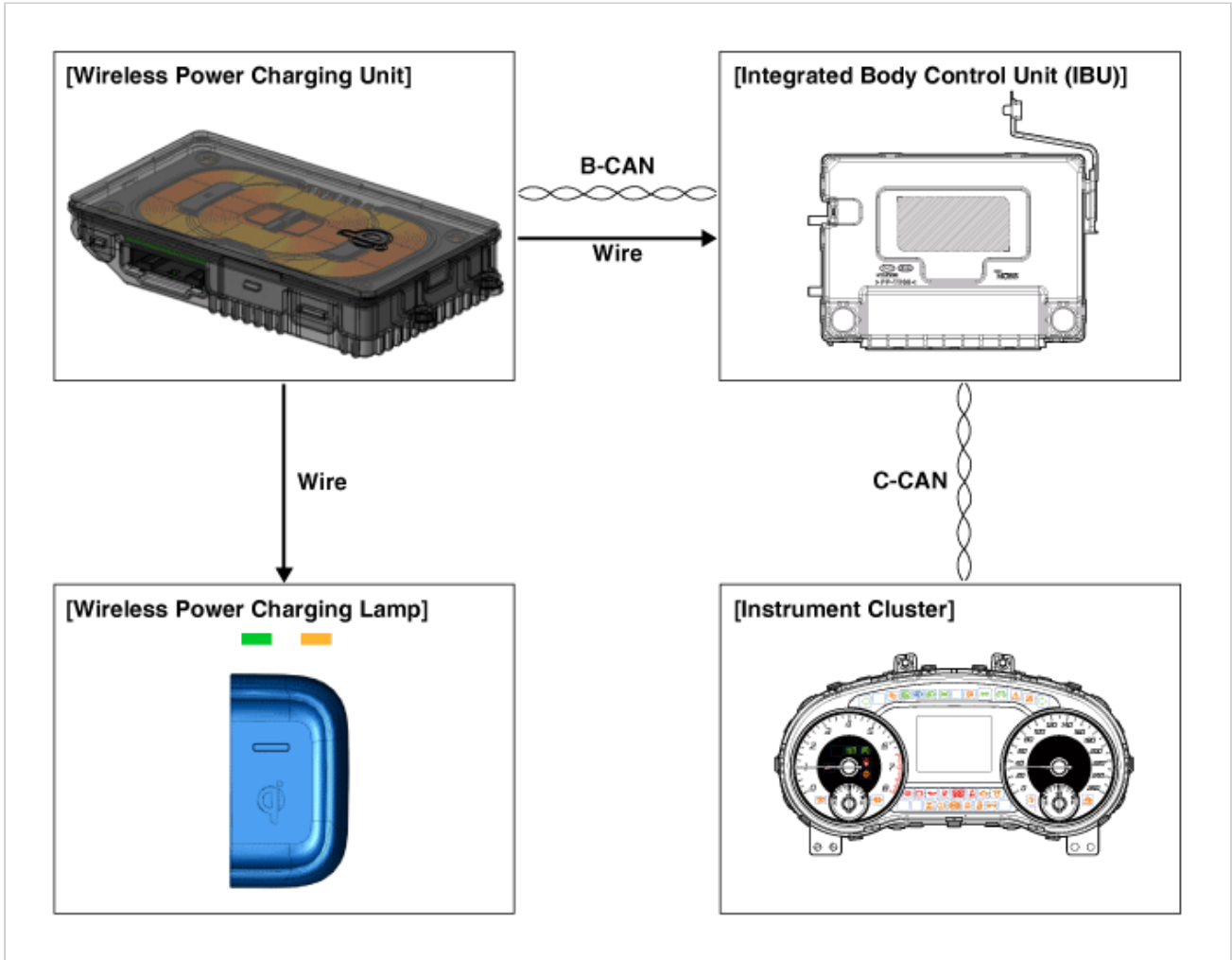
During ACC or IG ON, battery voltage is supplied to the wireless power charger system to transmit an output of 5 W to mobile phone. Mobile phones certified with the wireless charging standard WPC (Qi 1.2.2) or equipped with an exclusive wireless charging case can be used.

Wireless Power Charging System Flow Chart



- 1. Supply vehicle power.
- 2. Convert to AC. Generate electromagnetic field in 1st coil.
- 3. Generate induced current in power receiver from electromagnetic induction.
- 4. Generate AC in 2nd coil.
- 5. Convert to DC.
- 6. Charge battery.

System Configuration Diagram



- 1. Instrument cluster : Alerts about contact with mobile phone.
- 2. Wireless charging lamp : Displays the charging status.
- 3. Integrated body control unit (IBU) :
 - (1) Determines contact with mobile phone.
 - (2) Stops charging during the activation of LF.

Major Functions of Wireless Power Charger System

- 1. Charging Function
 - (1) Activation method
 - a. Close all doors of the car.
 - b. Switch vehicle power to ACC or IG ON.
 - c. Place the wireless charging-enabled mobile phone on the tray.
 - (2) Charging status display

Mode	Charging LED display		Remarks
Stand by for charging	LED turned OFF		
Charging in process	Amber LED turned ON		

Charging completed	Green LED turned ON		
Charging error	Amber LED blinks		– Blinks 10 times for 10 seconds, then LED is turned off for 50 seconds (total 60 seconds)

2. Alert for contact with mobile phone


(1) If you leave the smart phone on the charging pad when the vehicle ignition is in OFF, the vehicle will alert you through warning messages.




3. Overheating prevention

(1) Activation method

a. If the thermistor temperature inside the wireless charging module rises above a certain level (158 °F (70 °C)), charging will stop to protect the mobile phone battery.

**Information**
The amber LED of the charging display lamp blinks 10 times for 10 seconds.

b. If the thermistor temperature falls below a certain level (149 °F (65 °C)), charging will restart.

**Information**
When the charging function is restarted, the amber LED of the charging display lamp will be turned on.

4. Foreign matter detection

(1) Charging will be stopped if there is a coin or other metallic object between the wireless charging unit and the mobile phone.

[Foreign matter]



i Information

- Foreign matter : All metallic objects such as coins, clips, and precious metals
- The amber LED of the charging display lamp blinks 10 times for 10 seconds, and then it is turned off for 50 seconds (total 60 seconds).
- The process is repeated for every 60 seconds.

⚠ CAUTION

Be careful as touching the foreign matter by hand may cause burns.

- (2) When system has detected foreign matter and stopped charging the mobile phone, the wireless charging function will resume immediately after removing the foreign matter.

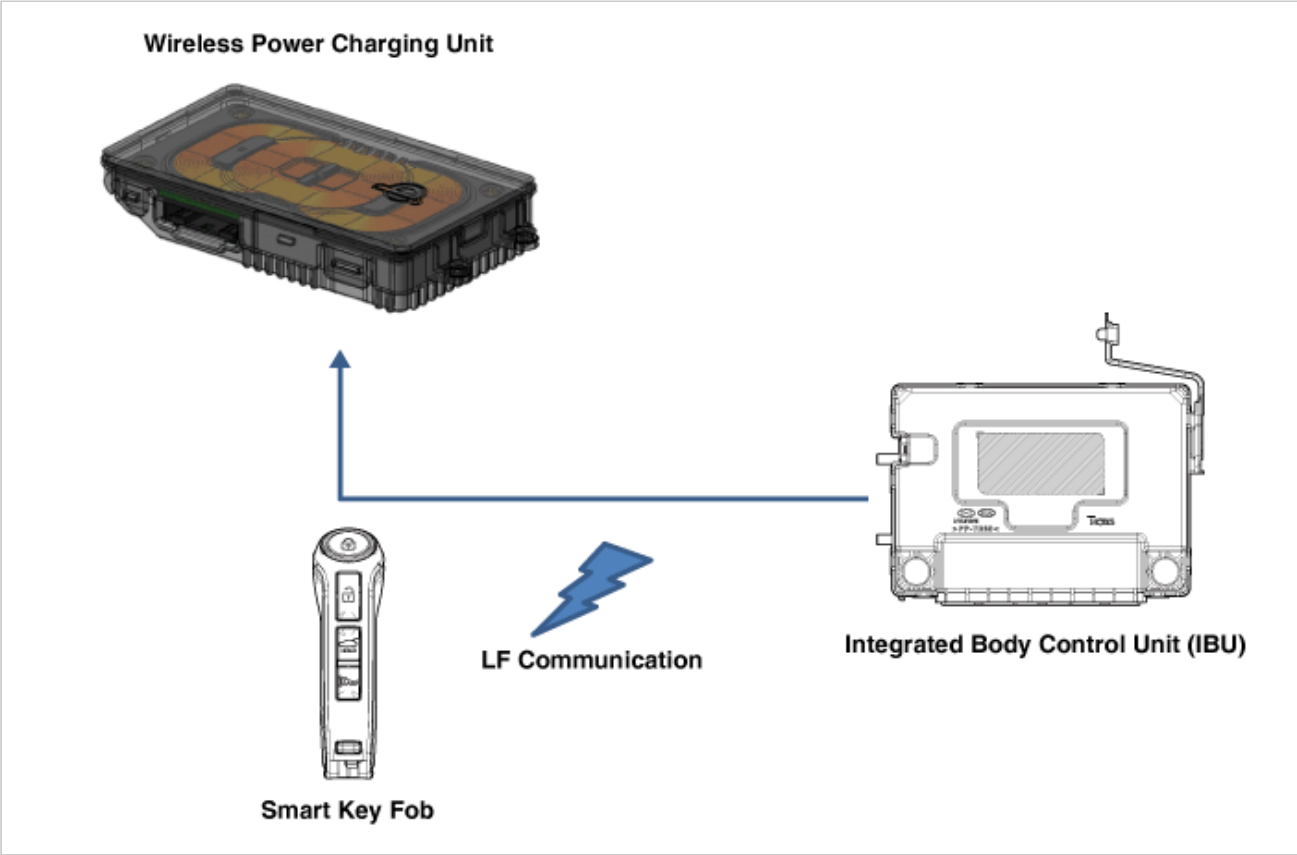
i Information

When the charging function is restarted, the amber LED of the charging display lamp will be turned on.

5. IBU unit LF frequency interference prevention

This function prevents interference between the wireless charging frequency and smart key unit frequency band.

- (1) Wireless charging is stopped when the door is open or the IBU unit is in LF mode (searching for smart key).
e.g. Wireless charging function is stopped if the driver carries the smart key out of the vehicle during IG ON.



Information

Charging will stop and the amber LED of the charging display lamp will turn off.

(2) It will return to normal operating status when the LF mode of the IBU unit is completed.

6. Turn the wireless charging function ON/OFF with USM.

Convenience

Steering Easy Access

☐

Steering Position

☒

Wireless Charging Sy...

☒

Wiper/Lights Display

☐

※ Liftgate applies to RV vehicle models.

Protection of Wireless Power Charger System

Item	Condition	Status
Protects against low/high voltage	Protects and stops charging under 8.5 V and over 16.5 V	LED OFF (Stops operation)
	Charges over 9.0 V and under 16.0 V	
Protects against reverse voltage	Protects and stops charging in case of reverse voltage	LED OFF (Stops operation)
Protects against overcurrent	Protects and stops charging in case of detecting 4.5 A	Amber LED blinks
Protects against overheating	Protects and stops charging in case of detecting 158°F (70°C) by internal temperature sensor of wireless charging module	Amber LED blinks

	Resumes under 149°F (65°C)	
Foreign matter (Coins, clips, precious metals, etc.)	Protects and stops charging in case of detecting foreign matter (overheating prevention)	Amber LED blinks
Prevents frequency interference	Protects and stops charging by activating SMK in case door or liftgate is open	LED OFF (Stops operation)
	Resumes in 3.5 seconds after all doors and liftgate are closed and SMK operation is completed	
Alert for contact with mobile phone	In case of smart phone on the charging pad when opening the door after ignition OFF	Displays warning message on the instrument panel (for about 4-5 seconds)

※ Liftgate applies to RV vehicle models.