

# DELPHI

DOCUMENT NAME: WPC User Manual - VOLVO



## Introduction

The Wireless Phone Charger is a Confort systems used to provide battery charging capability to commercial compatible Smartphones. The Compatibility of the devices to charge with the WPC will depend if these include the Qi technology and optionally NFC (Near Field Communication) technology as part of the phone features.

Phones not equipped with wireless charging receivers can often be supplemented with a shell that makes wireless charging possible.

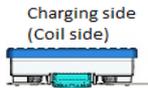
## Connections

The WPC has a single connector that only fits in one position with the Vehicle Harness. This connector powers to the unit by a 2-wire connection and provides as well communication with the main Systems of the vehicle. The WPC communicates the charging status and other useful information through the vehicle network to be used by other systems.

As this product is powered externally, the Module shall be powered from the an external power supply in compliance with clause 2.5 of the IEC 60950-1 standard and the operating conditions described in the technical specification of this product and **has a safety device for over current protection (fuse) of 5Amps.**

## Vehicle Mounting location

The WPC is located in the vehicle in the center tunnel between the driver and passenger seats. The WPC is located in such way that the compatible device (phone) can be placed and removed easily from the end user. The charging face (coil face) of the WPC is facing the A mat area where the phone is placed.



## Getting Started

The WPC is able to start charging once following conditions are met:

- The WPC is correctly connected and energized.
- The vehicle is at least in ACC or Engine ON.
- The Compatible device (Phone) is placed in the charging area.
- The Multimedia System (Radio head unit) enables the WPC for start charging.

## Compatible Devices that WPC can charge

As previously said, the WPC is designed to charge wirelessly compatible devices (Smart phones). A Smart Phone can be considered a compatible device for the WPC if it contains the Qi Technology for charging. This technology involves coils placed strategically on the rear side of the housing (or plate) phone.

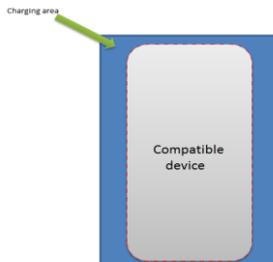
In addition, the compatible device can have (but is not limited to) NFC protocol. This Near Field Communication protocol will interchange information with the Radio Head Unit via the WPC so the Head Unit will start and pair via Bluetooth the Compatible device.

## Charging the Compatible device

Once the conditions are set is just a matter of placing the compatible device in the charging area and no later than 5 seconds the Compatible device shall indicate that charging is started. Radio Head Unit may display as well (depending of the configuration of the Head Unit) that there is a device placed and is charging.

## Charging Area

The Smart Phone (Compatible Device) shall be placed as much centered as can be in the charging area to initiate the charging, however the WPC has three coils (up-center-down) to start the charging even the device is not completely centered. The charging area surface shall be parallel to the rear face of the Compatible device.



## Maintenance

As the WPC is not in the A surface of the vehicle and is considered a Slave in the network, there is no maintenance required for this product.

## Cautions and Restrictions

the WPC has the ability to stop charging if there is a foreign object between the phone and the charging surface area. Most of these objects are identified by the WPC but in general any object (specially ferromagnetic Objects) between the charging area and the Compatible device shall be avoided for the WPC to work normally.

Due to the wireless energy transferred is ok if the Phone and the charging surface may get hotter than the ambient temperature but the combined temperature registered by the WPC shall be less than 75°C. if this temperature is reached, the WPC will stop charging and will change back again when this combined temperature is below 60°C.

**This product is intended to be installed in a restricted access location to the end user and there is an additional mat where the compatible device (phone) is placed. With this, product cannot be in contact directly with the end user.**

### **Troubleshooting guide**

Compatible Device not Charging -----Vehicle's engine not in the correct state.

Radio Head Unit does not enables WPC to start charging (Refer to the Vehicle Owners Manual for more information).  
Phone is not a compatible device (Refer to the Phone user's manual).  
Compatible Device not placed within the charging area.  
The Ambient temperature in the vehicle interior is higher than 75°C.  
The parallel distance between the Charging area and the compatible device charging surface is more than 1cm.

Charging starts, then stops----- There is an object between the Compatible Device and the charging area mat.

Compatible device reached the 100% of charge.  
The Ambient temperature in the vehicle interior is higher than 75°C.  
The parallel distance between the Charging area and the compatible device charging surface is more than 5mm.  
The driver's door is opened while the car is running.

### **FCC/IC Regulatory notices**

This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.