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## Document Information

Vehicles affected: P23 - McLaren Speedtail

Location: Powertrain, Electrical & Accessories

Topic: Wireless charging information to help with diagnosing issues or answering customer questions

Condition: N/A

Diagnostic Trouble Codes: N/A

## Measure

Before reading this document it is advised to study the WCS Installation Manual and the WCS Tablet Installer Manual. Both these documents contain most of the relevant information for setup, WCS use and issue troubleshooting. Links to both of these documents can be found at the bottom of this Knowledge Article.

Signals- There are three signals to understand with WCS.

1. Wifi- Wall Box to Vehicle. Wall Box communicates to the vehicle via Wifi to initiate charging, base pad alignment etc. If this signal drops out then charging will be interrupted.
2. Bluetooth- HMI to Wall Box. Communication between Wall Box and HMI, allowing the user to see status of charging, base pad alignment and error messages. If this signal drops out then charging will be interrupted.
3. External Wifi- HMI to Home Network. This is to allow the app to send information to the companion app so that the customer/user can remotely check on the status of their vehicle charging. This signal is not required for charging.

All these signals can be checked using your personal mobile phone device for troubleshooting. For example to check the Wall Box is powered on you can search for it's Wifi signal, same can be done for Bluetooth.

**Recommended setup position-** The recommended setup position showed in the Installation Manual is correct but it has been found that the Wifi signal can be improved by having the Wall Box closer to the front of the vehicle, as this is where the EVCC is located. It is also recommended that Wifi signal strength can be improved by having the HMI mounted off the the Wall Box, i.e attached to a wall. This is due to the window that the Wifi signal is sent from the Wall Box is behind where the HMI would be mounted.

**Error Messages on HMI-** This section of the article goes through error messages that can appear on tablet and how to possibly troubleshoot those issues. the installation manual also contains a troubleshooting section that should be followed.

**Blank Screen -** This means the HMI is not receiving power. Refer to WCS Installation Manual. Check power supply to the HMI, including at the wall socket, connection to the HMI.

**Not Connected to Bluetooth -** This message indicates that the HMI cannot find the Wall Box, refer to WCS Installation Manual, this could be due to the Wall Box not being paired to the HMI or that the Wall Box is not power on. Check relevant power connections for the Wall Box and/or carry out the Bluetooth pairing process again.

**Ground Pad Charger Not Available -** Base pad not connected, check connection. Always have the Wall Box powered OFF when attaching/detaching the Base Pad Connection as this is a High Voltage component.

## **Other Modules on the Vehicle**

The following modules contribute to a successful charge - **MCU, BMS, SCUG, ECM, TCU, EVCC & EVPS**. It's been identified that if any of these modules have a DTC's/issue that aren't even related to charging, this could cause issues with the charging process which include signal drop-out.

For example, Wifi signal drops out after a couple hours of charging, it's found that the steering column operation is not working correctly, a re-flash of the SCUG regains operation, this now allows the vehicle to charge.

## Wifi Range Extender

It is recommended that a Wifi Range extender should be purchased and installed if a customer is having any issues with Wifi signal strength from Wall Box to vehicle. The recommended Wifi extender is the TP-Link AC1750 Universal Dual Band Range Extender. Installation and setup instructions are in the attachments section of this Knowledge Article. It is recommended that the range extender is situated at least 1.5m off the ground and then near the front of the vehicle to receive the full benefits of the range extender.

## Other Causes of Charger Interruption

- It's important that once the vehicle is charging neither the cabling or the base pad are disturbed as this may trigger a false foreign object detection and shut off charging, causing the customer to reset the charging process.
- Once on the alignment screen, don't move the base pad further as this will cause the charger to stop the process before reaching full charge of the battery.
- If power supply to the Wall Box is interrupted then the charging process will be stopped and the customer will have to carry out the "foreign object detection" again.

## Parts Information

N/A

## Attachments

WCS Installation Manual

WCS Tablet Installer Manual

WiFi Range Extender Setup

# KA Update Information

19/03/2021 - First Release

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