

**Taycan: Troubleshooting DC Charging**

**Vehicles Affected**

Models	Model Year	Model Type	VIN Range	Vehicle-Specific Equipment
Taycan	As of 2020	Y1A	N/A	N/A
Taycan Cross Turismo	As of 2021	Y1B	N/A	N/A
Taycan Sport Turismo	As of 2022	Y1C	N/A	N/A

**Revision History**

Revision	Release Date	Changes
0	October 7, 2021	Original document
1	January 31, 2023	Revised Service Information; Revised Questionnaire with additional HV Fuse Case Data worksheet
2	November 6, 2023	Revised to only show relevant information for DC Charging

**Condition**

Duplication and diagnosis of customer DC charging complaints is difficult without detailed information from the customer. The following documentation aims to assist Porsche Center service and support personnel with relevant and necessary information to assist customers with DC charging complaints.

**Technical Background**

DC Charging complaints occur due to a wide range of issues. Root causes span from misunderstanding functions or user configurations to both internal and external hardware or software issues. Additional functionality (for example, Plug and Charge via ISO-15118) increases potential for breakage and complaints. For those reasons, extremely detailed documentation of customer complaints is necessary to assist duplication and diagnosis.

Service Information

Customers are encouraged to contact the Customer Contact Center directly via 1-800-PORSCHE for first-level, second-level, and immediate support of charging at home or on the road. The customer contact center is prepared to field customer requests and further clear important details in the event additional support discussions are necessary with other suppliers (for example, Electrify America customer care or Agero roadside service support). Customers are also able to contact charge point operators (CPOs) directly to request assistance starting a charging session. Electrify America Customer Assistance is available by calling 1-833-632-2778.

Porsche Center personnel may contact charging.support@porsche.us for assistance with the following equipment or systems:

- 24 kW Delta DC charger
- 50 kW BTC Power DC charger
- Porsche Charge Boxes
- Porsche Charging Pedestals
- Charge Point Management

NOTE: Porsche Centers with a "Turnkey" installation contract with ABM for AC and DC Charging installations should contact ABM directly for assistance.

ABM Contact Info: Phillip Volk (Phillip.Volk@abm.com), Brian Arvidson (brian.arvidson@abm.com),

Numerous information sources and documents are currently available to Porsche Centers.

- Troubleshooting Charging document with clickable PDF shortcuts (Figure 1), available via both PCSS (Taycan Information Media, WM group 99) and SoliD (Manuals & Guides)
- NOTE: This is a global document; not all contents apply to the North American Region (NAR)
- Charging Complaint Questionnaire, modified for North America Region --> see attached spreadsheet Troubleshooting Charging Questionnaire (Figure 2)

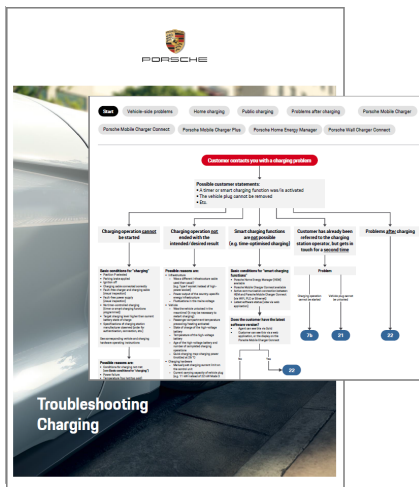


Figure 1

1. General Information on the Customer Complaint	
VIN	
Date and time of occurrence, with Time Zone	
Please provide the exact Customer Complaint, including as much detail as possible	
Were any NV messages displayed in the instrument cluster?	Please specify
Which charge port was used? (L or R/H)	
How long was the vehicle connected to the charger?	Days, Hours, Minutes, Seconds
Is Customer authorized?	
Was Home Access used and/or were any settings changed via Remote Access while the vehicle was plugged in?	Please specify
Was a navigation destination active when the vehicle started charging?	Y or N
Outside temperature at the time of the complaint	
How was the vehicle used before the complaint occurred (Commuter, day usage, or one-time charge)?	
VAL available in PCSS?	Please fill in the protocol time and date
FORMS Ticket #	
Porsche Relationship Contact Person	
For complaints with AC charging, complete section 2 below	
For complaints where DC Charging does NOT start, complete section 3 below	
For complaints with DC Charging Performance, complete section 4 below	
2. AC Charging	
Charging Power (Current setting or %) / Charging Voltage	Enter charging current or percentage, depending on charging power
Which charger was used?	Is 3rd party equipment used, please provide the details
Please specify the charging power or settings of 3rd party equipment if applicable	Please provide photos of the device
Are 1 and 2 (L or R) stored in the last memory of the Porsche charger?	Y or N - please fill in the fault codes below
Was a Timer, Profile, and/or pre-conditioning activated?	Please fill in the settings: Largest Charge % (Charging profile settings, other details), or provide a photo of the PCM settings
EV State of Charge (SOC) before charging	
What was shown on the lower display in the center console of the vehicle?	Y or N
What color and patterns did the charge port LED show before and after the issue?	
Charger Software Version, if known	
Charger Serial Number	
Did the customer use any kind of extension cable to charge?	Please specify
Was the wiring and/or hardware ever installed for this vehicle, or was existing wiring/hardware used?	
Is a Home Energy Manager (HEM) installed?	Please fill in the HEM equipment details and EV location and device settings
3. DC Charging Does Not Start	
Location Name, address, Address of DC Charger	
Charge Point Operator	Use the PlugShare App or www.PlugShare.com to report charging problem

Figure 2

- To open the attachment, download the pdf and click on the paperclip icon to the left of your Adobe Acrobat window. If the paperclip is not visible, pass your mouse pointer over the lower part of the Acrobat window and the Acrobat toolbar should appear as seen below (Figure 3). Click on the Acrobat icon on the far right to access the paperclip, then click on the paperclip to open the attachment.

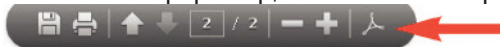


Figure 3

- **SoliD (Solution with integrated Diagnosis):** a PPN Online System available to Porsche Center personnel. It houses nearly all charging-relevant documents in addition to those found in PPN and PCSS. Contact your PPN Administrator if you need to request access to SoliD
- **Installation and Operating Manuals** are provided with charging hardware, are available via SoliD, and are available via [www.Porsche.com](http://www.Porsche.com).  
**NOTE:** separate operating manuals may exist for both Home User and Customer Service (For example, Web Application Home User (MCC\_HU 01-A) and Web Application Customer Service (MCC\_CS 01-A))
- **Service Information Technik (SIT) books** are a valuable source of information for service personnel. At the time of publication, separate SIT books exist for the initial model launch (2020 Taycan Turbo/Turbo S), 2020 Taycan 4S, and the 2021 Taycan.
- **PPN Portal --> AfterSales --> E-Performance** contains detailed information regarding all manner of charging in addition to processes, policies, and procedures
- The **Porsche.com e-performance page** provides customer-friendly Video Tutorials, Manuals, and Software assistance for AC charging hardware

**Tips**

- Customers who experience difficulty starting a charging session should **attempt charging with Plug and Charge Deactivated via the PCM** menu Home → Charging → Options[...] (Figure 4). (Applies to Model Year 2021 and later Taycan, or Model Year 2020 Taycan with a retrofitted 22kW On-Board Charger)

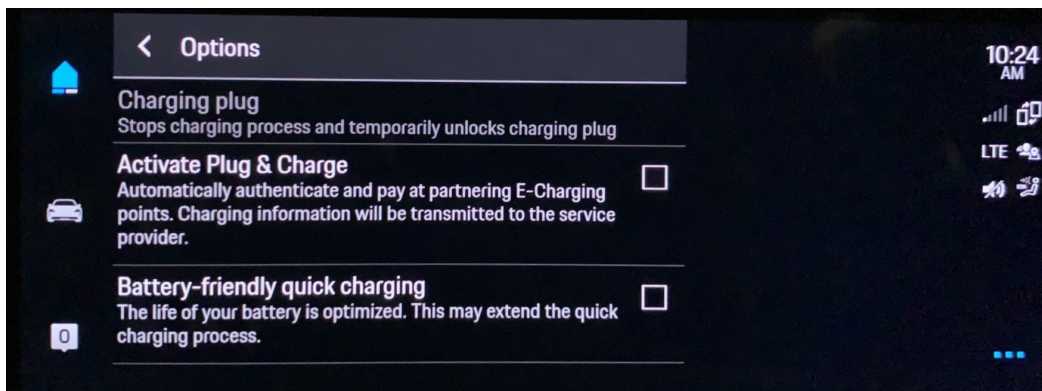
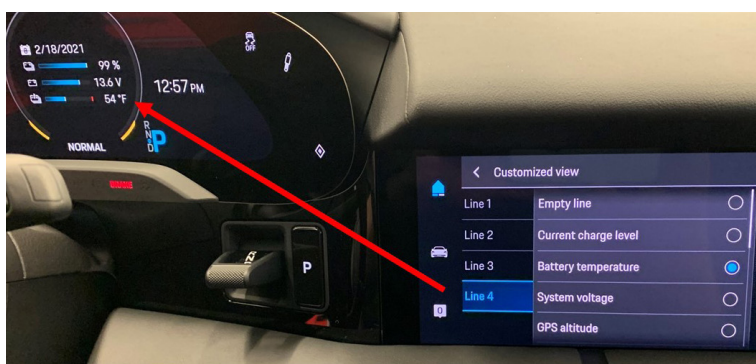


Figure 4

- **Customer charging complaints should be duplicated in the same manner reported by the customer.**  
For example, DC charging complaints should be checked with DC charging function tests.
- Customers not using Plug and Charge may find authenticating the session via smartphone immediately before plugging in the car to be beneficial (authenticate through the Charging NA App or the new My Porsche App, for example). This recommendation may differ from the instructions shown on a charging kiosk display.
- **DC Charging authentication**
  - Customers are able to authenticate [pay for] charging sessions multiple ways.
  - In the event of a DC charging authentication complaint, discuss the process in detail with the customer, using the attached Questionnaire as a guide.
- **DC Charging performance**
  - Charging performance, typically indicated by the kW delivered from the charger to the vehicle, depends upon numerous conditions. The most important conditions visible to the customer are:
    - 1) State of Charge of the HV Battery, and
    - 2) Temperature of the HV Battery
  - For example: to achieve the "5% to 80% SOC in 22.5 minutes" charging time stated in sales and marketing materials, the following conditions are required:
    - > A CCS DC fast charging station with > 270kW and > 850V
    - > A starting battery temperature range of 86° -95°F (30° -35°C)
  - The current calculated HV Battery Temperature can be displayed in the instrument cluster "Information" screen (Figure 5). Customers may wish to display this value and consider battery temperature for optimal charging performance.



In the PCM central display, Settings --> Vehicle Settings --> Displays --> Instrument Cluster --> Customized View

Figure 5

- For physical and chemical reasons, the charging speed decreases as the battery approaches its full capacity.
- Charging speeds over 80% state of charge are significantly slower and not recommended for daily use.
- For regular fast DC charging usage, Porsche recommends charging at 50kW stations.

- **Performance Battery Plus**, 93.4 kWh → standard in Taycan Turbo, Turbo S, and all Cross Turismo variants; optionally available in Taycan (RWD) and Taycan 4S
  - > Charges at a maximum rate of approximately **270 kW**
  - > The **"Battery friendly quick charging"** function limits DC Charging to an approximate max. **200 kW**
- **Performance Battery**, 79.2 kWh → Standard in Taycan (RWD) and Taycan 4S variants
  - > Charges at a maximum rate of approximately **225 kW**
  - > The **"Battery friendly quick charging"** function limits DC Charging to an approximate max. **170 kW**
- The Maximum Charging Performance chart (Figure 6) provides an indication of how hv battery temperature and SoC conditions at the start of a charging session affect the theoretical maximum charging rate of the Performance Battery Plus under ideal conditions.

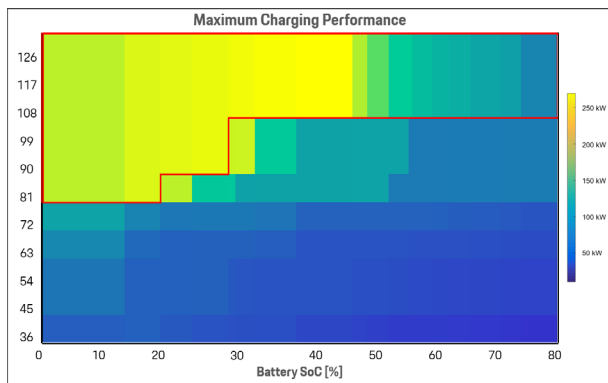


Figure 6

- At temperatures above 81°F, if the HV battery temperature falls below the red box at a given SOC, then the charging rate may be limited to the level below the red line – even if the temperature later rises above it again”
- The attached chart (Figure 7) provides an example of the theoretical maximum charge rate under ideal conditions (purple line) versus the **reduced maximum charge rate with Battery friendly quick charging activated** (mint green line).

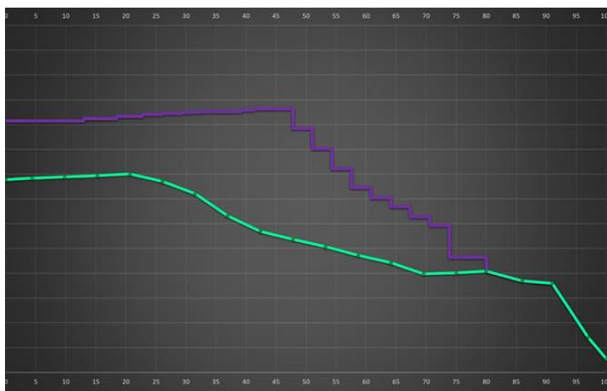


Figure 7

### Warranty

Warranty work must be documented per standard policies and procedures.

### Search Items

Taycan, charge, charging, On-board charger, OBC, plug and charge, pnc, quick charging, DC, Electrify America,

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