

Technical Disclosure Commons

Defensive Publications Series

March 2022

POSSIBILITY OF IDENTIFYING AND DISPLAYING CHARGING CABLES CARRIED IN AN ELECTRIC VEHICLE

Axel Unger
Bertrandt Ingenieurbüro GmbH

Follow this and additional works at: https://www.tdcommons.org/dpubs_series

Recommended Citation

Unger, Axel, "POSSIBILITY OF IDENTIFYING AND DISPLAYING CHARGING CABLES CARRIED IN AN ELECTRIC VEHICLE", Technical Disclosure Commons, (March 28, 2022)
https://www.tdcommons.org/dpubs_series/5024



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

POSSIBILITY OF IDENTIFYING AND DISPLAYING CHARGING CABLES CARRIED IN AN ELECTRIC VEHICLE

Initial situation:

In order to charge electric vehicles today, one or more charging cables are required for the charging process. These are carried in the vehicle and used accordingly at the charging stations or charging points.

Disadvantage:

The charging cables can also be removed from the vehicle by the user if necessary and are then no longer in the vehicle (as they are not permanently installed on the vehicle). When one then arrives at a charging station, the corresponding cable may be missing and the charging process cannot be carried out.

Solution:

The core of the idea is to identify the corresponding charging cables for the vehicle and to indicate their presence in the vehicle. Preferably, this query is carried out automatically before the start of each journey and, if necessary, the driver is informed about the "missing cable".

To do this, a process of identification/registration of the charging cables in the vehicle is necessary beforehand (cf. key recognition for vehicle - keyless).

This can be done manually by the vehicle manufacturer, vehicle dealer or by the customer.

Of course, this process can also be carried out automatically.

There are different variants for the identification of registered charging cables:

Variant 1: The vehicle uses an appropriate technology (e.g. RFID chip) to check whether the charging cables are in the vehicle before the start of the journey.

If they are present, the customer can start the journey and does not need to be informed.

If they are not in the vehicle, the driver must be informed.

Monitoring by means of sensors in the storage compartment for the cables or a corresponding camera would also be possible here.

The sensors could be contact sensors or pressure sensors (weight detection).

Variant 2: Variant 1 with the option of detecting that a foreign charging cable is in the vehicle.

If there is a foreign (unidentified or unregistered) charging cable in the vehicle, the customer should also be informed of this.

It may even be possible to inform the customer to which vehicle the charging cable could be assigned.

Variant 3: The vehicle checks whether there are several registered charging cables (different providers) in the vehicle. It should check whether the number X (previously determined by the vehicle dealer or customer) is present.

In the event of one or more deviations, the customer should also be informed.

Additional charging cables can be subsequently taught/recognised or removed.

Further variants are conceivable.

Advantages:

- This function in the vehicle ensures for the customer that the charging cables for the electric vehicle are present in the vehicle (during the journey).
- This rules out the possibility that the charging cables would be missing during the journey and the customer would not be able to charge at the next destination.
- Convenience gain for the customer.

Technical implementation:

- Equipping the vehicle with the function of charging cable recognition or registration;
- Charging cables must be equipped with corresponding technology;
- Control unit for processing the information with corresponding software;
- Output of information via voice and/or image to the customer in the vehicle and/or mobile phone.