

## Installation and Operating Manual

Charging station electrify eSat  
for Electric and Hybrid Vehicles

Type: r20 Public

Version: 04.2024





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#### Abbreviations Used

|         |                                      |
|---------|--------------------------------------|
| TEC     | Type Examination Certificate         |
| eCC App | electrify Charge Control App         |
| eCCP    | electrify Charge Control Protocol    |
| eLMS    | electrify Charging Management System |
| ePP     | electrify Partner Portal             |
| OCPP    | Open Charge Point Protocol           |

# 1 General Information

## 1.1 Introduction

Thank you for choosing the electrify eSat charging station by hesotec electrify. With hesotec electrify, e-mobility is no longer a thing of the future – it is a reality.

By investing in the electrify eSat, you are choosing cutting-edge technology, combined with sophisticated design and robust compactness. Thanks to its modular and scalable construction, it enables not only stylish home charging but also provides customized all-in-one solutions for businesses.

The charging unit complies with all current safety regulations and standards.

Please read this installation and operating manual carefully before starting installation and commissioning. Keep this manual in a safe place for future reference.

## 1.2 Supplementary Technical Information and Additional Documents

To support you during installation and operation, this manual includes references to additional information and documents, which are available on our website or as downloadable PDF files. To view PDF files on a smartphone, tablet, or computer, you will need the free Adobe Acrobat Reader or a compatible application.

For personalized configuration and system management, you will need the electrify Charge Control App (eCC App). Further information and the quick guide for the app can be found here:



Quick Guide (PDF file)

<https://electrify.hesotec.de/download-files/ecc-app/hesotec-electrify-ecc-app-quick-guide-en.pdf>



Product page eCC App

<https://electrify.hesotec.de/en/products/ecc-app>

Optionally, you can register with the cloud-based electrify Charging Management System (eLMS) to manage additional evaluations and configuration settings. Information and a direct link to the eLMS can be found here:



electrify Charging Management System

<https://elms.hesotec.de/en>



Product page eLMS

<https://electrify.hesotec.de/en/products/elms>

The device ID is included in the delivery and contains all essential information about your charging unit.



**DE Gerätepass**  
**DK Enheds pas**  
**EN Device ID**  
**ES Identificación del dispositivo**  
**FI Laitetunnus**  
**FR ID de l'appareil**  
**IT ID dispositivo**  
**NL Apparaat-ID**  
**NO Enhets-ID**  
**PL Identyfikator urządzenia**  
**PT Identificação do dispositivo**  
**RU Идентификатор устройства**  
**SE Enhets-ID**

**DE**  
 Bewahren Sie dieses Dokument gut auf. Die aufgeführten Informationen enthalten unter anderem Benutzernamen und Passwort Ihres electrify Ladepunktes. Sie dienen der eindeutigen Identifikation zum Aufbau einer gesicherten Kommunikation mit den von Ihnen autorisierten Geräten und Applikationen. Bei Verlust dieser Daten wenden Sie sich bitte an die hesotec electrify gmbh.

**DK**  
 Opbevar dette dokument på et sikkert sted. De anførte oplysninger inkluderer brugernavn og adgangskoden til dit elektrificerende ladepunkt. De bruges til klar identifikation til at etablere sikker kommunikation med de enheder og applikationer, der er godkendt af dig. Hvis disse data mistes, skal du kontakte hesotec electrify gmbh.

**EN**  
 Keep this document in a safe place. The listed information includes the user name and password of your electrify charging point. They are used for unique identification to establish secure communication with your authorised devices and applications. If you lose this data, please contact hesotec electrify gmbh.

**eSat r10 / Base / 11kw / 1.4301**  
 Serial 1234567890123

Charging point

Access data

**Login ecc App**

Hotspot • SSID: SSID\_ESAT\_XXXX  
 • Password: 1234567890123

General • User: USER  
 • Password: 0000

**Registration key eLMS**  
 • Schlüssel: 15000001

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Example of a Device ID

### 1.3 Intended Use

The eSat r20 Public is specifically designed for commercial applications and public charging infrastructure. It can be operated as a stand-alone unit or as part of a group installation. The Public DE variant additionally meets all requirements of German calibration law (Eichrecht).

### 1.4 Information in This Document

This installation and user manual describes the installation, configuration, and commissioning of the charging unit. We recommend that the electrical installation, configuration, and commissioning be carried out by a qualified electrical company. Further personalised charging point and application settings can subsequently be performed by the charging point operator/owner or the installer.

Target audience identification in this document:



Qualified Electricians / Technical Personnel



Charging Point Operators / Owners



End Users / Drivers

## 2 Important Information and Safety Instructions

### 2.1 Safety Instructions for Transport



Improper transport may cause packages to fall or tip over, potentially resulting in serious personal injury or property damage. For this reason, please observe all cargo safety regulations during transport. Always transport the goods in their original packaging only.

### 2.2 General Safety Instructions



To ensure proper installation and safe operation, safety instructions outlined in this manual must be followed. Improper handling or failure to observe these safety instructions may result in damage to the device, serious injury, fire, or even death.

Installation, commissioning, and maintenance of the electrify eSat must only be carried out by a qualified electrical company. The charging unit may only be operated after a technically sound installation and subsequent inspection and approval. Malfunctions and repairs that could lead to injury, damage to the unit itself, or to other connected devices must only be performed by qualified professionals.

In the event of malfunctions or issues suspected to be due to installation errors, please first contact the company that performed the installation. If the issue cannot be resolved, contact the hesotec electrify service hotline:

Phone +49(0) 2064 / 60 105 – 60

Mail [electrify@hesotec.de](mailto:electrify@hesotec.de)

hesotec electrify accepts no liability for personal injury or property damage resulting from the following:

- Failure to observe the installation and user manual
- Installation by unqualified personnel
- Structural modifications to the charging station
- Unauthorised changes to the charging controller configuration
- Improper handling
- Use of unauthorized spare parts or accessories

## 2.3 Safety Instructions in This Manual



This manual contains essential instructions for the installation and commissioning of the electrify eSat charging station by hesotec electrify. The following safety instructions must be read carefully and strictly followed.

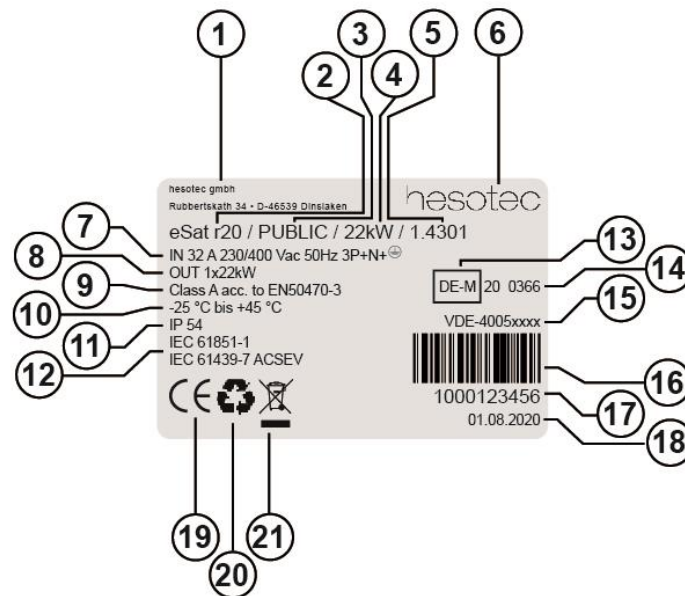
All warning notices included in this installation and user manual must be observed with particular care. The meaning of each safety symbol used in this manual is explained below:

| Symbol                                                                              | Description                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p><b>DANGER !</b></p> <p><b>Safety notice regarding a hazard due to electrical voltage</b></p> <p>Failure to observe these instructions may result in damage to the device, serious injury, or death caused by electric shock.</p>        |
|    | <p><b>CAUTION !</b></p> <p><b>Safety notice indicating a potential hazard</b></p> <p>Failure to follow these instructions may result in damage to the device or other connected equipment. Proceed with particular care and attention.</p> |
|  | <p><b>NOTE !</b></p> <p><b>Important information and special considerations</b></p> <p>For successful operation, the instructions should be followed as required.</p>                                                                      |

### 3 Product Overview and Dimensions

This chapter provides an overview of product information along with the necessary dimensions to support optimal planning and preparation.

#### 3.1 Nameplate



|   |                          |    |                                         |    |                                               |
|---|--------------------------|----|-----------------------------------------|----|-----------------------------------------------|
| 1 | Manufacturer Information | 8  | Output Data                             | 15 | Type Examination Certificate Number (BMP No.) |
| 2 | Series and Model         | 9  | Accuracy Class                          | 16 | Barcode (Serial No.)                          |
| 3 | Equipment Type           | 10 | Operating Temperature                   | 17 | Serial Number                                 |
| 4 | Maximum Charging Power   | 11 | Protection Class                        | 18 | Manufacturing Date                            |
| 5 | Material                 | 12 | Standards                               | 19 | CE Marking                                    |
| 6 | Manufacturer Logo        | 13 | Metrology Marking                       | 20 | Recycling Information                         |
| 7 | Input Data               | 14 | Notified Body for Conformity Assessment | 21 | Disposal Instructions                         |



#### NOTE !

##### Important information and special considerations

Charging points compliant with German calibration law are marked with "DE" at the end of the article number. On the nameplate, the **BMP number (VDE-4005xxxx)** is only listed for **calibration law-compliant** charging points.

### 3.2 Scope of Delivery

|                                                        |    |
|--------------------------------------------------------|----|
| eSat r20 Public charging station (depending on design) | 1x |
| Mounting frame incl. installation manual               | 1x |
| Fastening kit (screws)                                 | 1x |
| Special bit for retaining screws                       | 1x |
| RFID cards                                             | 2x |
| Service RFID card                                      | 1x |
| Quick installation and user guide                      | 1x |
| Device ID                                              | 1x |



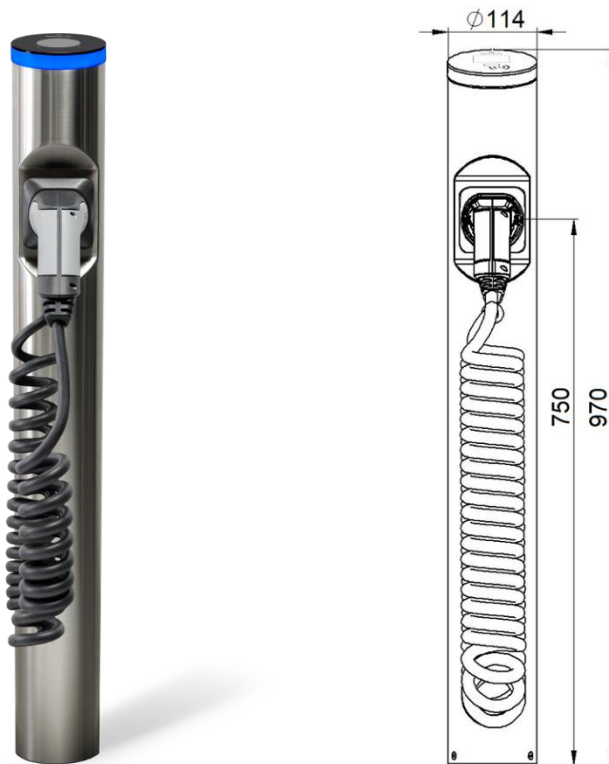
#### **NOTE !**

##### **Important information and special considerations**

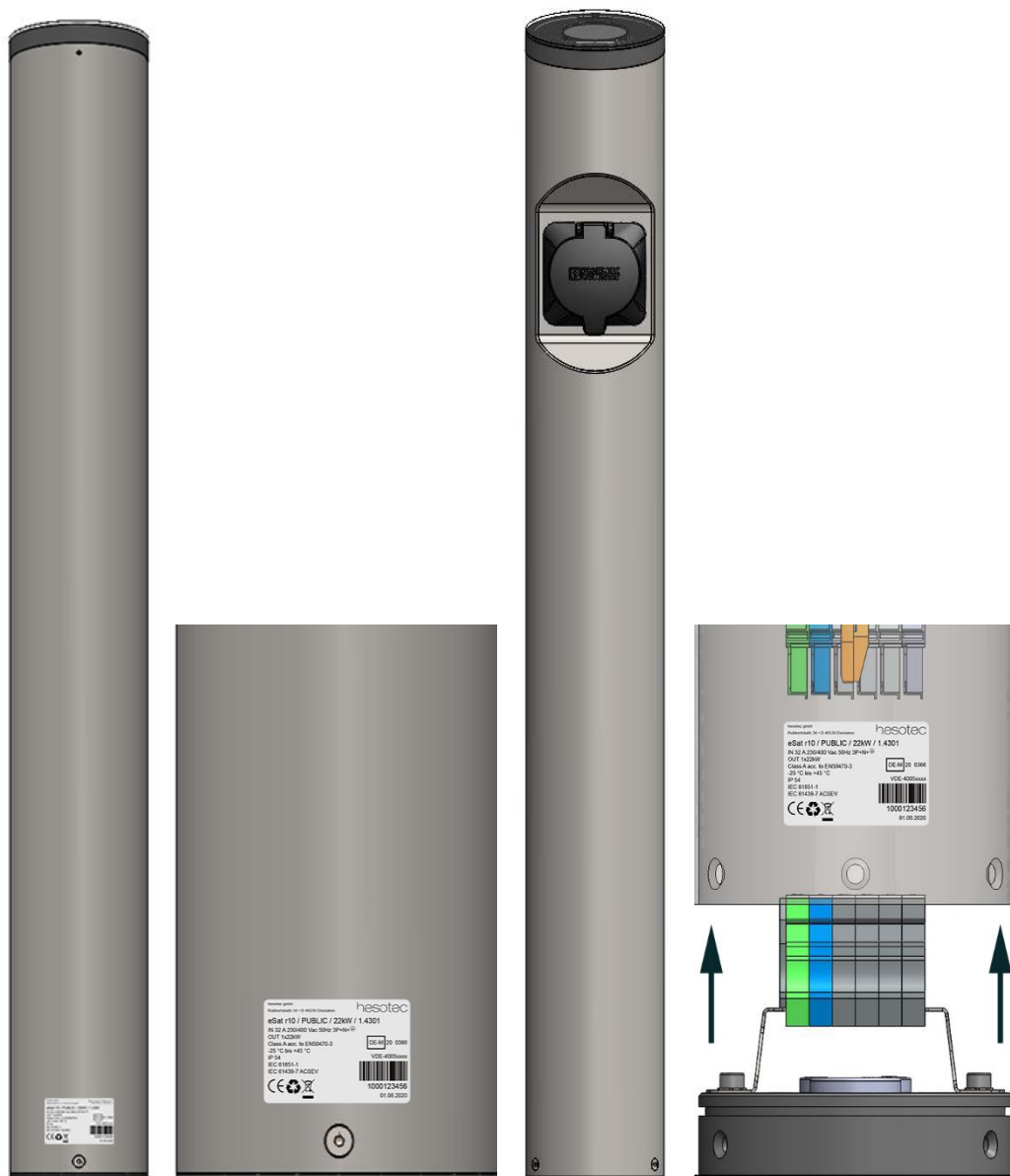
Please keep the device ID in a safe place. It contains important information, including the username and password of your electrify charging point. These credentials are required for secure communication with devices and applications authorised by you. In case of loss, please contact hesotec electrify GmbH.

### 3.3 Charging Unit eSat r20

The electrify eSat charging station you have purchased is delivered fully assembled and has passed a comprehensive quality inspection. To complete the installation, only a fused power supply line is required between the building's main distribution board and the charging station. For a stable network connection, we also recommend the installation of a dedicated network cable. Please refer to the technical specifications for the exact requirements of the power connection.



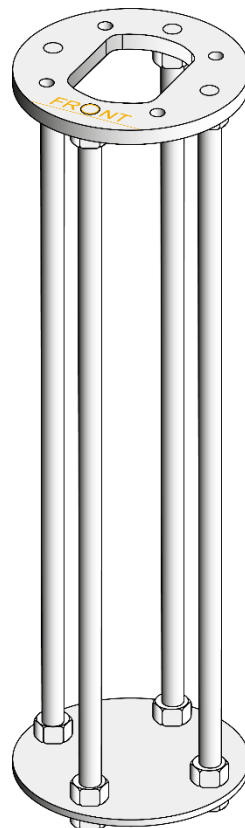
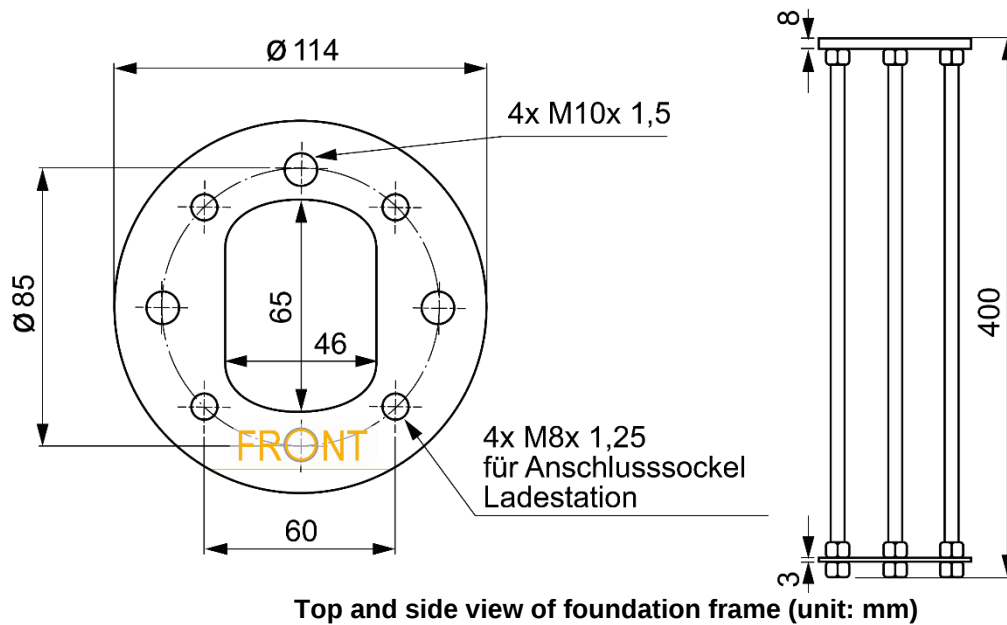
electrify eSat r20 charging station, left: 3D model; right: Dimensions (Unit: mm)



Type plate position: 1x on the outside, and 1x copy inside the housing

### 3.4 Foundation Frame (Accessory) Item No. 00010033

For the construction of a solid and secure base for mounting the charging station, we recommend using the included foundation frame, which is to be embedded in concrete. Predefined mounting points simplify the installation of the charging station. The height can be adjusted upon request.



3D view of the foundation frame

### 3.5 Technical Specifications

#### eSat r20 Public 11kW / 22kW

| Vehicle Connection (Output)             |                                                 |
|-----------------------------------------|-------------------------------------------------|
| 1 x Type 2 charging plug (spiral cable) | 20 A* / 32 A, approx. 4 m length                |
| Output voltage                          | 400 V, 3-phase                                  |
| Maximum charging current                | 16 A* / 32 A                                    |
| Maximum charging power                  | 11 kW * / 22 kW                                 |
| Disconnection                           | All-pole                                        |
| Components                              |                                                 |
| DC residual current detection           | electronic, $I_{\Delta n}$ d.c. $\geq 6$ mA     |
| Contactor                               | 4-pole with contact monitoring                  |
| Protection class                        | IP54                                            |
| Energy meter                            | MID-compliant (calibrated)                      |
| Color display                           | 2,1 inch; 480x480 px                            |
| Communication                           |                                                 |
| Interface                               | WLAN, LAN                                       |
| Communication                           | eCCP, OCPP 1.6J, Modbus TCP                     |
| Authorisation                           | eCC APP, RFID                                   |
| Management                              | eCC APP, Charging management system (eLMS)      |
| Power Supply Requirements               |                                                 |
| Power connection                        | 5 x 4 mm <sup>2</sup> * / 5 x 6 mm <sup>2</sup> |
| Nominal voltage                         | 400 V AC, 3 phase +N, -20% +15%                 |
| Nominal current                         | 16 A* / 32 A                                    |
| Protection                              | 20 A* / 32 A, 3-pole, characteristic B          |
| AC residual current detection           | RCD, Typ A, 30mA                                |
| Dimensions                              |                                                 |
| Height                                  | 970 mm                                          |
| Diameter                                | 114 mm                                          |
| Parking socket (height / center)        | 750 mm                                          |

\*) Technical specifications for a maximum charging power of 11 kW

## 4 Installation

### 4.1 Requirements for the Installation Site of the Charging Station

**DANGER !****Safety notice regarding electrical hazards**

Ensure proper installation. Failure to comply with the requirements may result in a risk of electrical hazard.

The electrify eSat charging station is designed for both outdoor and indoor use. For the installation of the charging unit, regulations regarding the installation site must be ensured. Only then can safe operation be guaranteed.

The following requirements must be met:

- No installation in flood-prone areas.
- No installation in areas at risk of explosion.
- Sufficient distance from other technical equipment.
- Choose the installation location so that the charging station is easily accessible from the parked vehicle (the charging cable must not be under voltage during charging operation!).
- No direct exposure to spray water.
- Ambient temperature between -25 °C and 45 °C.
- Relative humidity between 5% and 90%.
- For the installation of low-voltage systems, requirements according to IEC 60364-1 and IEC 60364-5-52 must be followed.
- To withstand mechanical stress, the mounting surface must be designed to have sufficient strength.
- Ensure an adequately dimensioned power supply cable. Note that the cable dimensioning should not exceed the cable duct clearance of the base (information on the power connection: See technical specifications).

**NOTICE !****Important information and special considerations**

Avoid installing in a cluttered area to prevent unnecessary damage to the charging station.

When placing the charging station, ensure that it is not in an area where it could be driven around by the vehicle to be charged. If necessary, install a bumper guard. Also, avoid placing it near driveways or entrances/exits. Position the charging station in a way that does not restrict access for emergency vehicles.

## 4.2 Construction of the Charging Station Foundation



### Notice !

#### Important information and special considerations

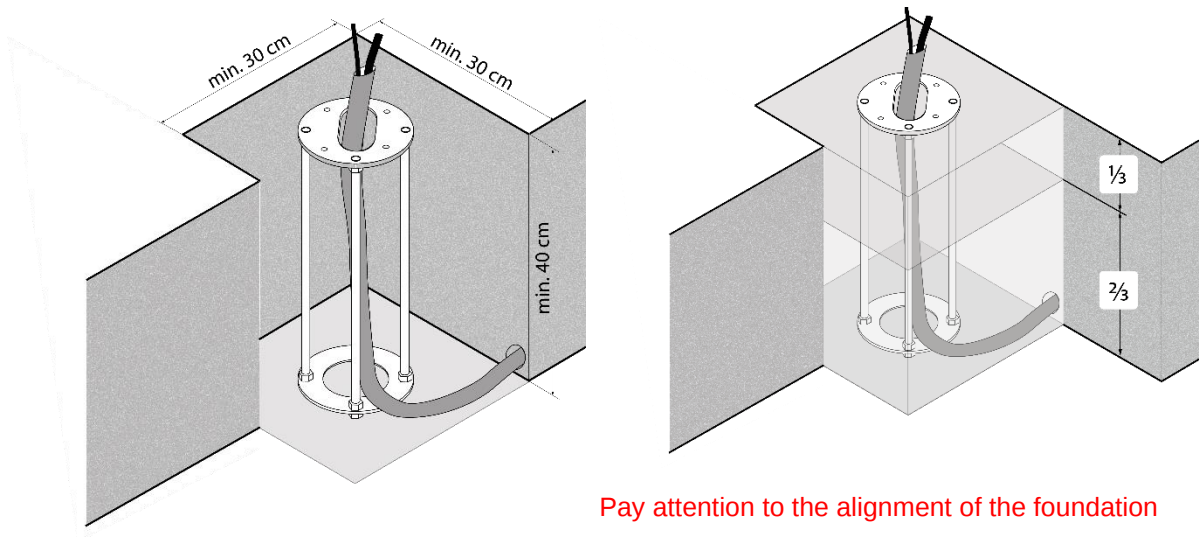
For secure and stable installation of the charging station, the "foundation frame" accessory from hesotec electrify is recommended.



### DANGER !

#### Safety notice regarding electrical hazards

Ensure that the power supply line is de-energised at the time of foundation construction. Failure to follow this safety instruction may result in a life-threatening electrical hazard.



Pay attention to the alignment of the foundation frame! See foundation frame installation manual.

### Foundation Construction with the "Foundation Frame" Accessory

After excavating the ground, formwork must be installed around the foundation area. Then, insert the foundation frame and guide a conduit through the designated opening. To align the foundation frame correctly, refer to the front marking located on the mounting plate.

Next, route the power supply cable through the conduit, leaving a sufficient length above ground level. Level the foundation frame and ensure that the foundation plate is flush with the ground surface. Then, fill the lower two-thirds of the foundation with concrete of class C30/25 and allow it to cure. The remaining one-third should be filled with shrink-free concrete so that the foundation plate rests firmly on top. Once the concrete has fully cured, installation can proceed.

## 4.3 Installation of the Charging Station



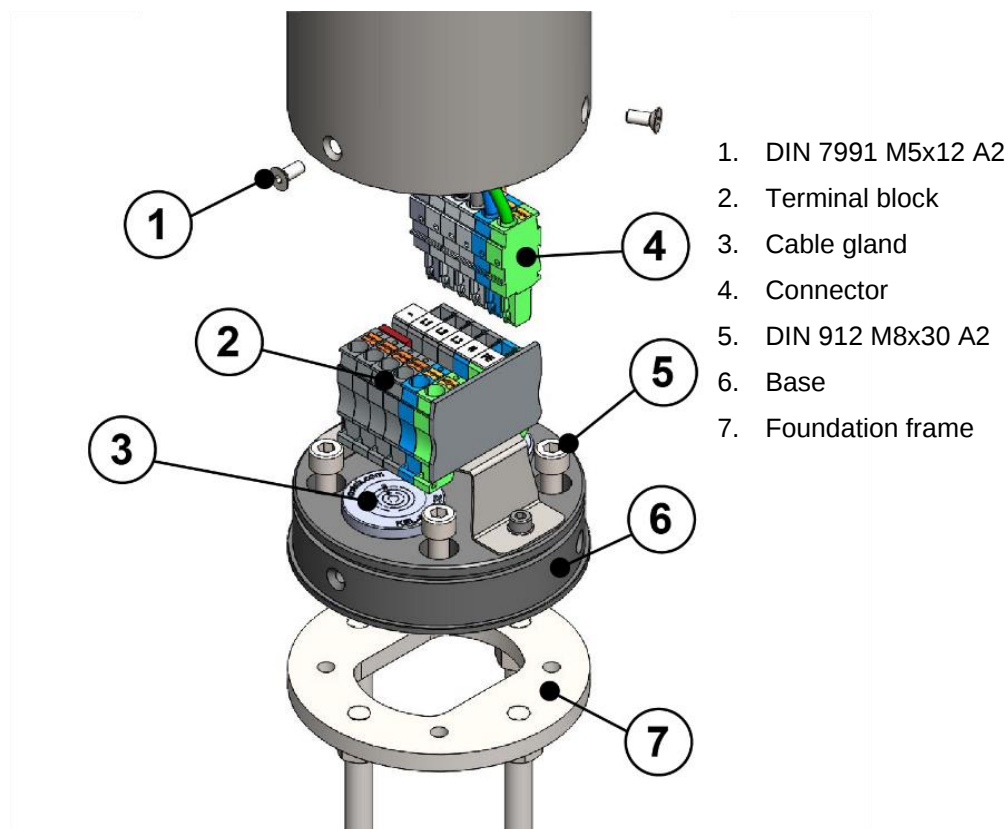
|  |                                                                                                                                                                                                                                                           |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><b>DANGER !</b></p> <p><b>Safety notice regarding electrical hazards</b></p> <p>Ensure that all cables are de-energized at the time of installation. Failure to follow this safety instruction may result in a life-threatening electrical hazard.</p> |
|  | <p><b>NOTICE !</b></p> <p><b>Important information and special considerations</b></p> <p>When placing the charging station onto the base, there is a risk of cuts or pinching injuries. Work carefully and wear protective gloves.</p>                    |

The installation of the electrify eSat charging station must only be carried out by qualified personnel. Please refer to the respective subsections for the installation steps. **Ensure that all cables are de-energised at the time of installation!**

### 4.3.1 Installation with the "Foundation Frame" Accessory



The electrify eSat charging station is pre-assembled at the factory. To install the charging station in combination with the "foundation frame" accessory, proceed as follows:



#### Installation in Combination with Foundation Frame

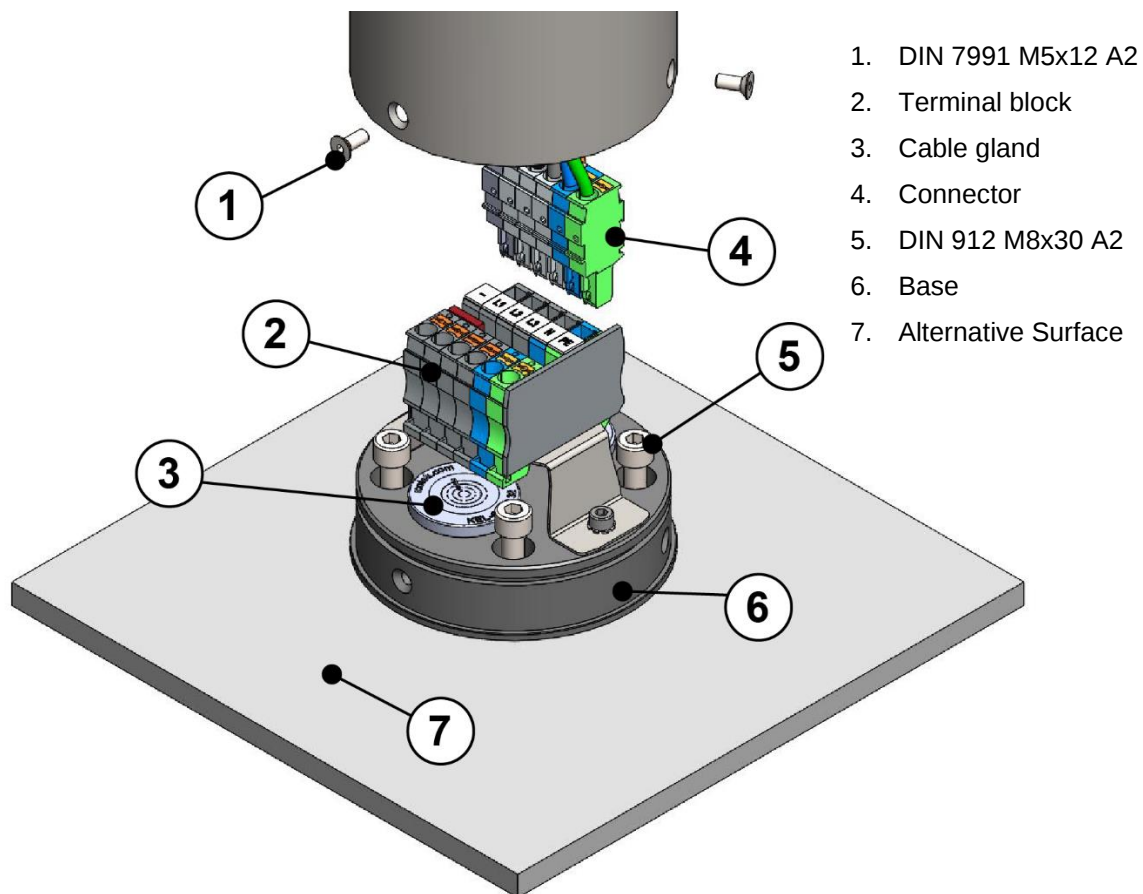
1. First, loosen the 3 side screws (Pos. 1) at the bottom of the charging station.
2. Then, carefully pull the black base (Pos. 6) out of the charging station.

3. Route the power supply cable through the cable gland (Pos. 3) of the base and secure it to the pre-concreted foundation frame (Pos. 7) using the screws provided (Pos. 5).
4. Before screwing the charging station onto the base, please read the section "4.4.1 Electrical Installation of the Charging Station."
5. After the successful electrical installation, place the charging station onto the base and fasten it with the 3 side screws (Pos. 1).

### 4.3.2 Installation on an Alternative Surface



The electrify eSat charging station is pre-assembled at the factory. To install the charging station on an alternative surface, proceed as follows:



#### Installation on an Alternative Surface

1. First, loosen the 3 side screws (Pos. 1) at the bottom of the charging station.
2. Then, carefully pull the black base (Pos. 6) out of the charging station.
3. Place the base on the existing foundation (Pos. 7) and align it.
4. Mark the mounting points of the base on the foundation (Pos. 7).
5. Drill the previously marked holes ( $\varnothing$  10 mm). Use the supplied mounting kit for installation. Ensure that the fixing dowels are recessed into the foundation and do not protrude above it.

6. Route the power supply cable through the cable gland (Pos. 3) of the base and secure it using the screws provided (Pos. 5).
7. Before fastening the charging station to the base, please read the section "4.4.1 Electrical Installation of the Charging Station."
8. After successful electrical installation, place the charging station onto the base and fasten it with the 3 side screws (Pos. 1).

**WARNING !****Safety notice regarding hazards**

Ensure that the foundation has adequate strength. Failure to follow this instruction may result in damage to the device itself or to other consumers.

## 4.4 Electrical Installation



|  |                                                                                                                                                                                                                                               |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>DANGER !</b><br><br><b>Safety notice regarding electrical hazards</b><br><br>Ensure that all cables are de-energized at the time of installation. Failure to follow these instructions may result in a life-threatening electrical hazard. |
|  | <b>WARNING !</b><br><br><b>Safety notice regarding hazards</b><br><br>Failure to follow these instructions may result in damage to the device itself or to other equipment. Perform the installation with particular care!                    |
|  | <b>NOTICE !</b><br><br><b>Important information and special considerations</b><br><br>The electrician is responsible for the proper installation, testing, and reporting to the network operator.                                             |

The electrical installation of the charging station must only be carried out by qualified personnel. During electrical installation, ensure that the cables are not damaged or crushed. Such damage could impair functionality, cause defects, or even lead to a fire during later use.

In the following table, you will find the wiring diagram for the connection between the supply cable (bottom side) and the cables of the charging unit, including the function description.

| Supply Cable (Bottom Side) |                            | Terminal Block | Charging Unit |                                             |
|----------------------------|----------------------------|----------------|---------------|---------------------------------------------|
| Colour                     | Function                   | Label          | Colour        | Function                                    |
| -                          | -                          | LR             | Black         | Phase for power supply / charger controller |
| Brown                      | Phase 1                    | L1             | Brown         | Phase 1                                     |
| Black                      | Phase 2                    | L2             | Black         | Phase 2                                     |
| Grey                       | Phase 3                    | L3             | Grey          | Phase 3                                     |
| Blue                       | Neutral conductor          | N              | Blue          | Neutral conductor                           |
| Green/Yellow               | Protective earth conductor | PE             | Green/Yellow  | Protective earth conductor                  |

### Wiring Diagram – Terminal Block electrify eSat r20

|  |                                                                                                                                                                               |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>NOTICE !</b><br><br><b>Important information and special considerations</b><br><br>Refer to the technical data sheet in Chapter 3.5 for the power connection requirements. |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### 4.4.1 Electrical Installation of the Charging Station

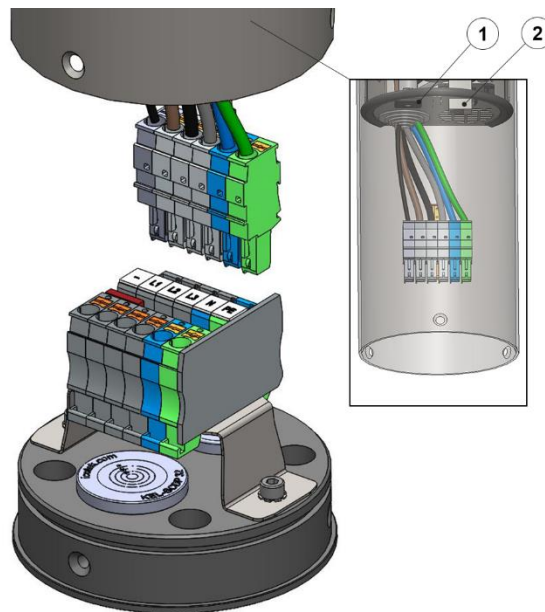


The electrify eSat charging station is pre-assembled and electrically wired at the factory. Only the supply cable needs to be connected to the terminal base.

To carry out the electrical installation of the charging station, proceed as follows:

1. Connect the 5-core supply cable coming from the ground to the terminal block according to the terminal labeling (L1, L2, L3, N, PE).
2. Insert the plug coming from the charging station into the terminal block.

**Note:** The LAN port (Pos. 2) and the resettable circuit breaker (Pos. 1) are located inside the charging station.



Wiring of the electrify eSat Charging Station



##### Notice !

##### Important information and special considerations

The LR line is protected by the resettable circuit breaker with a 12 A rating.

## 4.5 Advanced Configuration



Your electrify charging station is delivered preconfigured from the factory. Using the electrify Charge Control App (eCC) for Android/iOS or the cloud-based electrify Load Management System (eLMS), you can perform additional settings and evaluations.

If the charging point is preconfigured for an OCPP backend, only the configuration, monitoring, and billing options provided by that backend will be available.

All Hesotec electrify charging solutions can be integrated with various backend providers via OCPP 1.6J. To enable the necessary settings, certain preparations must be completed in advance.



### NOTICE !

#### Important information and special considerations

Access possible only with technician credentials!

### 4.5.1 Partner Portal



We **recommend** registering in our electrify Partner Portal. After successful verification as an installer or distributor, you will gain access to a wide range of materials, such as installation manuals, sales documents, and much more.

<https://electrify.hesotec.de/partner>

### 4.5.2 electrify Charging Management System (eLMS)



A technician access is mandatory for integration into an external backend via OCPP. Please register in our electrify Load Management System at:

<https://elms.hesotec.de>

After successful registration, please contact us to activate your technician access.

**Note: Technician access is granted only to qualified personnel/installers!**



### Notice !

#### Important information and special considerations

For instructions on activating technician access in the eCC app and integrating the charging station into an external backend, please refer to the manual: **Ocpp 1.6J Integration Hesotec Charging Solutions.**

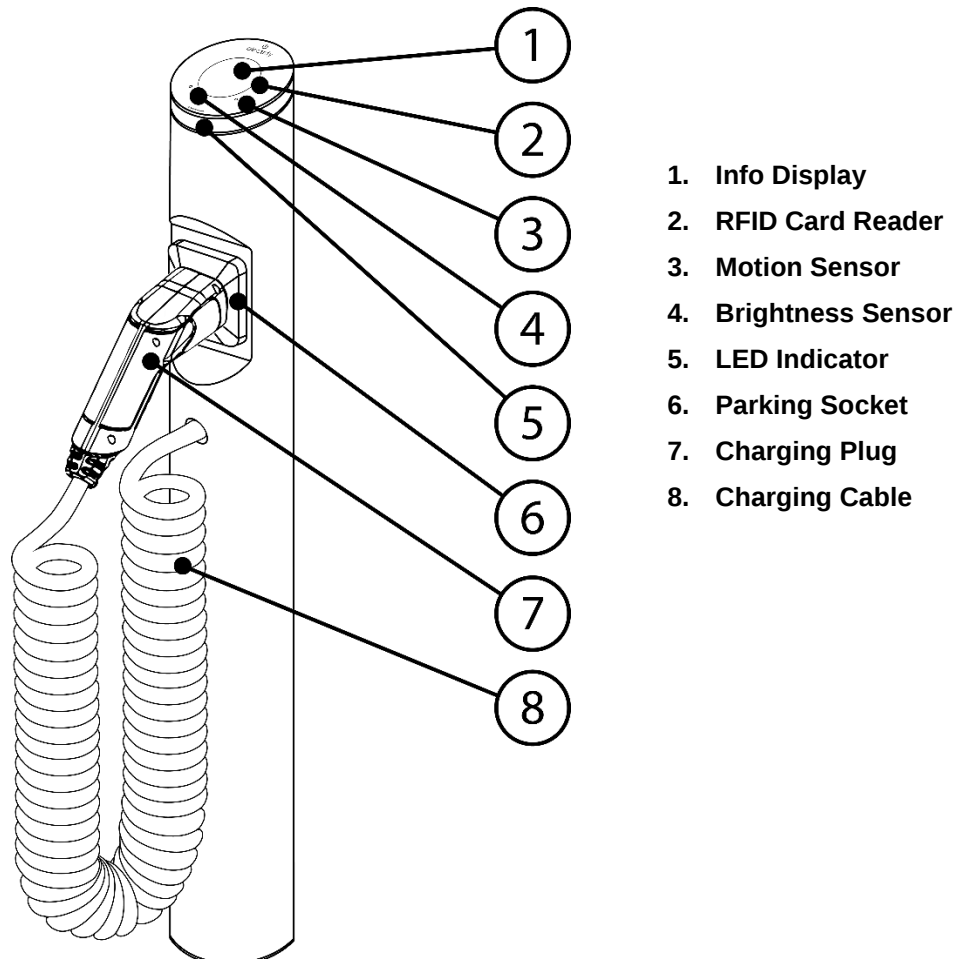
## 5 Operation



Local safety regulations of the country in which you operate the product apply to the use of electronic devices.

### 5.1 Controls

The following graphic shows the main control elements of the electrify eSat r20 charging station:



Control Elements of the electrify eSat Charging Station

### 5.2 Info Display

The info display shows current status information. It only displays data and cannot be altered by the user. The display updates every second. No further user interaction is possible.

### 5.2.1 Display – Ready for Operation

If no charging process is active, the following information is displayed:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Advertising/Information banner; configurable via the manufacturer's server
- EVSE ID: Identification number of the charging station

### 5.2.2 Display – Authorisation Successful (No EV Connected)

If authorisation in Mode A was successful, the following information is displayed:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Text field:  
Authorisation successful  
Please connect your vehicle to the charging station
- Icon
- EVSE ID: Identification number of the charging station

### 5.2.3 Display – Waiting for Authorisation (EV Connected)

During the wait for authorisation, the following information is displayed:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Text field:  
Vehicle successfully connected  
Please authorise yourself
- Icon
- EVSE ID: Identification number of the charging station

## 5.2.4 Display – Authorisation Successful

If the authorisation was successful, the following information is displayed:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Text field:  
Authorisation successful  
Charging process starting
- Icon
- EVSE ID: Identification number of the charging station

## 5.2.5 Display – Authorisation Failed

If the authorisation fails, the following information will be displayed:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Text field:  
Authorisation declined  
Please try again
- Icon
- EVSE-ID: Identification number of the charging station

## 5.2.6 Display – Charging

### 5.2.6.1 Public Key

During the charging process, the following information is displayed for **6 seconds**:



- Date in format DD.MM.YYYY
- Time in format hh:mm:ss
- Text field:  
Public key
- Icon
- EVSE ID: Identification number of the charging station

### 5.2.6.2 Charging Data

During the charging process, the following information is displayed for **6 seconds**:



- Date in format DD.MM.YYYY
- Time in format hh:mm:ss
- Status text:  
„Charging active“, „Charging paused“
- Charge ID of the current charging session
- Start date in format DD.MM.YYYY and time in format hh:mm:ss
- Meter reading at start in kWh with 3 decimal places
- Energy charged in kWh with 3 decimal places
- Duration in hh:mm:ss format
- EVSE-ID: Identification number of the charging station

### 5.2.7 Display – Charging Completed

When the charging session has ended, the following information is displayed for **30 seconds**:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Status text:  
“Charging completed”
- Charging ID of the completed session
- Start date in the format DD.MM.YYYY and start time in the format hh:mm:ss
- Meter reading at start in kWh with 3 decimal places
- Energy charged in kWh with 3 decimal places
- Duration in hh:mm:ss format
- EVSE-ID: Identification number of the charging station

### 5.2.8 Display – Tariff Information

If ad-hoc charging is active, this display alternates between showing the information during charging and in standby mode:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Text field:  
Tariff information  
Ad hoc charging  
Free text from manufacturer/operator (tariff information)
- Icon
- EVSE-ID: Identification number of the charging station

## 5.2.9 Display – Update

If the charging station is in Mode A during the update process, the following information will be displayed:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Text field:  
*Update is being installed!*  
*Please wait.*
- Icon
- EVSE-ID: Identification number of the charging station

## 5.2.10 Display – Locking Failed

If the vehicle locking fails, the following information will be displayed:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Text field:  
*Locking failed*  
*Please check the cable connection*
- Icon
- EVSE-ID: Identification number of the charging station

## 5.2.11 Display – Error

If an error occurs, the following information will be displayed:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Text field:  
*Charging station out of service*  
*Please contact the operator*
- Icon
- EVSE-ID: Identification number of the charging station

## 5.2.12 Display – Communication Error

If a communication error occurs, the following information is displayed:



- Date in the format DD.MM.YYYY
- Time in the format hh:mm:ss
- Text field:  
"A communication error has been detected  
The displayed measurement values may deviate."
- EVSE-ID: Identification number of the charging station

## 5.2.13 Display – Legal Calibration Logbook

This display can only be activated with the service RFID card.



When holding the service RFID card to display the legally compliant calibration logbook, this view opens for 30 seconds. A maximum of the last 7 entries are shown. Each time the RFID card is scanned again, up to 7 older entries are displayed. If the oldest entries are already shown, the last display remains unchanged. If a log entry is too long and spans multiple lines, fewer logs will be shown on one page accordingly. If a read log has an invalid CRC, it will be highlighted in red, and "LOG INVALID" will be shown next to the time.

### 5.3 LED Indicator

The electrify eSat signals the current operating status using the LED indicator. With the electrify Charge Control App, the technician can choose from 8 different colours.



Green



Blue



White



Red



Yellow



Orange



Pink



Violet

Die electrify eSat Ladesäule ist bereits ab Werk mit einer Farbkombination zur Anzeige des Betriebsstatus vorkonfiguriert. Das ab Werk eingestellte Farbschema, mit dem dazugehörigen Betriebsstatus, wird in der nachfolgenden Tabelle dargestellt:

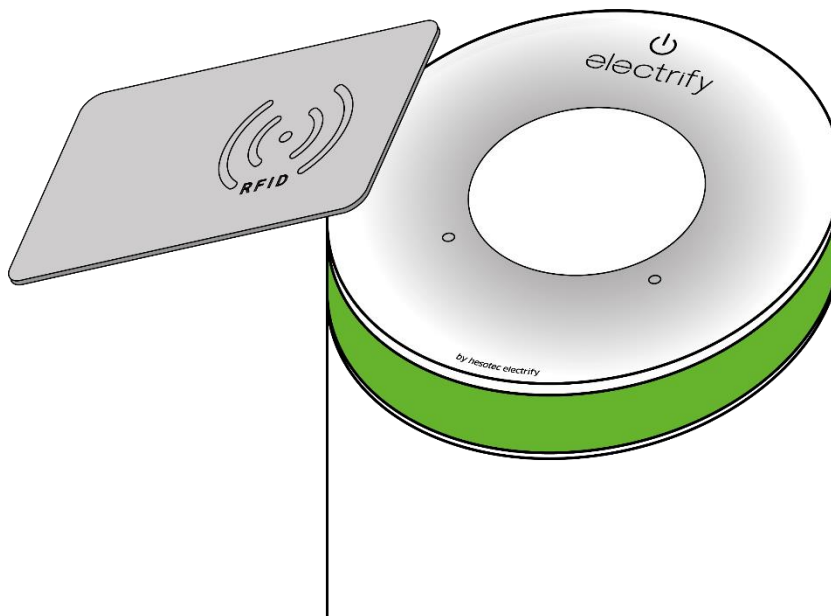
| Grafik                                                                                       | Betriebsstatus                                                                                            |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <br>Green | <b>State A:</b> The charging station is ready for operation.                                              |
| <br>Blue  | <b>State B:</b> Electric vehicle is connected.<br><b>State C:</b> Charging process is active (pulsating). |
| <br>White | Waiting for authorisation via app or RFID card.                                                           |
| <br>Red   | <b>State E:</b> There is a fault at the charging station.                                                 |

**NOTE !****Important information and special features:**

The colour scheme configuration is done via the electrify Charge Control App. Here, not only the colour but also the dynamics can be adjusted (steady light or pulsating). For more information, please refer to the Quick Guide of the electrify App.

## 5.4 RFID – Card Reader

RFID cards can be read at the lower part of the charging station head. The user holds the RFID card in front of the symbolically marked reading area. After successful authorisation (see 5.5.1), the charging process is enabled. No further user interaction is required.

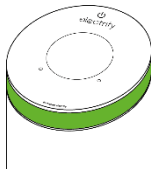
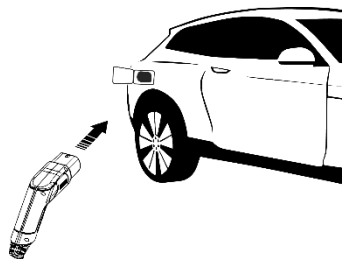
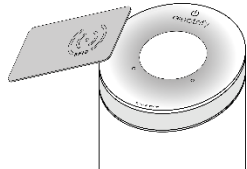
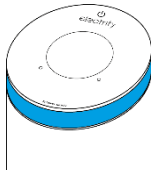
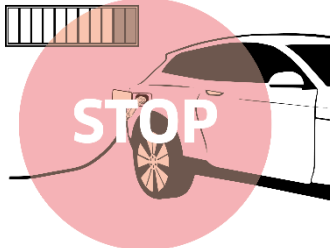


**RFID Authorisation**

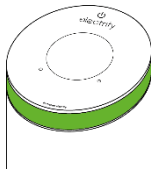
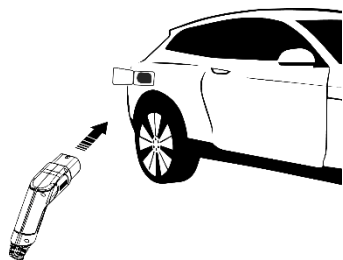
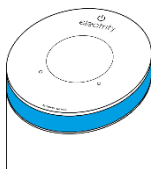
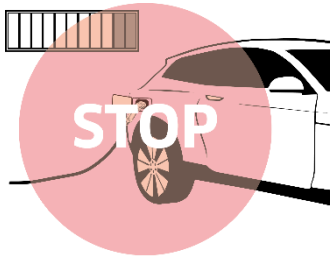
## 5.5 Charging Process

The charging process is controlled easily with just a few steps via RFID or app authorisation.

### 5.5.1 Charging Station with RFID Authorisation

| Steps                                                              | Information                                                                                                                                                           | Graphic                                                                               |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. First, check the operating status of the eSat charging station. | The eSat charging station is ready for operation, indicated by a green LED light.                                                                                     |    |
| 2. Connect the charging plug to the vehicle to be charged.         | Once the charging plug is successfully connected to the vehicle, it will be locked in place. For further information, please refer to the vehicle's operating manual. |   |
| 3. Authorise using the appropriate RFID card.                      | Hold the correct RFID card against the RFID card reader located at the top of the unit.                                                                               |  |
| 4. The charging process will start.                                | After successful authorisation, charging will commence. The LED indicator will illuminate blue.                                                                       |  |
| 5. To end the charging process prematurely.                        | The charging session can be terminated via the vehicle. Please refer to the vehicle's operating manual for instructions.                                              |  |

## 5.5.2 Charging Station with App Authorisation

| Steps                                                                | Information                                                                                                                                        | Graphic                                                                               |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. First, check the operational status of the eSat charging station. | The eSat charging station is ready for use when the LED indicator is green.                                                                        |    |
| 2. Connect the charging plug to the vehicle to be charged.           | Once the plug is successfully connected to the vehicle, it will be locked. Please refer to the vehicle's operating manual for further information. |    |
| 3. Authorise via the backend provider's app.                         | Authorise the charging session using the app.                                                                                                      |   |
| 4. The charging process starts.                                      | After successful authorisation, the charging process is enabled. The LED indicator lights up blue.                                                 |  |
| 5. End the charging process prematurely.                             | The charging session can be ended via the vehicle. Please refer to the vehicle's operating manual for details.                                     |  |

## 6 Troubleshooting



By purchasing the eSat charging station, you have chosen a robust and compact design that ensures maximum operational safety and reliable charging for your electric and hybrid vehicle. Thanks to its intelligent control system, the eSat is able to detect faults and immediately suspend operation. Should a fault occur during use, the LED indicator will inform you accordingly. The following chapters provide guidance on which steps can be taken to resolve any issues that may arise.

### 6.1 Faults and Troubleshooting

This chapter outlines the measures you, as the user of the eSat charging station, can carry out independently.

| Fault                                                              | Possible Cause                                                                                                                                                            | Troubleshooting                                                                                                                                                                                                                 |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The LED indicator of the eSat charging station is not illuminated. | The residual current circuit breaker has tripped.                                                                                                                         | Check the distribution board of your building to ensure all circuit breakers are switched on.                                                                                                                                   |
| Charging process cannot be started.                                | <ul style="list-style-type: none"><li>• The charging cable is not correctly connected to the vehicle.</li><li>• The vehicle is preventing the charging process.</li></ul> | <ul style="list-style-type: none"><li>• Check the plug connection at the vehicle.</li><li>• Initiate the charging process from the vehicle (refer to your vehicle's user manual).</li></ul>                                     |
| The charging plug cannot be removed from the charging station.     | The locking mechanism is not releasing properly.                                                                                                                          | <ul style="list-style-type: none"><li>• Place the RFID card on the reader again.</li><li>• Attempt to stop the charging session from the vehicle side.</li><li>• Disconnect the power supply to the charging station.</li></ul> |
| The LED indicator of the eSat charging station is red.             | Various errors may be present. Error logs must be reviewed.                                                                                                               | Please consult the error logs of the charging station for further details.                                                                                                                                                      |

### 6.2 Billing Data in Case of Communication Loss



In the event of a communication error on the encrypted 485 bus, the corresponding error message is shown on the display screen. Additionally, the LED indicator switches to red.

The charging station will only become operational again after a system restart.

The following detectable communication faults may occur on the encrypted 485 bus:

- No communication is detected on the internal bus for 1 minute
- The board is unable to transmit on the bus for 10 minutes
- The respective counterpart board does not respond on the bus for 10 minutes

If such an error is detected, any active charging session will be terminated, and a corresponding entry will be recorded in the legally compliant (MID) logbook.

In the event of one of the aforementioned communication faults that leads to the termination of a charging session, the measurement values remain intact, as they are sourced directly from the energy metering device.

If a customer is present at the charging station during such a fault and perceives outdated values on the display, the backend operator can consult the legally compliant (MID) logbook to verify the error. Since the OCMF data set includes not only start and stop values but also quarter-hourly transmission of measurement data, it is possible to retrospectively calculate values from the moment of communication loss up to the previous full quarter-hour.

As a result, in the worst-case scenario, a maximum of 25 minutes may be excluded from billing. At a maximum utilisation of 22 kW, this would correspond to 9.166 kWh of unbillable energy.

However, this scenario is highly unlikely, as it would only occur if one of the MID-relevant circuit boards failed to communicate. In the case of a total communication failure, the system's 1-minute timeout mechanism ensures that only up to 16 minutes could potentially be excluded from billing. This would result in a maximum of 5.86 kWh of non-billable energy.

## 6.3 Repair Work



### **DANGER !**

#### **Safety notice regarding electrical hazards**

Ensure that all cables are de-energised at the time of repair. Failure to observe this safety notice may result in a serious hazard involving life-threatening electric shock.

Repairs on the charging station may only be carried out by qualified personnel. Please ensure that only replacement parts approved by hesotec electrify are used. If necessary, contact the manufacturer.

## 7 Maintenance / Disposal



### **Danger !**

#### **Safety notice regarding the risk of electric shock.**

Ensure that all cables are de-energised during maintenance. Failure to observe this safety notice may result in life-threatening electric shock.

The eSat charging stations from hesotec electrify are designed to be generally maintenance-free. Nevertheless, regular visual inspections should be carried out periodically.

### 7.1 Maintenance Work

hesotec electrify recommends carrying out an inspection every 6 months.

- **Charging Station**

- Check the charging station for any visible damage or defects.
- Check the functionality of the charging connectors.
- Inspect the charging cable for any signs of damage.
- Verify the stability of the station on its foundation.



### **NOTE !**

#### **Important information and special considerations**

We recommend using a rubber conditioner for the cable to prevent discoloration and other signs of ageing.

### 7.2 Disposal

Electronic waste must be disposed of in accordance with the current regulations and disposal guidelines of the respective location. Disposal with household waste is strictly prohibited! Please use only designated collection points for electronic waste or dispose of it through a specialised retailer. Disposal of packaging materials can be done via collection points for paper and plastics.

## 8 Appendix

### 8.1 CE Marking and Declaration of Conformity

The electrify eSat charging station by hesotec electrify bears the CE mark. A copy of the Declaration of Conformity is provided below. It is also available upon request from hesotec electrify GmbH.

#### ZERTIFIKAT / CERTIFICATE



#### CE - KONFORMITÄTSERKLÄRUNG CE - DECLARATION OF CONFORMITY

|                                                                                                                                    |                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hersteller<br>Manufacturer                                                                                                         | hesotec gmbh<br>Rubbertsath 34<br>46539 Dinslaken / Germany                                                                                                                                                                            |
| Produkte<br>Products                                                                                                               | electrify eBox / eSat<br>electrify eBox / eSat                                                                                                                                                                                         |
| Typenbezeichnungen<br>Type designations                                                                                            | wr30-R · wr30-L / r10 · r20<br>wr30-R · wr30-L / r10 · r20                                                                                                                                                                             |
| Die Forderungen folgender<br>europäischer Richtlinien werden<br>erfüllt<br>In conformity with the following<br>european directives | Niederspannungsrichtlinie 2014 / 35 / EU<br>RED Richtlinie 2014 / 53 / EU<br>EMV Richtlinie 2014 / 30 / EU<br>Low Voltage Directive 2014 / 35 / EU<br>Radio Equipment Directive 2014 / 53 / EU<br>EMC Directive 2014 / 30 / EU         |
| Angewendete Normen (harmonisiert)<br>Applied standards (harmonized)                                                                | DIN EN 61851-1:2019<br>DIN IEC 61851-22:2002<br>DIN EN 55011:2016<br>DIN EN 61000-6-2:2019<br>DIN EN 61000-6-3:2021<br>DIN EN 61000-3-11:2019<br>DIN EN 61000-3-12:2011<br>DIN EN 61000-4-11:2020<br>DIN 61439-7:2020<br>VDE-AR-N 4100 |
| Jahr der CE-Kennzeichnung<br>Year of CE-declaration                                                                                | 2024<br>2024                                                                                                                                                                                                                           |

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electrify@hesotec.de

14.02.2024

Datum  
Date

Unterschrift  
Signatur

Sebastian Hellmich  
Sebastian Hellmich

- Geschäftsführer -  
- Managing director -

Diese Erklärung bescheinigt die Übereinstimmung mit den oben genannten Richtlinien und beinhaltet keine Zusicherung von Eigenschaften. This declaration certifies the conformity to the specified directives but contains no assurance of properties.

## 9 Glossary

### **Baumusterprüfbescheinigung (BMP)**

With the Measuring and Calibration Act of 25 July 2013 (BGBl I p. 2722 ff.) and the Measuring and Calibration Ordinance of 11 December 2014 (BGBl I p. 2010 ff.), Germany's legal metrology system was overhauled. European product directives—particularly those concerning measuring instruments—were transposed into German law, and national regulations were aligned with EU requirements. The most significant change in the new framework was the abolition of official “initial verifications” (“Ersteichung”), replaced by a manufacturer-led conformity assessment procedure as a prerequisite for placing legally regulated measuring instruments on the market. In place of governmental type approvals and initial verifications, manufacturers now obtain a private-law Type Examination Certificate (Baumusterprüfbescheinigung) and issue their own Declaration of Conformity. (Source: [www.lbme.nrw.de](http://www.lbme.nrw.de))

### **Charge Point Operator (CPO)**

A Charge Point Operator (CPO) is an installer and operator of charging stations for electric vehicles.

### **electrify Charge Control App (eCC App)**

The eCC App is the smart access point for your charging infrastructure. All electrify charging stations and wall-boxes can be controlled and configured via the eCC App.

### **electrify Charge Control Protocol (eCCP)**

The eCCP is an electrify application protocol that enables communication between the charging point and the eLMS.

### **electrify Load Management System (eLMS)**

With the cloud-based eLMS, you can manage your charging infrastructure—whether a single charging point or an entire charging park. The eLMS provides an overview of activated charging points, energy consumption, and charging status.

### **electrify Partner Portal (ePP)**

An information portal for sales and installation partners.

### **OCPP (Open Charge Point Protocol)**

OCPP is an open, universal application protocol that standardises communication between electric vehicle (EV) charging stations and a central management system (backend). It is comparable to the communication protocols used in mobile networks.

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