



Dokument/document Information management EVSE Data storage GARO Entity		Utgåva datum/edition date 2026-01-14
Avdelning/department R&D E-Mobility		
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**Trade Mark:** GARO

**Product family:** GARO Entity

**Product Type Designation:** E\*

Type of product: EVSE (Charging station for electric vehicles) and Load Interface (Device to collect electric power)

**We hereby declare under our sole responsibility that our product fulfils the requirements of following directive:**

Data Act: Regulation on harmonised rules for fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (Data Regulation)

### **General description**

Connected Charging stations are managing data. Some are stored in the product, some are directly transferred and managed in cloudbased systems (CSMS).

Garos Entity can be used with a Garo CSMS, aimed for basic usage at homes and private industry. Public charging is managed by different operators that manages large amounts of data. Some of this information, like charging sessions is generated by the charging station.

## Data description for the product

<b>Data flow</b>	
Is the product able to generate data continuously?	<p>Yes.</p> <p>The product continuously generates measured values for charging processes of electric vehicles. Among other things, charged energy (Wh) and accompanying physical variables such as current (A), voltage (V), power (W), and the maximum current that can be called up by the vehicle are recorded. When operating with vehicles with the ISO15118 standard in accordance with the AFIR guideline, additional vehicle-related data, such as the charging requirement in (Wh), is recorded.</p> <p>The product optionally generates measured values for current (A) and power (W) from installations of several products at one site, or for the power and power requirements of buildings, including generation plants.</p> <p>The product also generates data on the connection status when optionally used with a coupled backend or energy management system.</p>
Is the product able to generate data in real time?	<p>Yes.</p> <p>Depending on the setting, the product can acquire, provide and transmit energy readings and minor variables every second.</p> <p>The data is collected via non-deterministic interfaces in the sense of soft real-time. There is no guaranteed response time (hard real-time).</p>

<b>Data storage</b>	
Can data be stored on a device or remote server?	<p>Yes.</p> <p>The product has an integrated data memory and offers standardized interfaces for transmitting data to external systems (e.g. OCPP backends, IMD, energy management systems).</p> <p>Storage on external servers is completely outside the product area of responsibility and is subject to the respective system configuration.</p>
How long will the data be retained?	<p>There are two components to consider for the data storage of the product:</p> <ul style="list-style-type: none"> <li>• Aggregated Usage Data: Permanent storage in the product. The operator of the device can delete this data storage.</li> <li>• Technical log files with detailed data on the use of the product: Use of a ring memory with a typical range of 4 days (depending on the configuration also shorter or longer). The operator of the device can delete this data storage.</li> </ul> <p>The data storage strategy of the coupled systems cannot be influenced by the product.</p>

<b>Information about the generated product data</b>	
Data Types	<ul style="list-style-type: none"> <li>• Energy measurement data (e.g. charged kWh, charging power, current, offered current, voltage, frequency)</li> <li>• Charging status data (e.g. Start/End, Current Status, Loading Error Codes)</li> <li>• Usage data (e.g., timestamp, duration of use, authentication events)</li> <li>• System diagnostic data (e.g., internal temperature, error messages, operating states)</li> <li>• Communication metadata (e.g., OCPP messages, control commands, response times, technical certificates (TLS, X.509))</li> <li>• Approved means of authentication for the start of charging processes</li> <li>• Settings of unit (e.g. communication settings, current limitations)</li> </ul>
Data format	<ul style="list-style-type: none"> <li>• JSON (e.g. OCPP)</li> <li>• REST (e.g. web interface, API)</li> <li>• CSV, HTML (e.g. output of usage data)</li> <li>• Text (log files, authentication means)</li> <li>• SQL (long-term storage for usage data)</li> <li>• RFID based individual identity of unit.</li> </ul>
Estimated volume	<ul style="list-style-type: none"> <li>• Typical operation with OCPP backend: 3-10 Mbyte / month, depending on the configuration of the data frequency also significantly more</li> <li>• Typical operation in power management: 150 Mbyte / month, depending on the configuration of the data frequency also significantly more or significantly less</li> <li>• Long-term memory: Typically 40 kByte to 10 Mbyte, depending on the type of use over the product lifetime</li> <li>• Log file ring memory (FIFO, 4-7 days runtime): approx. 50 Mbyte</li> </ul>

**Description of cloud-based data management.**

When commissioning/installing the product, a APP or Web-based tool is used. This tool can optionally also serve as a CSMS, managing charging stations. When product is used for public charging, normally a third part CSMS is used.

<b>Data storage</b>	
Can data be stored on a device or remote server?	Yes.  Data is stored in cloud-based databases.
Where are data stored	AWS, in Europe Ireland.
How long will the data be retained?	Data regarding physical installed Charging stations are stored until the installation location is deleted by owner/user. Data regarding individual user is stored until user is deleted by user Data generated by using the charging station, (like transactions, OCPP events, meter values) or by user changing charging station settings (audit logs) are stored with following time to live (TTL): OCPP Events: 6 months Transactions: 36 months Audit logs: 36 months Meter values: 24 months Operation log files: 6 months

<b>Information about the generated product data</b>	
Data Types	<ul style="list-style-type: none"> <li>• Energy measurement data (e.g. charged kWh, charging power, current, offered current, voltage, frequency)</li> <li>• Charging status data (e.g. Start/End, Current Status, Loading Error Codes)</li> <li>• Usage data (e.g., timestamp, duration of use, authentication events)</li> <li>• System diagnostic data (e.g., internal temperature, error messages, operating states)</li> <li>• Communication metadata (e.g., OCPP messages, control commands, response times, technical certificates (TLS, X.509))</li> <li>• Approved means of authentication for the start of charging processes</li> <li>• Settings of unit (e.g. communication settings, current limitations)</li> <li>• User details (E-mail of user is mandatory, Name of user, language, notification settings, RFID keys, EV battery size &amp; charger power)</li> <li>• An owner of a charging station can define and control access to stations</li> <li>• Location data (Adress, GPS coordinates, Energy area, DLM current limitations, charging stations, Load interfaces, Installer key)</li> </ul>
Data format	<ul style="list-style-type: none"> <li>• JSON (e.g. OCPP)</li> <li>• REST (e.g. web interface, API)</li> <li>• CSV, HTML (e.g. output of usage data)</li> <li>• Text (log files, authentication means)</li> <li>• Proprietary, encrypted data formats for communication between connected products</li> <li>• NoSQL (long-term storage for usage data)</li> </ul>
Estimated volume (Typical, per charging station)	<ul style="list-style-type: none"> <li>• Transactions: 28 per month (9kbyte data)</li> <li>• OCPP events: 140kbyte/month</li> <li>• Audit log: 8kbyte/month</li> <li>• Meter values: 12-55 Mbyte/month</li> <li>• Operational logs: 15 Mbyte/month</li> </ul> <p>All depending on the configuration of the data frequency, all figures can be significantly higher</p>