

Monitor Utilisation+ (v1.0)

Data Label	Definition	Additional Information
Zapmap EVSE UID	Zapmap generated unique identifier for an individual EVSE	
Network Device UID	Network's unique identifier for an individual Device	
Network name	Network/Charge Point Operator (CPO) name	
Postal code outward	The first part of the postcode, which identifies the post town	
H3 Ref 6	Standard geospatial open data reference	Roughly the size of a town
Zapmap location type	Describes the primary purpose or typical usage of a charging location	Inherited by all connectors at that location, regardless of their individual power band
Zapmap location category	High-level categorisation of the location	
Location EVSE count	Number of EVSEs co-located at one site and managed by one network (derived from Monitor Locations)	There is one location UID for each network, so 2 operators in the same carpark would have 2 separate locations
EVSE max power kW	Maximum Connector power associated with the EVSE	Provided by the CPO
Power band name	Name for an EV charging power category, based on kilowatt (kW) output	Slow (<8kW), Fast AC (≥8kW & <50kW), Fast DC (≥8W & <50kW), Rapid (≥50kW & <150kW), Ultra-rapid (≥150kW)
Date start period	Reporting period start date	YYYY-MM-DD UTC (e.g. 2025-01-01)
Weekday	Grouping the data into "Weekday" and "Weekend" cohorts	
Charging (minutes)	Number of minutes the CHARGING status was returned	Indicates the vehicle is connected and reporting a CHARGING status. This status does not guarantee that an active power transfer is occurring

Data Label	Definition	Additional Information
Available (minutes)	Number of minutes the AVAILABLE status was returned	
Reserved (minutes)	Number of minutes the RESERVED status was returned	
Unknown and Downtime (minutes)	Sum of minutes in the period where one of the following statuses was returned: UNKNOWN, INOPERATIVE, OUT OF ORDER, BLOCKED	
Live connection days	Number of days in month starting from the first date a status has ever been received	If the status was first seen 2024-12-12 then in the August 2025 output it would show 31 days
Charging days	Number of days a CHARGING status is in place	If a CHARGING status is in place over midnight this will show 2 charging days
Mean charging duration (minutes)	Average period of time where CHARGING status is reported by the EVSE in minutes	
Median charging duration (minutes)	The mid-point in minutes when ordering CHARGING status periods from shortest to longest	
Charging start count	Number of times the status changes to CHARGING	
Charging end count	Number of times the status changes from CHARGING	
Charging start count XXXX to XXXX	Number of times the status changes to CHARGING within the specified hours	
Xth percentile durations (minutes)	X percent of the dataset are below or equal to this duration in minutes	For example, the 30th percentile is the duration for which 30% of the data points are less than or equal to
Zapmap excluded	An EVSE that Zapmap would exclude from any analysis for reporting period	1 = excluded row, 0 = included row

Frequently Asked Questions (FAQs)

Q: How are sub-2 minute charging sessions handled in the dataset?

A: Charging sessions that last less than two minutes are classified as "UNKNOWN" and included in the "UNKNOWN" aggregations. This is a critical step to ensure data accuracy. Our analysis indicates that these extremely brief connections are typically anomalies or failed attempts (e.g. immediate unplugging or connection issues), rather than legitimate charging events. By applying this filter, we ensure that the usage data reflects only successful transactions.

Q: Can a mean duration or a percentile value exceed a monthly period?

A: Yes. All aggregations are calculated based on the charging session's end time. A session that began in the previous month but finishes in the current month period will be included in the current period's calculation. This can therefore occasionally exceed the reporting period.

Q: Why are there rows that may need to be excluded from your analysis (Zapmap excluded)?

A: The underlying dataset includes all charging sessions reported through our various data feeds. An unusually long mean duration is typically the result of non-standard events, where a session remains active longer than expected.

These long-duration sessions could be due to a number of factors:

- **Communication Errors:** A loss of contact between the Charge Point Operator (CPO) and the Electric Vehicle Supply Equipment (EVSE) that prevents the session from being correctly terminated. This results in the session record remaining in its final active state until resolved.
- **System Outages:** Reporting delays or failures during an outage (either on the CPO's system or on Zapmap's side) that prevent the session from being correctly terminated. Similar to communication errors, this causes the session record to remain in its final active state until resolved.
- **Non-Standard Use:** There may be cases where the charging equipment is used in an unexpected manner. This would result in a legitimate but extended charging session.

Q: Why might the 50th percentile be different from the median duration value?

A: While the 50th percentile and the median are conceptually the same, they may differ due to the method of calculation used:

- Median: The median involves an interpolated value (the average of the two middle values in an even-numbered dataset).
- 50th Percentile: The percentile calculation uses a discrete method that selects a single real record from the dataset, rather than an interpolated average.

This difference in method accounts for the occasional numerical variance between the two statistics.

Q: Why isn't all EVSE that have recently become operational in the dataset?

A: An EVSE is included in the dataset once it has been sending status information for a minimum of one complete calendar month. This standard ensures data integrity by making every row comparable and preventing metrics from being calculated inaccurately based on partial observation periods.

Q: Why might the Location EVSE Count be higher than the number of EVSEs in the MU+ dataset?

A: The 'Location EVSE Count' reflects the total number of EVSEs (derived from Monitor Locations), which includes static EVSEs and mid-month additions. The MU+ (Monitor Utilisation+) dataset is strictly filtered to only include dynamic EVSEs that provide usage data for the entire reporting period. Consequently, the number of EVSEs represented in the MU+ rows will occasionally be lower than the location count.