

Technical File

The Electric Vehicles (Smart Charge Points) Regulations 2021

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This template is provided to assist sellers of relevant charge points that are subject to the Electric Vehicles (Smart Charge Points) Regulations 2021 (“the Regulations”) in meeting the requirements of Regulation 13.

This requires the seller to have a technical file for any relevant charge point that they sell, and to supply a copy of the technical file to any purchaser on request. In the event of bulk purchases, a single technical file can be provided for all identical charge points. Separate technical files are required however if there are any differences in make, model, software version etc between charge points sold.

The seller is not mandated to use this template, but any alternative format must meet the requirements of the Regulations.

This document is the technical file for the following charge point:

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| Charge point make: | |
| Charge point model: | EVlink Pro AC & EVlink Pro AC Metal |
| Software version at point of sale: | 1.3.0 |
| Seller: <i>Person responsible for compliance with the Regulations</i> | Schneider Electric |
| Manufacturer(s): <i>If different to seller</i> | |
| Last update to technical file: | 20/07/2023 |

Description of the smart charge point

This page outlines the general description of the charge point, including a description of its design manufacture, and operation.

(Note: all descriptions must be written in plain English, including written descriptions of any diagrams or drawings used or referred to)

EVlink Pro AC provides highly reliable, flexible, and sustainable smart charging with reinforced safety to maximize uptime, ensuring a seamless user experience for drivers and installers for semi-public parking facilities in commercial and industrial buildings, corporate EV fleets and apartment complexes. Easy and secure to install, operate, monitor, and maintain through digital capabilities and reinforced safety.

Remote monitoring via OCPP 1.6 or Modbus interoperability for smart charging experience. Upgradable to ISO 15118.

Scalable, modular design with T2S socket, attached T2 cable, domestic socket. Wall -mounted or floor standing installation available. Customizable look and feel.

Embedded RCD Type B-EV reducing nuisance tripping in case of DC leaks. Built-in voltage tripping auxiliary iMNx cutting power off if the contactor is damaged.

The product is fully assembled in France at Les Agriers plant.



Operating manual

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| Copy of operating manual as available at point of sale can be found (cross as appropriate): | | Attached to this document (hard copy) |
| | | Attached to this document as a digital file (soft copy) |
| | | Available online via hyperlink (soft copy) |
| Link if available online: | https://www.se.com/ww/en/download/document/NNZ1940301/ https://www.se.com/ww/en/download/document/JYT24399/ https://www.se.com/ww/en/download/document/JYT24398/ https://www.se.com/ww/en/download/document/JYT24397/ | |
| Version of file received at point of sale if available online: | | |

Technical solutions implemented to meet the requirements of the Regulations

This section provides descriptions in plain English of the solutions adopted to meet the requirements of the Regulations, including descriptions and explanations in plain English of any diagrams or drawings used.

Information provided here may be appended if appropriate, but any appendages should be listed here with clear indication of which specific requirement(s) they evidence.

Smart functionality

| Requirement | Technical solution adopted to meet the requirement |
|---|--|
| Charge point is able to send and receive information via a communications network | The charge point provides an Ethernet and/or 4G Connectivity and support OCPP1.6J protocol in order to send and receive information via a communication network. |
| Charge point is able to respond to signals or other information received by it by: <ul style="list-style-type: none"> Increasing or decreasing the rate of electricity flowing through the charge point Changing the time at which electricity flows through the charge point | The charge point implements OCPP “smart charging” profiles which enables to set the rate of electricity flow and the time at which electricity flows through the charge point. |
| Charge point is capable of using this functionality to provide demand side response services, including response DSR services | The charging point is able to accept changes in the OCPP charging profiles received during the charge in order to provide demand side response services |
| Charge point has at least one user interface, incorporated in the charge point or otherwise made available to the owner | The charge point is equipped with RFID reader and led indicator. They are designed to ensure clear interaction between the user and the charge point. |

Electricity supplier interoperability

| Requirement | Technical solution adopted to meet the requirement |
|--|---|
| Charge point is configured such that it will not cease to have smart functionality if the owner changes their electricity supplier | OCPP ‘smart charging’ profiles are independent from an electricity supplier. As charging profile is the way the charger adapts the rate of electricity of differs the charging, there is no dependency on the supplier. |

Loss of communications network access

| Requirement | Technical solution adopted to meet the requirement |
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| Charge point is configured such that, in the event it ceases to be connected to a communications network, it will remain capable of charging an electric vehicle | The charging profile (so called “schedule”) is stored inside the charge point. In the event of communication network failure, the charge point will be able to charge EV by applying the last configured profile. |

Safety

| Requirement | Technical solution adopted to meet the requirement |
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| <p>Charge point is configured such that it will not allow a relevant person to carry out a specified operation where to do so would or may result in a risk to the health or safety of persons.</p> <p>“Relevant persons” means the owner, or an end-user of the relevant charge point who is not the owner.</p> <p>“Specified operation” means:</p> <ul style="list-style-type: none"> • Overriding the default mode of charging during the default charging hours • Overriding the provision of demand side response services • Overriding the random delay | <p>The charger is designed in a way which prevent that any change in this “specified operation” mentioned would result in a risk to health or safety, as an example this is not possible to define a charge mode with an electricity rate which exceeds the charge point physical limitations. Additionally, we have the embedded protection required by the standard.</p> |

Measuring system

| Requirement | Technical solution adopted to meet the requirement |
|---|---|
| <p>On each occasion it is used, the charge point measures or calculates:</p> <ul style="list-style-type: none"> • The electricity it has imported or exported (in watt-hours or kilowatt-hours) • The amount of time for which it is importing or exporting electricity | <p>Charge Detail Record session contains imported power consumption + time and you can retrieve this from the CSMS.</p> |
| <p>The charge point is configured such that the owner can view the information in reference to:</p> <ul style="list-style-type: none"> • Any occasion on which it was used to import or export electricity within the past 12 months | <p>EVlink Pro AC stores 2000 Charge Detail Record sessions, which should be sufficient to ensure 12 months of history.</p> <p>Owner of Charge point can use the CSMS application to access to the history of charging stations.</p> <ul style="list-style-type: none"> • Any single charging session may be viewed |

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| <ul style="list-style-type: none"> Any month within the past 12 months The entirety of the last 12-month period | <ul style="list-style-type: none"> Any cumulated charging session for a given period in the past can be viewed (it could be a month, a year or any period of time). |
| <p>The charge point is configured such that it can:</p> <ul style="list-style-type: none"> On each occasion it is used, measure or calculate every one second the electrical power it has imported or exported (in watts or kilowatts) Provide this information via a communications network | <p>The charge point shall be able to provide the imported or exported power kilowatt-hour by the mean of embedded power measurement function with a sampling rate of 1 second.</p> |
| <p>The charge point is configured such that:</p> <ul style="list-style-type: none"> The figures measured or calculated are accurate to within 10% of the actual figure Any inaccuracies are not systematic | <p>Accuracy is 1% according to IEC-61557</p> |

Off-peak charging

| Requirement | Technical solution adopted to meet the requirement |
|--|---|
| <p>The charge point:</p> <ul style="list-style-type: none"> Has pre-set default charging hours which are outside of peak hours Offers the owner the opportunity to accept, remove, or change the default charging hours on first use Offers the owner the ability to change, remove, or set default charging hours any time after first use <p>unless the charge point is sold with a DSR agreement, configured to comply with the requirements of this agreement, and details of the agreement are included in the statement of compliance</p> | <p>When the charge point is connected for the first time to the CSMS, the CSMS shall use OCPP command to set default profiles that prevents charging during peak hours.</p> |
| <p>The charge point is configured:</p> <ul style="list-style-type: none"> To charge a vehicle during the default charging hours (if any), unless the owner overrides the default mode of charging during this time | <p>Compliant because of points above are compliant.</p> |

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| <ul style="list-style-type: none"> Such that the owner can override the provision of demand side response services | |
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Randomised delay

| Requirement | Technical solution adopted to meet the requirement |
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| The charge point is configured such that it must operate, at each relevant time, with a delay of random duration up to 600 seconds, determined to the nearest second each time | When the CSMS change the charging hours, it shall propose to increase the max random delay up to 600s. CSMS shall allow to change the max randomised delay. |
| The charge point is configured such that the maximum duration of this delay can be remotely increased to up to 1800 seconds if required | <p>When the CSMS configures the default charging hours, it shall apply random delay of 0 to 1800s .</p> <p>When the CSMS change the charging hours, it shall apply a random delay of 0 to 1800s.</p> <p>Responsibility of the CSMS to cancel the delay on demand.</p> <p>From Charger perspective, the random delay is defined in the TxDefaultProfile.</p> |
| <p>The charge point is configured such that the random delay will not operate where:</p> <ul style="list-style-type: none"> The owner or another relevant end-user has manually overridden it An equivalent random delay has already been applied to the operation of the relevant charge point The charge point is responding to a response DSR service | Responsibility is on CSMS connected to a DSO to apply a DSR agreement. |

Security

[Information in this section is only required from 30 December 2022. Before this date, completing this section is optional.]

| Requirement | Technical solution adopted to meet the requirement |
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| <p>General principles</p> <p>The charge point is designed, manufactured, and configured to provide appropriate protection:</p> <ul style="list-style-type: none"> Against the risk of harm to, or disruption of the electricity system | <p>Our Secure Development Lifecycle is compliant with IEC 62443-4 Security Standard for Industrial Automation and Control systems</p> <p>On the cybersecurity aspects, cybersecurity measures are enforced on the charger to avoid disruption of the charger and thus electricity system as well.</p> |

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| <ul style="list-style-type: none"> • Against the risk of harm to, or disruption of, the charge point • For the personal data of the owner and any other end-user of the relevant charge point | <p>Charger follows hardening procedure and implement security features to prevent unauthorized access.</p> <p>Personal data are stored inside the charger:</p> <ul style="list-style-type: none"> -EV driver charge session history locally stored -Badge ID associated with a name (in comments) -Store email credential of CPO (username and password (stored with reversible encryption)) <p>Those data are not accessible without authorization</p> |
| <p>Passwords</p> <p>The charge point is configured such that where passwords are used on it:</p> <ul style="list-style-type: none"> • The password is unique to the charge point and not derived from, or based on, publicly available information, or is set by the owner • The password cannot be reset to a default password applying to both the charge point and other charge points | <p>No Default PIN code on chargers, but user is forced to define a new one to connect to the charger.</p> |
| <p>Software</p> <p>The charge point incorporates software which is able to be securely updated using adequate cryptographic measures to protect against cyber attack</p> | <p>Firmware signature is in place.</p> <p>Update is possible through OCPP communication or commissioning interface.</p> |
| <p>Software</p> <p>The charge point is configured such that:</p> <ul style="list-style-type: none"> • It checks for security updates available when first set up by the owner and periodically after • It verified the authenticity and integrity of each prospective software update by reference to both the data's origin and its contents and only applies the update if the authenticity and integrity of the software have been validated • By default, it provides notifications to the owner about prospective software updates • The owner can implement software updates without undue difficulty | <p>Firmware signature is in place.</p> <p>Security patches release are published on se.com.</p> <p>New firmware release is published on se.com publicly accessible by customer.</p> <p>Charger support firmware update through OCPP from CSMS or commissioning interface, Charger does not check for update by itself, but Schneider Electric inform CSMS of any security update and CSMS is responsible for it. During Commissioning eSetup will prompt to update also.</p> |
| <p>Software</p> | <p>Firmware signature is in place with Secure Boot enforced.</p> |

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| <p>The charge point is configured such that:</p> <ul style="list-style-type: none"> • It verifies via secure boot mechanisms that its software has not been altered other than in accordance with a validated software update • If unauthorised change to software is detected, it notifies the owner and does not connect to a communications network other than for purposes of this notification | |
| <p>Sensitive security parameters</p> <p>The charge point is configured such that:</p> <ul style="list-style-type: none"> • Security credentials stored on the charge point are protected using robust security measures • Software does not use hard-coded security credentials | <p>PIN code and password of commissioning tool are stored in the charger.</p> <p>Store email credential of CPO (username and password (stored with reversible encryption)).</p> <p>All credentials can be changed by configuration. Except SSH interface which is disabled by default and usable only by SE employee.</p> |
| <p>Secure communication</p> <p>The charge point is configured such that communications it sends are encrypted</p> | <p>Charge point communicate with OCPP server</p> |
| <p>Data inputs</p> <p>The charge point is configured such that:</p> <ul style="list-style-type: none"> • Data inputs are verified so that the type and format of the data is consistent with that expected for the function • If such data cannot be verified, it is discarded or ignored by the charge point in a relevant manner | <p>Data inputs are verified and sanitized by the charger before they are processed.</p> <p>Data inputs are verified at some point by the charger before they are processed.</p> |
| <p>Ease of use</p> <p>The charge point is configured to minimise the inputs required from the owner in connection with its set-up and operation</p> | <p>Simple by design drive marketing requirement.</p> <p>Secure by design and by default is present in charger set-up and operation.</p> |
| <p>Ease of use</p> <p>The charge point is configured such that any personal data can be deleted from it by the owner without undue difficulty</p> | <p>Physical switch trigger "back to factory" available also thru eSetup.</p> |

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| <p>Protection against attack</p> <p>The charge point is designed and manufactured to provide an adequate level of protection against physical damage to the charge point</p> | <p>The charging station is certified IK10 and it is designed to avoid vandalism.</p> |
| <p>Protection against attack</p> <p>The charge point incorporates a tamper-protection boundary to protect the internal components of the charge point</p> | <p>Accessing internal components cannot be easily accessed and requires special tools. No communication ports are accessible without opening the charger.</p> |
| <p>Protection against attack</p> <p>The charge point is designed and manufactured to provide an adequate level of protection to its user interfaces and against use or attempted use of the charge point other than through the user interface</p> | <p>Debug interface (JTAG) are disabled.</p> <p>All user interfaces are authenticated.</p> |
| <p>Protection against attack</p> <p>The charge point is configured such that:</p> <ul style="list-style-type: none"> • If there is an attempt to breach the tamper-protection boundary, the owner is notified • Its software runs with only the minimum level of access privileges required to deliver functionality • Any logical or network interfaces that are not required for the normal operation of the charge point or otherwise comply with the Regulations are disabled • Software services are not available to the owner unless necessary for the relevant charge point to operate • Any hardware interfaces that are used for the purposes of testing or development, but not otherwise during the operation of the charge point are not exposed | <p>The protection against attack is fulfilled by the security torx screws, the web interface being disabled at the ethernet ports, in addition to the passcode being required when using the commissioning tools.</p> <p>Additionally, the charger design has been modified to also include a detection of breach of tamper-protection boundary by a door opening sensor. The owner will be notified by an OCPP security event in case of tampering attempt.</p> <p>The software runs with only the required privileges.</p> |
| <p>Security log</p> <p>The charge point incorporates a security log – an electronic record which includes attempts (whether or not successful) to:</p> <ul style="list-style-type: none"> • Breach the tamper-protection boundary | <p>The Pro AC features local security log that records the required security events.</p> <p>Events are time stamped using the UTC.</p> |

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| <ul style="list-style-type: none">• Tamper with the relevant charge point• Gain unauthorised access to the charge point <p>These entries must record the time and date the event occurred (by reference to Coordinated Universal Time).</p> | |
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Test reports

The Regulations do not set a requirement to test charge points, however if tests have been performed which are deemed relevant to evidencing compliance with the Regulations, these should be included in this document.

This page documents the outcome of any tests. Resulting test reports, certifications, or other evidence should be attached to this file.

| Name of test | Date of test | Outcome | Certificate attached to file? | Notes (e.g., did test occur via third party?) |
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