



Office for Product  
Safety & Standards

# Complying with the Electric Vehicles (Smart Charge Points) Regulations 2021

Guidance for sellers of electric vehicle charge points in Great Britain

May 2022



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## Summary

<b>Purpose</b>	This guidance has been produced by the Department for Business, Energy, and Industrial Strategy (BEIS) and the Office for Product Safety & Standards (OPSS) with the aim of supporting understanding of the Electric Vehicles (Smart Charge Points) Regulations 2021 (the Regulations).
<b>Intended use</b>	This document is intended for use by those selling electric vehicle charge points in Great Britain (GB).
<b>Regional coverage</b>	The Electric Vehicles (Smart Charge Points) Regulations 2021 cover charge points sold in Great Britain (GB) only.
<b>Status</b>	Version v2.1

In this guidance:

- ‘must’ indicates a legal obligation;
- ‘should’ indicates good practice advised; and
- ‘may’ indicates discretionary actions in the light of the context and circumstances.

All terms in bold lettering in this guidance are explained in the glossary.

# 1 Background

- 1.1 To support the commitment to net zero emissions by 2050, the Government has announced that all new **cars** and **vans** must be fully zero emission by 2035. To meet this ambition, the number of electric vehicles (EVs) operating in Great Britain (GB) will increase significantly, in turn increasing demand on the electricity system.
- 1.2 A smarter, more flexible energy system can help manage the increase in electricity demand from the transition to EVs. It will also support the integration of more renewable electricity generation into the energy system.
- 1.3 Enabling **Demand Side Response (DSR)** – the process of adjusting electricity demand to help balance the grid – is key to unlocking the benefits of a more flexible energy system.
- 1.4 In the case of EVs this is called “smart charging”. Smart charging describes when the charging of an EV is shifted to a time when either there is less demand on the grid or to when more renewable electricity is available. This could mean optimising against a price signal from a time of use (ToU) tariff (including an Economy 7 tariff) or signing up to a service so that a charge point can be remotely managed to help balance the grid.
- 1.5 Recognising the benefits of smart charging, the **Electric Vehicles (Smart Charge Points) Regulations 2021 (“the Regulations”)** mandate that, subject to some minor exceptions, new private (domestic and workplace) charge points sold in Great Britain must have smart functionality and meet certain device-level requirements. A summary of these requirements can be found in Section 3, “Guidance on business obligations” of this document.
- 1.6 This guidance has been produced by the Department for Business, Energy, and Industrial Strategy (BEIS) and the Office for Product Safety & Standards (OPSS) to assist those selling electric vehicle charge points in complying with these new statutory obligations.

## Timeframe for complying with the Regulations

- 1.7 The Regulations will come into force on 30 June 2022, except for the security requirements set out in Schedule 1 of the Regulations, which will come into force on 30 December 2022 (see page 14 for further details on security requirements).

## 2 Scope

- 2.1 A charge point is a device intended for charging electric vehicles such as **cars**, **vans**, or both. Electric vehicles are those that are capable of being propelled by electrical power derived from a storage battery.
- 2.2 The Regulations place requirements on any person or business selling, offering, or advertising a charge point for sale, at any point in a supply chain. Following the definition in the Automated and Electric Vehicles Act 2018, 'selling' includes the act of letting on hire, lending or giving a charge point from one party to another.
- 2.3 The Regulations apply to the sale of **private charge points** sold in Great Britain after 30 June 2022. They do not apply to charge points sold in Northern Ireland.
- 2.4 If a sale takes place before 30 June 2022, the product would not be subject to the Regulations. The date of sale would not be affected by the actual delivery date of the charge point.
- 2.5 The Regulations apply to the sale of **smart cables** sold in Great Britain after 30 June 2022. They do not apply to smart cables sold in Northern Ireland. A smart cable is defined as an electrical cable which is a charge point and is able to send and receive information. All references to "private charge points" in this document are applicable to smart cables. A cable which is only able to communicate one way (e.g., send or receive) is a non-smart charging cable, for the purposes of these Regulations.
- 2.6 The Regulations apply to the sale of **private charge points** and **smart cables** intended to be used for charging cars and/or vans, whether sold as part of a bundle (e.g., alongside a car) or sold as a stand-alone item.
- 2.7 The Regulations do not account for decisions made by the owner or end-user after the charge point has been sold to the owner or end-user, and the policy intent is to maintain consumer choice. For example, a requirement of Regulation 4 is that a charge point must have at least one user interface, enabling a charge point to be operated in accordance with the Regulations, which is incorporated into the charge point or otherwise made available to the owner. If the interface is made available through an app which must be downloaded to enable the owner to operate the charge point fully, the owner may choose not to download the app.
- 2.8 The Regulations do not apply to **public charge points**. The term "**private charge point**" is therefore used throughout this document to refer to charge points in scope of the Regulations. High level definitions of these terms are included below, but the Regulations should be consulted for full details of scope.

Table 1. Definitions of public and private charge points	
Category	Definition
<b>Public charge point</b>	<p>A charge point which is intended (that is, designed and marketed) for use primarily by members of the general public. This includes charge points in the following locations:</p> <ul style="list-style-type: none"> <li>• Public roads; or</li> <li>• Public and privately-owned car parks, whether or not those car parks are available only to consumers of specific goods or services.</li> </ul> <p>These charge points may be subject to the requirements of the <a href="#">Alternative Fuels Infrastructure Regulations 2017</a>.</p>
<b>Private charge point</b>	<p>A charge point which is not a <b>public charge point</b>. It is likely to be intended (that is, designed and marketed) to be used by people who fall into one of the following categories:</p> <ul style="list-style-type: none"> <li>• Occupiers of domestic premises and their visitors; or</li> <li>• People while at their place of work (including visitors), including those charging at most depots in the case of fleet drivers.</li> </ul>

2.9 Example use cases of **public and private charge points** are provided in the following table:

Table 2. Use cases of public and private charge point	
Charge point type	Use cases
<b>Public charge point</b>	A charge point intended for commercial use is installed at a supermarket for use by members of the public in the public car park.
	A charge point intended for commercial use is installed by a local council to provide on-street charging to a suburban street without allocated parking.
<b>Private charge point</b>	A charge point intended for domestic use is purchased by an individual for personal use at their home.
	A charge point intended for domestic use is purchased by an individual. The individual uses it predominantly for personal use at their home but also rents it out for public use occasionally.
	A charge point intended for domestic use is purchased by a building owner for use at shared parking for mixed residential / commercial use flats.
	A charge point intended for use at a place of work is purchased by a supermarket for use by their employees in the employee car park.

2.10 The Regulations do not apply to the following devices:

Table 3. Items out of scope of the Regulations	
Category	Definition
<b>Non-smart charging cables</b>	An electrical cable which can be used to charge an EV, but which is not able to send and receive information.
<b>Rapid charge points</b>	A charge point that allows for a transfer of electricity to an electric vehicle with a power of at least 50 kilowatts.

2.11 The Regulations do not apply to:

- sales of charge points before 30 June 2022;
- sales of charge points for export outside of Great Britain, which are not intended for use within Great Britain at any time; or
- sales made by individuals outside of the purposes of their trade, business, craft, or profession (for example, second-hand sales made between private individuals).

2.12 The Regulations apply to exchanges under warranty if the exchange is made after 30 June 2022, irrespective of when the original sale was made.

2.13 The Regulations do not apply to repairs made under warranty, guarantee, or otherwise, if the repair is made after 30 June 2022, for charge points sold before 30 June 2022.

2.14 The sale of component parts of a charge point as part of the manufacturing process are considered out of scope of the Regulations.

2.15 For charge points to also be eligible for the **Electric Vehicle Homecharge Scheme (EVHS)** and **Workplace Charging Scheme (WCS)**, the criteria required under these schemes should be reviewed in line with complying with the requirements of the Regulations. For further information please visit the guidance pages for the **Electric Vehicle Homecharge Scheme** and the **Workplace Charging Scheme**.

### 3 Guidance on business obligations

3.1 The Regulations state that those selling a **private charge point** must not do so unless the charge point meets the requirements set out in the Regulations. These can be summarised as:

Table 4. Summary of device-level requirements to be met by a charge point for sale	
Requirement	Brief description of requirement
Smart functionality	Charge point must: <ol style="list-style-type: none"> <li>a. be able to send and receive information via a communications network;</li> <li>b. be able to respond to these signals by increasing / decreasing the rate or time at which electricity flows through the charge point;</li> <li>c. be capable of using this to provide <b>demand side response</b> services, including <b>response DSR services</b>; and</li> <li>d. have at least one user interface.</li> </ol>
Electricity supplier interoperability	Charge point must retain its smart functionality even if the <b>owner</b> switches electricity supplier.
Loss of communications network access	Charge point must retain its ability to charge an electric vehicle even in the event it ceases to be connected to a communications network.
Safety	Charge point must <i>not</i> allow the <b>owner</b> or other end-user to carry out a specified operation (namely overriding default charging, <b>demand side response</b> services, or randomised delay) where to do so could risk the health or safety of a person.
Measuring system	Charge point must measure or calculate the electricity imported or exported, the time the charging event lasts, and allow the <b>owner</b> to view this information. The charge point must also be able to measure or calculate electrical power and be capable of providing these values via a communications network.
Off-peak charging	Charge point must incorporate default charging hours and must allow the <b>owner</b> to accept, remove or change these upon first use and subsequently. The default hours must be pre-set to not charge during times of peak electricity demand (between 8am and 11am, and 4pm and 10pm on weekdays) but must allow the <b>owner</b> to override them. The Regulations allow charge point sellers to adopt an alternative approach if a charge point is sold with a <b>demand side response (DSR)</b>

	service, though an <b>owner</b> must still be able to override <b>DSR</b> if they wish.
Randomised delay	Charge point must have a randomised delay function, as set out in the Regulations.
Security	Those selling a charge point must ensure the charge point meets the security requirements set out in Schedule 1 to the Regulations, which are mostly based on the existing cyber security standard ETSI EN 303 645.
Assurance	Those selling a charge point must provide assurance that the charge point meets these requirements through provision of a statement of compliance and technical file and keep a record of all sales for 10 years following the date at which the legislation comes into force.

## Smart functionality

- 3.2 A charge point must have smart functionality. This is defined as meeting all four of the criteria stated in the following table:

<b>Table 5. Criteria required to meet smart functionality (must meet all four criteria)</b>
Ability to send and receive information via a communications network.
Ability to respond to information received from this communications network by: <ul style="list-style-type: none"> <li>• increasing or decreasing the rate of electricity flowing through the charge point</li> <li>• changing the time at which electricity flows through the charge point</li> </ul>
Ability to use this functionality to provide <b>demand side response (DSR)</b> services, including <b>response DSR services</b>
Have at least one user interface that allows the charge point to be operated in accordance with the Regulations, incorporated into the charge point or otherwise made available to the <b>owner</b>

- 3.3 **Response DSR services** refer to instances where charge points are controlled by a third party to provide a service to the grid.

## Electricity supplier interoperability

- 3.4 To ensure consumers are protected from lock-in, a charge point must not be designed or configured in such a way that it would cease to have smart functionality if the **owner** were to change their electricity supplier. This means a charge point must always retain its full smart functionality (as defined in the Regulations), regardless of the **owner's** electricity supplier.
- 3.5 Following a change in electricity supplier, a change in the way smart functionality is delivered is acceptable (for example, the **owner** requiring a new smartphone app to manage their charge point) provided the minimum smart functionality remains.

- 3.6 Likewise, the charge point would not be expected to retain smart charging settings following a change of supplier. For example, the **owner** may be prompted to set new **default charging hours** and other preferences in their new supplier’s smartphone app; it is not expected that these would be automatically transferred as part of the change of supplier.
- 3.7 The loss of any additional smart functionality above the minimum specified in the Regulations is acceptable.
- 3.8 However, a change of electricity supplier must not mean that the **owner** needs to purchase a new charge point to maintain smart charging functionality.

### Loss of communications network access

- 3.9 To achieve smart functionality, charge points will need to rely on a communications network such as Cellular, Ethernet, or Wi-Fi to send and receive signals.
- 3.10 A charge point must be configured such that when it loses communications network connectivity it is still able to charge an EV, to ensure **owners** are still able to charge their vehicles.
- 3.11 The Regulations do not specify how charge points should operate in the event of a loss of connection beyond them just being able to charge an EV.
- 3.12 One route to compliance with this requirement may be through implementing European Telecommunications Standards Institute (ETSI) EN 303 645 – see “Security” sub-section below for further details.

### Safety

- 3.13 A charge point must be designed or configured in such a way that the **owner** or other end-user cannot carry out specific operations that may result in a risk to the health and safety of themselves or others.
- 3.14 Existing product legislation sets out safety legislation that charge points will be subject to, including product safety legislation (please refer to Section 5, “Other regulations that may apply” for a non-exhaustive list).
- 3.15 The Regulations set out additional safety requirements specific to smart functionality only. This means a charge point must prioritise safety over the following operations:
- Overriding the default mode of charging during the default hours;
  - Overriding the provision of **demand side response** services; or
  - Overriding the random delay.

### Measuring system

- 3.16 A charge point must monitor consumption data and provide a method for **owners** to view the information from the preceding 12 months. This information is intended for the purposes of informing consumers on their electricity consumption.
- 3.17 Information can be derived either through calculation or direct measurement (for example, by a meter within the charge point).
- 3.18 A charge point must also have the capability to measure or calculate every one second the electrical power it has imported or exported in watts or kilowatts and must be capable of providing this information via a communications network. This

information is intended to enable response DSR services, should a charge point owner wish to engage with such DSR services.

- 3.19 The Regulations do not mandate that this power data must be used to calculate the electricity values, nor do they mandate that this power data must be stored on the charge point.
- 3.20 The **owner** must be able to view this information over a user interface. The form and location of user interface is not mandated and there is no specification for how this information is presented to the **owner**.
- 3.21 Physical interfaces on the charge point or virtual interfaces, such as mobile applications and online web interfaces, are all forms of acceptable user interfaces.
- 3.22 All information referenced in this sub-section must be accurate to within 10%, and any inaccuracies must not be systematic. An inaccuracy is systematic if, as a consequence of the charge point’s design or manufacture, it is consistent or predictable.
- 3.23 While not a requirement of the Regulations themselves, compliance with the **Measuring Instruments Regulations 2016 (MIR)** may be required if the charge point contains a meter that meets the definition of a measuring instrument for the purposes of MIR.

### Off-peak charging

- 3.24 Energy demand on the grid in Great Britain currently follows predictable patterns, with a large peak in demand in the weekday evenings and a smaller peak in the weekday mornings. The peaks vary depending on the season and location in the UK.
- 3.25 For the purposes of the Regulations, **peak hours** are defined as between 8am and 11am, and 4pm and 10pm on weekdays. Peak hours do **not** apply at weekends.
- 3.26 A charge point must meet the requirements for at least one of two pathways for compliance with the off-peak charging requirements set out by the Regulations:

Table 6. Pathways for compliance with the off-peak charging requirements of the Regulations	
Pathway	Requirements
Default off-peak charging	<p>Charge point must:</p> <ul style="list-style-type: none"> <li>• be set up to have <b>default charging hours</b> outside of <b>peak hours</b>; and</li> <li>• provide the <b>owner</b> with the opportunity to change or remove these hours at both initial and future uses.</li> </ul>
Demand Side Response	<p>A charge point seller is not required to meet the above requirements if a charge point:</p> <ul style="list-style-type: none"> <li>• is sold with a <b>DSR</b> agreement;</li> <li>• is set up to be able to meet the <b>DSR</b> agreement; and</li> <li>• includes details of the <b>DSR</b> agreement in the statement of compliance that accompanies the sale.</li> </ul>

### Default off-peak charging

3.27 To encourage **owners** to engage in smart charging offers, a charge point must be set up such that there are pre-set **default charging hours**, and that these are outside of **peak hours**. However, the **owner** must be able to override the default mode of charging during the **default charging hours**.

3.28 A charge point must be set up such that when it is first used, the **owner** is given the opportunity to:

- accept the pre-set **default charging hours**;
- remove the pre-set **default charging hours**; and
- set different **default charging hours**.

3.29 After the charge point is first used, it must then allow the **owner** to:

- change or remove the **default charging hours** if these are in effect; or
- set **default charging hours** if none are in effect.

Table 7. Opportunities for pre-set default charging to be reviewed	
Time	Activity
At first use of charge point	<pre> graph TD     A[Charge point gives user the opportunity to review default charging hours over one of the charge point's user interfaces] --&gt; B[Accept pre-set default charging hours]     A --&gt; C[Set different pre-set default charging hours]     A --&gt; D[Remove pre-set default charging hours]         </pre>
At any point after first use of charge point	<pre> graph TD     B --&gt; E[Change, remove, or override default charging hours already in effect]     C --&gt; E     D --&gt; F[Set default charging hours]         </pre>

3.30 This is required to ensure **owners** are informed of and understand the default settings. It also preserves user choice to ensure **owners** are always in control of their EV charging patterns.

### Demand Side Response

3.31 Default off-peak charging schedules should help reduce demand at peak times, but smart charging achieved through **DSR** services will likely provide greater benefit to the energy system.

3.32 For this reason, the requirement for charge points to have pre-set default charging does not apply if the following three points are true:

- the charge point is sold with a **DSR** agreement;
- the charge point is configured to comply with the requirements of the **DSR** agreement; and

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- details of the **DSR** agreement are included in the statement of compliance.
- 3.33 For the purposes of the Regulations, **DSR** agreements will generally include:
- Electricity tariffs that charge consumers a reduced rate for electricity at certain times of the day (e.g., Time of Use tariffs).
  - Other DSR services where charge points are controlled by a third party to provide flexibility services to network operators.
- 3.34 A DSR agreement is defined in the Regulations as an agreement pursuant to which the **owner** of a relevant charge point has agreed that the relevant charge point will provide demand side response services.
- 3.35 This agreement for the provision of demand side response services can be between a charge point owner and any other party including, but not limited to
- Energy suppliers.
  - Demand Side Response service providers.
  - Premises freehold owner or an intermediary acting on their behalf.
  - Premises network connection owner or an intermediary acting on their behalf.
- 3.36 A charge point must also be configured such that the **owner** can override the provision of **DSR** services (for example by manually instructing the charge point to charge an electric vehicle at a time outside the low-cost period of a ToU tariff).

Table 8. Use cases of charge points that meet the off-peak charging requirements	
Pathway	Use case
Default off-peak charging	<p>An <b>owner</b> buys a charge point that is not bundled with any <b>DSR</b> agreement.</p> <p>At first use, the <b>owner</b> is presented with the opportunity to review, change, or cancel the <b>default charging hours</b> to align with their preferences.</p> <p>At any time after this first use, the <b>owner</b> is able to change or remove the <b>default charging hours</b> or set <b>default charging hours</b> if none are currently in effect.</p>
Demand Side Response	<p>An <b>owner</b> buys a charge point in a bundle with a ToU tariff. The charge point is set up in line with the tariff and details of the tariff are documented in the charge point's statement of compliance.</p> <p>The charge point does not need to meet the default off peak charging mode requirements in the regulations. It does not need to be pre-set to not charge at peak times.</p>
Demand Side Response	<p>An <b>owner</b> buys a charge point in a bundle with a response mode <b>DSR</b> agreement. The charge point is set up in line with the agreement and details of the agreement are documented in the charge point's statement of compliance.</p>

	The charge point does not need to meet the default off peak charging mode requirements in the regulations. It does not need to be pre-set to not charge at peak times.
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## Randomised delay

- 3.37 Maintaining grid stability is a key Government policy objective for smart charging. There is a risk that a large number of charge points could start charging or change their rate of charging simultaneously, for example when recovering from a power outage or in response to an external signal such as a ToU tariff. This could cause a spike or sudden drop in demand and destabilise the grid.
- 3.38 To mitigate this, the Regulations set out requirements for randomised delay functionality. Applying a randomised offset ensures grid stability by distributing demand placed on the grid, gradually ramping up the electricity demand over time in a way that is more manageable for the network.
- 3.39 The requirement to operate with a randomised delay is separate to the off-peak charging requirement set out in Regulation 10.
- 3.40 A charge point must be configured to operate a default randomised delay of up to 600 seconds (10 minutes) at each charging instance (that is, any switch in load that is on, up, or down). The exact delay must:
- be of a random duration between 0 to 600 seconds;
  - be conferred to the nearest second; and
  - be of a different duration each charging instance.
- 3.41 In addition, the charge point must be capable of remotely increasing this randomised delay up to 1800 seconds (30 minutes) in the event this is required in future regulation.
- 3.42 There are certain charging scenarios where this functionality is not desirable, particularly if an immediate response is needed from the charge point. Charge points must be configured such that a randomised delay will not happen when:
- the **owner** or end-user has cancelled the randomised delay by manually overriding it;
  - an equivalent random delay has already been applied to the operation of the charge point in respect to this time (for example, by a smart meter); or
  - the charge point is responding to a **response DSR** service, as defined in the Regulations, including fast frequency response.
- 3.43 OPSS currently do not intend to enforce the requirement to operate with a randomised delay of up to 600 seconds, under regulation 11 (2)(a), in instances where a charge point is:
- responding to a signal to draw electricity generated behind the boundary meter point (for example, from Solar PV on the charge point owner's premises).
  - responding to a signal to draw electricity from a storage source behind the boundary meter point (for example, from a battery on the charge point owner's premises).

- responding to a signal behind the boundary meter point to decrease the rate of charge in order to keep within a premise's connection limit.

## Security

- 3.44 The requirements in Schedule 1 of the Regulations do not apply to charge points which are sold before 30 December 2022.
- 3.45 The requirements in Schedule 1 of the Regulations are intended as outcome-based provisions, allowing manufacturers to meet them through a range of technological approaches.
- 3.46 The cybersecurity requirements in Schedule 1 are based on the provisions in the Department for Digital, Media, Culture, and Sport's (DCMS) **Internet of Things (IoT) Code of Practice** and **ETSI EN 303 645**, along with additional requirements on security logging and physical protection derived from **PAS 1878**.
- 3.47 A summary of these requirements and a comparison to the related requirements in ETSI EN 303 645 and the Code of Practice can be found in table 9.

## Software

- 3.48 A charge point must be configured to check, when it is first set up by the owner, and periodically thereafter, whether there are security updates available for it. The OPSS recognise that this process may not always be immediate and will allow for a reasonable time frame for the device to connect to the system and verify whether any updates are required.

## Secure Boot

- 3.49 The Regulations require that the charge point notifies the owner of an unauthorised change to the software, and that, in this circumstance, it doesn't connect to a communications network other than to make this notification.
- 3.50 This notification to the owner of an unauthorised change to software relies on the charge point being able to enter a state after the unauthorised change to software where it has the ability to communicate to the owner.
- 3.51 The ETSI EN 303 645 and the Internet of Things Code of Practice both detail how this state could be a 'known good state' such as locally storing a known good version to enable safe recovery and updating of the device.

## Secure communications

- 3.52 The Regulations state that communications sent from the charge point must be encrypted. This is interpreted to mean all communications sent from the charge point.

## Data Inputs

- 3.53 The Regulations do not specify where data must be stored, therefore, it is for the manufacturer or seller to determine where data may be stored.

## Protection against attack

- 3.54 Paragraph 8 (1) of Schedule 1 requires a relevant charge point to be designed and manufactured to provide an adequate level of protection against physical damage to the charge point. Paragraph 8 (2) expands on what is meant by an adequate level of

protection, saying that “In particular”, the charge point must incorporate a “tamper-protection boundary to protect the internal components of the charge point.”

- 3.55 For the purposes of these Regulations, ‘internal components’ may be interpreted as including security sensitive components but can exclude parts of the device that the end user can be expected to access as part of the normal operation of the charge point. Security sensitive components are parts of the device where access would compromise the confidentiality and/or data integrity of security sensitive information, for example this could include: Personal Data, consumption data, security credentials, random number generator, cryptographic algorithms, metrology, or firmware.
- 3.56 Other parts of the device may also be protected by the tamper-protection boundary at the seller’s discretion, in order to adequately protect against physical damage.
- 3.57 In Schedule 1, paragraph 10, the requirement for a security log of any attempted breaches of a tamper-protection boundary necessitates a tamper-protection boundary that can electronically record such attempted breaches (with the exception of when the device is disconnected from mains power).
- 3.58 Subsequently, a charge point would not meet all the requirements of the Regulations if it only contained a tamper-protection boundary which notified the owner of attempts to breach the tamper-protection boundary (e.g., through a broken sticker or seal, or through a digital notification) but was not able to log attempted breaches.
- 3.59 The tamper-protection boundary is only expected to be in effect when the charge point is connected to power. It does not need to be in effect if the charge point loses power, therefore a charge point is not required to have a power supply in addition to the mains. In addition, if the charge point detects a breach of the tamper-protection boundary, it is not required to shut down or cease being operational.

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Table 9. Summary of device-level security requirements				
Requirement	Brief description of requirement	Related ETSI requirement	Related Code of Practice requirement	Related PAS 1878 requirement
General principles	A charge point must protect against the risk of harm to, or disruption of, the electricity system;	N/A – general principles not drawn from specific requirements		
	A charge point must protect against the risk of harm to, or disruption of, the charge point; and	N/A – general principles not drawn from specific requirements		
	A charge point must protect personal data of the <b>owner</b> and any other end-user.	N/A – general principles not drawn from specific requirements		
Passwords	Passwords must be unique to the charge point and not derived from, or based on, publicly available information; or set by <b>owner</b> ; and	5	1	6.3
	Password cannot be reset to a default password applying to both the charge point and other charge points.	5	1	N/A
Software	A charge point must incorporate software that can be securely updated;	5.3-1	3 & 7	6.10
	This means it is updated using adequate cryptographic measures to protect against a cyber-attack undertaken using the charge point’s software update mechanism;	5.3-2	3 & 7	6.10
	A charge point must check for available security updates when first set up by <b>owner</b> and periodically thereafter;	5.3-5	3 & 7	N/A
	A charge point must verify authenticity and integrity of prospective updates by reference to data’s origin and contents, and only apply the update if authenticity and integrity is validated;	5.3-9	3 & 7	6.10
	Software update notifications are provided to the <b>owner</b> by default;	5.3-11	3 & 7	N/A
	The <b>owner</b> can implement updates without undue difficulty;	5.3-3	3 & 7	N/A

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	A charge point must verify via secure boot mechanisms that its software has not been altered beyond the expected software updates; and	5.7-1	3 & 7	6.9
	If unauthorised software changes are detected, the charge point must notify the <b>owner</b> and not connect to a communications network other than for this notification.	5.7-2	3 & 7	6.9
Sensitive security parameters	Any security credentials stored on the charge point must be protected using robust security measures; and	5.4-1	4	6.11
	Software must not hard-code security credentials (that is, include the security credentials in the source code).	5.4-3	4	N/A
Secure communication	Communications sent from the charge point must be encrypted.	5.5	5	6.14.3.1
Data inputs	Data inputs to the charge point (such as those input via a user interface, application programming interface, or communications network) must be verified so that the type and format of the data is consistent with what is expected for its function; and	5.13	6	6.12
	If data cannot be verified, it is discarded or ignored in a safe way.	5.13	6	6.12
Ease of use	A charge point must minimise the inputs required from the <b>owner</b> in terms of its set-up and operation; and	5.12-1	12	N/A
	Personal data must be able to be deleted from the charge point by the <b>owner</b> without undue difficulty.	5.11-1	8 & 11	7.13
Protection against attack	A charge point must be designed and manufactured to provide adequate protection against physical damage to it, including incorporating a tamper-protection boundary to protect its internal components;	N / A – requirement drawn from PAS 1878		7.12

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	A charge point must be designed and manufactured to provide adequate protection for its user interfaces and against use or attempted use through means other than its user interface;	N / A – requirement drawn from PAS 1878		
	Any attempts to breach the tamper-protection boundary must be notified to the <b>owner</b> ;	N / A – requirement drawn from PAS 1878		
	Software must run with minimum level of access privileges to deliver functionality;	5.6-7	6	N/A
	Any logical or network interfaces not required for normal operation or to comply with these Regulations are disabled;	5.6-1	6	N/A
	Software services are not available to the <b>owner</b> unless necessary for charge point operation; and	5.6-5	6	N/A
	Hardware interfaces used for the purpose of testing or development but not operation are not exposed.	5.6-4	6	N/A
Security log	A charge point must incorporate a security log (an electronic record on the charge point of events relevant to its security). This should include attempts to breach the tamper-protection boundary, tamper with the charge point, or gain unauthorised access to the charge point; and	N/A – requirement drawn from PAS 1878		6.11, 6.13.1
	Entries in the security log must record, by reference to Coordinated Universal Time, the time and date on which the event occurred.	N/A – requirement drawn from PAS 1878		
Provision of information	Information must be provided with the sale of a charge point specifying how the <b>owner</b> can report concerns or problems identified regarding the charge point's security, including contact details to report these concerns;	5	2	6.13.2
	Information must be provided with the sale of a charge point specifying the period (if any) for which software updates will be provided by or on behalf of its manufacturer;	5.3-13	3	N/A

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Information must be provided with the sale of a charge point that provides guidance on how to set it up with adequate security protection; and	5.12-2	12	N/A
Information must be provided with the sale of a charge point that includes instructions on how to delete personal data from the charge point.	5.11-3	8	N/A

## British Standards Institute standards for energy smart appliances and demand side response operation

- 3.60 The Regulations were developed alongside commissioning the British Standards Institute (BSI) to develop Publicly Available Specification (PAS) 1878 and 1879. **PAS 1878** provides a technical specification that allows domestic appliances to operate in a **DSR** system. **PAS 1879** provides recommendations for the provision of **DSR** services by service providers. Together, these standards provide a framework for Energy Smart Appliances (ESAs) and **DSR** operation, and address gaps in the previous standardisation landscape.
- 3.61 The requirements set out in the Regulations are outcome-based and describe the functionality required of smart charge points. While both PAS 1878 and 1879 are intended to be read together and are both relevant to the Regulations, PAS 1878 has a similar device-level focus to the Regulations and therefore is most relevant.
- 3.62 The technical framework set out in PAS 1878 prescribes how domestic **DSR** can be implemented. This provides an option for smart charging but is not a complete solution for meeting the Regulations as there are additional requirements in the Regulations that are outside the scope of PAS 1878. These additional requirements are:
- Electricity supplier interoperability
  - Loss of communications network
  - Safety
  - Off-peak charging
  - Assurance
- 3.63 Reference to PAS 1878 may be useful when considering the smart functionality, measuring system, and randomised delay requirements of the Regulations. However, attention should still be paid to the remaining differences.

## Assurance

### Statement of compliance

- 3.64 A charge point must be accompanied by a statement of compliance when the charge point is sold.
- 3.65 The statement of compliance is a document which must contain:
- identification of the charge point by reference to its model or type;
  - statements that the charge point complies with the Regulations and that the seller is responsible for ensuring that the charge point complies with the Regulations;
  - name and address of the seller; and
  - signature of the seller (or on behalf of the seller) with date.
- 3.66 The Regulations do not mandate the use of any set format; however, sellers may find it helpful to **use the template available on GOV.UK**. Any alternative format used must meet the requirements of the Regulations.
- 3.67 The seller at each point of the supply chain is responsible for providing an accurate statement of compliance with a charge point when a charge point is sold.

- 3.68 The Regulations do not specify a format for the statement of compliance; therefore, it can be provided in any combination of digital or paper document.
- 3.69 If a number of charge points are being sold in bulk, on the same day, by the same seller, and the charge points are all of the same model or type, compliant with the Regulations in the same way, and, therefore, the statement of compliance contains the same information, then it is reasonable that a single statement of compliance could be provided to accompany all the charge points within that bulk purchase.
- 3.70 If a charge point is sold with a Demand Side Response (DSR) agreement, the statement of compliance should contain sufficient information about the DSR agreement that OPSS can determine that the DSR agreement meets the definition provided for in the Regulations and this guidance (see 3.34-35) and can confirm that the device is configured correctly at the point at which it is sold.

### Technical file

- 3.71 A technical file must also be available to the purchaser on request for each charge point sold. Sellers may find it helpful to proactively provide or offer the technical file to purchasers in the supply chain who are not end-users.
- 3.72 The technical file must include:
- a general description of the charge point;
  - details of the version of the software operating on the charge point at time of sale;
  - the design, manufacture, and operation of the charge point; including written descriptions in plain English of any diagrams or drawings used;
  - a copy of the charge point's operating manual;
  - written descriptions in plain English of the solutions adopted to meet the requirements of the Regulations; including written descriptions in plain English of any diagrams or drawings used; and
  - copies of any test reports that have been completed and deemed relevant to proving compliance with the Regulations.
- 3.73 The Regulations do not mandate the use of any set format; however, sellers may find it helpful to **use the template available on GOV.UK**. Any alternative format used must meet the requirements of the Regulations.
- 3.74 The Regulations do not prohibit the use of existing documentation (e.g., the technical file available when a charge point is purchased) as the basis for updated versions. If a seller is changing a charge point in a way which impacts the technical file (e.g., installing further software on the charge point) before selling on to customers, this should be reflected in the technical file available.
- 3.75 Technical files must be up to date at point of sale.
- 3.76 The seller at each point in the supply chain is responsible for having an accurate technical file available when a charge point is sold.

### Register of sales

- 3.77 A register of all smart charge points sold (starting from the point the regulations come into effect – 30 June 2022) must be kept by any person selling charge points.

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- 3.78 The Regulations do not mandate the use of any set format; however, sellers may find it helpful to **use the template available on GOV.UK**. Any alternative format used must meet the requirements of the Regulations.
- 3.79 The seller at each point of the supply chain is responsible for maintaining their own register of sales.
- 3.80 Entries in this register must be maintained for 10 years.

<b>Table 10. Summary of assurance documents required</b>			
<b>Document</b>	<b>Intent</b>	<b>Completed by</b>	<b>Provided to</b>
<b>Statement of compliance</b>	Provide consumer confidence Provide evidence to support the enforcement agency (OPSS) in assessing compliance	The seller	Made available with every charge point at point of sale (that is, included in the box or operating manual) Made available to the enforcement agency (OPSS) on request
<b>Technical file</b>	Provide consumer confidence Provide evidence to support the enforcement agency (OPSS) in assessing compliance	The seller. Sellers may wish to engage the manufacturer for support in preparing this document	Available to <b>owner</b> on request from point of sale (though there is no expectation to share it unless it is requested) Made available to the enforcement agency (OPSS) on request
<b>Register of sales</b>	Help the enforcement agency (OPSS) track non-compliance through the supply chain	The seller	Made available to the enforcement agency (OPSS) on request

## 4 The role of the Office for Product Safety and Standards

- 4.1 The Office for Product Safety and Standards (OPSS) is part of BEIS and will act on behalf of the Secretary of State as the enforcement authority responsible for ensuring compliance with the Regulations.
- 4.2 OPSS operate across a range of sectors with a focus on technical, environmental, and product-based regulations. Across all the areas in which they deliver regulation, their aim is to support and enable businesses to meet their obligations: the intention is to give compliant businesses the confidence to innovate, invest and grow, while ensuring the necessary protections are in place. OPSS take proportionate action in response to non-compliance, including tackling those that put people or the environment at risk and businesses that may gain an economic advantage by ignoring their compliance obligations.
- 4.3 The OPSS approach to carrying out regulatory activities is explained in their **Service Standards**. OPSS act in accordance with the **Regulators' Code**, the **Growth Duty**, and the statutory principles of good regulation, aiming to deliver its regulatory activities in a way that is proportionate, consistent, targeted, accountable, and transparent.
- 4.4 OPSS ensure that information, guidance, and advice are available to help those they regulate to understand and meet legal requirements. Enquiries and requests for guidance or advice can be made by contacting OPSS by the following means:
- Email: [evscp@beis.gov.uk](mailto:evscp@beis.gov.uk);
  - Online enquiry form: [www.rohs.bis.gov.uk/enquiry](http://www.rohs.bis.gov.uk/enquiry);
  - Telephone: 0121 345 1201; or
  - Post: Office for Product Safety and Standards, PO Box 17200, Birmingham B2 2YT.
- 4.5 OPSS carry out inspections and other activities to check compliance with legal requirements, targeting these checks where OPSS believe they are most needed.

### Non-compliance

- 4.6 OPSS are committed to dealing with non-compliance with legal requirements in a manner proportionate to the nature, seriousness, and circumstances of the offence, as set out in their **Enforcement Policy**. OPSS use compliance advice, guidance, and support as a first response to many breaches, where they consider this effective and proportionate.
- 4.7 OPSS aim to deliver enforcement that is fair and objective, while also being robust, credible, and consistent with the intentions of the legislation. However, they will deal firmly with those that deliberately, persistently, or recklessly fail to comply with their obligations, using the powers set out in Schedule 2 of the Regulations.
- 4.8 When OPSS take enforcement action or make a regulatory decision in relation to a business or other body that they regulate, they will always provide a clear and timely explanation of any associated right to appeal. Further information on rights to appeal is available in the **Challenges and Appeals Guidance**.

## 5 Other regulations and requirements to note

5.1 The Regulations do not replace other regulatory or legislative requirements, or general product safety expectations.

### 5.2 Electric vehicle grant schemes

As stated in section 2, “Scope”, the requirements set out in the Regulations interact with the requirements of the following EV grant schemes:

- The Electric Vehicle Homecharge Scheme:  
<https://www.gov.uk/government/publications/electric-vehicle-homecharge-scheme-minimum-technical-specification/electric-vehicle-homecharge-scheme-minimum-technical-specification>
- The Workplace Charging Scheme:  
<https://www.gov.uk/government/publications/workplace-charging-scheme-minimum-technical-specification>

### 5.3 Measuring instruments

As stated in the “Measuring system” sub-section of section 3, “Guidance on business obligations”, while not a requirement of the Regulations, compliance with the Measuring Instruments Regulations 2016 (MIR) may be required if the charge point contains a meter that meets the definition of a measuring instrument for the purposes of MIR:

<https://www.gov.uk/government/publications/measuring-instruments-regulations-2016>

### 5.4 Data privacy

- The UK General Data Protection Regulation (“UK GDPR”):  
<https://ico.org.uk/for-organisations/dp-at-the-end-of-the-transition-period/data-protection-and-the-eu-in-detail/the-uk-gdpr/>
- The Data Protection Act 2018:  
<https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>
- The Privacy and Electronic Communications (EC Directive) Regulations 2003 (“PECR”):  
<https://www.itgovernance.co.uk/the-pecr-and-eu-eprivacy-directive>

## 6 Glossary of terms

6.1 The following table provides a glossary of terms used in this guidance document; however, [the Regulations](#) should be consulted for the precise definitions of all terms used throughout this document.

Term	Definition
Car	Motor vehicle with not more than eight seating positions in addition to the driver's seating position and without space for standing passengers, regardless of whether the number of seating positions is restricted to the driver's seating position  (Category M <sub>1</sub> as defined in <a href="#">Regulation (EU) 2018/858</a> ).
Default charging hours	Default period of the day during which a charge point charges a vehicle, regardless of the time the vehicle is first connected to it.
Demand side response (DSR)	Any activity carried out with the purpose of adjusting the electricity demand to help balance the grid.
Non-smart charging cable	An electrical cable which can be used to charge an EV, but which is not able to send and receive information.
Owner	The end-user to whom a charge point is sold. In the case of a workplace charge point, this is the person to whom a charge point is sold and who makes the relevant charge point available for use as a workplace charge point
Peak hours	8am – 11am on weekdays and 4pm – 10pm on weekdays.
Private charge point	A charge point which is not a public charge point. It is likely to be intended (that is, designed and marketed) to be used by people who fall into one of the following categories: <ul style="list-style-type: none"> <li>• Occupiers of domestic premises and their visitors; or</li> <li>• People while at their place of work (including visitors), including those charging at most depots in the case of fleet drivers.</li> </ul>
Public charge point	A charge point which is intended (that is, designed and marketed) for use primarily by members of the general public. This includes charge points in the following locations: <ul style="list-style-type: none"> <li>• Public roads; or</li> <li>• Public and privately-owned car parks, whether or not those car parks are available only to consumers of specific goods or services.</li> </ul> <p>These charge points may be subject to the requirements of the <a href="#">Alternative Fuels Infrastructure Regulations 2017</a>.</p>

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Rapid charge point	A charge point that allows for a transfer of electricity to an electric vehicle with a power of not less than 50 kilowatts.
Response DSR services	Instances where charge points are controlled by a third party to provide a service to the grid.
Van	Motor vehicle with a maximum mass not exceeding 3.5 tonnes (Category N <sub>1</sub> as defined in <a href="#">Regulation (EU) 2018/858</a> ).

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