Technical File

The Electric Vehicles (Smart Charge Points) Regulations 2021

TF-00005

Contents

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

Charge point make:	myenergi
Charge point model:	ZAPPI-3AS07T-G
Software version at point of sale:	From V5.716
Seller: *Person responsible for compliance with the Regulations*	myenergi Ltd, Pioneer Business Park, Faraday Way, Stalling-borough, Grimsby, DN41 8FF, UK
Manufacturer(s): *If different to seller*	N/A
Last update to technical file:	Rev A - 15/05/2025

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.

Zappi-3AS07T-G is a MODE 3 electric vehicle charger, designed for use in residential applications and it is manufactured for the UK market and include a built-in tamper detection device. zappi has a LED indicator and can be used in conjunction with the myenergi app and myenergi account to control the charge point. zappi is part of myenergi's range of eco-smart products, which aim to maximise the use of self-generated electricity, from solar or wind power (although there is no requirement to have your own generation to use zappi). It can be used standalone, or in conjunction with other myenergi devices. zappi is designed at myenergi's facility in Grimsby and manufactured in the United Kingdom or Ireland. zappi is designed and tested in accordance with the product standard EN IEC 61851-1. zappi complies with the following standards: EN IEC 61851-1, EN IEC 61851-21-2, EN 62196-2, EN 300 220-2, EN 300 330, EN 300 328, EN 301 489-1/3/17, BS EN 62311, EN IEC 63000, A full technical specification can be found at: https://support.myenergi.com/hc/article_attachments/35219137084433

Operating manual

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)
	X	Available online via hyperlink (soft copy)
Link if available online:	Current Version of manual: https://support.myenergi.com/hc/article_attachments/35219457384081	
Version of file received at point of sale if available online:	PM-00025 Rev D	

Technical solutions implemented to meet the requirements of the Regulations

Smart functionality

Requirement	Technical solution adopted to meet the requirement
Charge point is able to send and receive information via a communications network	zappi is connected to the internet through your home broadband connection. Depending on your installation this can be achieved by: 1. Using zappi's onboard WiFi to connect to your home broadband router. 2. The myenergi hub, which communicates between zappi, other myenergi devices and your home broadband router. (This is the case if you have a physical myenergi hub). 3. By using another myenergi device in your home, which acts as a virtual hub for all myenergi devices in your property. The information flow between zappi and myenergi is bidirectional, allowing zappi to send information to myenergi servers and myenergi servers to send commands to zappi.
Charge point is able to respond to signals or other information received by it by: • Increasing or decreasing the rate of electricity flowing through the charge point • Changing the time at which electricity flows through the charge point	Your zappi can communicate with myenergi servers over an internet connection. Your charge point is capable of receiving commands from myenergi's systems to increase or decrease the electricity flowing through the charge point. Commands can also be used for adjusting the scheduled charging periods (Boosts). These commands also include the ability to remotely start or stop charging. zappi can be controlled by the myenergi app, which sends commands to myenergi servers over an internet connection. Where your zappi is enrolled in a Demand Side Response (DSR) service, zappi is able to interpret commands from the myenergi server, to adjust its charging behaviour.

Charge point is capable of using this functionality to provide demand side response services, including response DSR services	Your charge point can receive commands from myenergi servers, which allow it to take part in Demand Side Response (DSR) services. DSR services involve signals being sent to your charger to increase or decrease the flow of electricity, through the charger, in response to changes on the electricity grid. These services include load reduction (reducing the amount of electricity flowing through the charge point) and frequency response services. (Increasing or decreasing electricity flowing through the charge point, in response to the frequency of the electricity grid). DSR is an optional feature, by default you will not be opted into DSR Services. You can opt into, or out of DSR Services in the myenergi app. The feature is currently in Beta and may not be available to all users, however this does not affect your charger's ability to take part in DSR services in the future. You can also provide your electricity tariff information in the myenergi myaccount and zappi will schedule a charging session based on this information, and the time your vehicle needs to be ready by. Pricing can be set for each 30-minute time period.
Charge point has at least one user interface, incorporated in the charge point or otherwise made available to the owner	myenergi offers two (2) user interfaces for use with the zappi charger: • The myenergi app, which is available for iOS and Android devices. • The myenergi myaccount, which is a web portal that can be accessed from a web browser on your phone, tablet, or computer. https://myaccount.myenergi.com The myenergi app can be used for monitoring and controlling charging sessions. The myenergi app allows the following functionality, with regards to the smart charging regulations: • Ability to remotely start and stop charging sessions. • Triggering an immediate charge session with an RFID key or the myenergi app. • Ability to change or remove the default off-peak charging schedule.

	• Ability to reinstate the off-peak charging schedule if it has been removed. The myenergi myaccount can be used to download up to 13 months of charging history for your zappi. Charging history can be viewed on a line-by-line basis and exported in CSV or Excel file types.

Electricity supplier interoperability

Requirement	Technical solution adopted to meet the requirement
Charge point is configured such that is will not cease to have smart functionality if the owner changes their electricity supplier	zappi works with all UK energy providers - your charge point will work regardless of your energy provider. If you move suppliers your charge point will be unaffected, and your smart charging settings will remain the same. If you use the optional zappi features, such as matching your charging schedule to your electricity tariff, you can update your energy tariff in the myaccount portal. https://myaccount.myenergi.com

Loss of communications network access

Requirement	Technical solution adopted to meet the requirement
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	zappi is designed to work without an internet connection. However, we recommend keeping your zappi connected to the internet, so you can benefit from additional features and firmware updates. zappi has an LED indicator and RFID functionality, which can be used to start and stop charging if an authenticated card is presented to the device. Features such as load management use local radio or a WiFi network within your home to communicate in an offline scenario. If there is a problem with the internet connection, zappi will continue to operate and can be used to charge an EV using the local controls if needed. zappi stores charging history on the device for a period of up to 7 days, on re-establishing a connection to the myenergi servers, zappi will attempt to upload charging

	history, that happened during the communications failure, ensuring charging data is not lost.

Safety

Requirement	Technical solution adopted to meet the requirement
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. "Relevant persons" means the owner, or an end-user of the relevant charge point who is not the owner. "Specified operation" means: • Overriding the default mode of charging during the default charging hours • Overriding the provision of demand side response services • Overriding the random delay	zappi is designed and tested in accordance with the Product Standard EN IEC 61851-1 Once installed and commissioned it will operate safely in any of the modes provided. Changing the mode, changing the default charging hours, overriding the provision of demand response services, or overriding the random delay can all be done safely by the end user, from the app. Should zappi identify a situation that poses a safety risk, zappi will enter a fault mode. The fault mode is indicated by the red myenergi logo on the front of the device. The user will be required to carry out a reboot procedure, after they have investigated and rectified the fault. This reboot procedure requires the user to physically hold their RFID key for 10 seconds on the device, before the zappi can be used for charging an electric vehicle again. In fault mode, charging will be stopped and the user will not be able to resume until the fault state is cleared. zappi will also ensure that installation limits, that have been set at your property, (such as a grid limit) are not exceeded by carrying out a specified operation. In the event that they are, zappi will prioritise the installation limits over the 'specified operations'

Measuring system

Requirement	Technical solution adopted to meet the requirement
On each occasion it is used, the charge point measures or calculates: • The electricity it has imported or exported (in watt-hours or kilo-watt-hours) • The amount of time for which it is importing or exporting electricity	zappi includes a metering circuit meets an accuracy that is equivalent to EN 50470-1/3 Class B (1%). zappi : 0.25 - 5(32)A eCTs : 0.25 - 5(100)A Energy (kWh) delivered to the EV is communicated to the myenergi server, so that it can be viewed by the end user in the charge history, in their online account or the myenergi app The charging history also provides details of when the vehicle was plugged in and out, and the duration that electricity was flowing through the charge point.
The charge point is configured such that the owner can view the information in reference to: • Any occasion on which it was used to import or export electricity within the past 12 months • Any month within the past 12 months • The entirety of the last 12-month period	myenergi account (https://myaccount.myenergi.com) will display charging history to the end user, detailing the following for each charging session: 1. Plugged in / Unplugged: Time and Date 2. Number of kWh delivered 3. Active time charging (Amount of time that electricity was flowing through the charge point). These logs will show historical data, for a period of 13 months from the start of logged data. Customers can view and export charging data on a line-by-line basis. The charging history will also be filterable to a weekly, monthly or a user defined time period, including the last 12-month period.
The charge point is configured such that it can: • 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	zappi measures the energy delivered to the electric vehicle every second, this is achieved by a metering circuit which meets the accuracy that is equivalent to the Measuring Instrument Regulations. (EN 50470-1/3 Class B) 1%. Energy (kWh) delivered to the EV is communicated to the myenergi server using the end user's home broadband connection.
The charge point is configured such that:	zappi includes a meter circuit which measures energy delivered to the vehicle.

• The figures measured or calculated are accurate to within 10% of the actual figure • Any inaccuracies are not systematic	zappi includes a metering circuit which meets the accuracy that is equivalent to the Measuring Instrument Regulations. (EN 50470-1/3 Class B) 1%.

Off-peak charging

Requirement	Technical solution adopted to meet the requirement
The charge point: • 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 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.	During first setup, zappi will power up in an un-commissioned state, using the myenergi installer assistant app, zappi will determine based on the location of install, if it is being installed in a scenario, where smart charging regulations apply. zappi will automatically be configured to charge between off-peak charging hours. Your zappi will also be commissioned with Smart Charging mode on by default, in this mode your charger will only charge in the following three scenarios: 1. During the schedule that you set in the app. 2. When surplus self-generation (wind or solar) is available. 3. Triggering a charge using your RFID key or the myenergi app. Users can (at any time): 1. Do nothing, and accept the default off-peak charging period 2. Change the off-peak charging period in the myenergi app 3. Remove the off-peak charging schedule, by going to the 'schedule' section in the myenergi app. 4. Change the default mode of zappi to 'Smart Charging' Off. This mode will ignore any schedules set and charge at maximum power 5. Reinstate the default off-peak charging hours in the myenergi app. This schedule can be changed by the user to meet their requirements.

The charge point is configured: • To charge a vehicle during the default charging hours (if any), unless the owner overrides the default mode of charging during this time • Such that the owner can override the provision of demand side response services	zappi will be configured in Smart Charging mode by default. In this mode zappi will only charge during your set schedule, or when surplus self-generated solar or wind is available. The user can override the default charging period by disabling Smart Charging mode or triggering a manual boost (Charge Now mode) in the myenergi app and RFID key Customers can override and opt in /out of DSR services in the myenergi app.

Randomised delay

Requirement	Technical solution adopted to meet the requirement
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.	zappi has a randomised delay function, which is built into the device. In Smart Charging mode (Schedule mode) zappi will calculate a delay to the nearest second, using a random number generator when: 1. Your zappi reaches the start of your scheduled charging time, where electricity is due to start flowing through the charge point. 2. Your zappi reaches the end of your scheduled charging time. The delay calculated can be up to 600 seconds (10 minutes). The delay is purely random and will differ each time. This status is indicated in the myenergi app. Randomised delay will not be active in scenarios where zappi is decreasing the electricity flowing through the charge point, in order to maintain DSR requirements.
The charge point is configured such that the maximum duration of this delay can be remotely increased to up to 1800 seconds if required.	Your zappi is capable of firmware updates using its internet connection. Should the UK Government decide to increase the delay in the future, your device will be issued a firmware update to increase the maximum length of the randomised delay.
The charge point is configured such that the random delay will not operate where: • The owner or another relevant end-user has manually overridden it	The delay at the start of a charging session can also be overridden by triggering the Charge Now boost in the myenergi app, after the electric vehicle has been plugged in. The randomised delay can also be overridden in the myenergi app. An in-app notification will appear when

• 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	a randomised delay is active. The user can override this delay, and start charging immediately, by pressing the 'charge now' button on the notification. A user can override randomised delay, at the end of their charging session in the myenergi app, by pressing the 'end now' button. When responding to DSR services, randomised delay does not apply.

Security

At myenergi we're passionate about ensuring that your zappi is secure and meets industry best practice, to protect against cyber-attacks. This part of our technical file explains the technical measures we have implemented in order to protect you, your home, and the energy grid from cybercrime. We appreciate that this can get technical, so for each section we have detailed the technical implementation and what this means for you in plain English.

Requirement	Technical solution adopted to meet the requirement
General principles The charge point is designed, manufactured, and configured to provide appropriate protection: • Against the risk of harm to, or disruption of the electricity system • 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	Your zappi is designed to protect you, your data, and the energy grid from harm. Your zappi has several security features which are designed to deter local or remote attacks on your zappi. The following principles have been applied to protect you: • We store sensitive and personal data in a secure manner and ensure appropriate access rights are in place. We store data in line with industry best practice. Sensitive user credentials such as passwords are stored using strong, industry standard hashing algorithms. • You can remove your data from our services at any time in accordance with our Privacy Policy: https://myenergi.com/terms-and-conditions/privacy-policy/ • Your zappi is designed to suspend operations, which will prevent connection when if firmware were to be compromised.

	• It is also designed to protect against attackers physically tampering with your zappi, and incorporates a monitoring and alerting system, to detect and deter such attacks. Your zappi is set up, so that by default such security features are switched on.
Passwords The charge point is configured such that where passwords are used on it: • 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	You can choose to protect your device using an RFID access card. Enabling this feature will require a tap of the RFID key, to start charging. You can turn this feature on in the myenergi app. We recommend you do this for greater protection. Your zappi is provided with a unique Registration Code, which is required when adding your zappi to the myenergi app. Once this Registration Code has been used, it cannot be used again until the corresponding zappi is removed from the myenergi app. The installation settings are also protected by a four-digit device pin, this is defined in the process of installing zappi, by the installer, via the installer assistant app. This four-digit password is needed to edit any of the protected settings in the installer app. **What this means for you:** It's important that passwords are protected; think of them like keys to your home. Our method above means your zappi uses a password which is unique (not used by any other zappi).
Sensitive security parameters The charge point is configured such that: • Security credentials stored on the charge point are protected using robust security measures • Software does not use hard-coded security credentials	Your zappi uses cryptographic keys to encrypt data, which are unique to your zappi. These keys are stored in a protected area which is resistant to tampering. Your zappi : • Has several unique keys provided to it before it leaves the factory. Your zappi does not contain any hardcoded security credentials. It is imperative that an installer downloads the latest updates on commissioning, to ensure compliance with the smart charging regulations. Failure to do so may result in non-compliance with the regulations. **What this means for you:** Using the previous analogy, think about keys you already have in your life. You wouldn't use the same key

	for your car, home, or every home in the street for that matter! You also wouldn't leave your key in the front door, where it could be stolen or copied. myenergi use sensitive security keys that are unique to your zappi; they don't work on any other zappi. These keys are kept in protected areas, so are resistant to being stolen.
Data inputs The charge point is configured such that: • 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	Your zappi will verify the type and pattern of data it is expecting to receive, this may include: • Checking the data is within a defined range • Verifying that the data follows the expected format and syntax • Checking the pattern of the data is expected • Checking that the data does not contain any escape, dangerous characters, or arbitrary code, that could result in unexpected behaviour • Validating and verifying data used for OTA firmware updates sent. If your zappi detects an unexpected input, your zappi is designed to handle the input as an error and the software will safely discard of the input. **<u>What this means for you:</u>** Attackers might try to trick a program into behaving in an unintended way, by providing information the zappi wasn't expecting to handle. This could cause the software to behave in an unexpected manner, or crash. To protect against this, we validate the inputs your zappi receives.
Ease of use The charge point is configured to minimise the inputs required from the owner in connection with its set-up and operation	Your zappi is commissioned using the myenergi installer assistant app. On first connection, the app will guide you or the Installer through a series of questions to determine the correct configuration for the installation. The user will be asked to setup necessary features such as: • Telling zappi the geographic location it's been installed in (For the purpose of determining if the smart charge point regulations apply) • Connecting zappi to a WI-FI network • Defining if the zappi is the first myenergi device or addition to an existing myenergi ecosystem.

	• Once commissioned and connected to the internet, zappi will perform checks continuously for new firmware to ensure it is up to date. **What this means for you:** Once zappi has been commissioned by your installer, it will be setup in compliance with the regulations. You can adjust the device settings at a later stage. By default, all necessary security protections are enabled.
Ease of use The charge point is configured such that any personal data can be deleted from it by the owner without undue difficulty	No personal data is held within zappi, except for the Wi-Fi credentials, which may be removed through your user account in the myenergi app. To remove your data from our online systems, please login to your online account at https://myaccount.myenergi.com and delete your account. **What this means for you:** You are in control of your data, in accordance with our privacy policy: https://myenergi.com/terms-and-conditions/privacy-policy/ This policy sets out how we use your data, how we store it and how long we'll retain it. If you choose to change your zappi in the future, or move home, you can securely delete your data from the zappi and our online services.
Protection against attack The charge point is designed and manufactured to provide an adequate level of protection against physical damage to the charge point	To protect against physical damage, your zappi has a IK10 rating. An IK rating is sometimes known as an 'impact rating' and defines the magnitude of the impact that your zappi is designed to withstand.
Protection against attack The charge point incorporates a tamper-protection boundary to protect the internal components of the charge point	Your zappi has a built-in tamper detection device, which monitors for attempted or successful breaches of the tamper protection boundary. **What this means for you:** Once zappi has been installed there should be no reason to open the case. If someone wanted to tamper with your zappi they would need to get inside, that's why we have fitted a tamper detection device. If the case is opened, zappi will detect this and record this in the security logs.

Protection against attack 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	Your charge point has been designed so that it is resistant to physical and cyber-attacks. Your zappi has been designed to: 1. Protect against physical intrusion 2. Protect against cyber-attacks on the user interfaces (including the myenergi app and associated programming interfaces, such as an API)
Protection against attack The charge point is configured such that: • 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	During the production of your zappi we disable any hardware interfaces which are not required for the operation of your charge point. (Such as development interfaces) The firmware on your zappi does not use admin privileges and your zappi's firmware only has the necessary permissions required for operation of your zappi. If the device detects a tamper event, i.e. that the case has been opened, zappi will: • Log a tamper event in its security log • Sends a log of the tamper event to the myenergi servers myenergi processes this tamper event and will email the owner of the zappi of a suspected tamper event. To ensure you receive these emails, please ensure you link your zappi to your myenergi myaccount and that your email address is up to date. A message will also be shown when zappi is in a tampered state in the myenergi app. **<u>What this means for you:</u>** We'll make sure you're notified via an automated email if someone has tampered with your zappi. You'll see the date and time this occurred.
Security log The charge point incorporates a security log – an electronic record which includes attempts (whether or not successful) to: • Breach the tamper-protection boundary • Tamper with the relevant charge point	A security log is stored on the zappi. This contains the last 256 security related events that have occurred on the zappi. The following events are stored: • Attempted or successful breaches of the tamper protection boundary (Where fitted) The information is stored in Coordinated Universal Time (UTC). For your security, this log cannot be erased.

• Gain unauthorised access to the charge point These entries must record the time and date the event occurred (by reference to Coordinated Universal Time).	

Provision of information (Appendix)

As part of schedule 1 of the smart charging regulations we are obliged to provide the following information. You can find this information online by clicking on the following links:

Product Support Policy: Product Support Policy | myenergi UK

Vulnerability Disclosure Policy: Vulnerability Disclosure Policy | myenergi UK

Advice for operating your zappi securely: Cyber Security Guidance – myenergi