Ohme ePod

Product Manual



Product code: OHMEX1GB003

Ohme ePod – Type 2 socket

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Safety Precautions

This document contains important safety information relating to your Ohme ePod charger. Please retain this document for future reference.

Please read the document fully before using the Ohme ePod. Not following the safety instructions can result in electric shock, fire, serious injury or death.

⚠	The charger should be inspected periodically to check for damage to the cabling and the enclosure. Do not use if the product is defective or appears damaged. Contact the Ohme Helpdesk for advice
⚠	Do not attempt to open, repair, tamper or modify the Ohme Charger in any way. There are no user-serviceable parts
⚠	We strongly recommend that a competent person (e.g. qualified electrician) installs and/or inspects the installation to check for safety and supply adequacy before use
⚠	The overall installation should be in accordance with the IET Wiring Regulations and the IET Code of Practice for Electric Vehicle Charging Equipment
⚠	Handle the Ohme ePod with care. Do not expose any part of the unit or cable to severe forces, impact or sharp objects
⚠	The Ohme ePod is only intended for vehicles that do not require ventilation during charging (NB all mainstream electric vehicles do not require ventilation)
⚠	You may clean the Ohme ePod with a soft damp cloth. Do not use solvents or abrasives

Welcome to Ohme

This handy guide contains everything you need to know to set up your new charger and get started on the Ohme app. It also covers some important safety information. If you need a bit more information there are plenty of useful resources available on our website and if you can't find what you're looking for, our Customer Care Team will be happy to help.

Download the app

Downloading the Ohme app is an important part of setting up your charger. Go to the App Store/Playstore on your smart phone or tablet, and search for 'Ohme'.

Your charger information

Use the section below to make a note of your charger's serial number and installer, this is important if you ever need to contact the Ohme Helpdesk.

Serial number

o h m e

Installer

Name:
Contact number:
Installation date:

Product Description

The Ohme ePod is an Electric Vehicle (EV) smart charging device, with:

- Charge controller, including integral RCD and PEN fault detector
- Type 2 socket
- Cable clamp for use with load balancing

The product conforms to the latest safety standards including:

- RCD functions to disconnect the power supply if AC or DC current leakage occurs
- Neutral (PEN) fault detection, avoiding the need for an earth rod to be installed

The ePod is provided with use of the Ohme app and backend services. Updates are provided to the product as a minimum whilst the product is under Warranty (usually three years).

Product Specification

Voltage	230 V AC
Frequency	50 Hz
Max Current, Power Output	32 A, 7.4 kW
Operating Temperature	-25 ^{o}C to 50 ^{o}C
Storage Temperature	-40 ^{o}C to 85 ^{o}C
Cable connection	Type 2 socket to IEC62196
Residual current function	Type A 30 mA DC 6 mA
PEN fault detection	Conforms to 722.411.4.1 (iv) of BS7671 18th edition
Overcurrent protection	Not fitted, overcurrent protection to be fitted separately as part of installation
Ingress protection	IP45 (suitable for use outdoors in all weather)
Data Communication	2G / 3G / 4G
Shipping weight	1.9 kg
Colour	Black

Vehicle Integrations – An Ohme Labs feature

Some car manufacturers provide an API (Application Programming Interface) which allows access to information about your car via your manufacturer's smartphone app. Providing your login details in the Ohme app allows Ohme to see your car's current state of charge, which is then used to work out how much charge you need.

This is an Ohme Labs feature and is currently available for a limited number of manufacturers. We're always working to offer the latest in technology to our customers. As a part of Ohme Labs, we're continuously improving this feature and, from time to time, it may not work as intended.

Please note, certain functionality may also be limited based on manufacturer-specific API restrictions or limitations. If you have any issues, or you're worried something just isn't quite right, our Customer Care Team are happy to help.

Compliance with Regulations

All ePod units are fully compliant with the Electric Vehicles (Smart Charge Points) Regulations 2021.

These regulations are intended to help the energy sector transition to net zero carbon. EVs can place new demands onto our electricity system, so as more people make the switch, it is important that these changes are managed.

Default Off-Peak Charging

When your ePod is first installed, it will not charge during the following times:

- 8am and 11am weekdays
- 4pm and 10pm weekdays

To change or disable these restrictions, download the Ohme app and pair the charger. You can then disable these default times and create charge schedules so that Ohme knows when you need your car to be charged. Once you have set up Charge Schedules, the default times will be automatically disabled.

Randomised Delay

Many of our customers charge according to off-peak tariffs. When large volumes of chargers suddenly begin charging at a precise time, it could causes issues for the energy system.

A randomised delay is applied to the start and end of charging times. This delay is initially set to 10 minutes but may be extended to 30 minutes if requested by UK Government. For example, if your tariff off-peak period is due to start at 00:30, Ohme will apply a random delay to the start time, such that charging may start any time between 00:30 and 00:40.

Similarly, if the tariff would involve ending the charge session at 04:30, Ohme will apply the random delay, but this time bring the end time forward to avoid continuing charging into peak periods. So, your charging would stop anytime between 04:20 and 04:30.

Documentation

A Statement of Compliance is provided at the end of this document to declare that the product meets these Regulations. A Technical File which describes in detail how we have met the regulations is available on request.

Security

The secure features of Ohme products are not configurable, they are applied at the factory and cannot be changed. Ohme maintains a Security Log for each device on the user's behalf. Please note that no personal data is stored on the device. Please contact the Helpdesk if you wish to unpair your device from the Ohme app on your smartphone.

If you have any problems or concerns around security or regarding the vulnerability to cyber-attack, please report this to the Helpdesk.

Installation

At a glance…

- Ohme units have PEN fault detection
- The RCD inside the unit is Type A and 6mA DC
- The units use the 4G mobile phone network, it is preconfigured to connect to the Ohme backend server automatically
- Load balancing can be setup with the current sensor (CT) clamp

Mounting the unit

The Ohme ePod is designed to be wall mounted to a flat surface. Fixings are included which are suitable for most wall surfaces (e.g. brick/render) but the installer should select their own if these are not appropriate.

Use the drill template provided with a 7mm masonry drill bit. Mount the rear of the ePod using four screws. Where the surface is uneven, it is essential that the rear of the ePod is not twisted when secured to the wall. It may be necessary to add spacers between the unit and the wall to avoid twisting the unit, otherwise the unit may not seal correctly.

To avoid breaking the plastic screws, do not use a power tool when securing the front to the rear.

Check there are no gaps around the join line that could allow water ingress. Finally, attach the rubber covers to the front plastic screws.

Electrical connection

The overall installation must be compliant with the IET Wiring Regulations and the IET Code of Practice for Electric Vehicle Charging Equipment. Installation should be carried out by a competent electrician with knowledge of EV charge point installations.

The ePod has a terminal block for Live, Neutral and Earth. The terminal block can accept a $6mm^2$ conductor. There are cable entry points at the bottom and rear. A 25mm gland and a blanking grommet is provided. The blanking grommet is attached to the rear entry hole. If feeding the cable in from the rear, it will be necessary to move the grommet to the bottom.

Installer Mode

On first power up, the ePod will be in installer mode allowing the setting of the maximum rating, enabling load balancing and the setting the fuse rating using the buttons. See the ePod Quick Set Up Guide. However, we recommend that the Ohme Installer Web App is used. Contact the customer care team at help@ohme-ev.com to get set up.

RCD

The Ohme ePod has a Type A 30mA and DC 6mA RCD built in. To avoid blinding of RCDs, we recommend that any upstream RCD is at least Type A. Type AC RCDs may saturate and fail to operate in the presence of smooth DC currents below 6mA.

In the event of an RCD activation in the Ohme charger, the unit is reset by power cycling (switching the supply off, wait 5 seconds, and switch on) or by unplugging and re-plugging the vehicle. The RCD in the unit is certified as an RCD-DD, conforming to IEC62955.

Earthing Arrangement

The ePod has an in-built PEN fault detection function, as described in 722.411.4.1 (iv) of the Wiring Regulations 18th Edition, to disconnect the vehicle from the live, neutral and earth conductors if the voltage is greater than 253 V and less than 207 V. The units can therefore be connected to the PME on TN-C-S single phase supplies.

Overcurrent Protection

No overcurrent protection is provided in the Ohme ePod, separate provision is to be provided as part of the installation. We recommend a 40A Type B MCB.

Installing the CT Clamp

The Ohme ePod has a dynamic load balancing feature. A current sensor (CT) clamp is provided to measure the electrical demand of the property, or sub-board. The unit will limit the maximum current available to the vehicle to keep the household demand below the set threshold/fuse value.

We recommend installing the clamp regardless of whether load balancing is needed as it future proofs the installation for advanced features, such as solar.

The unit is designed to comply with the relevant parts of Engineering Recommendation (ER) G100, which is a requirement of some DNOs to permit installation in circumstances where the property has insufficient capacity.

Once load balancing is activated, if the CT clamp is removed, or is faulty, the unit will revert to 16A. It is therefore sensible to ensure the spare capacity, after taking account of other loads and diversity, is at least 16A.

Note: where the dynamic available capacity for the charger drops below 6A, the ePod will pause the charging for at least five minutes to prevent rapid switching of the vehicle where the current is hovering above and below the threshold.

Ohme units calculate the direction of the current automatically after the first charging session. The clamp can be installed in either direction.

Spring connectors are provided on the circuit board to attach a cable used for connecting to the clamp. The spring connectors will accept a maximum 1.6mm^2 conductor size.

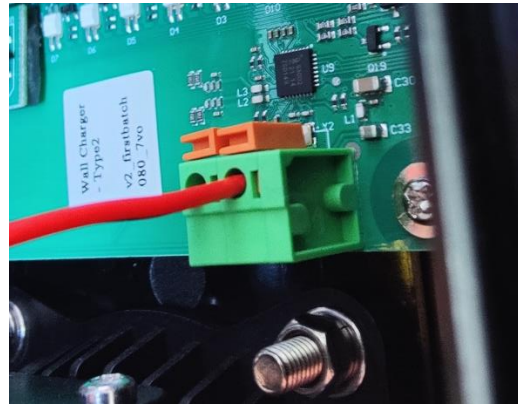


Figure 1 – Clamp connection using spring connectors

Connect up the CT clamp and follow the commissioning procedure either using the Web App or on the unit using the buttons:

- Web App: once the CT clamp is connected, click *Check Clamp* to check for correct connection. Click *Enable Load Balancing*, then *Save Settings*
- Buttons: see the ePod Quick Set Up Guide provided in the box. During the clamp check process, the LED light bar will turn from red to amber when a clamp value has been successfully received.

The CT clamp and wiring is not polarity sensitive – you can install the CT clamp in either direction.

Ohme recommends EV Ultra Cable 3 Core + Data as a convenient single cable solution. This cable contains two data cores and can be used to extend the clamp cable up to 60 metres. Cat5e Ethernet cables or alarm wire (e.g. Belden) can also be used to extend the CT clamp.

There are two marked areas for drilling to install a separate gland, suitable for a M12 or M16 gland.

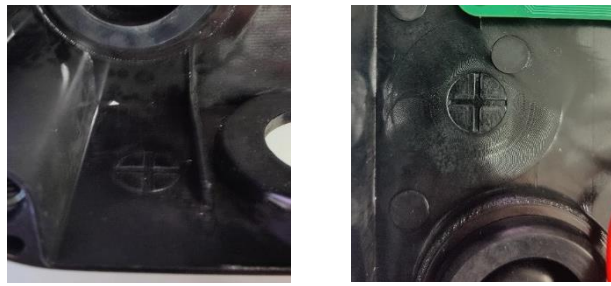


Figure 2 – Areas marked for installing additional glands

Network/Internet Connection

The Ohme ePod uses a 4G data connection which is pre-configured in the factory to communicate directly to the Ohme backend server.

Signal coverage in the UK is generally very good but it is important to ensure the customer is aware that the unit relies on a mobile signal. Where it is known to be unreliable, the customer should be made aware that the smart features of the Ohme unit will also be unreliable. Ohme cannot be held responsible for the installation location and issues with the public mobile phone network.

Where the unit cannot establish data transfer at the time of plug in, the unit will behave like a dumb charger and will not schedule the charging session.

Troubleshooting

There is a troubleshooting and FAQ section of the website at www.ohme-ev.com

If there are any queries or issues regarding using the Ohme Charger, please contact the Ohme Helpdesk via email: help@ohme-ev.com, telephone 0203 375 1586.

Maintenance

The Ohme ePod can be cleaned with a soft damp cloth. Avoid the use of cleaning agents and solvents. The Ohme ePod is maintenance free. If the charger appears defective or damaged, please discontinue use and contact the Ohme Helpdesk for advice.

Compliance

The product complies with the relevant elements of:

- BS EN BS EN 61851-1:2019 Electric vehicle conductive charging system. General requirements
- BS IEC 62955:2018 Residual direct current detecting device (RDC-DD) to be used for mode 3 charging of electric vehicles
- BS EN IEC 61000-6-3:2021 Electromagnetic compatibility (EMC). Generic standards. Emission standard for equipment in residential environments
- BS EN IEC 61000-6-1:2019 Electromagnetic compatibility (EMC). Generic standards. Immunity standard for residential, commercial and light-industrial environments
- IEC62196-1 Plugs, socket-outlets, vehicle connectors and vehicle inlets

The product also satisfies the following requirements within BS7671:2018+A2:2022 by providing equivalent functionality within the charging equipment to meet:

- 722.411.4.1 (iv) which describes the functionality required to connect the equipment to a PME earthing facility

- 543.3.3.101(ii) which describes the switching conditions such that it is acceptable to insert a switching device in line with a protective conductor

Disposal



Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)

This symbol on the product and accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product to designated collection points where it will be accepted free of charge. Alternatively, in some countries you may be able to return your products to your local retailer upon purchase of an equivalent new product.

Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation.

For business users in the European Union: if you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union: this symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Further information on disposal and general recycling can be found at www.complydirect.com/the-recylcing-room.

Contact Details

Ohme Helpdesk can be contacted at:

Address:	Ohme Technologies Ltd. Unit 74, Penrose Wharf, Penrose Quay Cork, Ireland T23 HF51
Email:	help@ohme-ev.com
Telephone:	+44 (0) 20 3375 1586

Manufacturer's Warranty

The key terms of the warranty for the Ohme ePod are as follows:

- The device is protected by a manufacturer's warranty for 36 months from the date of installation. This covers parts and labour
- The minimum operational life of the Ohme ePod exceeds 36 months
- The warranty covers on-site assistance, repairs and replacements, at no cost

The warranty covers any defects in materials or workmanship under normal use. During the warranty period, Ohme will refund, repair or replace, at its discretion, at no charge, products or parts of the product which prove defective because of improper materials or workmanship under normal use and maintenance. This will include labour costs to repair or replace the unit at the installation site.

Ohme will either repair the product using new or refurbished replacement parts or replace the product with new.

A replacement product assumes the remaining warranty period of the original product or for 180 days from the date of the replacement or repair, whichever is longer.

The warranty does not cover any issues that are caused by conditions, malfunctions, or damage not resulting from defects in the charging unit. The warranty does not cover damage or malfunction directly caused by abuse, misuse, negligence, accident, improper use, including but not limited to:

- Failure to follow the instructions and warnings provided in the product literature
- The environment or "Acts of God" such as fire, earthquake, flood
- General appearance of the product such as discolouration or damage to paint, labels, scratches, dents and cracks
- Any repair, alteration or modification to the product other than those authorised by Ohme

You may have other legal rights under local laws in addition to the rights under this manufacturer's warranty. Contact Ohme in the first instance to discuss your options.

To initiate a service from Ohme under the manufacturer's warranty, please contact help@ohme-ev.com. Please have the serial number of the charging unit to hand and it will help if you have the details of your installer.

Limitation of Liability

No liability will be accepted for any loss, costs or damage as a consequence of using or misusing the product except, and only to the extent, where this is caused by our negligence.

Terms and Conditions

For full Terms and Conditions of the product please visit our website at www.ohme-ev.com.

Statement of Compliance (from Manufacturer)

The Electric Vehicles (Smart Charge Points) Regulations 2021

Seller name: Ohme Operations UK Ltd.

Seller address: 125-130 Wellington House, The Strand, London WC2R 0AP

Ohme Operations UK Ltd declares under sole responsibility that the following charge point models comply with the requirements set out under the Electric Vehicles (Smart Charge Points) Regulations 2021, as detailed in the Technical File (available on request).

Compliance (**including** Schedule 1: Security), applying after 31st December 2022:

Product Family	**Product Code**	**Description**	**Firmware**
Ohme ePod	OHMEX1GB003	ePod Type 2 Socket	All released versions

None of the above products are sold with Demand Side Response agreements in place at the point of sale.

Signature: 

Name: Daniel Hollingworth
Position: Engineering Director
Date: 1st December 2022

Statement of Compliance (from Installer or Distributor)

Seller name	
Seller address	

declares under sole responsibility that the relevant charge point,

Charge point model	
Date of sale	

complies with the device-level requirements set out under the Electric Vehicles (Smart Charge Point) Regulations 2021, as detailed in the Technical File (available on request).

Signature *Authorised to sign on behalf of seller*	
Name	
Date	

Ohme

The intelligent EV charger

