



Ohme ePod

First fix electrical requirements

This document details the first fix electrical requirements, to make a residential property ready to fit the Ohme ePod electric vehicle charger.

If you are unsure on any information within this document, please contact Ohme's Technical Support Team for further guidance (help@ohme-ev.com, 02033751586)

Safety

All cables shall be left dead and steps shall be taken, using lock off equipment where necessary, to eliminate the risk of inadvertently energizing the circuit. All equipment shall be appropriately marked to prevent accidental energization of the circuit.

Power requirements

There must be sufficient capacity for the proposed EVCP's, with no diversity applied for the charge point (32A single phase, per unit)

Overcurrent & fault protection

Either of the two options below must be installed:

Option 1: B40 SP MCB + 30mA Type A 2 pole RCD (L+N must be switched on operation)

Option 2: B40 30mA Type A 2 pole RCBO (L+N must be switched on operation)

Surge Protection Device (SPD)

Unless the customer has opted out, protection against transient overvoltage shall be provided. Type 2 protection should be installed at the source of supply, and Type 1 may also be required in certain higher risk locations.

Cabling

Cabling Type (Option 1 - recommended): EV-Ultra cable, 3-core (L+N+E) + Data

Cabling Type (Option 2): SWA cable, 3-core (L+N+E), and Data cable (2-core screened 400VAC)

NOTE:

- All cabling must be installed to the current IET Wiring Regulations (BS 7671:2018, Section 722)
- The power cable must be adequately rated for the intended load (6mm² minimum, subject to voltage drop calculations).
- If multiple EVCP's are being installed, each circuit must be a dedicated radial from the RCD/ RCBO to the unit position. Cables are not to be daisy-chained between EVCP's.
- All power cables must include a CPC
- 1 meter of additional data cable is to be left at the incoming supply, to allow for the CT clamp to be connected

Earthing

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.



Location of the unit

In most cases the cable will be fed into the rear of the ePod unit so the cable is concealed. Careful consideration needs to be given to the location of the chargepoint.

It is recommended that EVCP equipment be installed such that:

- (a) The main operating controls and outlet sockets are between 0.75m and 1.2m above the ground
- (b) Display screens are between 1.2 and 1.4m above ground, viewable by a person standing or sitting

NOTE:

300mm of additional cabling (power and data) is to be left at the EVCP position, to allow for cable terminations.

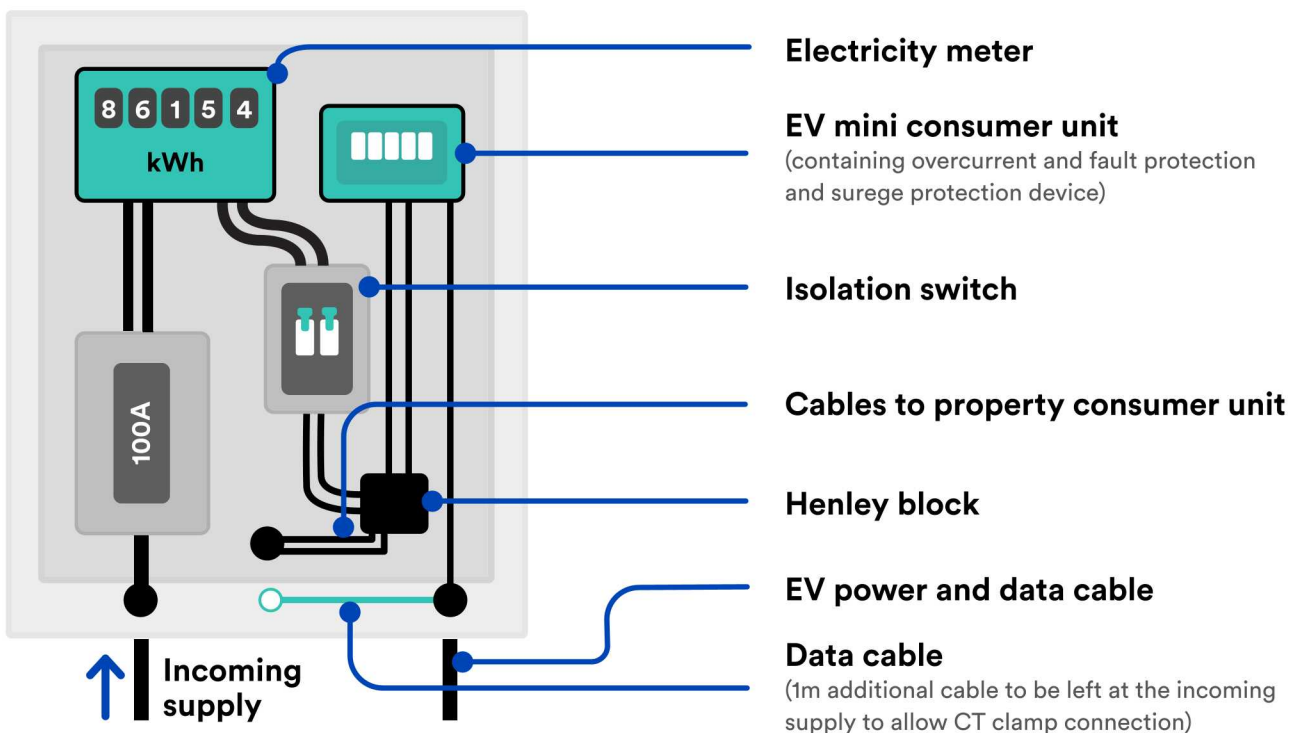
Avoidance of trip hazards & obstruction

The Ohme ePod shall not be installed in a position that causes unnecessary obstruction to public or private footpaths, access passages, and doorways.

Consider where the charging cable will need to be run between the charging unit and the parked vehicle

Diagram of Meter Box Wiring

In many installation cases, the supply for the EV charger originates from the meter cabinet. This can avoid wiring inside the property. In this case, Henley Blocks are used to split the meter tails and a small secondary consumer unit (CU) is installed. The CU can be fitted inside the meter cabinet where there is sufficient space, ensuring that access to the meter or DNO equipment is not obstructed. Alternatively, the CU can be fitted below, or alongside the meter cabinet.



Where the supply is being fed from the main property CU, it is essential that any RCD or RCBO that is used to protect the circuit is at least Type A. It is not permitted to supply an EV charger circuit from a Type AC RCD. We recommend that the EV charger is supplied from a dedicated RCD or RCBO, so in the event of tripping, the house circuits are unaffected.