

Twin Charger

Enabling Works Requirements

7kW - External Environment



Pod Point is not responsible for installation and/or commissioning works performed by a 3rd party

In the absence of any negligence or other breach of duty by Pod Point, Pod Point is not responsible for any injury, loss or damage caused by any works, services, products or equipment provided or performed by the customer or a third party (and not by Pod Point or a party for which it is responsible) in relation to the installation and/or commissioning of the Twin Charger.

If the installation and/or commissioning of the charger is not performed by Pod Point, it is the customer's responsibility to ensure that any third party appointed to install and/or commission the Twin Charger is appropriately qualified and does so in compliance with all applicable regulations and with reference to the guidance provided in this document (and associated documents linked within). Pod Point provides this guidance as a reference only and it is not a substitute for the appointment of competent persons to carry out installation and commissioning.



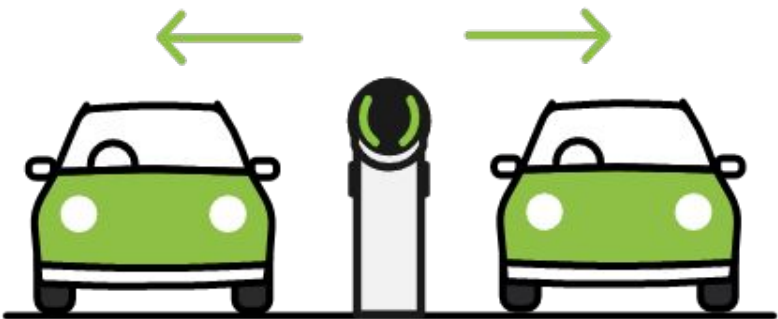
Do not open, move, modify, rewire, tamper or interfere with your Twin Charger once it has been installed.

The customer must ensure that an installed Twin Charger is not opened, moved, modified, re-wired, or otherwise tampered or interfered with, without first referring to Pod Point's latest technical guides and/or notifying Pod Point directly and complying with Pod Point's recommendations.

Please also see the charger's applicable warranty terms which may be affected by taking such action. If you have any concerns in relation to a Pod Point that has already been opened, moved, re-wired or otherwise has been tampered or interfered with, please notify Pod Point directly so that appropriate advice can be provided, noting that Pod Point assumes no responsibility for your installation by virtue of providing such advice.

In the absence of any negligence or other breach of duty by Pod Point, Pod Point is not responsible for injury, loss or damage caused by the Twin Charger being opened, moved, modified, re-wired or otherwise tampered or interfered with by the customer or a third party (and not by Pod Point or a party for which it is responsible).

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Pod Point 7kW Twin Chargers are a dual-socket electric vehicle charger with two single-phase universal sockets. These should only be installed by competent electricians, with knowledge on EV chargers. All installations must be compliant with current regulations, BS7671.

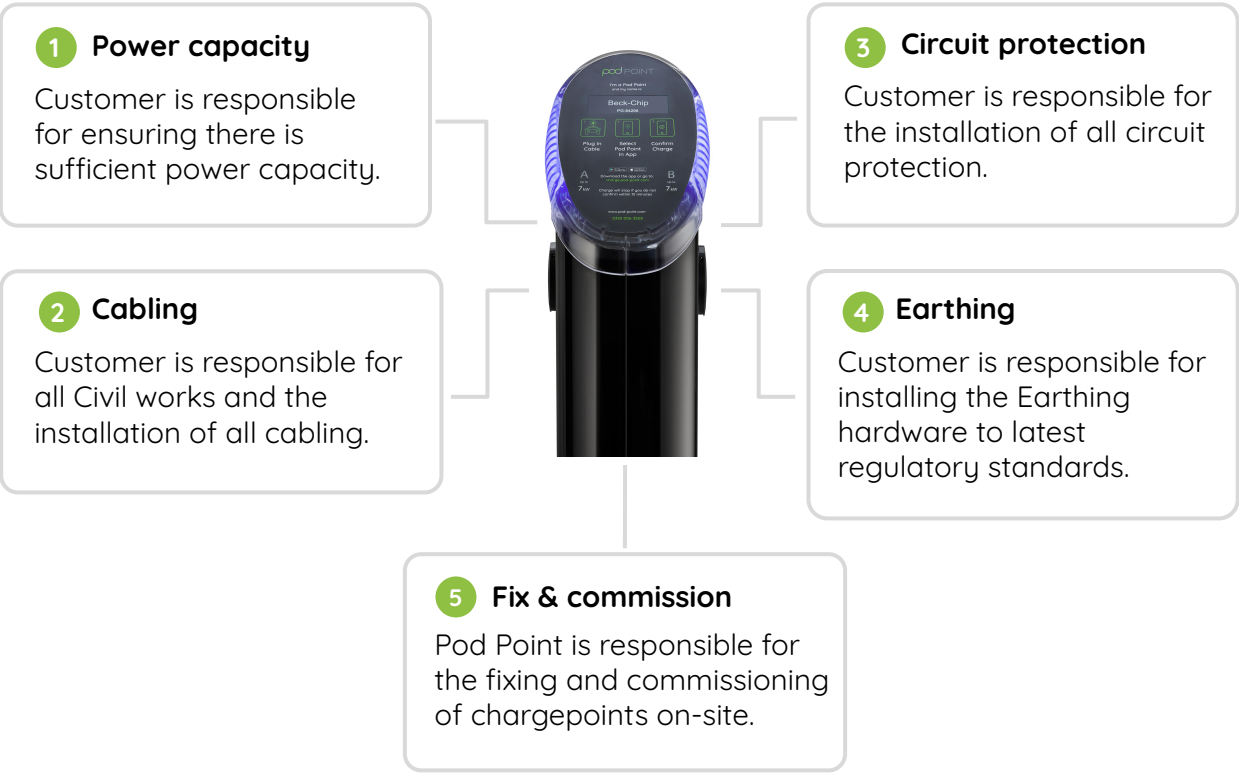
This document provides guidance on the Enabling Works Requirements in preparation for Pod Point attending to fix and commission commercial 7kW Twin Charger (T7-S-06-ABA-BLK or T7-S-06-ABC-BLK) installed externally on a dedicated poly-phase or single-phase supply.



Responsibilities

This guidance should be read and followed by installers undertaking the enabling works in preparation for Pod Point’s attendance. Evidence of completed enabling works must be provided to your allocated Pod Point Project Manager for review prior to requesting an installation date.

Failure to confirm that the works are fully completed may result in Pod Point’s attendance being delayed, and in some circumstances rectification works being required prior to the system being commissioned.



Related Documents

This document should be read in conjunction with the following documents:

- Pod Point Twin Charger Install Guide <https://pod-point.com/technical/installation>
- Pod Point Twin Charger Datasheet <https://pod-point.com/technical/hardware>
- Pod Point Twin Mount Guard <https://pod-point.com/technical/hardware>
- Pod Point Twin Charger User Guide <https://pod-point.com/technical/hardware>

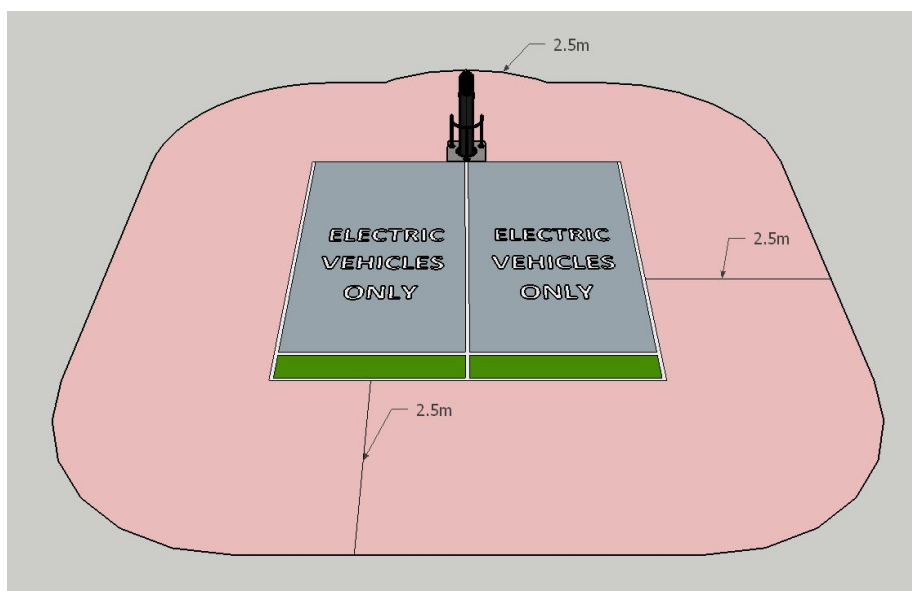
EV charger proposed location:

The optimal Twin Charger location should be between the two dedicated EV charging bays, ensuring 300mm spare space available behind the chargepoint base (away from any wall or obstacle) for final connection and to allow access for maintenance through the back door of the chargepoint.



The Twin Charger, its signage, or charging cables when in use, should not obstruct the pavement. Under no circumstances should the width of a public footway be restricted to less than 1.2m, to allow suitable access for wheelchair users.

Where possible, there should be no other electrical equipment such as lamp posts, powered bollards or gates etc within a 2.5m radius of the charger or intended bay.

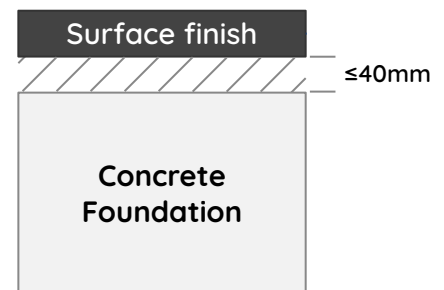


If the charger and bay cannot be distanced 2.5m from other electrical equipment, they must share an earthing system. Please refer to the Earthing section for more information. If you are unsure what does or doesn't apply for this 2.5m rule, please contact your Pod Point Project Manager.

Mounting Surface

The Twin Charger must be installed on a concrete foundation, if a finished tarmac or block paving surface is required then a concrete foundation **must** be in place directly underneath those surface finishes. The concrete foundation underneath the chosen surface must be within 40mm of the underside of the chosen surface.

All mounting surfaces **must be flush and level**.

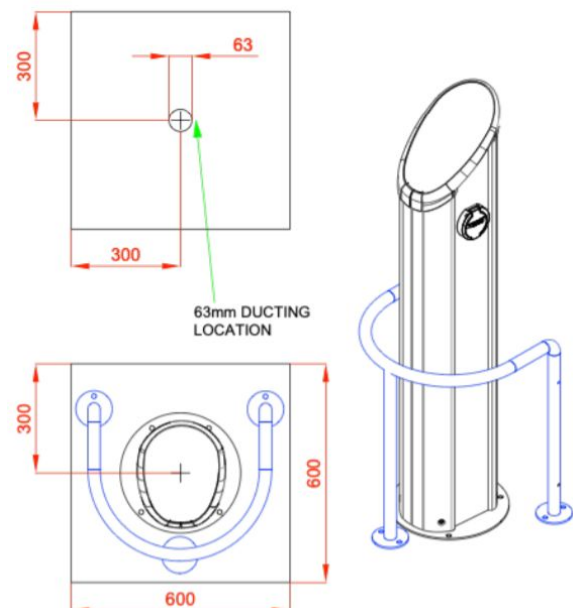


The finishing surface must be completed and surface type highlighted to the assigned Project Manager prior to Pod Point's attendance to ensure the correct fixing kit is selected.

Concrete Foundation

The concrete base should be constructed to the following specifications:

- The base should be a minimum of 600mm x 600mm x 400mm (WxLxD).
- The foundation must have a flush and levelled surface finish.
- Non reinforced concrete must be used.
- Cable ducting must run directly to the centre of the foundation.



! Off-centre ducting can cause issues when positioning the charger and guard rail.

Cable Entry

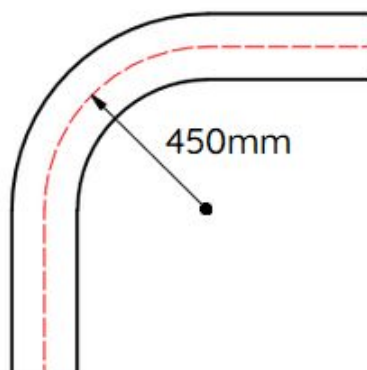
The Twin Charger Mounting plate has a central hole capable of accommodating the duct sizes mentioned below.

Pod Point require a minimum of **1.5m of spare cable** to be left coiled up above ground level to ensure successful termination.

Supply Cable Duct

When selecting the appropriate cable ducting, the following design rules apply:

- Cable Duct sizes should be calculated to a 50% fill factor and be within the tolerances listed below.
- Ducting from the supply point to the charger should be a twin wall duct for the entirety of its length. Single wall ducting is not acceptable.
- Ducting should be black in colour.
- The ducting should terminate directly to the centre of the chargepoint's concrete foundation for cable entry to the charger from below.
- The recommended minimum depth of ducting under footways is 450mm below ground level, except for carriageways where the depth should be at least 600mm.
- The recommended minimum twin wall duct outside diameter is 63mm which should be adequate for the cable size running through.
- There is a maximum duct size constraint of 110mm outside diameter to the concrete foundation.
- All ducting should have a minimum bend radius of 450mm.



Power Capacity

Pod Point Twin Charger has 2 x 7kW sockets capable of supplying power to two electric vehicles simultaneously.

Power can be provided from either;

- **Three-phase supply (32A on two phases)** or
- **Single-phase supply (64A on one phase)**, per charger.

It is the customer’s responsibility to ensure that there is constant dedicated capacity on the metered supply for the proposed chargepoints with no diversity applied to the chargepoint. (Reference regulation BS7671 - section 722.311)

Assessment of available power capacity should be undertaken by a qualified electrician and evidence should be provided to Pod Point.

Circuit Protection

Circuit protection must be installed in alignment with current BS7671 regulations. Under Pod Point’s Fix & Commission installation terms, Pod Point require a minimum **40A rated overcurrent protection** to be installed for the 7kW Twin Charger circuits.

Three-phase supply	Single-phase supply
1 x C40 Double Pole 10kA MCB or 1 x C40 Triple Pole 10kA MCB (using 2-pole)	1 x C80 Single Pole 10kA MCCB or 1 x C63 Single Pole 10KA MCB

Caution:

- 1) For safety reasons, on a three-phase supply with a common neutral (option 1 page 9) Live conductors must be switched together. The use of 2 x single pole MCBs is prohibited
- 2) A single overcurrent protective device cannot supply power to multiple Twin chargers..
- 3) “B” curve MCBs and devices rated at 32A or below will not be accepted unless the charger has been de-rated to a power less than 7kW. Please consult with your project manager if this is the case.

Surge Protection

It is the customer’s responsibility to consider appropriate surge protection for the Twin Chargers and determine whether a Surge Protection Device (SPD) should be installed.

Earth leakage protection

Each socket on the Twin Charger has a 30mA type “A” resettable RCD (earth leakage protection) device built in.

Additional RCD’s will be required within the supply circuit if the Twin Charger is installed using a TT earthing system.

Electrical Supply Cable

Below is a table outlining the possible supply cable setups for the Twin Charger. All conductors should be identified by standard colours where possible.

Option 1	Option 2	Option 3	Option 4
1 x Poly-phase Circuit Single Cable Installation	1 x Single-phase circuit Single Cable Installation	2 x Single-phase circuit Dual cable installation	2 x Single-phase circuit Single Cable Installation
1 x 5 core SWA Cable (L1+L2+L3+N+E)	1 x 3 core SWA Cable (L+N+E)	2 x 3 core SWA Cable (L+N+E)	1 x 5 core SWA Cable (L1+N+L1+N+E)
Cable sizes to be calculated based on cable length and reference method for a 40A supply.	Cable sizes to be calculated based on cable length and reference method for a 63A or 80A supply depending on circuit protective device chosen.	Cable sizes to be calculated based on cable length and reference method for a 40A supply.	Cable sizes to be calculated based on cable length and reference method for a 40A supply.

A separate dedicated Circuit Protective Conductor (earth) is acceptable for both cases, but must be sized in accordance with total prospective fault current i.e. for a **1 x 3 core SWA cable**, we will accept **1 x 2 core + earth**.



Dual Supply Labelling

Where a dual supply has been installed to the Twin Charger (from separate MCBs) a prominent warning label must be displayed - please let your project manager know when you are considering the use of two separate supplies to the Twin Charger.

Cable Sizing

The customer is responsible for producing their own cable calculations in alignment with the latest version of the IET wiring regulations (BS7671).

When sizing your cabling please consider:

- Cable routes where multiple cables are sharing a duct as this could affect current carrying capacity.
- The maximum cable size that can be terminated into the chargepoint is 25mm². For any installation where a greater cable size is required after cable calculations are completed, the customer is advised to consult with the assigned project manager.
- All power cables must include a CPC (dedicated protective earthing conductor). SWA armouring will not be accepted as a means of adequate CPC.
- Maximum earth fault loop impedance (Zs) values of overcurrent protective devices.

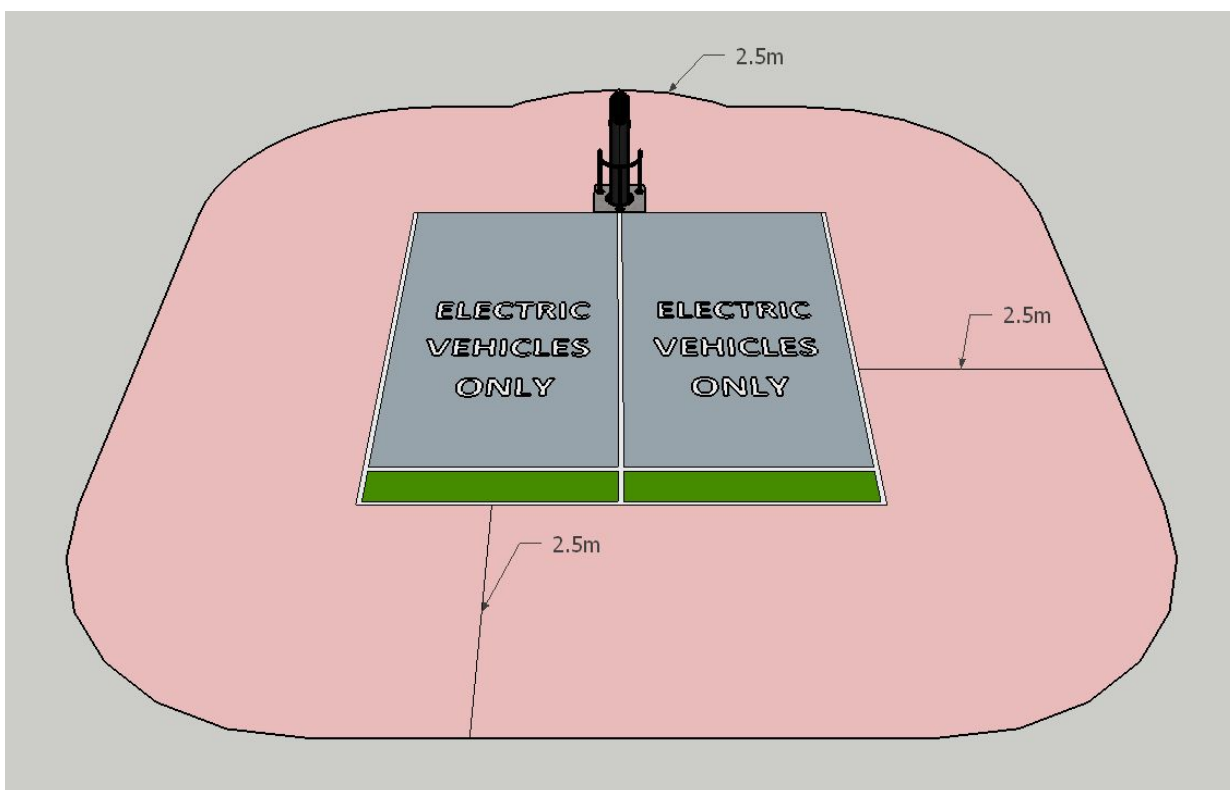
Considering Equipotential Zones - Touch distance:

Electric vehicle chargers must be installed to current BS7671 regulations and in line with the IET Electric Vehicle Charging Equipment Installation Code of Practice.

This requires the Twin Charger to be installed in a location that ensures that both the exposed conductive parts of this equipment and the vehicle on charge **are at least 2.5m** from any extraneous or exposed conductive parts that are connected to a different earthing system.

The customer is to complete a risk assessment ensuring that the risks of simultaneous contact with electrical installations connected to different earthing systems, including other street furniture with PME earthing, are minimized.

Examples of acceptable risk assessments can be found within the IET Electric Vehicle Charging Equipment Installation Code of Practice.



If equipment such as lamp posts, bollards, powered gates, metal clad or steel frame buildings etc. are within touch distance (2.5m) then the chargepoint must be connected to the same earthing system.

Planned Earthing Arrangement:

After completing an assessment on touch distances, the customer is to confirm the planned site earthing arrangements for the chargepoints to the assigned Project Manager

TN-C-S (PME) Earthing - Recommended

Pod Point Twin Chargers have built-in PME fault protection which allows the charger to be connected to a PME earthing system. If the Twin Charger forms part of an Array system, further guidance is required.

TN-S Earthing

Pod Point Twin Chargers can be safely connected to a TN-S earthing system. If the Twin Charger forms part of an Array system, further guidance is required.

TT Earthing

Pod Point Twin Chargers can be connected to a TT earthing system, however it is not recommended that a TT earthing system is introduced unless it cannot be avoided. For example where an existing install is connected to a TT earth, a TN-S or TN-C-S earthing system is not available or a simultaneous contact risk assessment has indicated that a TT earth is required.

There are 2 scenarios of a TT earthing system - In both cases the customer is required to complete a simultaneous contact risk assessment, to ensure there are no different earthing systems within 2.5m of the charger and vehicle parking bay.



Where a TT earthing system has been adopted, a suitably rated 100mA-300mA time delayed RCD must be installed at the source of supply, inline with the overcurrent device (MCB/MCCB).

Whole Installation TT earthing

This applies where the existing installation is connected to a TT earth or where a new supply has been provided remotely from the charger location and is utilising a TT earthing arrangement (earth electrode installed at source of supply). The earthing must be distributed downstream to the charging units via a dedicated CPC (circuit protective conductor) within the cable.

Local TT earthing

This applies where an earth electrode is installed locally to the Twin Charger. The CPC within the supply cable and the earthed armour will be isolated at point of entry to the charger, and the Twin Charger is connected directly to the TT earth electrode. The earth electrode must be installed next to the chargepoint’s foundation (within 5m).

TT RCD Requirements

Where a TT earthing system has been adopted, a suitably rated 100mA-300mA time delayed RCD shall be installed at the source of supply, inline with the overcurrent device (MCB/MCCB).

Where a single circuit has been opted to supply both charging doors, the RCD must be type “B”. Where individual circuits are supplying each door, 2 x type “A” RCDs are acceptable.

Any additional upstream RCDs must be type “B”.

See table below for RCD requirements for different cabling options.

Option 1	Option 2	Option 3
1 x Poly-phase Circuit Single Cable Installation	1 x Single-phase circuit Single Cable Installation	2 x Single-phase circuit Dual cable installation
1 x 5 core SWA Cable (L1+L2+L3+N+E)	1 x 3 core SWA Cable (L+N+E)	2 x 3 core SWA Cable (L+N+E)
1 x C40 DP or TP MCB + 1 x 4 Pole 100ma-300ma time delayed type “B” RCD 	1 x C40 DP or TP MCB + 1 x 4 Pole 100ma-300ma time delayed type “B” RCD 	2 x C40 SP MCB + 2 x 2 Pole 100ma-300ma time delayed type “A” RCD 

TT Earth electrode requirements

Any earth electrodes must be mechanically protected by the use of an earth pit, with the correct clamp that allows a crimped termination to be made.

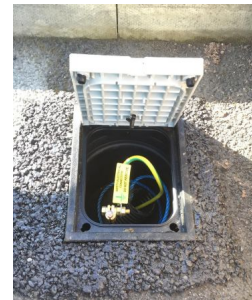
The following design rules apply:

- Earth reading must be **under 100 Ohms**.
- 16mm² sheathed green/yellow earthing cables should be connected between the earth rod and either the feeder pillar main earthing terminal (Whole System TT earthing arrangement), or the chargepoint (local TT earthing arrangement).
- Earthing cables can be run in the same duct as supply cables.
- Where a separate earth cable duct (50mm sized twin wall) is to be installed, the entirety of the run must be enclosed within a duct.
- Protection against corrosion must also be provided by using a suitable conductive grease on the electrode connection.

Earthing Pit

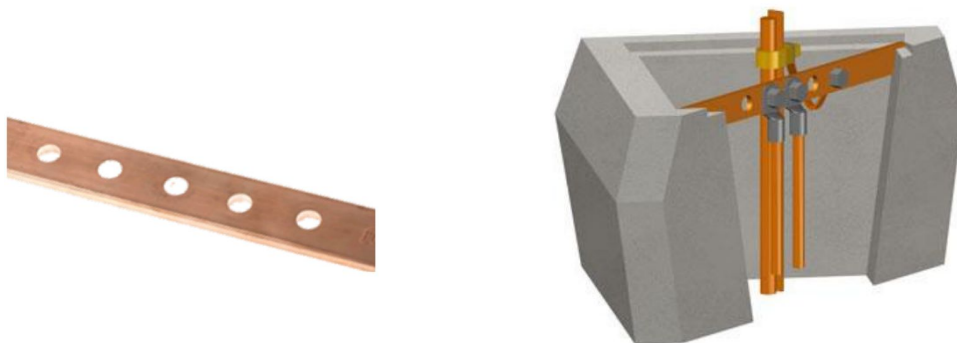
Earthing pits should be designed and installed following the guidance in BS7671:

- The earth pit should be free draining.
- The earth cable should be ducted into the pit.
- The cable connection should be crimped and taped.
- The connection should be protected against corrosion.
- The connection should be labelled correctly.

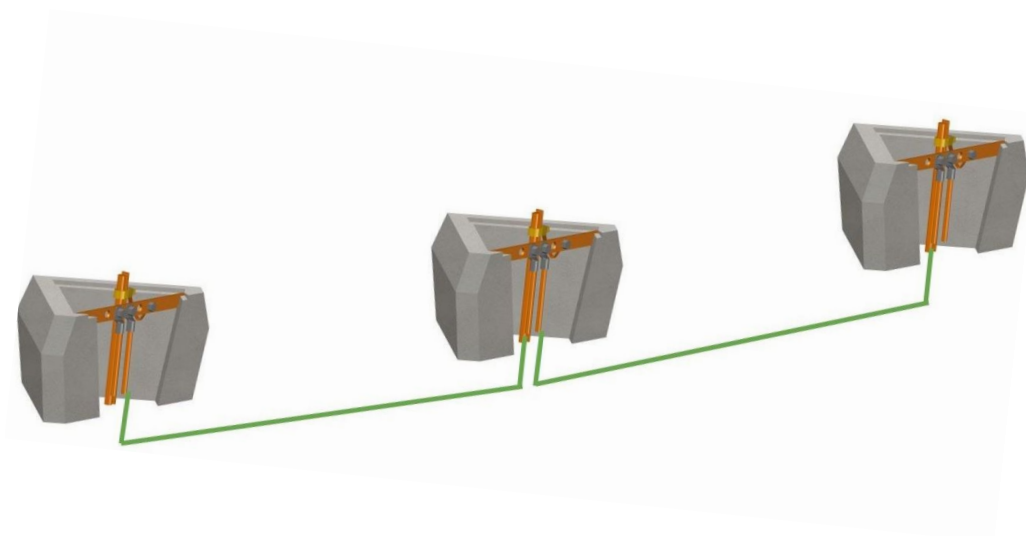


Multiple chargepoints/equipment on locally shared TT earthing

If a single earth electrode is serving multiple chargers or equipment, an earth bar is to be installed to allow multiple lugged cable connections. The earth bar shall be installed diagonally in the pit to allow for an easier and more secure termination.



Where multiple earth pits and rods have been installed, and the earthed equipment and the EV dedicated bays are within touch distance (2.5m), **the earth rods must be linked together.**



Communication with Smart Reporting system

Pod Point commercial chargepoints are required to communicate with the Smart Reporting system at all times, through an available 3G or accessible Wi-Fi signal to reach the charger's location. Chargepoints that do not communicate cannot be warranted.



External with 3G/4G signal

Where chargepoints are installed outdoors with available 3G signal, Pod Point will supply a suitable amount of chargers to the site with inbuilt 3G routers.

Up to 3 Twin Chargers can connect to the same 3G router providing they are in adjacent parking bays and the signal is not interfered with by any obstructions such as concrete pillars.

Pod Point should be consulted if one router is to be used for multiple chargers to connect to.

External with Wi-Fi signal

Customers should provide an external accessible Wi-Fi communication signal to reach each chargepoint. Passwords must be shared with the Pod Point Project Manager and Pod Point must be informed of password changes to avoid drop-out in service.

You can find our Wi-Fi connection guide here: <https://pod-point.com/technical/installation>

The following requirements must be met if using a Wi-Fi connection setup.

- 2.4Ghz frequency
- **Not** a public network requiring login/email confirmation
- **Not** a network with a regularly changing password,
- **Not** a network with additional security features,
- The name of the Wi-Fi profile (SSID) should be **less than** 10 characters.

The customer is to confirm the proposed chargepoint(s) location(s) and accessible signal availability (3G/4G or Wi-Fi signal) to the appointed project manager. The customer must take responsibility for any cost and revisits related to signal coverage issues.

Enabling Works Completion Evidence

The customer must provide evidence of the completed enabling works prior to Pod Point allocating any labour resources or install dates being provided.

Please inform your Pod Point Project Manager if there are any reasons as to why you may be unable to provide the evidence of completed enabling works upfront and - due to strict handover dates or site requirements - need to set a date for Pod Point to attend.

We may be able to provide you with a preliminary installation date, but be aware that we still require all evidence to be submitted no later than 14 working days prior to the preliminary date given. If the site's readiness cannot be verified within this time, then any allocated labour resources will be automatically reassigned.

To reduce any potential delays on-site, your allocated Pod Point Project Manager will review the **Photographs and Electrical Installation Certificate (EIC)** sent to them to confirm that the enabling works have been completed to specification.

If needed, they will advise on any required rectifications or amendments and assist as much as possible to get the site ready for the engineer(s) to attend.

Electrical Installation Certificate (EIC)

The customer is to provide an EIC for the installed supply circuits containing all supply details and test results which will verify that the installed circuits are safe to connect to. In order to satisfy live testing requirements, temporary termination of the newly installed circuit may be required. This can be achieved by means of using a suitable weatherproof enclosure as seen in the image below. Failure to provide an EIC prior to Pod Point's installation visit could result in delay of install.



Photographs

All photos sent must be clear (high resolution) and include close ups of equipment and wide shots of areas. Blurry pictures will not be accepted as Pod Point must be able to identify the specific equipment installed. Please check the Examples of Acceptable Enabling Works (pg. 20) for example of photographs required:

Installation Hardware

- ❑ Close up of upstream circuit protective device installed (fuses/switchfuse/MCCB/MCB/SPD).
- ❑ Wide angle of supply distribution board prepared, cables connected supply end.
- ❑ Close range of earthing hardware installed (if required).
- ❑ Cable management system installed towards chargepoints (trunking, tray work).
- ❑ If TT earthing system: type “B” time delayed RCD (at supply source) and earthing rod installed.
- ❑ If TN-C-S (PME) or TN-S earthing system: No additional photos required.

Chargepoint locations

- ❑ Concrete foundations with centrally located ducting with finishing surface completed.
- ❑ Min. 1.5m spare cable left coiled up above finishing ground surface and terminated into an adaptable box.
- ❑ Wide angle of proposed EV charging bays shown.

The checklist below can be used to ensure all Installation and Evidence activities have been completed.

Installation

- ☐ Ensure sufficient dedicated capacity for the proposed chargepoint(s) with no diversity applied to the EVCP.
- ☐ Correct circuit protection installed (functionality verified).
- ☐ Earthing hardware installed (if required):
 - ☐ If TN-C-S(PME) or TN-S earthing: No additional earthing hardware required,
 - ☐ If TT earthing system: type “B” time delayed RCD (at supply source) and earthing rod installed.
- ☐ All civil works completed with sufficient sized ducting to the centre of the suitable, levelled concrete base (600mm x 600mm x 400mm).
- ☐ Correct sized cabling installed (verified with cable calculation), connected at the supply end.
- ☐ Min. 1.5m cable left coiled up above finished surface at proposed charger location and terminated into an adaptable box.

Confirmation and Evidence

- ☐ Share a site plan/drawings with chargepoint locations and confirm the configuration.
- ☐ Confirm planned earthing arrangement and complete assessment for any exposed earthed metal structure within touch distance (2.5m) from proposed EV charger(s) and the boundaries of the dedicated EV charging bays.
- ☐ Confirm chargepoint locations has accessible signal availability (3G/4G or Wi-Fi signal).
- ☐ Provide an Electrical Installation Certificate for the installed circuits.
- ☐ Provide photographic evidence of installed circuit protections, cabling, proposed chargepoint base locations with cabling in place.
- ☐ Confirm to the appointed Pod Point Project Manager that the above responsibilities have been completed in full prior to requesting Pod Point's attendance to fix and commission the Twin Chargers.

Key Pod Point Responsibilities

- Pod Point to notify the customer of the proposed shutdown time for the relevant distribution board (if required).
- Pod Point to install the Twin Charger using surface mount plate between the relevant car parking bays with guard rail protection.
- Pod Point to use the existing cables to connect the chargepoint (charger end only).
- Pod Point to use the existing circuit breaker.
- Pod Point to complete functional testing.
- Pod Point to commission chargepoint.
- Pod Point to complete Minor Works Certificate.
- Pod Point to conduct site handover.

Contact Us

Please contact the project manager assigned to your order with any questions. If you are unclear who your Pod Point Project Manager is please email us quoting the Pod Point quotation number (found in the top left of your Pod Point Quote).

Enquiries@pod-point.com

www.pod-point.com

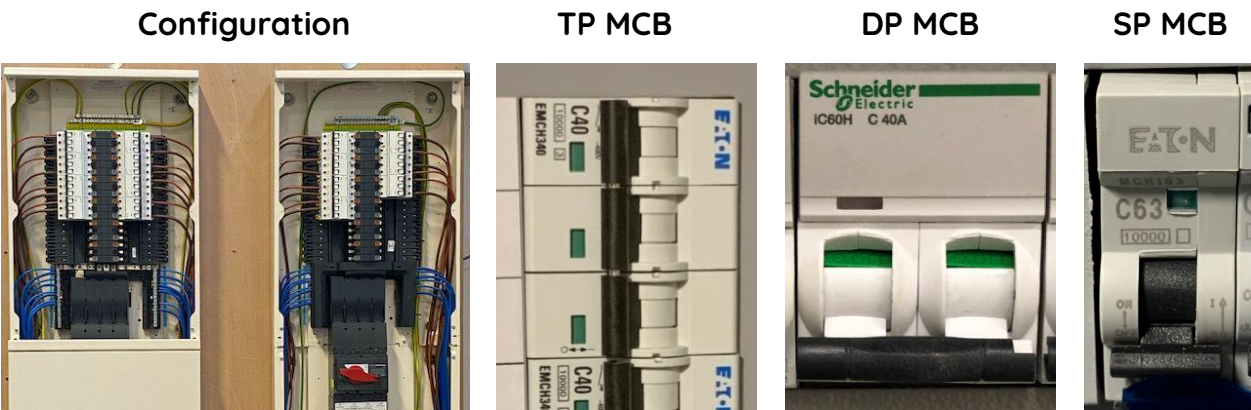
Company details

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Circuit protection:



Chargepoint location:



pod POINT