

# Fast Charging Twin Charger Install Guide

Speed category	Fast Charging
Charging speed	7kW/22kW
Product family	Twin
Model Part Number	T7-S-06, T22-S-06

#### Introduction

Pod Point Twin Chargers are designed to give a long and reliable service life. However, the operational reliability depends on a number of installation factors.

Before starting installation, please confirm the following:

- There is a Wi-Fi signal available at the installation site. Failing this, there should be a good 3G/4G signal available.
- A suitable power source is within reasonable distance of the proposed location (consult a qualified electrician).
- The proposed site has been selected in order to minimise the risk of damage to the Twin Charger(s).

#### Fig. 1 Twin Charger



#### Note on Wi-Fi

The Twin communicates with a control network via Wi-Fi. To allow this, a Wi-Fi network signal (2.4GHz only) is required and **must** be checked at the site survey. You can check the Wi-Fi network availability on your phone when standing at the area where the charger is going to be installed. If a suitable signal is not available, a Twin installed with router may be required.

#### Tools

Security torx bits are:

- Pin Torx T30 (upper door)
- Pin Torx T45 (lower door and ground level fixing)

Other items not supplied, but that may be required:

- 4x M10 x 120 mm (minimum) countersunk security anchor bolts (surface mount only, suitable for local substrate)
- Cable gland and lock nut (for incoming cables to the Twin the sizes of these will vary depending on the cables being used during installation)
- Feeder pillar

#### **Civil Work**

The surface mounting foundation adapter can be used to secure the charger to the existing concrete (or similar) surfaces, or to a purpose laid  $600 \times 600 \times 150$  mm concrete pad.

The surface mounting plate is secured to the ground using four M10 x 120mm minimum expanding countersunk concrete anchor bolts (or preferred equivalent fixing).

You can see in **Fig. 2** where the front of the post will be located.

#### Fig. 2 Surface Mount



The Twin Charger and associated signage should not obstruct the pavement or other public footway. Under no circumstances should the width of a public footway be restored to less than 1m, preferably not less than 1.5m. A minimum of 300mm should be left between the back of the Twin and any obstruction (e.g. wall) to allow access to the charger.

#### **Electrical Work**

Start by carefully removing the door from the rear of the charger (note the door is connected to the main unit via an earth cable). The distribution box (**DBOX**) is located towards the bottom of the Twin with a see-through lid. Unscrew the lid, then unscrew and remove the lower gland plate.

The gland plate will need to be drilled to fit an appropriate sized gland(s) for the incoming cables to enter through. Once the gland plate has been drilled and an appropriate gland fitted, re-attach the gland plate to the bottom of the **DBOX**.

Single and three-phase Twin Chargers are pre-configured for single 80A supplies but may be adjusted for dual supply installations. The internal wiring of the **DBOX** will initially be configured as in **Fig. 3**.

To install the incoming cables correctly, please refer to the single-phase (T7) installations or three-phase (T22) installations sections later in this document.

Ensure the wiring terminal screws are tightened to a torque of 2-2.5Nm

Fig. 3 Initial Configuration of DBOX Single-phase Three-phase



After the incoming cable(s) have been installed, reattach the **DBOX** lid. Check all earthing cables are attached to the surface mount, body and rear cover of the Twin. Finally fit the rear cover to close the charger.

For Twins with an RFID and/or router, a 12V aux power supply will be pre-installed in the charger. You should not need to do any additional wiring for these, however for reference the initial configuration will as per Fig 4. below:

#### Fig. 4 Initial Config of DBOX (with 12V)





### Single-Phase (T7) Installations

Twin Chargers on a 240V single-phase supply draw 32A per charging door. This can comprise of one single-phase supply rated at 80A or two single-phase supplies (dual) rated at 40A. Cables used must be suitable for the chosen installation method and be selected in accordance with their current carrying capacity. An overcurrent protective device (MCB/RCBO) must be installed at source (40A/80A dependent on chosen wiring method). If RCD protection for the supply circuit is required then the device must have a rating of >30mA to avoid conflict with the Twin's inbuilt 30mA RCD protection and provide selectivity. RCD types will need to be verified by the installer but **must not be of AC type.** 

#### Fig. 5 Single Supply (80A, 1P) 1x 3-Core Cable (1P + N)



Install the Live and Neutral cables into the cable inputs of the right MCB (Door A). These should be pre-connected to the left MCB (Door B) via a pre-installed 2-Pole 4-way fork busbar. Connect the Earth cable to the earthing terminal at the top of the DBOX.

## Fig. 6 Single Supply (80A, 3P) 1x 4-Core/5-Core Cable (2P + N)



Remove the pre-installed 2-Pole 4-way fork busbar, take the end cap off and fork remove the rail connecting the live terminals together. Replace the end cap and reinstall the busbar to connect the two neutrals together. Install L1 and Neutral cables into the cable inputs of the right MCB (Door A). Then install L2 into the left MCB (Door B). Connect the Earth cable to the earthing terminal at the top of the DBOX.

#### Fig. 7 Dual Supply (2x 40A, 1P) 2x 3-Core Cables 2x (1P + N)



Remove the pre-installed 2-Pole 4-way fork busbar. Connect the first supply Live and Neutral to the cable inputs of the left MCB (Door **B**). Then second connect the supply Live and Neutral to the cable inputs of the (Door right MCB A). Connect both Earth cables to the earthing terminal at the top of the DBOX.

Fig. 8 Dual Supply (2x 40A, 1P) 1x 5-Core Cables 2x (1P + N)



Remove the pre-installed 2-Pole 4-way fork busbar. Connect L2 and L3 to cable inputs for Live and Neutral of the left MCB (Door B). Mark L3 with blue tape to show it's being used as a neutral. Then connect L1 and Neutral to cable inputs for Live and Neutral of the right MCB (Door A). Connect the Earth cable to the earthing terminal at the top of the DBOX.



#### Three-Phase (T22) Installations

Three-phase Twin Chargers require a three-phase and neutral (3P+N\*) 400 VAC supply. This can comprise of a single 3P+N supply rated at 80A or a dual 3P+N supply each rated at 40A.

Supply cables used must be suitable for the chosen installation method and be selected in accordance with their current carrying capacity. An overcurrent protective device (MCB/RCBO) must be installed at source (40A/80A dependent on chosen wiring method). If RCD protection for the supply circuit is required then the device must have a rating of >30mA to avoid conflict with the Twin's inbuilt 30mA RCD protection and provide selectivity. RCD types will need to be verified by the installer but **must not be of AC type**.

#### Fig. 9 Three-phase Single Supply (80A) 3P + N



Install the **Neutral**, L1, L2 and L3 cables into the cable inputs of the top MCB (**Door B**). These should be pre-connected to the lower MCB (**Door A**) via a jumper loom in the busbar inputs. Connect the **Earth** Cable to the earthing terminal at the top of the DBOX.

#### Fig. 10 Three-phase Dual Supply (2x 40A) 3P + N



Remove the pre-installed jumper loom connecting the inputs of **Door A** and **Door B** MCBs. Then connect the first supply to the cable inputs of top MCB (**Door B**) and the second supply to the cable inputs of lower MCB (**Door A**). Connect both **Earth** cables to the earthing terminal at the top of the DBOX.

If the on-site supply capability is not adequate for an installation, the Twin Charger may be remotely derated from 22kW to 11kW or 7kW to 3.6kW. If this is required, you will need to replace the main decal on the lid of the charger to indicate the true charging rate e.g. 11kW or 3.6kW.

\*(3P+N): three-phases + neutral star network.

# Twin Charger

#### Earth Arrangements

Electric vehicle supply equipment **must** be earthed in accordance with BS7671 wiring regulations. Guidance on earthing arrangements suitable for this product can be found below:



Pod Point Earthing Systems Guidance

#### Connecting to Wi-Fi

For installations including Twins with routers, the Twin Chargers should automatically connect to the locally created Wi-Fi network.

Alternatively, to connect the Twin to a site's Wi-Fi network follow the below steps:

**1.** Obtain the site's Wi-Fi network SSID and Wi-Fi password key.

**2.** Switch 1 side of the Twin on by turning on 1 out of 2 MCBs, while the other one is turned off.

**3.** Scan for **podpoint** Wi-Fi network on a mobile device and connect to it.

**4.** Open the web browser and type the IP address: **192.168.101.1** followed by enter.

**5.** A page displaying available networks will show. Select the desired network and enter the network password. Press "Connect" at the bottom of the page.

**7.** The LED should be blue flashing pink within a minute of connecting.

**8.** Follow the same procedure to connect the second side of the Twin to the Wi-Fi.

#### **Connection Troubleshooting**

If you are experiencing connection issue at **step 4** please try the address **192.186.1.1** instead and follow the instructions on the page.

When a connection has been made, the door LEDs should go blue with a short pink flash. If the LED remains white, you may need to power cycle the Twin again and verify the settings.

**NOTE:** The Twin Charger connects to a secure server. All data is encrypted using a unique algorithm.

#### Commissioning of Twin Chargers

Visit the Pod Point Install App to commission this Twin. If you do not have access to the Pod Point App, please visit:



pod-point.com/3rd-party-commissioning

#### **Testing of Functionality**

When power is turned on, lights on both sides of the Twin Charger should change colours as follows:

**1.** Establishing communication with server (takes up to 1 min) - White

**2.** Communication established, car not plugged in - Blue flashing pink

A Pod Point EV Simulator should then be plugged in to both sockets and charger functionality should be tested as follows:

- 1. Unlock mode Blue flashing pink
- 2. Standby high/low Flashing green
- 3. Change high/low Solid green
- **4.** Fault Solid or flashing red

If the test procedure fails at any stage please contact Pod Point.

# **Twin Charger**



#### **Contact Us**

You can find the latest installation, technical guides and FAQs on our website at: **www.pod-point.com** 

If you have any further questions, comments, or issues regarding Pod Point products which are not covered by this installation guide, please contact our Customer Support team. You may be asked to provide the serial number of your Twin Charger (located at the bottom of the charger). As part of our quality and training programme calls may be recorded or monitored.

#### **Customer Support**

Telephone: 020 7247 4114 Contact: <u>https://pod-point.com/contact</u> Web: www.pod-point.com



