Solo 3 - Home

This datasheet details the technical specifications for the Solo 3 (Home) a variant of the Solo product family. If you're unsure which model you have, please contact Pod Point directly.

The Solo 3 includes and exceeds all required and "optional" safety features noted in the BS EN 61851-1 standard for electric vehicle charging. The Solo 3 is available in universal socketed or tethered models with either Type 1 or 2 cables. The Solo 3 is available with models offering charging rates of either 3.6kW, 7kW and 22kW - with the 22kW not compatible with Auto Power Balancing feature as standard.

Speed category	Fast charging
Charging rate	3.6, 7 or 22kW
Product family	Solo

Single vehicle charging

Wi-Fi enabled

3 Year warranty

Smart Reporting & Pod Point Network enabled

Universal Socket

Tethered

Type 1 - 4.8m cable or
Type 2 - 7.5m cable

Power and Environmental

Power rating	2.5~22kW - AC
Input voltage range	240~400 VAC (50Hz)
Output current	0~30A - AC RMS
IP rating	IP54 enclosure (IP44/54 for plugs and socket)
Operating temperature	-25°C to 50°C
Standby consumption	<2.5W
Materials	Polycarbonate
Protections	6mA DC Leakage, Over current, PME and failed earth protection.

Physical properties

Height Width Depth	330mm 290mm 112 (167mm Socketed)
Weight	Socket - 3.5kg Tethered - 6kg
Charging connectors	1 Type 1 (SAE J1772) 2 Type 2 (IEC 62196-2)
Colour	Black/Grey

Connectivity & Communication

Connectivity	IEEE 802.11bgn Wi-Fi
Feature updates	Yes - Via Wi-Fi
Software updates	Yes - Via Wi-Fi

Socket

Socket type	Mennekes Type 2 (IEC 62196-2) socket with statutory locking mechanism.

Standards & Compliance

Standards compliance	LVD 2014/35/EU EMCD 2014/30/EU BS EN 61851-1:2019 EN61000-3 and -2 CE Certified BS7671: 2018

Security

Wi-Fi	WEP, WPA, WPA2 or Open Wi-Fi
Connection security	Secure data encryption HTTPS with SHA-256 hash algorithm

Solo 3 - Home

Solo 3 Home - Model Matrix						
Model	**S7-1C-03** (single-phase)	**S7-2C-03** (single-phase)	**S7-UC-03** (single-phase)	**S7-UCB-03** (single-phase)	**S22-2C-03** (three-phase)	**S22-UC-03** (three-phase)
Connection type	Tethered	Tethered	Universal Socket	Universal Socket	Tethered	Universal Socket
Vehicle connector	SAE J1772 (Type 1)	IEC62196-2 (Type 2)	Any(1)	Any(1)	IEC62196-2 (Type 2)	Any(1)
Cable length	4.8 m	7.5 m	NA(1)	NA(1)	7.5 m	NA(1)
Cable holster supplied	Yes	Yes	No	No	Yes	No
Maximum power rating	30A (~7kW)(2)	30A (~7kW)(2)	30A (~7kW)(2)	30A (~7kW)(2)	30A x 3 (~22kW)(2)	30A x 3 (~22kW)(2)
Auto Power Balancing (Load management)	Yes	Yes	Yes	Yes	No	No
Variant	ABG(3)	ABG(3)	ABG(3)	ABG(3)	AAA(4)	AAA(4)

(1) *User provides the suitable charging cable, supplied with the vehicle or purchased separately.*

(2) *Power rating will vary due to vehicles maximum rate of charge and local supply voltage.*

(3) *All the AB**X** variants*

(4) *All the AA**X** variants*

Pod Point's hardware and software are engineered in house to meet the requirements of BS EN 61851-1 edition 3 and are tested using accredited independent test facilities. BS EN61851-1 includes various mandatory test standards that must also be adhered to.

UK and European based manufacturing facilities are used for production, In house customer support teams are locally based providing best in class support.

Universal socket models include a locking mechanism as standard (BS7671:2018 regulation 722.55.101.4)

Solo 3 - Home

Installation & Safety

- For full installation details, please see our Solo 3 Home - Install guide here
- To start training to become a Pod Point Domestic Certified Installer please visit our website here for more information.
- Our on-board 6mA DC Leakage protection is fully compliant with BS 7671:2018 - regulation 722.531.2.101. This can be used safely in conjunction with a Type A RCD/RCBO, instead of requiring a more costly Type B RCD.
- Certified Pod Point installations include double or four pole RCD protection (Regulation 722.531.2.1.1) fitted at source providing protection for the entire installation, This RCD/RCBO may also fulfill requirements of regulation 722.537
- An Energy Clamp (single-phase only) that protects your home's main fuse from over currents that may result from the additional supply load when charging an EV.
- All Pod Point charging units include the Pod Point PEN Isolation system, which provides complete earthing protection without the need of additional earth rod installation. This is in compliance with BS7671:2018 regulation 722.411.4.1 (v)
- Standard installation costs include the supply cable (up to 15 metres), a mini consumer unit with RCBO, domestic load sensor cable and general sundries (cable cleats, screws etc..)

After sales service

- We will not undertake any repairs for any out-of-warranty failures without first receiving acceptance of our quotation for related costs. Refer to the Solo 3 installation guide for further details of supply requirements. Our Solo 3 is provided with a 3 year product warranty as standard, the terms of which can be found here.

Smart Charging

- Charging may be interrupted or rate-limited for brief periods to facilitate grid management in periods of peak local, regional or national demand. If utilised, Pod Point will manage these limits to mitigate any significant effect on vehicle charging times overall.

Limitations of use

- Pod Point do not authorise the use of charging cable adaptors and “smart” cables due to their impact on safety.*
- Pod Point equipment must only be used with European certified vehicles and cables, (damaged or non approved cables should not be used with any EVSE or vehicles).

** BS EN 61851-1 forbids the use of in cable adaptors, extensions leads and cables that change the operational state of the EVSE (smart cables).*

Warranty and support

To maintain our 3 year limited warranty, The installation shall be in accordance with Pod Point’s guidance, comply with relevant legislation and be installed by a certified electrician.

Any hardware failure should be promptly reported to us here. You must quote the serial number and location of the product with a brief description of the failure.

Our support team will then investigate and attempt to remotely resolve the issue. They may ask you to provide additional information to assist in this.

If the issue cannot be resolved remotely, and the product is within warranty, we will arrange for one of our team to visit. If the issue is a result of any shortcoming in design or manufacture it will be made good free of charge or at our option, exchanged for a replacement product. If we attend site and the fault is not a result of a design or manufacture issue of our product, we will make reasonable attempts to diagnose the issue and propose a resolution which may have an associated fee. A call out fee will be applicable where our product is not at fault.

Limitation of liability

In no event will we accept any liability for any loss, costs or damages consequential of the use and/or misuse of our hardware products, except and only to the extent that this is caused by our negligence.

pod POINT

Solo 3

Technical File

The Electric Vehicles (Smart Charge Points) Regulations 2021

Technical File

This document is the technical file for the following chargepoint:

Chargepoint make:	Pod Point
Chargepoint model:	Solo 3: S7-UC-03, S7-UCB-03, S7-2C-03, S7-1C-03, S22-UC-03, S22-2C-03
Compliant software versions:	Refer to the Pod Point App to see the current software version running on your charger **A30P-5.0.0**
Seller:	Pod Point Ltd. 28-42 Banner Street, London, EC1Y 8QE
Last update to technical file:	14th Dec 2022

Solo 3
Universal

Solo 3
Tethered

Description of the smart charge point

The Solo 3 includes and exceeds all required and “optional” safety features noted in the BS EN 61851-1 standard for electric vehicle charging. The Solo 3 is available in a universal socketed or tethered model, with either Type 1 or Type 2 cables. The Solo 3 is available in charging rates of either 3.6kW, 7kW or 22kW. The auto power balancing feature is not available on the 22kW model.

The Solo 3 incorporates a simple LED user interface on the charger itself, with more advanced operations available via the Pod Point App. A Wi-Fi connection for the charger is required for app functionality.

User Guide

A copy of the operating instructions for this charger can be found at:
pod-point.com/solo-3-user-guide

The following technical solutions have been implemented to meet the requirements of the regulations when a charger is installed in a domestic setting.

Smart functionality

The Solo 3 is able to connect to a communications network via a local Wi-Fi network, or where installed, a cellular data link.

The Solo 3 can respond to commands sent over the communication network to alter the allowed current limit during a charge, including pausing the charge. This mechanism allows the Solo 3 to participate in DSR services and scheduled or 'off-peak' charging.

The LED on the front of the Solo 3 indicates its current status and users are able to schedule their charges via the Pod Point App.

Electricity supplier interoperability

The Solo 3 is not dependent on any particular electricity tariff or provider and will continue to provide all functions on any suitable power supply, including features available via the Pod Point App.

Loss of communications network access

In the event that the Solo 3 is unable to connect to the communication network, it will default to charging the vehicle when plugged-in, subject to an (up to) 600 second random delay in some circumstances. For example:

- the random delay is applied if a Solo 3 is energised when a vehicle is already plugged-in.
- if the communication network becomes unavailable during a paused charging session.

To ensure the owner remains in direct control, the time schedule will be ignored while the communication network is unavailable and a plugged-in vehicle will charge subject to the random delay.

Safety

Local safety systems within the Solo 3 will take priority over commands to start charging received via the communication network or the user overriding random delays, demand side response actions or default schedule settings. These are designed to prevent overloading of the circuit supplying the charger and mitigate against the risk of electric shock.

Measuring system

The Solo 3 is capable of measuring:

- Electricity flowing to a connected vehicle, in kilowatt-hours (kWh).
- The total time within a charging session during which power was flowing.

This information is available via the Pod Point App. The app can be used to view all charges within the last 12 months. These can be viewed individually, or grouped by week, month or year.

Solo 3 electrical power measurements sent over the communication network have been tested to be accurate within 10%. The electrical power measurements are made every 1 second. Power measurements will not be sent during periods of unavailability of the communication network. Therefore, unavailability of the communication network from time to time may lead to some inaccuracy in monthly or annual aggregated charge statistics.

Off-peak charging

After completion of an installation and once the charger has been connected to the Pod Point App, the Solo 3 will have a default schedule activated to charge vehicles when demand on the electricity grid is lowest.

You can change the schedule times or disable the scheduling feature via the Pod Point App.

If the charger is sold with a DSR agreement, allowing a third party to manage the charging rate and control energy usage for a defined group of chargers, the schedule will not be activated.

Randomised delay

During the following scenarios, a random delay of up to 600s will be applied to a charge's start or stop operation:

1. When a charge is started or stopped by a user created schedule or the default charging schedule.
2. When the Solo 3 is energised and it is already connected to a vehicle which is able to accept charge.
3. When the communication network becomes available and the Solo 3 is set to perform a scheduled charge.
4. When the communication network becomes unavailable outside of the user's scheduled charging times and a vehicle which is able to accept charge is connected.

The duration of the random delay is capable of being increased to 1800 seconds if required.

A user can override this delay in each case by either temporarily disabling the schedule (in scenario 1) or by unplugging the vehicle and reconnecting it (in scenarios 2, 3 & 4) in each case the delay will be applied.

Physical Security

The Solo 3 is designed to provide protection against physical damage and complies with IK10 as defined in BS EN 62262.

If the charger detects the cover of the Solo 3 has been opened, enabling access to the internal hardware, an entry will be recorded in the Event Log section of the Pod Point App stating the date and time at which the cover was opened.

Data Security

The Solo 3 is protected to ensure that data contained upon it is secure and any identifiable information cannot be retrieved once it has been manufactured

- Only Pod Point signed firmware binaries can be installed on the device.
- Chargers validate the signature of the firmware on boot.
- All interfaces and access privileges not required for the charger to operate are disabled after manufacture and testing (STM Readout Protection Level = Level 2).
- Each Solo 3 has its own unique x.509 certificate injected during manufacture.
- The certificate is stored on encrypted flash, ensuring that it cannot be read from the charger.
- All application user interfaces are password protected.
- Passwords are user generated or where preset are unique to the charger and not based on any publicly identifiable information.
- Wi-Fi credentials entered on the Solo 3 can be removed via the option on the chargers Access Point page if needed, further information on this process is included in the Wi-Fi user guide for the charger.

Secure Communication

Remote functionality available with the Solo 3 can only be performed via the applications and services provided by Pod Point. Secure communication between the charger and Pod Points Charge Station Management System (CSMS) is ensured by:

- Communication via websockets encrypted using mTLS.
    - Chargers validate the issuing authority of the CSMS certificate and will only allow connectivity when the issuer is trusted.
    - Pod Point CSMS will only accept websocket connections from a device with a Pod Point issued certificate
    - Charger certificates are unique to the device.
- Rejection of any configuration updates sent to the charger that fail validation checks.

Security Updates

The firmware installed on the Solo 3 can be updated as new versions become available. The following process will apply when this occurs:

- Firmware updates are provided Over the Air (OTA) when the Solo 3 is connected to Wi-Fi.
- When a new version of firmware is available, this is indicated within the Pod Point Mobile App.
- When first installed a check is made for an available firmware update and if available the latest version will be installed.
- When future versions become available Pod Point will proactively update the firmware on the Solo 3 automatically.
- Firmware updates will be provided for 3 years starting from the point of installation.

The following mechanisms are used to check firmware validity and to ensure that only valid Pod Point firmware is installed and run on the Solo 3:

- The OTA process is only possible over the secure mTLS connection to the Pod Point CSMS. The Solo 3 verifies that the firmware binary is from a trusted source by validating the servers certificate.
- Firmware binaries are checked on device boot and when made available through an update to confirm that they have been correctly signed using a Pod Point firmware signing key.
- A failed validity check is registered in the security log of the Solo 3 which can be viewed within the Pod Point App.

Further Information

Should you have any concerns or problems relating to security please consult our vulnerability disclosure policy which can be found at:

https://pod-point.com/legal/policies