Hardware

Array Circuit 1.0 Charging - Solo 3

Datasheet

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This datasheet contains general information surrounding Pod Point's hardware Array Circuit 1.0 Charging solution for Solo 3 chargers, please always check with Pod Point for specific specifications and details that relate to the charging solution you require.

System Description

The Array Circuit 1.0 allows up to 27 Electric Vehicle Chargepoints (EVCPs) to manage their individual and total charging load within the limits of a fixed supply. An Array system allows many more chargers to be fitted than would normally be the case, as each charger will be de-rated as necessary to never overload the incoming mains feed. The system consists of suitable cabinets into which the Pod Point Array controller electronics and protection devices are fitted. A busbar is then wired to this cabinet, providing three phase energy distribution around the car park as desired; along the busbar are access points to distribute the energy to Electric Vehicle Chargepoints as needed. This solution allows for the 100% dedicated potential energy distribution system to be installed primarily, and for a Chargepoint (up to 27 units for a 100A Supply) to be installed whenever desired.

System Requirements

- A Wi-Fi network must be available where the Pod Point EVCPs are installed.
- Total amount of Pod Point EVCPs allowed must be calculated with a safety contingency based on the supply.
- Array Circuit Charging System can **only** be installed on a three-phase supply input of up to 100A, with a prospective fault current not exceeding 10kA to the Distribution Board.
- A **dedicated supply** is required, installation should not be done using a common supply.

System Diagram

Array Circuit Charging is available in different options to cover most system requirements. Pod Point are able to advise on suitable configurations.

Three-Phase Supply – Up to 27 Solo 3 Chargers

This allows the System to load manage up to 27 Chargepoints on a 100A TPN (Three-Phase), as seen in Figure 1. On a 100A system (Fig 1), the Pod Point EVCPs must be installed on the correct phase according to the plan in order to have correct load-balancing. However, the EVCP's can be installed anywhere along the system.

Limitations

- Indoor installations only
- For use only by skilled persons
- The Busbar pieces are prefabricated lengths, i.e. cannot be cut on-site, this necessitates a detailed site plan
- If any additional EVCPs are required past the 27th, a new Array Circuit System will need to be installed
- Max. cable size is 35mm^2 (Incoming and Outgoing Supply)
- This product currently **only** serves installs with a straight-run (i.e. One-way) from switchroom to the desired parking bays.

Figure 1. Array Circuit System Diagram - SKU AC-MD-01-UAA "One-Way"

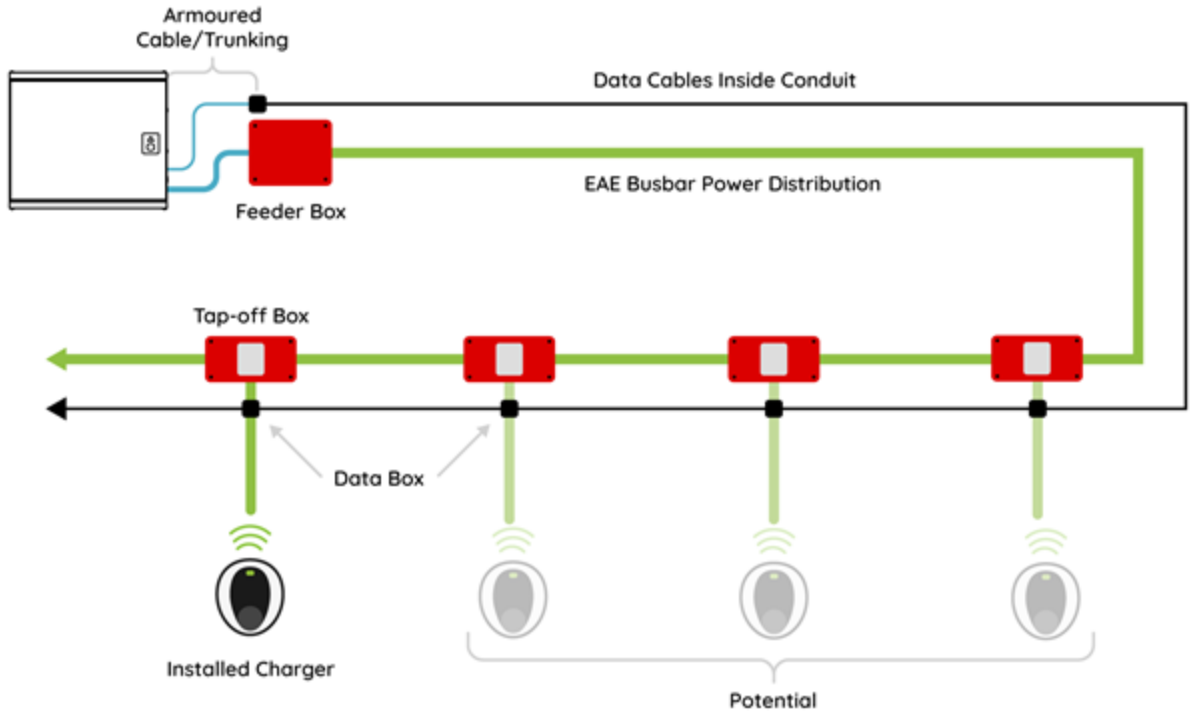

Table 1. Maximum supplies available for Array Circuit Charging System

Max supply	Amount of Pod Point EVCPs Three phase system
40A	9 (3x3)
60A	15 (3x5)
80A	21 (3x7)
100A (Default)	27 (3x9)

Array Circuit 1.0 Distribution Board

- Fully assembled Three-Phase system includes: 3x current clamps, 1x three-phase circuit breaker
  - SKU AC-MD-01-UCA: 1x three-phase residual current circuit breaker
- Up to 9x Pod Point EVCPs per phase (for 100A supply).
- 6x per Data Cables are required per Array Circuit: 2x 1A, 5V, screened cable is required per phase

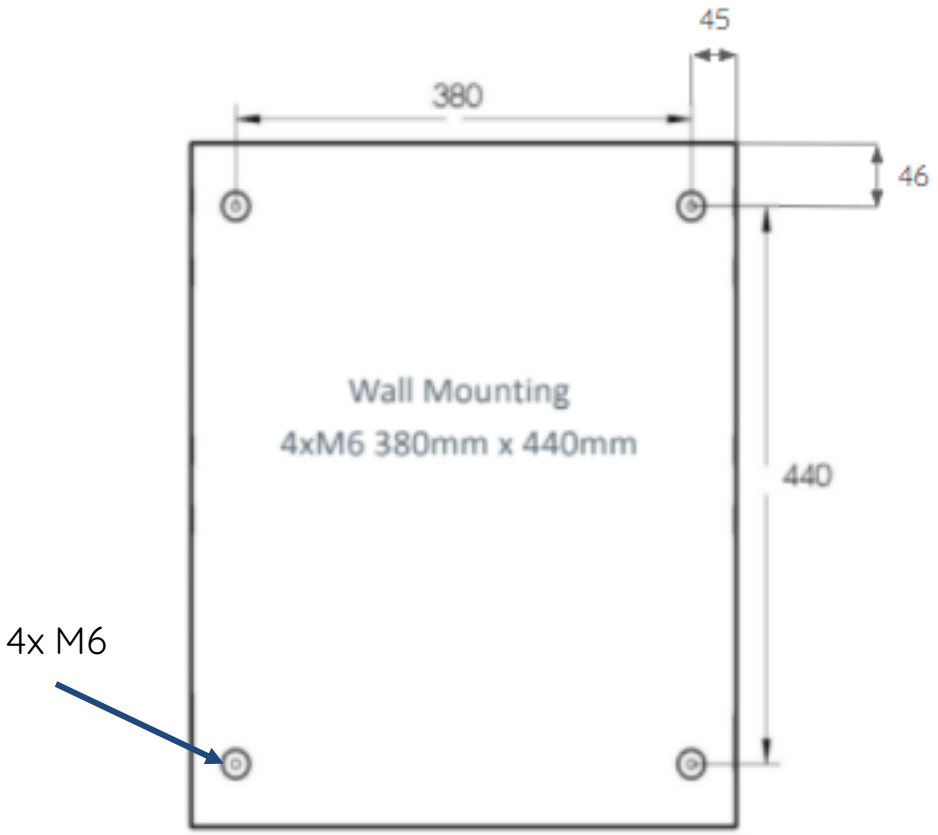

Figure 2. Distribution Board Mounting Locations

	Height	Width	Depth
Distribution Board	532	470	138

Table 2. Dimensions of Distribution Board

Weight: 16.3 kg (incl. packaging)

Table 3. Electrical Specifications

Voltage (Assembly)	3 Ph, 400V ac
Rated Operational Voltage (ChargePoints)	1 Ph, 230V ac
Rated Insulation Voltage (Assembly)	500 V
Rated Impulse withstand voltage [Uimp]	2.5 kV (overvoltage category II)
Rated Current (Assembly)	100A
Rated Current (ChargePoints)	32A
Incoming Supply Impedance	0.067Ω to 0.20Ω
Rated Peak Withstand Current [Ipk]	N/A
Rated Conditional Short-circuit Current [icc]	10 kA*
Rated diversity factor	0.9
Rated Frequency	50Hz
Pollution degree	2
Type of System Earthing	TN-S / TN-C-S / TT
Degree of Protection	IP 30
Corrosion Rating	A (Indoor)
Max. Number of Chargers	9 per Phase 27 Total
Switchgear - Protective Devices	100A, 4P MCB - Mains 2A, 1P MCB - Data 100A, 4P RCCB - Charge Points
ChargePoints - Protective Devices	40A, 2P RCBO
Conformity Standards	IEC / BS EN 61439-2:2011 Ed 2.0

*based on the lowest maximum breaking capacity of internal switchgear

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