NHP Electrical Engineering Products

AC Max Selection Guide

Electric vehicle chargers for installations in residential, commercial, retail and public settings

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Why choose the Delta AC Max?

The AC Max is an easy-to-use electric vehicle charger. Featuring an appealing and robust design, the AC Max is ideal for residential and commercial applications.

The AC Max can be wired in the following ways:

- Single phase at up to 7.4kW, delivering up to ~40km of range per hour plugged in.
- Three phase at up to 11kW, delivering up to ~60km of range per hour plugged in.
- Three phase at up to 22kW, delivering up to ~120km of range per hour plugged in.

You can choose between a tethered or socket version of the AC Max, depending on its application.

The determining factor in the vehicle charging rate when using an AC charger is the vehicle's on-board rectifier, which converts the current from AC to DC, as the vehicle's battery requires DC current.

For applications requiring faster charging rates, please consider NHP's Delta DC range, as DC chargers convert the AC to DC on the charger, bypassing the vehicle's on-board rectifier and allowing the vehicle to charge at significantly higher speeds. NHP offers a range of high-speed DC electric vehicle charging solutions, ranging from 25kW to 200kW.

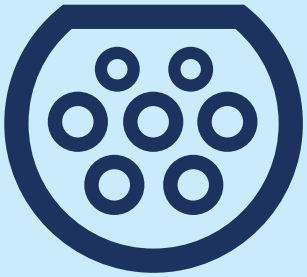
What connection type should you choose?

The EV industry standard vehicle inlet is commonly referred to as 'Type 2', covered under standard IEC 62196. For applications required to support vehicles with 'Type 1' SAE J1772 inlets (for example, pre-2018 Nissan, pre-2021 Mitsubishi), a socket outlet charger is recommended.

The AC Max comes as either a socket version or complete with integral cable (tethered).

Type 2 socket outlet version

Type 2 cable (tethered)



Socket version - Type 2

The national standard for EV charging is the Type 2 plug and socket charger, which is ideal for public environments. Due to the socket design (no cable), the socket charger will not be susceptible to cable/plug damage.

The driver is required to provide their own Type 2 cable, which plugs into the charger and vehicle and is locked in place when charging commences. The Type 2 cable is also available from NHP and can be ordered with part number EVPPO0105.

Cabled version - Type 2

The AC Max is available with an integrated 5 metre cable which features a Type 2 plug. The charger includes a hook for hanging the cable, as well as a plug holster fitted in the front fascia of the charger for neat and easy storage and use. The cable solution is ideal for residential and commercial settings.

Smart connectivity

The AC Max Smart features an in built communications module, which is useful if you require the charger to connect to a charge point operator or a load management system, to track energy use, for solar management or if you need to connect the charger/s to a cloud-based management system.

The charger communicates via Ethernet/Wi-Fi-/4G using the OCPP communication protocol, which is the industry standard for EV charging.

Please contact NHP if you would like to discuss load management or billing for your electric vehicle charging project.

Model codes

Model	Connector type	Smart
EIAWE22KTBE5A02	Type 2 cable (5 metre)	No
EIAWE22KTBS0A02	Type 2 socket outlet	No
EIAWE22KTSE5A04	Type 2 cable (5 metre)	4G / Wi-Fi / Ethernet
EIAWE22KTSH0A04	Type 2 socket with shutter	4G / Wi-Fi / Ethernet

EV charging adapter, for use with type 2 socket outlet chargers

Model	Connector type	Rating
EVPPO0105*	Type 2 to Type 2 EV charging adapter	32 A, three phase

*Single phase charging can also be achieved using this adapter.

Isolators for the AC Max

An isolator is currently not mandatorily required for installation to AS/NZS3000:2018 Appendix P. However, for safety purposes, NHP recommends that an isolator be installed.

NHP also recommends using a 40A circuit to supply the AC Max. If retrofitting into a 32A circuit, the power output of the charger must be set to 30A or lower in order to avoid any nuisance tripping.

Further to NHP's recommendation on upstreaming products, you must following the local guidelines in your state/territory.

Single phase: NL140L
Three phase: ISO440PGS
NL340L

What if AC charging is not fast enough?

Vehicle rectifiers vary in size from 3.7kW to 22kW, which limits the speed of recharging a vehicle from an AC charger. For many applications, AC charging will be fast enough, especially for vehicles with three phase rectifiers. When AC charging is too slow, NHP also offers a wide range of DC fast charging solutions which range from 25kW to 200kW. To learn more, please call your local NHP Account Representative or visit nhp.com.au/ev

Do you require a charger post?

NHP's locally engineered EV Charger Post is specifically designed to suit the AC Max. The post is designed for the installation of one AC Max and is expandable to two AC Max chargers with the removal of a rear backing plate. The NHP AC Max Charger Post has cable holes and pre-drilled and tapped fixings to allow for a quick no-fuss installation.

Recommended part number:
EVPE1320CPMAX

Breakers for the AC Max

The AC Max comes with built-in residual direct current detecting device (RDC-DD) complying with IEC 62955, so a Type B RCD is not necessary to be installed upstream.

For a single phase install, NHP recommends that a 40 Amp Type A RCBO (1P+N) or a combination of 40 Amp single pole MCB and a Type A RCD be used upstream, in keeping with AS/NZS3000:2018 Appendix P.

For a three phase install, NHP recommends that 40 Amp Type A RCBO (3P+N) or a combination of 40 Amp three pole MCB and a Type A RCD be used upstream, in keeping with AS/NZS3000:2018 Appendix P.

Further to NHP's recommendation on upstreaming products, you must following the local guidelines in your state/territory.

Single phase: DSRCB4030A
Three phase: M6RCBT4030A
M6RCBF3230A

What if the cable already installed is not suited to a 32 Amp load?

The Delta AC Max includes internal dip switches that allow for the unit to limit the current and provide a lower output. The installation manual shows the settings for a selectable maximum load of 6, 8, 10, 12, 16, 20, 24 or 32 Amps.

Charge smarter with NHP's range of Delta Electric Vehicle charging solutions!

NHP's range of Delta EV chargers provides solutions to suit most applications

- Easy installation
- Fast and efficient performance
- Smart connectivity for billing
- Accessories available including charger posts, charging cables and upstreaming hardware
- Two-year warranty with extension possible for up to ten years
- NHP service and maintenance packages available

Speak to NHP's experienced EV team to find the ideal solution for your business or project.

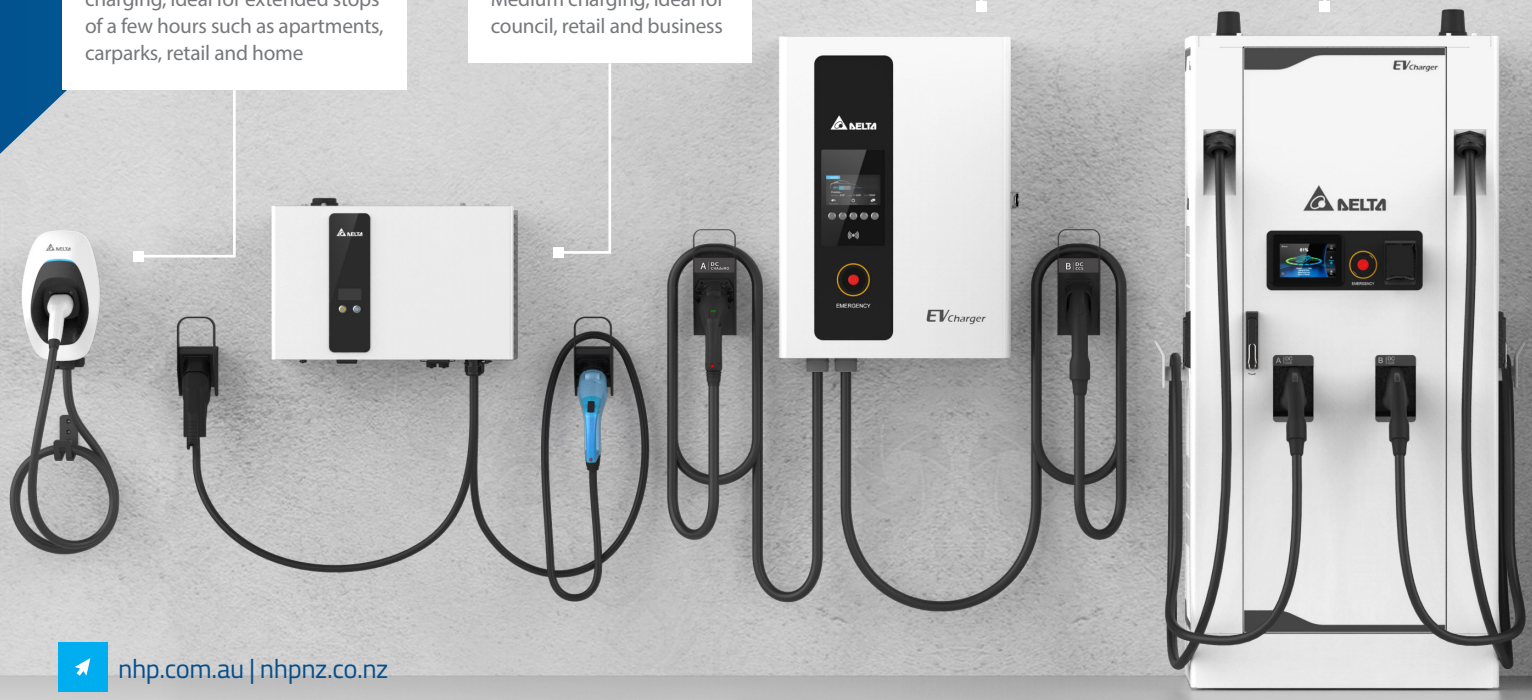
Find out more at **nhp.com.au/EV**
nhpnz.co.nz/EV

Max 7.4 - 22kW – Casual charging, ideal for extended stops of a few hours such as apartments, carparks, retail and home

Delta DC Wallbox 25kW – Medium charging, ideal for council, retail and business

Delta DC Wallbox 50kW – Fast charging, ideal for government, commercial and public infrastructure

Delta DC City Charger 50kw, 100kW and 200kW – Ultra-fast charging for the quickest turnaround, ideal for petrol stations and other transport industries



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