

AC Mini Plus Selection Guide

An AC electric vehicle charger with up to 7.36kW output, designed to suit your charging needs

RENEWABLE TECHNOLOGIES





Cable

Why should you pick the Delta AC Mini Plus?

The AC Mini Plus fills the role of providing electric vehicles a reasonable amount of charge over longer periods of time. In the electric vehicle industry, the average driving per kWh of electricity is 4-6km. The AC Mini Plus has an output of 7.36 kWh which allows it to charge an electric car 30-40km of range per an hour, while the standard wall plug provides 10-14km in the same amount of time. These units are optimal for workplaces, shopping centres, tourist spots, hotels, and for home use. The Delta AC Mini Plus provides a low-cost EV charging solution, that is easy to install. The average Australian drives 30kms a day, which could be gained back with 1 hour of parking at the charger.



Type 2 Socket
(Mennekes)



Type 2 Cable
(Mennekes)



Type 1 Cable
(J1772)

What connection type should you choose?

Figuring out which connection type will work best suite your needs, is an essential consideration when deciding which Delta AC Mini Plus unit(s) to purchase. The Mini Plus is available in three connection types.

Type 2 Socket	Type 2 Cable	Type 1 Cable
<p>The type 2 (Mennekes) socket is a European standard EV connection. Most electric vehicles will have their own cable to plug into this socket. If the vehicle does not come with a cable after market adapter cables are readily available. It gives the most versatility among the three.</p>	<p>The type 2 (Mennekes) cable will currently only go into Tesla and Renault vehicles. In future we expect a larger variety T2 compatible vehicles to enter the Australian market.</p>	<p>Type 1 (J1772) is the American and Japanese standard, and works for BMW, Nissan, Porsche, Mercedes, Volvo, and Mitsubishi.</p>

In Australia, most vehicles charging cable will connect to a type 2 socket which makes it the more practical of the 3 types available. If there are multiple units being installed, it would be advised to have a few of each cable type, to provide the widest variety to customers. Since this industry is in its infancy it is not fully clear which charging cable will become the dominant standard. There will likely be several standards for a long time, in much the same way as diesel, 91, 95, and 98 octane fuels are all available at most petrol stations.

Do you need network communication in your Delta AC Mini Plus?

Having communication can be useful if you want to implement a load sharing system or if you want to bill people for the power. Many buildings in Australia do not have the infrastructure to install large numbers of EV chargers. A Delta AC Mini Plus running at full load on its own it does not contribute significantly to the overall load but if you have multiple units operating simultaneously it may exceed the building's electrical infrastructure to safely provide power. A load management system would allow you to lower the outputs of them to match the amount of power the building has available. With communications enabled you will be able to monetise the charging service, third party apps will allow you to do this.

No Communications	WiFi and Ethernet or 3G and Ethernet
<p>This unit range is the cheapest and will suit the needs of smaller numbers of EV chargers, where there is no risk of exceeding the maximum available power and billing is not required.</p>	<p>A communications method is essential for chargers if you want to put in a system for directly billing people for the power used, or implement a smart load management system. The chargers can communicate using the OCPP protocol, which is the industry standard for EV charging. A load management system can help you limit costly electrical infrastructure upgrades, and can also limit your exposure to peak demand charges. Please consult NHP if you'd like to discuss load management or billing for your electric vehicle charging project.</p>

Do you need a cable bracket?

For Delta AC Mini Plus cabled models, we would strongly recommend that a cable bracket to be installed. The reasoning behind this is that the cable being quite long can look untidy when not properly put away. If not installed the cable will sit on the ground, and there will be the potential for customers to run it over or damage it. For socket models, this part is not required as they do not have an inbuilt cable.

Recommended part number: **EVPEBKT01**



Model Codes

Model	Connector Type	Communication
EVPE3220MNK	Type 2 Socket	No
EVPE3225MNK	Type 2 Cable	No
EVPE3215MNK	Type 1 Cable	No
EVPE3220MWN	Type 2 Socket	WiFi and Ethernet
EVPE3225MWN	Type 2 Cable	WiFi and Ethernet
EVPE3215MWN	Type 1 Cable	WiFi and Ethernet
EVPE3220MUN	Type 2 Socket	Ethernet and 3G
EVPE3225MUN	Type 2 Cable	Ethernet and 3G
EVPE3215MUN	Type 1 Cable	Ethernet and 3G

Contact 1300 NHP NHP for availability.

Do you need an isolator upstream of your AC mini plus?

An isolator is currently not required for installation to AS/IEC standards.

As a safe installation practice, NHP recommends one to be installed.

Recommended part number: **NL140L**



What type of breaker should be used upstream?

NHP recommends that a 40 Amp C curve breaker be used upstream. NHP also recommends a 30mA Type A RCD be used up stream.

Recommend part is a 40 Amp double module RCBO: **DSRCB4030A**

As an alternative, if a double module RCBO is not suitable for the installation we recommend using a MCB and RCCB in combination.

Recommended MCB part number: **DTCB6140C**

Recommended RCCB part number: **DSRCD24030A**

What if the cable already installed isn't suited to a 32Amp load?

The Delta AC Mini Plus includes internal dip switches that allow for the unit to limit the current and provide a lower output. Within the installation manual there is a guide on the what current ratings can be set: 6Amp, 8Amp, 10Amp, 13Amp, 16Amp, 20Amp, 25Amp, 32Amp.

What if charging at 30-40km of range per hour of charge isn't enough?

For many people 30-40km of additional range per hour will be enough, but if you find that does not suit your requirements there are other options available. We provide a Delta DC Wallbox EV charger, a Delta EV DC Quickcharger, and a Delta Ultrafast Charger.

The Delta DC Wallbox EV charger provides a 25kW DC output. At that output, it will provide 100-150km of charger per hour depending on the vehicle. It comes with CCS1 CCS2 and CHAdeMO connectors. These are meant to be a middle ground product between the AC Mini Plus and the Delta Quickcharger. This unit could be used in fleet applications or in car parks.

The Delta DC EV Quickcharger is a unit that enables charging at a rate of 200km to 300km per hour with a 50kW output. These units are suitable in cases where people are driving long distances.

The Delta Ultrafast charger is a modular DC charger. The unit has up to a 150kW output that is reachable with 10kW DC modules. The base unit is 60kW, which would give a car an additional range of 240km to 360km. The Ultrafast chargers provide the ability to upgrade to meet future demands.

Isolator requirement correct at time of printing.

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