

30kW DC Charger

Conneely Energy have focused on smaller DC chargers as not every commercial premises has the necessary power supply and charging infrastructure for larger DC chargers of 50kW and above. The 30kW DC charger allows the user to charge cars four times faster than a 7kW AC charger. We believe that 30 kW DC chargers are ideal for smaller hotels, car show rooms and work places.

WHY A FAST 30KW DC CHARGER CAN BE BETTER THAN A 100KW RAPID CHARGER FOR WORKPLACE AND DESTINATION CHARGING

The suitability of a 30 kW DC charger versus a 100 kW rapid charger depends on several factors. In some situations, a 30kW DC charger may be better than a 100 kW rapid charger. Here are some reasons why this might be the case:

Cost Efficiency: 30kW DC chargers are generally more cost-effective to purchase and install than 100kW rapid chargers. If cost is a significant factor, a 30 kW charger may be better.

Electrical Infrastructure: Installing a 100kW rapid charger typically requires a substantial electrical infrastructure upgrade, whereas a 30 kW charger may be able to run from your existing three-phase supply.

Compatibility: Some electric vehicles (EVs) have onboard chargers that cannot fully utilise a 100 kW charging rate. If you have an EV with a lower onboard charging capacity, a 30 kW charger may be sufficient, and paying for a 100 kW charger might not provide tangible benefits.

Battery Health: Charging at lower power levels, such as 20kW or 30kW, can be gentler on the battery, potentially extending its lifespan compared to charging at higher power levels like 100kW+. If you plan to keep your EV for long, preserving the battery should be a priority.

Grid Demand: Charging at a lower power level puts less strain on the electrical grid. This can be beneficial if you are concerned about peak demand charges or grid stability.

Charging Time Flexibility: If you don't require rapid charging and have the flexibility to charge your EV over a longer period, a 30 kW charger can still provide adequate charging speed for most daily needs.

EV Charging Speeds

There is a vast difference in the speed between how fast AC and DC charging stations can fill your battery, and in how they do so.

AC chargers offer a steady flow of electricity which brings the battery up to 100% charge at a constant, if slower pace.

DC charging stations will offer a far more rapid flow of power at first, but this slows down as the battery approaches capacity.

This is why most rapid charging stations will speak about how quickly they can reach 80% capacity, as the charge slows to a trickle after this point.

Difference between AC and DC Power

AC (Alternating Current)

AC electricity regularly changes direction many times a second, which is the kind of power that comes from the power plant to homes and businesses. It is the most common form of electrical power used in residential and commercial settings. AC charging is the most common charging method for EVs with a plug whereby the power gets converted from AC to DC inside the vehicle.

DC (Direct Current)

DC electricity maintains a constant flow in one direction and is the type of power that comes from a battery. In DC charging, power is converted from AC to DC in the charger itself, before entering your vehicle. This allows for much faster charging and is the charger method used in our Fast/Rapid and High Power chargers.

Charger Type	Charge Time	Battery Level
7kW AC Charger	6 – 8 hours	100%
22kW AC Charger	4 – 6 hours	100%
50kW DC Charger	~30 mins	80%
≥ 150kW DC Charger	~5 – 10 mins	80%

HOW FAST IS DC FAST CHARGING?

With different types of electric vehicles with varying battery capacities, various level 3 DC fast charging stations with numerous power outputs, and several factors that can influence charging speed, it isn't easy to give a precise answer to how fast DC charging is. However, we can provide an estimate of how many miles of range a DC fast charger can deliver to an electric vehicle within 60 minutes based on the power output of the charger and the [kWh per 100 miles \(kWh/100 mi\) of the average EV, which is 34.6](#).

30 kW	87 miles/hour
50 kW	145 miles/hour
100 kW	289 miles/hour
120 kW	347 miles/hour
150 kW	434 miles/hour
180 kW	520 miles/hour
250 kW	723 miles/hour
350 kW	1012 miles/hour