

7kW vs 22kW EV chargers: which suits your site?

Destination chargers are usually sold as 7kW or 22kW. Those figures are the most each charger can deliver. This guide explains how fast cars charge in practice and which charger suits which kind of site.

Our chargers run at any speed up to their maximum

A 7kW or 22kW charger can deliver any power up to that figure: 7kW, 8kW, 9kW, 10kW and so on. Ours adjust continuously to give each car as much power as your supply can spare at that moment.

The speed a car gets is the lowest of three limits:

- ✓ the charger's maximum, which is 7kW on a single-phase supply or 22kW on three-phase
- ✓ the spare capacity in your electricity supply, which two cars share when both sockets are in use
- ✓ the car's own limit on how fast it can take AC charge

Not every car can charge faster than 7kW

Destination chargers supply AC power, and each car has a built-in limit on how much AC it can accept. Many older and smaller electric cars stop at about 7kW. Most cars sold in the last few years take 11kW, and a few take 22kW.

A 22kW charger still helps. An 11kW car plugged into it charges about half as fast again as it would on a 7kW charger, and the extra capacity is shared between the two sockets when both are in use.

How much range does each speed add?

Power	Range per hour	Needs
7kW	About 30 miles	Single-phase (most sites)
11kW	About 45 miles	Three-phase, and an 11kW car
22kW	About 90 miles	Three-phase, and a 22kW car

Figures are typical. Actual range depends on the car, the weather and how full the battery already is.

Which suits your site?

Up to 7kW

Runs on a single-phase supply, which most businesses already have. It suits places where visitors stay two hours or more, such as hotels, gyms and attractions. A car parked for three hours gains about 90 miles, and an overnight stay fills most batteries.

Up to 22kW

Needs a three-phase supply. It suits places where visits last around an hour, such as pubs and restaurants and retail parks. In an hour, an 11kW car gains about 45 miles and a 22kW car about 90. Cars limited to 7kW charge at 7kW.

You don't need to know your supply type before you get in touch. We check it at the free site assessment and recommend a charger to match.

What about rapid chargers?

Rapid chargers (50kW and above) need a much larger grid connection and are built for short stops, such as 20 minutes at motorway services. Where visitors stay an hour or more, a 7kW or 22kW charger adds 30 to 90 miles in that time without the grid connection a rapid charger needs.

Common question

Will a 22kW charger charge every car at 22kW?

No. A car charges at whichever is lower: the charger's speed or the car's own limit. Many cars stop at about 7kW and most recent models at 11kW. Only cars built to accept 22kW charge at 22kW.