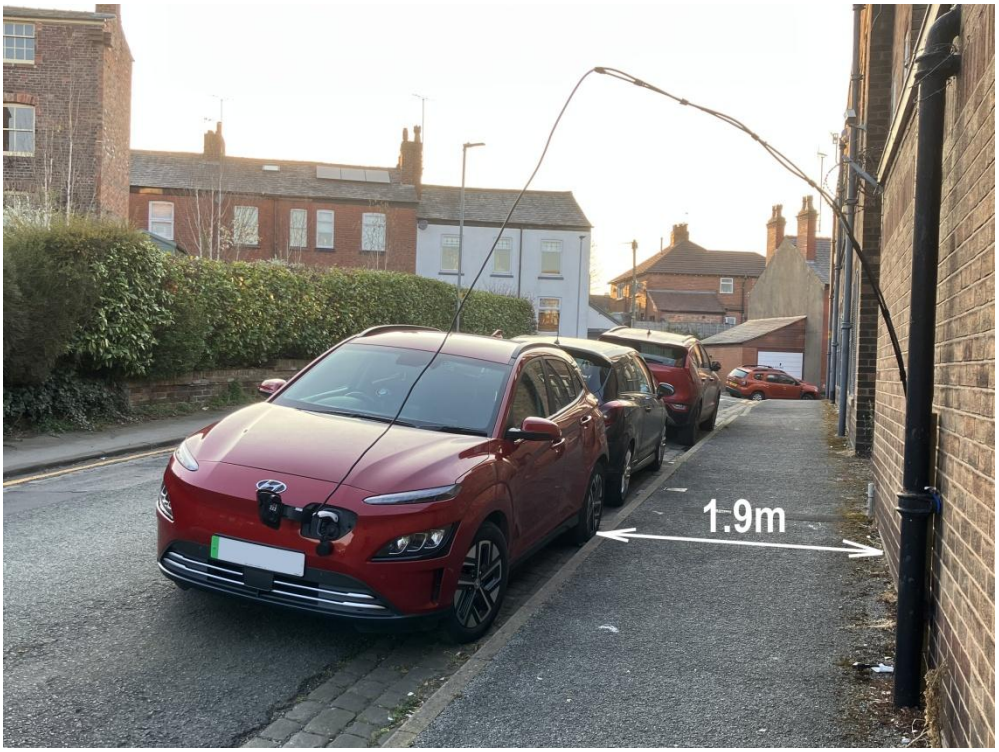
A new product evaluation



We are looking for EV owners in the Macclesfield area without off-street parking, and therefore not able to use their own electricity to charge their car, but instead obliged to use public charging at more than twice the cost.

We can offer a kit of parts for the owner to install and assemble at no cost.

We simply ask for participants to move quickly to install the product, and give an honest appraisal of how well or badly the product fulfils its purpose.

The product is described on the following pages, together with installation instructions.

Please apply by email with your phone number and postal address.

flexev@maccinfo.com

EV owners save about £18.50 per week by charging at home on off-peak electricity.

(52p/kWh vs 8.5p/kWh Octopus Go = 41.5p saving @3.5 miles per kWh ➔ 12p/mile saving.
Average 8,000 miles per year =22miles/day ➔ £2.64/day or £18.50/week.)

But if they have to park on the street, the trailing cable creates a trip hazard.

Some people use a rubber ramp to cover the cable, but these are a nuisance to buggies and wheelchairs, and have been known to flip over.

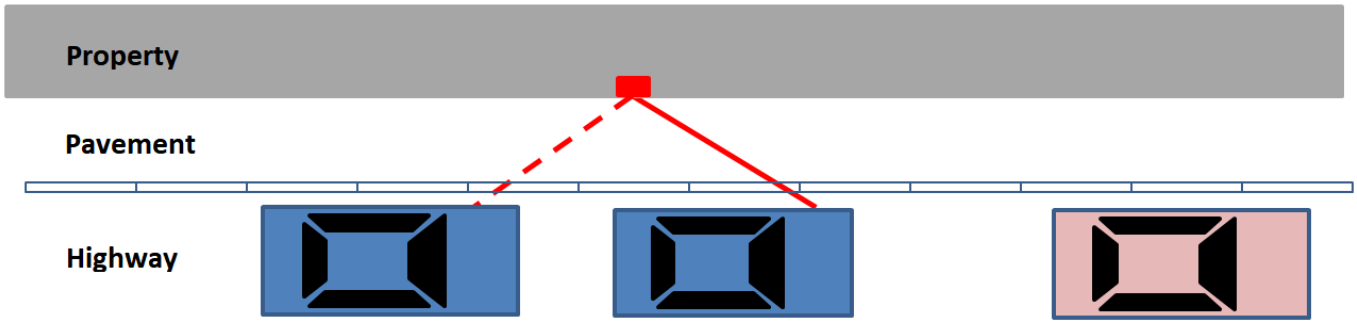
The most elegant solution is to run the cable below the surface in a channel or gulley such as the Stormguard product which you can buy for about £35/metre.

Unfortunately, local authorities have concerns about disturbance of 'their highway', and although only a 5cm wide and 5cm deep cut is needed, they may charge a sizeable licence fee, and permit installation only by their approved contractor.

Kerbocharge have reached agreement with around 26 of the UK's 300 or so local authorities to install their cable channel, including council negotiations, for about £1000.

Gulleys are also unsuitable for loose surfaces such as grass or gravel, and very uneven surfaces. The alternative is to lift the cable above the heads of pedestrians.

This Dutch designed ChargeArm is available in the UK, and has the advantage of easy alignment with different parked car placement, but it costs over £1000.

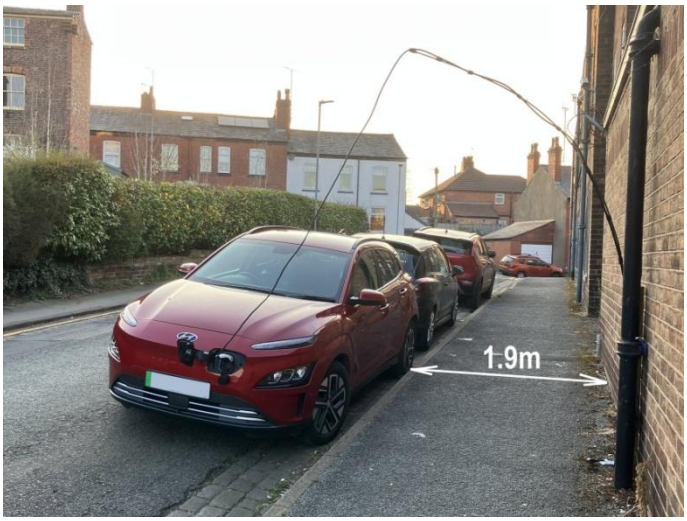


Fortunately, it is possible to do the job much more cheaply.
The parts can be bought for less than £50, and if they enable off-peak home charging, the cost would be recovered in just 3 weeks.

Continued……

FlexEV

Uses highly flexible glass fibre wands to hold your charging cable out of the way.

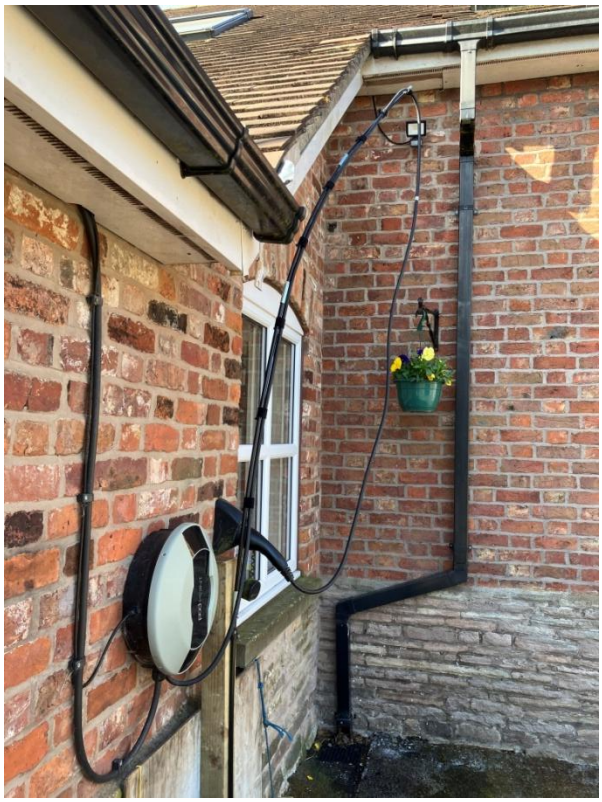


The high point of the arch is about 2 metres away from the wall and the 5 metre cable can easily extend a further 50 – 80 cm to the car.

The cable is kept off the ground and so stays clean.
Suitable for cables up to 7kW single phase.

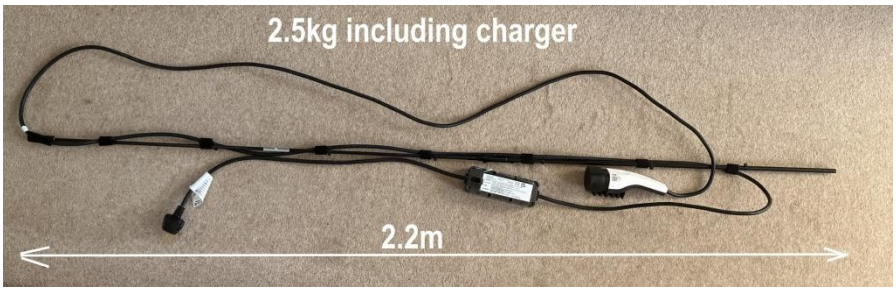
When not in use:-

The wands can be swung aside when not in use and the car plug holstered.



If the cable is detachable from the charger (rather than being permanently connected) the whole assembly can be lifted off and taken indoors.

Alternatively, the whole assembly can be easily dismantled and the cable detached, all in about 2 minutes.



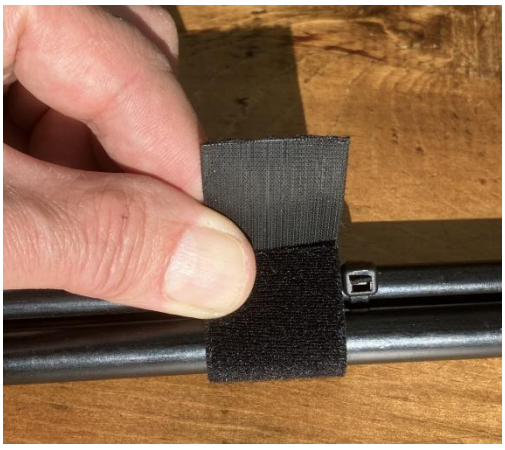
FlexEV offers a self-assembly kit of parts with detailed instructions included.

The charging cable itself, a screwdriver, electric drill, and pair of scissors are not included.
Each user must configure these parts appropriately for their particular location.
To maximise the headroom under the wands, the first wand must be fixed vertically, and, if possible, just inside the owner's property.

How does it work?

1. The first wand is fixed to a wall, or wooden gate post, about one metre above the floor, and further wands are slotted in according the desired reach and size of cable to be supported.
   a. The first wand could be fixed instead to a new wooden stake in the ground, or fixed to a short piece of timber that can be clamped to a metal post with stainless hose clips.

2. **How is the cable attached to the wands?**
   a. Initially, for ease of adjustment, double-sided Velcro cable wraps work well.
   b. The Velcro wraps can be the long term solution, (they allow the wands to be disassembled in less than two minutes), but cable ties or duct tape can also be effective.



Trial Assembly

Each user must configure these parts appropriately for their particular location.
To maximise the headroom under the wands, the first wand must be fixed vertically, and, if possible, just inside the owner's property.
A suggested arrangement is as follows:-

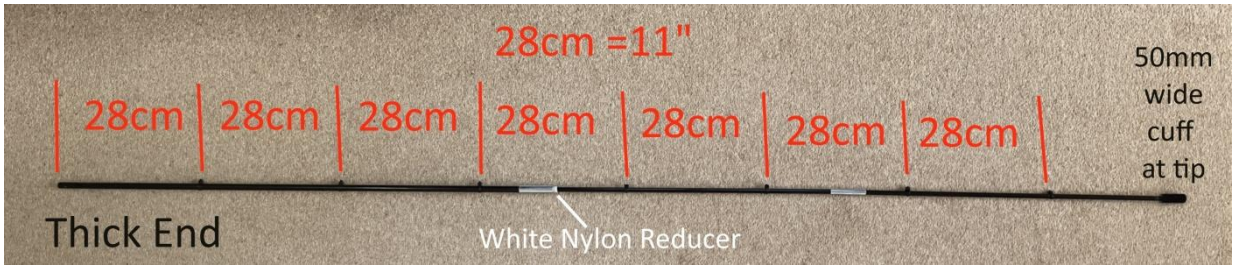
1. Fit two pipe clips to one of the larger wands as shown, and position the top of the first wand about 1 metre above ground level. Drill the wood or masonry using the clips as a guide.
2. Fix the third clip about 10 cm above the bottom of the wand

3. If the timber you have used needs fixing to another post, two long worm-drive hose clips are available from Amazon etc.

4. Cut the 30mm double-sided Velcro wraps into eight 10cm pieces.

5. Mark the 50mm wide Velcro tape at these points (40,70,100,130,166) and cut to create these lengths:- 40,30,30,30,36mm.

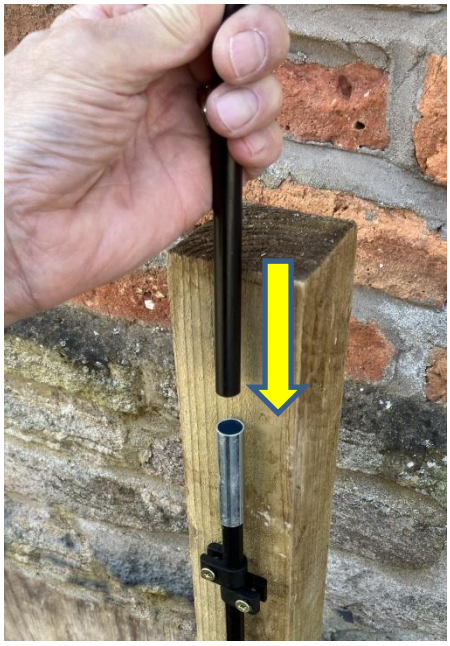
6. Use one 30mm piece to make a cuff at the tip of the shorter wand without a metal ferrule. This helps secure the end of the cable.
7. Push the white nylon reducer as far as possible into the ferrule of the remaining long wand. (No more than 5mm should remain exposed.)
8. Assemble the long wand and two short ones together, then, starting at the thick end, tightly fix a cable tie every 28cm or 11".



Continued……

9. Mark the charging cable with coloured tape about 2.5metres from the car plug, and then lay the cable out in a straight line on the ground.
10. Lay the assembled wands down beside the cable so that the small end aligns with your 2.5m mark on the cable.
11. Use the 30mm wide wraps to attach the cable to the tip of the wands, and then beside each cable tie.
    (The tightly fixed cable ties stop the Velcro wraps slipping downhill when the assembly is lifted up.)

12. Gathering the plug in your hand to stop it flailing around, lift the assembly into a vertical position, and drop the large wand into the metal ferrule of the first wand previously fixed in place. Make sure it goes in fully, as this is the most highly loaded part of the assembly.
13. Check that the cable can reach the car without bending the top wand below horizontal, and adjust the arrangement as necessary. You can have more than 2.5 metres of cable extending beyond the wands if appropriate.
14. Once you are satisfied with the arrangement, you can decide whether to fix wands together with duct tape or, if you want to retain an easily dismantled arrangement, use the 50mm Velcro to make cuffs as follows:-
    a. The weight of the assembly keeps the bottom joint pressed together, so that joint can be left loose.



    b. With other wands all pushed together, wrap the longest 40mm Velcro piece around the thick fibreglass wand below the metal ferrule, and use the shorter pieces on the smaller wands.
    c. Finally, cut 2 pieces of 30mm wide wrap 165mm long and use them to link the cuffs.