

# CHARGING MADE EASY





### CHARGING WITH PASSION!

At Charge Amps, we are passionate about making electric car charging easier and more efficient. We are convinced that the road to a sustainable future is paved with smarter solutions and more elaborate designs. We don't think that you want to focus too much on kilowatt-hours and amperes, but be able to rest assured that you can still enjoy the thrill of driving, in a sustainable manner, without hassle.

Charge Amps has already pushed the limits with SPARK, our lightweight and flexible charging cable, which created a whole new segment in the market. By adding features to the handle and introducing adjustable power we created a charging cable that gave consumers freedom that was unprecedented. In addition, the cable handles even extreme temperatures. Now, with the introduction of our solutions HALO Wallbox™ and RAY, we are pushing the boundaries even further. Because it is not just about charging your car. It's about charging it as smartly and smoothly as possible when and where it suits you.

Our engineers and designers drive electric cars themselves. That means we encounter the real life obstacles that exist with EV ownership today. In addition, we listen to our consumers and use this as the basis to develop sought after solutions. Solutions that make charging easier, smarter and more reliable. Our products are developed from scratch. That means we can go the extra mile and think outside of the box to create user-friendly solutions that are better than what is already available on the market.

Service and support for our customers is our first priority. We assure a fast response within 12 hours of receiving customers' comments. By choosing one of our solutions, you will never stand alone in the unlikely event of experiencing a problem. Our products are developed, manufactured and tested in Sweden, made to withstand the harsh Nordic conditions – the ultimate starting point for a global product. Even though the electric car industry is in an early stage, Charge Amps has been involved from the beginning. Our experiences with two of the pioneering countries in the global electric car market – Norway and the Netherlands – make us confident in sharing our capabilities with our customers, so that you will always feel comfortable with your choice of electric vehicle charging.

## CHARGING - WHENEVER, WHEREVER.

First of all; Thumbs up to your decision to drive an electric vehicle. This is a giant step in the right direction – towards the future. By reducing the global dependency on fossil fuels, we are building a sustainable world together. The shift is happening right now, but unfortunately, the sight of the traditional gas station is still more common than that of EV charging stations along the roads. However, with our excellent charging solutions, this difference can be easily diminished. Below is a review of the most common options you face as electric car owners.

#### **PORTABLE CHARGING (MODE 2)**

The Portable Charger is the cable you use for charging your car with a standard electrical outlet. This is a piece of equipment that bridges the connection between the socket and the electric car. This cable can be stored in the car for easy access. The most common type of portable charger is plugged into the household outlet with a power supply of 10A. The portable charging cable can be delivered with the car during purchase or can be purchased from a responsible supplier. Generally, cars manufactured in Asia and North America use the Type 1 cables and cars made in Europe use the Type 2 cables.

Charge Amps has developed a portable charging unit called RAY.



#### **STATIONARY CHARGING (MODE 3)**

A Stationary charger is using a special fixed-installation box designed for charging electric cars. The box can be equipped with a fixed cable or with a socket where you bring your own cable to connect it to your car. This is most common in places like shopping centers, parking lots, workplaces and homes with a current supply of 16A. Because of the use of devices like block heaters, many parking spaces already have electricity routed to them, making installation of a charging unit easier. Charge Amps stationary charging unit which is known as HALO Wallbox™ should be installed by qualified electricians.

Mode 3 – Type 2 is the European governing standard for public charging. When the charging socket of the box is of the Type 2, cars with different charging contacts (Type 1 or Type 2) can be charged using a customized cable with Type 2 connector on the box and either Type 1 or Type 2 into the car. The European standard for automobiles will be the Type 2 model.

#### **SMART CHARGING (MODE 4)**

Fast charging is suitable if you drive long distances or forget to charge your car at home or work. These fast charging units can be situated at some public places such as rest stops along highways or other places. Fast charging achieves extensively higher power output than normal charging by means of a unidirectional DC charger. Within 20–30 minutes it can charge up to 50–80% of the battery capacity. It is even faster for hybrids with smaller batteries and in some situations it can be done without paying extra. The fast charging infrastructures are consistently being built by power supply companies and automotive companies.

The fast charging plugs on cars are either a CHAdeMO or CCS. Generally, cars made in Asia and North America use CHAdeMO and cars made in Europe use CCS. The cable needed for charging is available at the charging stations and you do not need to buy one.



## HAIOWAII BOXTM

We know that 90-95% of all EV charging takes place at home or at work. That means that a good, reliable charging station is something you want to prioritize as a EV car owner. With HALO Wallbox™, our compact and smart charging station, you can reduce your electricity costs and take full control of your charging, even when you are not around. The name HALO originates from the built in ring of LED lights that clearly indicates the status of the box.

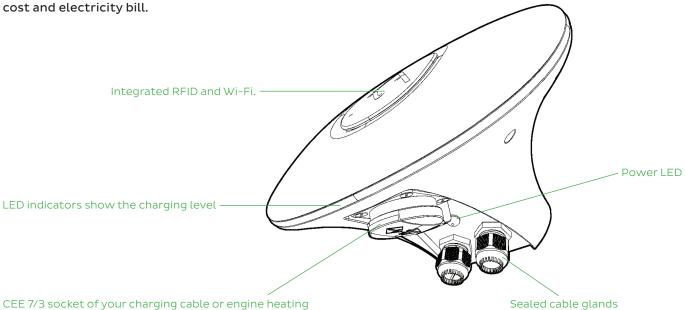
Thanks to the timer function of the HALO Wallbox™, charging is optimally distributed throughout the day, thereby reducing your electricity cost. With a built in element that restarts charging automatically after a power failure, you will never get into a car that is not fully charged. To get the most out of your HALO Wallbox™, you should connect it to our cloud service. Our basic service allows you to lock and unlock your box, time the charging and access your personal charging rundown in kWh. You can also add multiple charging car users to the same box. And here is the best thing; the basic service options of the cloud service are included when you purchase your HALO Wallbox™. All communication is done through a built-in Wi-Fi antenna.

HALO Wallbox™ is not only an exceptional charging station for your home. At work or in larger garages, HALO Wallbox™ can optimally distribute the charging of several connected cars over the hours of the day. This reduces the peak load on your electrical installation which in turn can reduce your installation cost and electricity hill

HALO Wallbox™ is built and tested to withstand extreme temperatures, moisture and physical damage and is IP66-rated. HALO Wallbox™ is available in 3.6 kW and will soon be available in 7,2 kW, 11 kW and 22 kW. It comes with either a Type 1 or Type 2 cable which can easily be exchanged. The box is equipped with a built-in 16A Schuko outlet, for supplying equipment like a car heater or charging another car with a portable cable.

#### **INSTALLATION:**

A qualified electrician with the correct certification should be used to install the HALO Wallbox™ or to verify the installation. It takes 30 minutes or less to install the HALO Wallbox™, if the electricity is in place. After that, you connect your HALO Wallbox™ to the cloud service. If you want to add several boxes, or if you are getting the versions capable of 7.2kW-22kW, you will need to have access to three-phase power to access all the functionality.





## RAY

With RAY, Charge Amps introduces what is likely the most efficient, reliable and hassle-free portable charging system on the market. This product bursts with a wide range of functions – from the seemingly simple solutions, like a powerful built-in flashlight to aid your charging in the dark of night – to complex solutions that you don't notice, but make sure that everything works perfectly. RAY is the smallest and the lightest cable in the market. In short; the perfect travel companion that always makes sure that you get all the way, safe and sound.

RAY was conceived in the engagement between design and technology and contains all you could wish for in a charging cable, packaged in an attractive and user-friendly way. When the designer of RAY, Joachim Nordwall, previously known for designing for Koenigsegg, started the design work, he did so with the motto "it should be easy to do right".

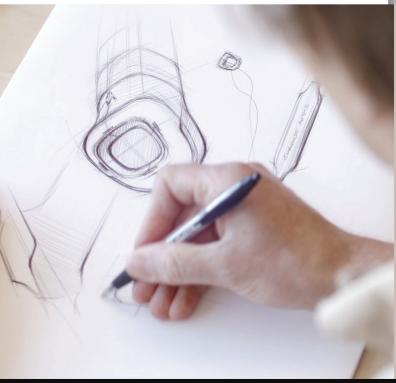
We dare to say that we succeeded, as we have produced radical smart solutions and yet have been able to package it as the lightest, safest and most reliable charging cable. The ergonomically correct handle and grip-friendly connector solution should also be noted. RAY has the smallest control box on the market, located 30 cm from the outlet, to be able to break the power before the cable touches the ground as a safety precaution. The power electronics are found in the control box.

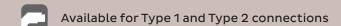
RAY has a temperature sensor connected to the wall to automatically reduce the charging capacity in the event of overheating. This gives you safe and reliable EV charging. With RAY you have the option to choose the amount of power supply to charge with, from 6 to 16A, in order to adapt to the outlet you are using. This flexibility should not be underestimated on a trip, as RAY solves your charging need, no matter where you are. By enabling 6A charging, you have the possibility of charging everywhere, no matter where you are located. At the summer cottage, on the ferry, or in your garage. In outlets designed for 16A continuous load, the charging time can be reduced by 40% compared to your standard charger.

RAY is built and tested to withstand extreme temperatures; moisture and physical damage. It is IP66-rated and uses anti-theft functions.











Total weight less than 1.6 kg

Cable length 7.5 m

IP66 rated

Wi Can be connected to Wi-Fi

Connector: Schuko 16 A

The cable is flexible to -30 degrees C

LED light enables engagement in the dark



# BYE BYE FOSSIL FUELS!



Charge Amps' objective is to create services that ease the transition from todays' fossil fuels dependency to a society that is environmentally sustainable. This should be done without restricting the freedom, or joy, of movement for the people. Charge Amps strives to find opportunities to support entrepreneurship and increase the consumer's freedom with less environmental effect.