

Electric vehicle smart recharge



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Electric vehicle smart recharge

The electric car is the car of the future

Our days will mark a before and an after and will be remembered in the future as a period of changes in many aspects that affect our daily life.

We are living in times in which many of the models we created years ago need to change to adapt to the reality of the modern world. One of these models that has reached its point of inflection and is beginning a true change is transport.

There are two basic reasons why transport requires a considerable change.

- The first reason is energy. The planet's energy requirements are growing every day, and our energy sources are limited. This is why we increasingly cannot afford to waste energy and also why we need to convert our current systems into more energy-efficient models.

- The second reason is to protect our environment. Current pollution levels are harmful for the health of living beings. But there is yet another more compelling factor that we cannot continue to ignore. This is our levels of CO₂ emissions. Global warming causes serious disruptions to the model of life on our planet in the medium and long term.

- There are thousands of actions we can and should take to save energy and protect the environment. Some of them, such as implementing systems for measuring and saving energy in car parks,

buildings and all types of facilities have been in place for years and are showing promising results. Even still, one of the main sources of power consumption today (and thus of direct or indirect CO₂ emissions) is transport. What is more, in terms of energy efficiency, it still has a long way to come.

As regards energy savings in general we are therefore facing one of the major areas for improvement on a global scale. For instance, transport in Spain accounts for approximately 40% of power consumed.





The electric car is the solution to our problems with energy and protection of the environment.

The electric car has been technologically feasible since the 1970s, but in our globalised world (with total car numbers in excess of 900 million) it is sometimes necessary for a series of conditions to arise in order for real change to take place.

These conditions are here today, and the electric car has become a reality.

HOW, WHEN AND WHERE TO CHARGE THE BATTERIES OF THE ELECTRIC CAR?

Most car manufacturers are currently working on developing electric cars. There are already a number of models on sale and on the roads, and coming months and years will reveal a broad range of all kinds of models.

The electric car is a reality, but in order for it to succeed and gain popularity, it is essential to make a clear, energetic commitment to create the necessary infrastructures. This is something that cannot be done slowly. It is a process that needs to be done quickly before the electric car can become popular.

It is obvious that in order for the electric car to succeed, users need to be able to recharge their batteries easily and in different places. Since power grids are already in place all around the country, recharges can be distributed, and cars can be recharged at many points that already have access to the power grid. A city-centre car park, on the road, at the shopping centre, in the garage at home, etc., everywhere we go there is electricity. A public car park, for example, can offer a parking service and, at the same time, a service to recharge the vehicle. Setting up recharging points on public streets and in various public car parks in the cities will mean that users of these vehicles will not always have to go to the same car park to recharge their vehicles, having the option to choose from a network of car parks or points on the public streets, as with our current service stations.

In the short term, electric vehicles will mainly be recharged in car parks,

whether public or private, and maybe to a lesser extent, but also considerably, outdoors. It is essential for users to have a variety of options. Evidently, each type of facility (public car park, private car park, community private garage, public street, service station, etc.) will require recharging equipment that meets the needs of the facility.

The challenge for recharging electric cars lies in the fact that an enormous amount of electric power is needed. If a lot of cars fast-charge their batteries at times of maximum demand ("peak times") the demand will exceed the capacity of the network. If this situation is not controlled, it could cause a collapse of the power grid. However, challenges create opportunities. At present, there are great differences in demand according to the time of day. There are "peak" times when a lot of power is required and "valley" times with minimum demand. **Technology allows us to "even out" the demand curve if car batteries are recharged "intelligently".**

THE ELECTRIC CAR IS A DIFFERENT SYSTEM

As can be deduced from the above, the electric car is a different system to a petrol-powered car.

On the one hand, it can be recharged practically anywhere.

On the other hand, it is important for the recharge not to take place during "peak" hours.

Modern power grids normally have very similar peak hours every day, during which consumption reaches maximum levels (approximately between 7 and 9 in the evening), and valley hours during which consumption is minimum (during the night). Normally, in Spain, during the valley hours there is surplus power from wind farms and other sources, and this energy goes to waste, since it cannot be stored in large amounts. This is why, if we manage to charge most electric vehicles during the valley hours we will be maximising energy that is normally wasted and which is less expensive. This is where the concept of **intelligent grids** comes in, and charging points that want to make the most of this situation can



have special models of recharging systems installed which are prepared for this purpose.

One fact can help us understand the magnitude of the challenge in terms of the electric power required: The power required to charge the battery of an electric car in a standard (household) socket is $\approx 3.3\text{kW}$ if it is to be charged in ≈ 5 hours, and $\approx 40\text{kW}$ if the battery is to be charged in ≈ 20 minutes (industrial socket).

Modern technology allows us to recharge at higher or lower speeds. Some models of electric vehicles have a standard plug, and others have one standard plug and one fast-charge plug. The most common use for current Spanish grids should be the normal recharge, since the fast recharge requires a large amount of energy in a very short time, and current power grids are not prepared to support the possible simultaneity of a large number of fast recharges. Even still, it is possible to combine a majority of normal recharge systems with some fast recharge systems at certain points.

The Spanish Ministry of Energy has a plan, the "MOVELE plan", to promote the **implementation of the electric car**. The MOVELE plan foresees **1 million electric vehicles in Spain by 2014**. If it is rolled out correctly, this should not be a problem for the current power grids. Even still, the implementation of electric vehicles in Spain and around the world is one of the major challenges to be faced in terms of power grid design, development and improvement.

As regards implementation, in order to make it quick and easy, it is essential for the installed systems to have completely independent operation, and for users to be able to pay for whatever they consume. This implies the recharging points having a system for metering electric energy and a pre-paid system that allows users to use and consume what they actually need and no more, in addition to obviously having the usual essential electric protection and safety systems, in accordance with applicable regulations.

The electric car will bring about a number of changes: habits, infrastructure, technology, etc.

CIRCUTOR HAS DESIGNED AN INTELLIGENT RECHARGING SYSTEM

In order to meet these challenges, **CIRCUTOR** has conducted intensive R&D&I to develop an **intelligent system for recharging electric vehicles**, which is capable of charging the batteries when the energy is available and less expensive (**Load Shedding control**), of identifying the availability of charging credit at any point (**RFID control**), of telling the difference between different recharging points in the same car park (**Bluetooth control**) and of recharging in reduced or standard time (**Fast Charge Control**).

We are talking about the **RVE** range from **CIRCUTOR**

The **RVE** range from **CIRCUTOR** has models for recharging electric vehicles:

- With a pre-paid energy system using proximity cards.
- Suitable for public streets with anti-vandalism system.
- Indoors for public car parks, with built-in pre-paid energy system.
- Metering for private car parks and special models for community car parks.
- With normal and fast charging speeds.

CONCLUSION

We are at the dawn of a major change in the transport sector worldwide.

The electric car is a need that offers all kinds of advantages: it is energetically sustainable.

It is obvious that the electric car is here. The process is irreversible and is gathering momentum.

The recharging method is essential to facilitate the implementation process.

CIRCUTOR is the first Spanish manufacturer of the **RVE** innovating recharge system.

ELECTRIC VEHICLE SMART RECHARGE POSTS

RVE-1

RVE-2

Outdoor Recharge Posts



Description

The vehicle recharge posts of the **RVE** family of products, has been designed to fit all needs in electrical vehicles recharge on the street, compliant with all electrical security regulations as well as access security and metering and consumption management.

The robustness for its use and against vandalism is one of the aspects taken in account when designing and developing this equipment, as well as fit them with a temperate and smart aesthetic design.

All family **RVE** range of products has been thought to give the electrical vehicle user, a simple method for recharge his vehicle everywhere he parks it, that way the recharging posts has been equipped with a simple access system and energy payment through contactless cards, as well as a handy and easy opening and closing system, that way all the recharge process could be fulfilled with only a few steps by any user without technical knowledge needs.

Applications

All outdoor places or these that could be used for any kind of vehicle parking (cars, motorcycles, bikes, transport, cleaning, ...).

An example of this could be public street, public outdoor car parks, outdoor car parks on big malls, airports, car rental companies, cleaning companies, etc.

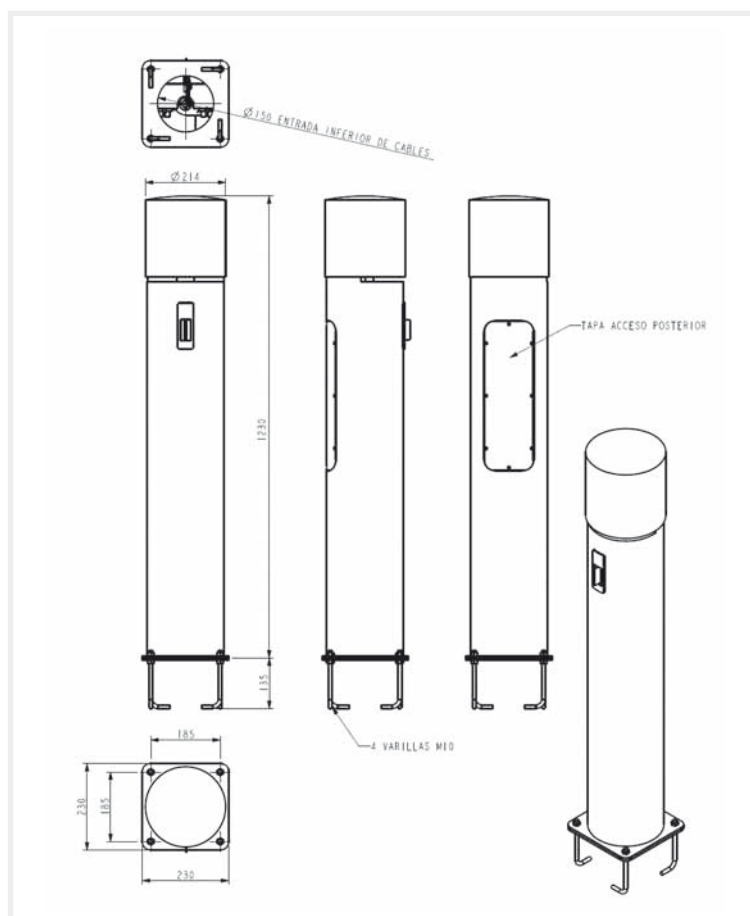
Features

Features	
	Anti-vandalism stainless steel body
	Coated with anti-graffiti paint
	Access and prepayment with proximity cards
	Display for credit monitoring
	Integrated energy measurement
	Integrated electrical protections with automatic reconnection
	Protection system against energy attempted theft
	Anti-vandalism opening system
	Ready for outdoor use (IP54)
	Smart aesthetic design
	Different types
Common technical features	
Power input	230 V c.a.
Tolerance	± 10 %
Frequency input	50 ... 60 Hz
Power output	230 V c.a.
Maximum current output	16 A per outlet
Connector	Schuko "CEE 7/4" (Others under request)
Energy	Integrated energy meter
RCCB	Self-reclosing
RFID reader	ISO 14443A
RFID frequency	13,56 MHz
Temperature range	-20 ... + 50 °C
Build features	
Surface	Gray polyester paint RAL 9006 with anti-graffiti coat
Surround	Stainless steel 3mm thickness AISI304
Degree of mechanical protection	IK8
Degree of IP protection	IP 54
Anchor	Template for fixing on floor with 4 bolts
Standards	
EN 61851-1 : 2001 par1, IEC 61000, IEC 60364-4-41, IEC 61008-1, IEC 60884-1 , IEC 60529, IEC 61010, UNE-EN55011, ISO 14443A	

ELECTRIC VEHICLE SMART RECHARGE POSTS

Outdoor Recharge Posts

RVE Dimensions



Individual technical features

		Type
Maximum recharge power	3,6 kW	RVE - 1
Number of outlets	1	
Weight	30 kg	
Dimensions	Ø 179 mm; 1230 mm	

		Type
Maximum recharge power	2 x 3,6 kW	RVE - 2
Number of outlets	2	
Weight	40 kg	
Dimensions	Ø 214 mm; 1230 mm	

References

	Type	Code
Outdoor recharge post 1 outlet	RVE - 1	V10110
Outdoor recharge post 2 outlets	RVE - 2	V10120

CAR PARK RECHARGING BOXES

Indoor car park recharging boxes



Description

The vehicle recharging boxes of the **RVE** family, has been designed to fit all needs in electrical vehicles recharge on indoor car parks, compliant with all electrical security regulations as well as access security and metering and consumption management.

The robustness for its use and against vandalism as well as installation and use facilities is one of the aspects taken in account when designing and developing this equipment. Furthermore this equipment emphasizes for its compact design with high technological level integrated.

All family **RVE** range of products has been thought to give the electrical vehicle user, a simple method for recharge his vehicle everywhere he parks it, that way the recharging boxes has been equipped with a simple access system and energy payment through contactless cards, that way all the recharge process could be fulfilled with only a few steps by any user without technical knowledge needs.

Applications

This equipment is specially designed for its use on indoor car parks or these places that could be used for any kind of vehicle park (cars, motorcycles, bikes, transport, cleaning, ...). An example of this could be indoor public parking, private indoor parking, airports, car rental companies, cleaning companies, etc.

Features

Features	
	Anti-vandalism stainless steel body
	Small size
	Access and prepayment with proximity cards
	Display for credit monitoring
	Integrated energy measurement
	Integrated electrical protections (optional)
	Protection system against energy attempted theft
	Ready for indoor use
	Smart aesthetic design
	Different types
	kW·h total and partial displayed (Only domestic type)
Common technical features	
Tensión de entrada	230 V c.a.
Tolerance	± 10 %
Frequency input	50 ... 60 Hz
Power output	230 V c.a.
Maximum current output	16 A per outlet
Connector	Schuko "CEE 7/4" (Other under request)
Energy	Integrated energy meter
RCCB	Self-reclosing
RFID reader	ISO 14443A
RFID frequency	13,56 MHz
Temperature range	-10 ... +60 °C
Build features	
Surface	Gray polyester paint RAL 9006
Surround	FE ST37 2mm grosor
Degree of mechanical protection	IK8
Degree of IP protection	IP 20
Anchor	4 points for subjection to wall

CAR PARK RECHARGING BOXES

Indoor car park recharging boxes



Individual technical features

		Type
Maximum recharge power	3,6 kW	RVE-CP1
Weight	4 kg	
Dimensions	178 mm ; 166 mm ; 88 mm	
Standards	EN 61851-1 : 2001 part 1 , IEC 61000, IEC 60364-4-41, IEC 60884-1 IEC61010, UNE-EN55011, ISO 14443A	

		Type
Maximum recharge power	2 x 3,6 kW	RVE-CP2
Weight	5 kg	
Dimensions	294 mm ; 166 mm ; 88 mm	
Standards	EN 61851-1 : 2001 part 1, IEC 61000, IEC 60364-4-41, IEC 60884-1, IEC61010, UNE-EN55011, ISO 14443A	

		Type
Maximum recharge power	3,6 kW	RVE-CP1-P
Earth leakage protection	yes	
Circuit breaker	yes	
Weight	4,2 kg	
Dimensions	236 mm ; 162 mm ; 88 mm	
Standards	EN 61851-1 : 2001 part 1, IEC 61000, IEC 60364-4-41, IEC 60884-1 IEC61010, UNE-EN55011, ISO 14443A	

		Type
Maximum recharge power	2 x 3,6 kW	RVE-CP2-P
Earth leakage protection	yes	
Circuit breaker	yes	
Weight	5,4 kg	
Dimensions	391 mm ; 167 mm ; 88 mm	
Standards	EN 61851-1 : 2001 part 1, IEC 61000, IEC 60364-4-41, IEC 60884-1, IEC61010 ,UNE-EN55011 ,ISO 14443A	

CAR PARK RECHARGING BOXES

Indoor car park recharging boxes



Individual technical features

		Type
Maximum recharge power	3,6 kW	RVE-CD1
Display	4 Digits (Total and partial consumption)	
Weight	4 kg	
Dimensions	135 mm ; 155 mm ; 88 mm	
Standards	EN 61851-1 : 2001 part 1, IEC 61000 IEC, 60364-4-41, IEC 60884-1, IEC61010 ,UNE-EN55011, ISO 14443A	

		Type
Maximum recharge power	3,6 kW	RVE-CD1-P
Earth leakage protection	Si	
Circuit breaker	Si	
Display	4 Digits (Total and partial consumption)	
Weight	4,2 kg	
Dimensions	135 mm ; 155 mm ; 88 mm	
Standards	EN 61851-1 : 2001 part 1, IEC 61000, IEC 60364-4-41, IEC 60884-1, IEC61010, UNE-EN55011, ISO 14443A	

References

	Tipo	Code
Car park box with 1 outlet	RVE - CP1	V20010
Car park box with 2 outlets	RVE - CP2	V20020
Car park box with 1 outlet with protections	RVE - CP1-P	V20110
Car park box with 2 outlets with protections	RVE - CP2-P	V20120
Home box with 1 outlet	RVE - CD1	V21010
Home box with 1 outlet with protections	RVE - CD1-P	V21110

MULTIPOINT SYSTEM

RVE-CM20

RVE-SL

Smart solution for car parks with many outlets



Description

The multipoint system of the **RVE** family has been designed to offer an smart electrical vehicles recharge solution to car parks with multiple outlets for electrical vehicles.

This solution allows an intelligent electrical vehicle recharge management from high number of electrical vehicles, controlling different parameters of the electric network and the vehicles connected to it, as well as user and car park manager preferences. That way users can get polite results on vehicles recharge allowing them to recharge their vehicles under the better conditions as for electrical rates or for immediate recharge if needed. Also the car park manager can get a maximum optimization with this solution that also takes care of a power demand control managing the loads of electrical vehicles and the network capacity in order to avoid a overload but in the same way taking the maximum advantage of it. In addition this solution is ready to detect a very high number of possible problems on the electrical networks in order to report and operate to prevent them.

The system also allows the integration with payment systems as well as the exportation of accurate electrical data like total consumption, partial consumption, different problems

on the electrical network, events, historical load data, etc.

The system consists of 2 units, on one side we have the remote outlet **RVE-SL** that allows the vehicle to connect to the electrical network and on the other side we have the master controller **RVE-CM20** that brings intelligence to the system.

The units **RVE-SL** L has been specifically designed to be installed next to the vehicle parking space in order to connect it in a simple and handy way when recharging the electrical vehicles. This unit consists of a robust box made to be mounted on car park wall and hold up a continuous utilization from the users. One outlet for electrical vehicle connection is available as a well as a light indicator to show the user the recharge status. Energy metering is also internally included in order to let the user know the electrical vehicle consumption plugged into. The same unit has communications with the master controller as well as RCCB and MCB electrical protections in order to manage the electrical power in an intelligent way. This protections also prevents users and the installation from any kind of problem.

The CCL-CM20 unit brings intelligence and user interface to the system. This unit has a touch screen for user input as well as a RFID card reader to identify the user. Likewise the unit CCL-CM20 can be integrated with other readers as magnetic stripe or bar code in order to integrate the user identification with car park tickets. This has been designed also to allow integration with other payment systems in the car parks.

The CCL-20 has TCP-IP connection available as well as an open protocol for its easy integration. Each CCL-CM20 controller manages up to 32 CCL-SL remote outlets and if an upgrade in remote outlets number is needed more CCL-CM20 units can be added making up a single system when operating and integrating.

The main functions of the master controller are:

- Make the selection of the electricity outlet,
- Energy record and management,
- Power control of all devices,

MULTIPOINT SYSTEM

RVE-CM20

smart solution for car parks with many outlets



RVE-CM20

Features

- Communication with external energy metering elements like electricity companies counters or harmonic filters .
- Communication with other car park elements like payment systems to send consumption data information or other interesting information for the car park manager. In the same way can also communicate with the car park guidance system to know the status and location of electrical vehicles parked in reserved electrical vehicles bays

Applications

This equipment is specially designed for its use on indoor car parks with multiple parking spaces for electrical vehicles. An example of this could be indoor public car parks, private indoor car parks, airports, car rental companies, cleaning companies, etc.

Features

Stainless steel body
Access and prepayment with proximity cards
Identification with magnetic band cards or bar code (optional)
Touch LCD screen 15"
Control up to 20 outlets
TCP-IP communication
Smart aesthetic design
Integrated power control management
Integration with other systems (Payment systems, couters from electricity suppliers, car park guidance systems and other control devices)
Alarms management
Reports with events generation

Technical features

Power input	230 V c.a.
Tolerance	± 10 %
Frequency input	50 ... 60 Hz
Input device	Touch screen
Interface	Integrated colour LCD screen 15"
RFID reader	ISO 14443A
RFID frequency	13,56 MHz
Maximum recharge power	200 W
Communications	TCP-IP, RS-485, RS-232 y Zigbee
Temperature range	-20 ... + 50 °C

Build features

Surface	Grey polyester paint RAL 9006
Surround	FE ST37 2mm thickness
IP protection degree	IP 20
Anchor	4 points for wall mount
Weight	24 kg
Dimensions	672 mm; 672 mm; 341 mm

Standards

EN 61851-1 : 2001 part 1, IEC 61000, IEC 60364-4-41, IEC 60884-1, IEC61010, UNE-EN55011

MULTIPOINT SYSTEM

RVE-SL

Smart solution for car parks with many outlets



RVE-SL

Features

Features	
	Anti-vandalism stainless steel body
	Small size
	Visual indicator for charging status monitoring
	Communication with master controller
	Integrated energy measurement
	Integrated electrical protections (optional)
	Protection system against energy attempted theft
	Smart aesthetic design
Características técnicas	
Power input	230 V c.a.
Tolerance	± 10 %
Frequency input	50 ... 60 Hz
Maximum current output	16 A
Connector	Schuko "CEE 7/4" (Others under request)
Energy	Integrated energy meter
Maximum recharge power	3,6 kW
Earth leakage protection	Yes
Circuit breaker	Yes
Temperature range	-20 ... + 50 °C
Build features	
Surface	Grey polyester paint RAL 9006
Surround	FE ST37 2mm thickness
IP protection degree	IP 20
Anchor	4 points for wall mount
Weight	2 kg
Dimensions	155 mm; 135 mm; 88 mm
Standards	
EN 61851-1 : 2001 part 1, IEC 61000, IEC 60364-4-41, IEC 60884-1, IEC61010, UNE-EN55011	

References

	Type	Code
Remote controller for 32 outlets	RVE - CM20	V22110
Car park box 1 outlet - Remote controller	RVE - SL	V22120

FAST RECHARGING SYSTEMS



Description

The fast recharging systems of the **RVE** family has been designed to cover up the needs of electrical vehicles capable with fast recharging on their batteries, compliant with all electrical security regulations as well as access security and metering and consumption management.

Talking about vehicles fast recharging systems, the vehicles has to be prepared and adapted for this functionality. Those vehicles with fast recharging allowed can recharge their batteries in a very short period of time comparing with a standard recharge electrical vehicle. At the moment exist in the global market many different fast recharging kinds, the **RVE** family has developed the two more common fast recharging systems, single-phase fast recharge of 32 Amperes and three-phase fast recharge of 64 Amperes.

The robustness for its use and against vandalism as well as installation and use facilities is one of the aspects taken in account when designing and developing this equipment. Furthermore this equipment emphasizes for its compact design with high technological level integrated.

All family **RVE** range of products has been thought to give the electrical vehicle user, a simple method for recharge his vehicle everywhere he parks it, that way the recharging boxes has been equipped with a simple access system and energy payment through contactless cards, that way all the recharge process could be fulfilled with only a few steps by any user without technical knowledge needs.

Features

Features	
	Anti-vandalism stainless steel body
	Access and prepayment with proximity cards
	Display for credit monitoring
	Integrated energy measurement
	Integrated electrical protections with self-reclosing system
	Protection system against energy attempted theft
	Smart aesthetic design
	Different types
Common technical features	
Power input	230 V c.a. / 400 V c.a.
Tolerance	± 10 %
Frequency input	50 ... 60 Hz
Power output	230 V c.a. / 400 V c.a. (according to type)
Maximum output current	32 / 63 A per outlet
Energy	Integrated energy meter
Earth leakage protection	Self-reclosing system
RFID reader	ISO 14443A
RFID frequency	13,56 MHz
Temperature range	-20 ... + 50 °C
Build features	
Surface	Grey polyester paint RAL 9006 with anti-graffiti coat
Surround	FE ST37 2 mm thickness
IP protection degree	IP 20
Box dimensions	348 mm; 500 mm; 225 mm
Bracket dimensions (optional)	960 mm
Anchor	Fixing on floor or 4 points for wall mount with fixing basement
Standards	
EN 61851-1 : 2001 part 1, IEC 61000, IEC 60364-4-41, IEC 61008 – 1, IEC 60884-1, IEC 60529, IEC61010 ,UNE-EN55011, ISO 14443A	

FAST RECHARGING SYSTEMS

APPLICATIONS

The fast recharge stations needs a prepared electric installation due to the big power demand that could be supplied in a very short period of time. That is why the fast recharge is thought to be installed in car parks or other very specific adapted places where this kind of recharge would be allowed.



Individual technical features

		Type
Maximum recharge power	42 kW	RVE - CT1
Maximum output current	63 A per outlet (three-phase), 400 V	
Connector	CETAC® 63 A three-phase - IEC 60309	
Number of outlets	1	
Weight	19 kg	

		Type
Maximum recharge power	7,3 kW	RVE - CM1
Maximum output current	32 A per outlet (single-phase), 230 V	
Connector	CETAC® 63 A monofásico - IEC 60309	
Number of outlets	1	
Weight	18 kg	

References

	Type	Code
Fast recharging post three-phase 1 outlet	RVE - CT1	V24110
Fast recharging post single-phase 1 outlet	RVE - CM1	V24111

2 WHEEL VEHICLES RECHARGING SOLUTION



Description

The 2 wheel vehicle recharging solution of the **RVE** family has been designed to cover up the needs of 2 wheel electrical vehicles like motorcycles or electrical bikes, compliant with all electrical security regulations as well as access security and metering and consumption management.

This solution consists of a controller that manages prepayment through RFID proximity cards and allows the outlet selection and manages the consumption on each outlet. Furthermore this solution integrates security systems to fit users and electrical vehicles.

Joint to the controller there is a bracket with all electricity outlets for different kinds of 2 wheel vehicles, each outlet is separate from the others in a specific distance that allows parking the vehicle for recharging purposes in a comfortable way.

The robustness for its use and against vandalism as well as installation and use facilities is one of the aspects taken in account when designing and developing this equipment. Furthermore this equipment emphasizes for its compact design with high technological level integrated.

All family **RVE** range of products has been thought to give the electrical vehicle user, a simple method for recharge his vehicle everywhere he parks it, that way, the recharging boxes has been equipped with a simple access system and energy payment through contactless cards, that way all the recharge process could be fulfilled with only a few steps by any user without technical knowledge needs.

Features

Features	
	Anti-vandalism stainless steel body
	Access and prepayment with proximity cards
	Display for credit monitoring
	Push buttons for outlet selection
	Integrated energy measurement
	Integrated electrical protections with self-reclosing system
	Protection system against energy attempted theft
	Smart aesthetic design
Common technical features	
Power input	230 V c.a.
Tolerance	± 10 %
Frequency input	50 ... 60 Hz
Power output	230 V c.a.
Maximum consumption per outlet	3,6 kW
Maximum current output	16 A por toma
Connector	Schuko "CEE 7/4" (Others under request)
Energy	Integrated energy meter
Earth Leakage protection	Self-reclosing system
RFID reader	ISO 14443A
RFID frequency	13,56 MHz
Temperature range	-20 ... +50 °C
Build features	
Surface	Grey polyester paint RAL 9006 with anti-graffiti coat
Surround	FE ST37 2 mm thickness
IP protection degree	IP 54
Anchor	Floor fixing
Standards	
EN 61851-1 : 2001 part 1, IEC 61000 ,IEC 60364-4-41, IEC 61008 – 1, IEC 60884-1, IEC 60529, IEC61010, UNE-EN55011, ISO 14443A	

2 WHEEL VEHICLES RECHARGING SOLUTION

Applications

The recharge stations for two wheel vehicles has been designed to be installed on public street or in dedicated parks for motorbikes or bikes, its special design makes it ideal to fit any installation place where any 2 wheel vehicle can park.



Individual technical features

		Type
Maximum recharge power	11 kW (3 x 3,6 kW)	RVE - CB3
Number of outlets	3	
Weight	46 kg	
Dimensions	2,9 m; 0,3 m	

		Type
Maximum recharge power	22 kW (6 x 3,6 kW)	RVE - CB6
Número de tomas	6	
Peso	67 kg	
Dimensiones	4,2 m; 0,3 m	

References

	Type	Code
2 wheel vehicles recharge post, 3 outlets	RVE - CB3	V12110
2 wheel vehicles recharge post, 6 outlets	RVE - CB6	V12120