

AHEAD IN E-MOBILITY

EV CHARGING SOLUTIONS

Ratio
ELECTRIC



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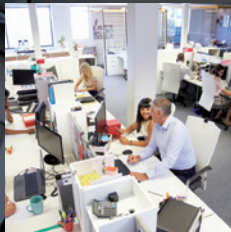
Ratio Electric develops, produces and sells electrical power connection and distribution systems. Our company is based in Holland and active throughout Europe. During half a century we gathered a huge amount of experience that is used to meet the latest demands in our markets. We maintain a tradition in innovation with reliable and affordable products. These products are delivered to OEM's or distributed by specialized electrical wholesale companies, covering the following areas:
E-Mobility, Industrie & Office, ICT, Marine



We put all our energy
in making **durable products**
that enable you to
save energy

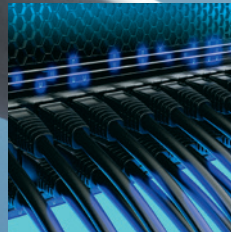
E-MOBILITY

Ratio Electric provides high quality AC connection and charging systems for electric and plug-in hybrid vehicles. All these products like (portable) charge stations, cables and sockets match the latest European standards.



INDUSTRY & OFFICE

We are an industry-leading manufacturer of power cords, cord sets, power strips, power plugs, power connectors and other power components. In tailor made solutions we can meet the highest demands.



ICT

We are at home in Datacenters. Our modular solutions for power management in 19-inch data racks contain a complete range of power distribution units (PDU's) as well as power cords.



MARINE

Our Shore Power connection system is the standard all over Europe. The MP16/32 boat inlets and cables are stylish and safe. Every marine product is designed to be practical and able to withstand the rigors of life at sea. That's why fleets of customers rely on our solutions.

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All reports and predictions about the use of Electric Vehicles (EV's) indicate the same upward trend. Yet many countries cannot keep pace with the growing demand for charge capacity while most EV-users prefer to charge their vehicles at home or at the office. This creates a huge demand for privately installed charge points. Ratio Electric provides solutions through our wide range of reliable, high-quality products for all plug-in hybrids and full electric vehicles.

DISCHARGE THE ENVIRONMENT, SAVE ENERGY

The number of electric cars, scooters and other electric vehicles is growing fast. Electric driving will result in cleaner air, a more silent city, less waste of energy and a decreasing dependency of fossil fuel.

These values match with our company goals where 'people' and 'planet' will benefit before profit. We control the complete lifecycle of a product in order to optimize the eco design.



EXCEEDING EXPECTATIONS: PROVEN PRODUCTS, CERTIFIED QUALITY

All of our robust products are functionally designed to withstand any harsh environment.

During development and production we rely on fifty years of experience. Our knowledge of techniques and methods is state of the art. It applies both to the hardware components and communication between chargers and vehicles.

There is also independent testing and proof of the quality of our products and processes. All our EV charging systems comply to the IEC 61851 standard. Individual components such as plugs, connectors and sockets are compliant with the IEC 62196 standard and carry DEKRA (KEMA) approvals.

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*Flexible charging solutions
at home and at work*

The Ratio EV Chargers are designed for easy installation in both indoor and outdoor private carparks. These high quality EV chargers are capable to safely charge all the electric vehicles available on the market according to mode 3. Through vertical production integration these Home Box series offer an optimal cost/performance rating.

Features

- Stylish and robust design.
- Easy installation and integrated cable holder.
- Just plug in to start charging.
- Adjustable charging power.
- Many options available.

Choose for fixed cable or outlet socket

The Home Charger with conveniently integrated cable allows for an easy struggle free operation. Just take off the plug and plug in your car. The cable can be straight or coiled for an even easier operation. The Home Charger with outlet socket offers the most flexibility as it can be used for cars with Type 1 as well as Type 2 inlets.



DIMENSIONS AND SPECIFICATIONS

Charging system:
IEC 61851 Mode 3

Power input:
Single phase
or 3 phase,
230-400V AC, 16A
and 32A

Power output:
3,7kW, 7,4kW, 11kW, 22kW

Adjustable Charge current:
16A: 10, 14 & 16A,
32A: 16, 24 & 32A

Earth leakage protection:
AC 30mA, DC 6mA

Housing:
PC/ABS-V0

Dimensions:
400mm x 250mm x 105mm

Weight:
4 kg

Enclosure rating:
IP54

Operating temperature:
-25 C to +40 C

Marking:
CE

The Home Box is a simple and economical charging solution. The Home Box is available with socket (outlet) or with a fixed cable.

EV HOME BOX FIXED CABLE - TYPE 2 CONNECTOR

P/N	Energy Rating	Description
35328	3,7 kW	EV Home Box 16A T2 5m
35328-10M	3,7 kW	EV Home Box 16A T2 10m
35336	3,7 kW	EV Home Box 16A T2 Coiled
35339	7,4 kW	EV Home Box 32A T2 5m
35339-10M	7,4 kW	EV Home Box 32A T2 10m
35342	7,4 kW	EV Home Box 32A T2 Coiled
35350	11 kW	EV Home Box 3x16A T2 5m
35350-10M	11 kW	EV Home Box 3x16A T2 10m
35355	11 kW	EV Home Box 3x16A T2 Coiled
35351	22 kW	EV Home Box 3x32A T2 5m
35351-10M	22 kW	EV Home Box 3x32A T2 10m


EV HOME BOX WITH TYPE 2 OUTLET

P/N	Energy Rating	Description
35346	3,7 kW - 7,4 kW	EV Home Box 16A – 32A T2 Outlet
35348	11 kW - 22 kW	EV Home Box 3x16A – 3x32A T2 Outlet


EV HOME BOX FIXED CABLE - TYPE 1 CONNECTOR

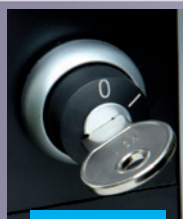
P/N	Energy Rating	Description
35329	3,7 kW	EV Home Box 16A T1 5 m
35329-10M	3,7 kW	EV Home Box 16A T1 10m
35330	3,7 kW	EV Home Box 16A T1 Coiled
35338	7,4 kW	EV Home Box 32A T1 5 m
35338-10M	7,4 kW	EV Home Box 32A T1 10m
35341	7,4 kW	EV Home Box 32A T1 Coiled


OPTIONAL ACCESSORIES

KEY SWITCH

CONSOLE

20



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P/N 32411



P/N 32413



Chargers

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The Home Box Plus is equipped with an integrated kWh meter. This allows for reading both the actual charging information and that of the last 5 sessions. The charging power settings can be configured using the display.

EV HOME BOX PLUS FIXED CABLE – TYPE 2 CONNECTOR

P/N	Energy Rating	Description
37705	3,7 kW	EV Home Box Plus 16A T2 5m
37705-10M	3,7 kW	EV Home Box Plus 16A T2 10m
37701	7,4 kW	EV Home Box Plus 32A T2 5m
37701-10M	7,4 kW	EV Home Box Plus 32A T2 10m
37715	11 kW	EV Home Box Plus 3x16A T2 5m
37715-10M	11 kW	EV Home Box Plus 3x16A T2 10m
37711	22 kW	EV Home Box Plus 3x32A T2 5m
37711-10M	22 kW	EV Home Box Plus 3x32A T2 10m

The Home Box Plus is also available with coiled cable (except 22kW version).



EV HOME BOX PLUS WITH TYPE 2 OUTLET

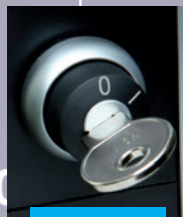
P/N	Energy Rating	Description
37702	7,4 kW	EV Home Box Plus 32A T2 Outlet
37712	22 kW	EV Home Box Plus 3x32A T2 Outlet



OPTIONAL ACCESSORIES

KEY SWITCH

CONSOLE



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P/N 32411



P/N 32413



-200

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Equipped with smart Tesla charge port opening button

Our proven Ratio EV Charging Stations are also available with a smart Tesla charge port opening button. When button is pressed, the charge port will open automatically. No need to use your car key or to unlock at the center console. When charging is completed or in case you choose to interrupt charging, while car key nearby, just press the button again to release the connector from the charge port.



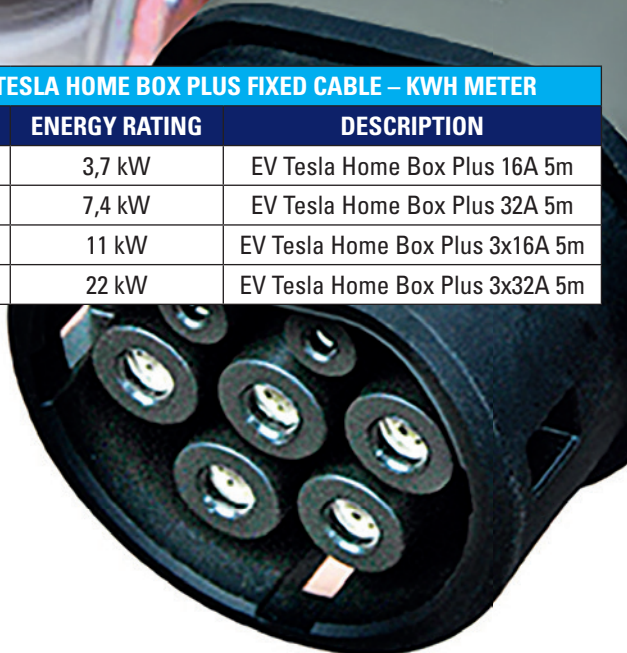
EV TESLA HOME BOX FIXED CABLE

P/N	ENERGY RATING	DESCRIPTION
39001	3,7 kW	EV Tesla Home Box 16A 5m
39011	3,7 kW	EV Tesla Home Box 16A Coiled
39002	7,4 kW	EV Tesla Home Box 32A 5m
39012	7,4 kW	EV Tesla Home Box 32A Coiled
39003	11 kW	EV Tesla Home Box 3x16A 5m
39013	11 kW	EV Tesla Home Box 3x16A Coiled
39004	22 kW	EV Tesla Home Box 3x32A 5m



EV TESLA HOME BOX PLUS FIXED CABLE – KWH METER

P/N	ENERGY RATING	DESCRIPTION
39020	3,7 kW	EV Tesla Home Box Plus 16A 5m
39022	7,4 kW	EV Tesla Home Box Plus 32A 5m
39024	11 kW	EV Tesla Home Box Plus 3x16A 5m
39026	22 kW	EV Tesla Home Box Plus 3x32A 5m



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Chargers

Ratio Electric has developed the Smart Box especially for the safe charging of electric vehicles at home or at work. The Smart Box protects every home against overload while the car charges at maximum speed. The Smart Box is equipped with the latest techniques such as load balancing and power sharing to ensure that the capacity of the power connection is handled intelligently.

EV SMART BOX FIXED CABLE – TYPE 2 CONNECTOR

P/N	Energy Rating	Description
37621	3,7 kW – 7,4 kW	EV Smart Box 16A – 32A T2 5m
37621-10M	3,7 kW – 7,4 kW	EV Smart Box 16A – 32A T2 10m
37621S	3,7 kW – 7,4 kW	EV Smart Box 16A – 32A T2 5m Slave
37631	11 kW – 22 kW	EV Smart Box 3x16A – 3x32A T2 5m
37631-10M	11 kW – 22 kW	EV Smart Box 3x16A – 3x32A T2 10m
37631S	11 kW – 22 kW	EV Smart Box 3x16A – 3x32A T2 5m Slave

The Smart Box is also available with coiled cable (except 22kW version).



EV SMART BOX WITH TYPE 2 OUTLET

P/N	Energy Rating	Description
37622	3,7 kW – 7,4 kW	EV Smart Box 16A – 32A T2 Outlet
37622S	3,7 kW – 7,4 kW	EV Smart Box 16A – 32A T2 Outlet Slave
37632	11 kW – 22 kW	EV Smart Box 3x16A – 3x32A T2 Outlet
37632S	11 kW – 22 kW	EV Smart Box 3x16A – 3x32A T2 Outlet Slave

Load balancing

Load balancing is the technique that adjusts the charging speed to the remaining consumption in the house. A modern house is equipped with an induction hob, heat pump and other electrical appliances such as washing machine, dryer and dishwasher. The addition of all these appliances to the energy network increases the risk of overload. If this overload takes too long, there is a risk of complete power failure.

The supplied power coils are placed in the electrical cabinet around the incoming power lines and connected to the Smart Box via a sensor box. In this way, the total power of the house is continuously measured. In the event of an imminent overload, the charging of the car(s) is temporarily reduced.

Power sharing

Power sharing allows up to four electric cars to be charged simultaneously on one power socket. The available power is distributed equally among the cars.

Charging at no extra cost

All Smart functions can be configured via the display. No subscription with monthly fees is required. Due to the smart use of the existing power connection, there's no need to increase the rating of the existing grid connection at significant cost. Resulting is significant savings on total energy costs.

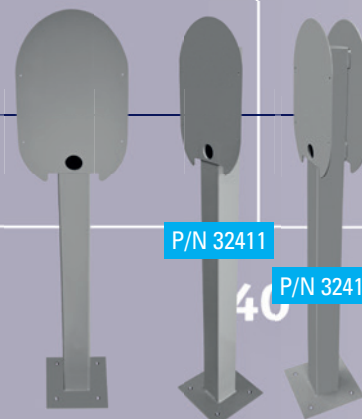
OPTIONAL ACCESSORIES

KEY SWITCH



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CONSOLE



P/N 32411

P/N 32413

Insight into consumption

The Smart Box is equipped with an integrated kWh meter. This allows for reading both the actual charging information and that of the last 5 sessions.

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Our Solar Box makes it possible to charge your electrical car by a solar energy system. It is an excellent way to make your charging station even more efficient, cheaper and more environmentally friendly.

With the Solar Box you can choose the amount of energy that you want to use from the grid, while making optimal use of your own energy installation. With load balancing, the charging speed will be adapted to the other power consumption in the house.

EV SOLAR BOX FIXED CABLE – TYPE 2 CONNECTOR

P/N	Energy Rating	Description
37821	3,7 kW – 7,4 kW	EV Solar Box 16A – 32A T2 5m
37821-10	3,7 kW – 7,4 kW	EV Solar Box 16A – 32A T2 10m
37831	11 kW – 22 kW	EV Solar Box 3x16A – 3x32A T2 5m
37831-10	11 kW – 22 kW	EV Solar Box 3x16A – 3x32A T2 10m

The Solar Box is also available with coiled cable (except 22kW version).



EV SMART BOX WITH TYPE 2 OUTLET

P/N	Energy Rating	Description
37822	3,7 kW – 7,4 kW	EV Solar Box 16A – 32A T2 Outlet
37832	11 kW – 22 kW	EV Solar Box 3x16A – 3x32A T2 Outlet



The Solar mode

In Solar mode you can charge your EV without using the mains with 100% free solar energy. When the available power falls below the minimum of 6A, the vehicle charging will be stopped until enough solar energy is generated to recharge the vehicle. In this mode you can also add power from the grid, to ensure the charging is always at least 6A.

The Fast mode

In Fast mode you can charge at the maximum charging speed that you set in the charging station or that the car can support. Electricity from the grid will be used if the generated solar energy is not sufficient for this maximum charging speed.

Dynamically adjust charging current

This charging station can dynamically adjust the charging current. It measures the total power consumption in the connected network and automatically adjusts the charging current accordingly. You will always get the maximum charging capacity from the charger without worrying about problems with overcapacity of your network.

Power sharing

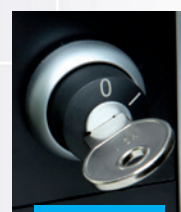
With the Solar Box you can charge up to 4 cars simultaneously without problems with the distribution of the charging current.

Easy configuration

All settings can be configured using the display and buttons on the charging station.

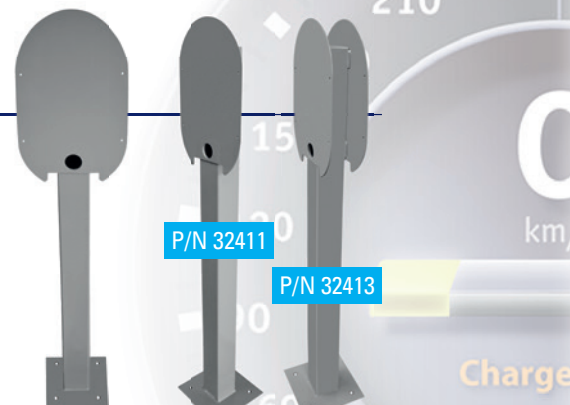
OPTIONAL ACCESSORIES

KEY SWITCH



art.nr. 30084

CONSOLE



P/N 32411

P/N 32413



Charging from a standard outlet with maximum safety

INTEGRATED FAILURE DETECTION AND POWER PROTECTION

The IEC 62752 standard prescribes that a charging cable must have an In-cable Control and Protection Device (IC-CPD) when charging from a standard socket. This IC-CPD is integrated in the cable of our portable chargers. It limits the maximum charging power and safeguards from earthing failures in the power supply. When problems are detected the system will shut itself down. In essence, our mobile chargers are compact and flexible without compromising safety and quality.

Simple prevention of overpower

The charging power can be lowered easily by pushing a button on the front of the mobile charger. This prevents overpower of the electrical installation.

Automatic restart after shutdown due to power failures

Ratio Electric's mobile chargers are not just equipped with all safety requirements. They also provide a function that automatically restarts the system when the mobile charger is turned off after a power supply failure. Just in case there will be no unpleasant surprises when you want to drive off.

Weather and shock proof charger housing

The housing of the mobile chargers are:

- Weatherproof.
- Impact resistant (500N run-over test).
- Robust and compact.



Our portable or mobile charging stations enable you to charge your EV when there is no (free) public charging point around. The charging current can be adapted to the circumstances and availability of power.



EV MOBI BOX SCHUKO – TYPE 1 OR TYPE 2
MAX. RATING 13A/230V

P/N	Wall plug	Car plug	Cable length
31310	Schuko	Type 1	5 m
31310-10M	Schuko	Type 1	10 m
31320	Schuko	Type 2	5 m
31320-10M	Schuko	Type 2	10 m

EV MOBI BOX CEE – TYPE 1 OR TYPE 2
MAX. RATING 16A/230V

P/N	Wall plug	Car plug	Cable length
31313	CEE	Type 1	5 m
31313-10M	CEE	Type 1	10 m
31323	CEE	Type 2	5 m
31323-10M	CEE	Type 2	10 m

- Housing of thermoplastic material (215 x 110 x 50 mm).
- Earth leakage protection: AC 30mA, DC 6mA.
- Overcurrent protection.
- Under and overvoltage protection.
- Earth wire detection.
- Adjustable charge current.



SINGLE PHASE



SINGLE PHASE

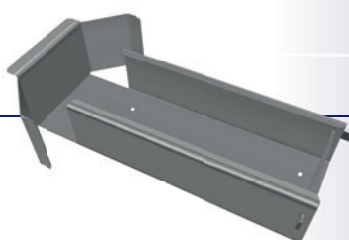
EV POWER BOX 16A & 32A/400V 3-PHASE

P/N	Wall plug	Car plug	Max. Rating	Cable length
35324	CEE	Type 2	16A/400V	5 m
35324-10M	CEE	Type 2	16A/400V	10 m
35325	CEE	Type 2	32A/400V	5 m
35325-10M	CEE	Type 2	32A/400V	10 m

- Housing of thermoplastic material (310 x 130 x 76 mm).
- Earth leakage protection: AC 30mA, DC 6mA.
- Overcurrent protection.
- Under and overvoltage protection.
- Adjustable charge current.



3 - PHASE

**OPTIONAL
ACCESSORIES**
WALL MOUNT HOLDER


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Whatever type of car or distance between the charging station and your car, Ratio Electric always offers you the most suitable cables.

AHK Kabel EVC Z5 G 6.00 + 3 x 0.50 450/750 v en 50620 <VDE-REG F079>

QUALITY CABLE

- PUR cable suitable for outdoor use and resistant to oil, dust and water.
- Flexible at low temperatures and able to withstand mechanical impacts.
- Halogen free, flame retardant.
- Halogen free, low smoke.
- KEMA approval.
- Cable complies with new EV standard EN 50620.

EV RATIO CHARGING CABLES

Ratio Electric always offers the best choice of charging cables for your electric car.

Our BASIC Line Type 2 plugs and connectors is our entry level cable solution for everyday use. With the BASIC Line we offer an affordable and fully certified solution for your charging cable, without compromising quality.

Ratio Electric PREMIUM Line Type 2 plugs and connectors are our high-quality solution for demanding everyday use. As these plugs are fully moulded, they provide the ultimate protection against moist and dirt. It ensures a watertight and tamperproof construction.

With our PREMIUM Line we can guarantee the highest quality of your charging cable.



BASIC LINE TYPE 2 – 2, 1 FASE 16A

P/N	Description	Length
30540	Basic Charging Cable type 2 to 2 M-F 16A	4 m
30560	Basic Charging Cable type 2 to 2 M-F 16A	6 m
30580	Basic Charging Cable type 2 to 2 M-F 16A	8 m

Order unit (per p/n) = 5 pcs

BASIC LINE TYPE 2 – 2, 3 FASE 16A

P/N	Description	Length
30740	Basic Charging Cable type 2 to 2 M-F 3x16A	4 m
30760	Basic Charging Cable type 2 to 2 M-F 3x16A	6 m
30780	Basic Charging Cable type 2 to 2 M-F 3x16A	8 m

Order unit (per p/n) = 5 pcs

BASIC LINE TYPE 2 – 2, 1 FASE 32A

P/N	Description	Length
30640	Basic Charging Cable type 2 to 2 M-F 32A	4 m
30660	Basic Charging Cable type 2 to 2 M-F 32A	6 m
30680	Basic Charging Cable type 2 to 2 M-F 32A	8 m

Order unit (per p/n) = 5 pcs

BASIC LINE TYPE 2 – 2, 3 FASE 32A

P/N	Description	Length
30840	Basic Charging Cable type 2 to 2 M-F 3x32A	4 m
30860	Basic Charging Cable type 2 to 2 M-F 3x32A	6 m
30880	Basic Charging Cable type 2 to 2 M-F 3x32A	8 m

Order unit (per p/n) = 5 pcs

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PREMIUM LINE TYPE 2 - 2, 1 FASE 16A (BLACK)

P/N	Description	Length
31240B	Charging cable type 2 to 2 M-F 16A	4 m
31242B	Charging cable type 2 to 2 M-F 16A	6 m
31241B	Charging cable type 2 to 2 M-F 16A	8 m

PREMIUM LINE TYPE 2 - 2, 1 FASE 32A (BLACK)

P/N	Description	Length
31250B	Charging cable type 2 to 2 M-F 32A	4 m
31252B	Charging cable type 2 to 2 M-F 32A	6 m
31251B	Charging cable type 2 to 2 M-F 32A	8 m

PREMIUM LINE TYPE 2 - 2, 3 FASE 16A (BLACK)

P/N	Description	Length
31280B	Charging cable type 2 to 2 M-F 3x16A	4 m
31282B	Charging cable type 2 to 2 M-F 3x16A	6 m
31281B	Charging cable type 2 to 2 M-F 3x16A	8 m

PREMIUM LINE TYPE 2 - 2, 3 FASE 32A (BLACK)

P/N	Description	Length
31290B	Charging cable type 2 to 2 M-F 3x32A	4 m
31292B	Charging cable type 2 to 2 M-F 3x32A	6 m
31291B	Charging cable type 2 to 2 M-F 3x32A	8 m



PREMIUM LINE TYPE 2 - 2, 1 FASE 16A (GREEN)

P/N	Description	Length
31240	Charging cable type 2 to 2 M-F 16A	4 m
31242	Charging cable type 2 to 2 M-F 16A	6 m
31241	Charging cable type 2 to 2 M-F 16A	8 m



PREMIUM LINE TYPE 2 - 2, COILED (BLACK)

P/N	Description	Cable
31244B	Charging cable type 2 to 2 M-F 16A	Coiled
31254B	Charging cable type 2 to 2 M-F 32A	Coiled
31283B	Charging cable type 2 to 2 M-F 3x16A	Coiled



PREMIUM LINE TYPE 2 - OPEN END STRAIGHT (BLACK)

P/N	Description	Length
33116B	EV Cable Type 2 to open end 16A	10 m
33116B-5M	EV Cable Type 2 to open end 16A	5 m
33132B	EV Cable Type 2 to open end 32A	10 m
33132B-5M	EV Cable Type 2 to open end 32A	5 m
33316B	EV Cable Type 2 to open end 3x16A	10 m
33316B-5M	EV Cable Type 2 to open end 3x16A	5 m
33332B	EV Cable Type 2 to open end 3x32A	10 m
33332B-5M	EV Cable Type 2 to open end 3x32A	5 m



PREMIUM LINE TYPE 2 - OPEN END COILED (BLACK)

P/N	Description	Cable
33117B	EV Cable Type 2 to open end 16A	Coiled
33133B	EV Cable Type 2 to open end 32A	Coiled
33317B	EV Cable Type 2 to open end 3x16A	Coiled

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PREMIUM LINE TYPE 2 - 1, 1 FASE 16A (BLACK)

P/N	Description	Length
31210B	Charging cable type 2 to 1 16A	4 m
31212B	Charging cable type 2 to 1 16A	6 m
31211B	Charging cable type 2 to 1 16A	8 m

PREMIUM LINE TYPE 2 - 1, 1 FASE 32A (BLACK)

P/N	Description	Length
31215B	Charging cable type 2 to 1 32A	4 m
31217B	Charging cable type 2 to 1 32A	6 m
31216B	Charging cable type 2 to 1 32A	8 m



PREMIUM LINE TYPE 2 - 1, COILED (BLACK)

P/N	Description	Cable
31220B	Charging cable type 2 to 1 16A	Coiled
31218B	Charging cable type 2 to 1 32A	Coiled



PREMIUM LINE TYPE 1 - OPEN END COILED (BLACK)

P/N	Description	Cable
32117B	EV Cable Type 2 to open end 16A	Coiled
32133B	EV Cable Type 2 to open end 32A	Coiled



PREMIUM LINE TYPE 2 - 1, 1 FASE 16A (GREEN)

P/N	Description	Length
31210	Charging cable type 2 to 1 16A	4 m
31212	Charging cable type 2 to 1 16A	6 m
31211	Charging cable type 2 to 1 16A	8 m

PREMIUM LINE TYPE 2 - 1, 1 FASE 32A (GREEN)

P/N	Description	Length
31215	Charging cable type 2 to 1 32A	4 m
31217	Charging cable type 2 to 1 32A	6 m
31216	Charging cable type 2 to 1 32A	8 m



PREMIUM LINE TYPE 1 - OPEN END STRAIGHT (BLACK)

P/N	Description	Length
32116B	EV Cable Type 1 to open end 16A	10 m
32116B-5M	EV Cable Type 1 to open end 16A	5 m
32132B	EV Cable Type 1 to open end 32A	10 m
32132B-5M	EV Cable Type 1 to open end 32A	5 m

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To retrofit or to make custom cables, both Type 1 connectors and Type 2 plugs and connectors can be used. Type 1 connectors have crimped contacts and require special assembly tools. Type 2 plugs and connectors have screwed contacts and require no special assembly tools.

P/N	Type	Max. Rating	Protection class
31000	Type 1 female connector	16A/400V	IP44
31001	Type 1 female connector	32A/400V	IP44
31100	Type 2 male plug	16A-32A 230V-400V	IP44
31101	Type 2 female connector	16A-32A 230V-400V	IP44

31000



31100



31101



50 k

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Type 2 outlet socket complies with IEC 62196-2



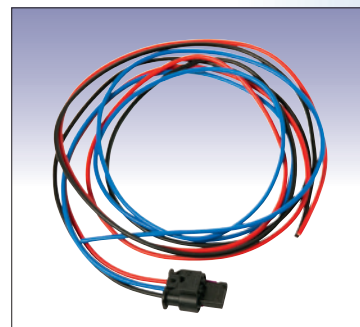
TYPE 2 OUTLET SOCKET

P/N	Description
32000	Charging Outlet type 2 with cover round
32001	Charging Outlet type 2 with cover flat



LOCKING ACTUATOR

P/N	Description
32110	Actuator



ACTUATOR CONNECTION CABLE

P/N	Description
32120	Actuator cable



CHARGING INLETS

P/N	Description
32200	Charging Inlet type 1 with cover
32101	Charging Inlet type 2 with cover

COMBINED CHARGING SYSTEM

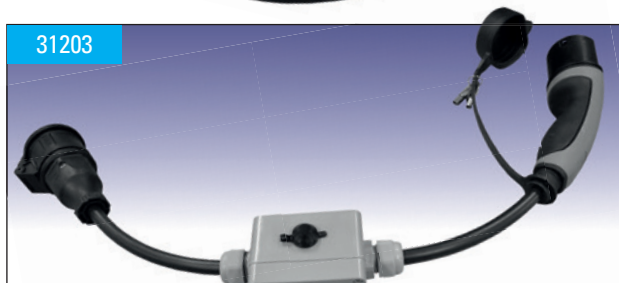
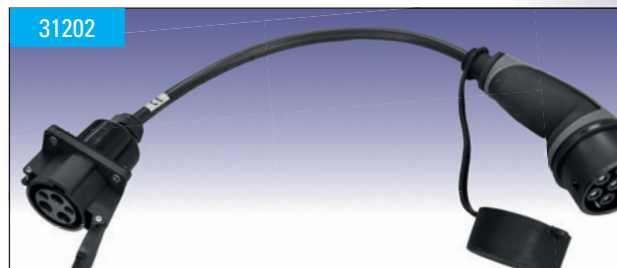
P/N	Description	AC	DC
CCS-10	Combined Charging System	32A/480V	150A/1000V



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Ratio Electric EV adapters enable you connect two systems when the plug and socket are of a different type and don't match. For example, connecting a Type 1 plug to a Type 2 socket or vice versa. Also, it enables you to connect a normal household plug ('Schuko') to a EV charge point. In this way you can use the EV charge point in your driveway for connecting power tools or an electrical BBQ. Our adapters provide a safe and reliable connection for all these use cases and work with all the plug and socket type, whether it is a private or a public charge point.



ADAPTER CABLE

P/N	Charger point connection	Adapter socket	Max. rating	Remarks
31200	Type 2 male	Schuko	16A/230V	
31203	Type 2 male	Schuko	16A/230V	key switch
31206	Type 2 male	CEE	16A/230V	
31207	Type 2 male	CEE	16A/230V	key switch
31202	Type 1	Type 2 female	16A/230V	
31204	Type 2 male	Type 1	16A/230V	



PLUGHOLDER

P/N	Description
32201	Dummy type 1
32202	Dummy type 2

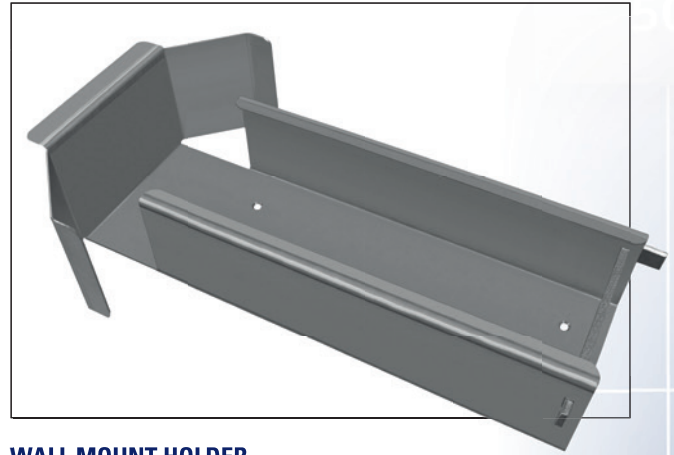
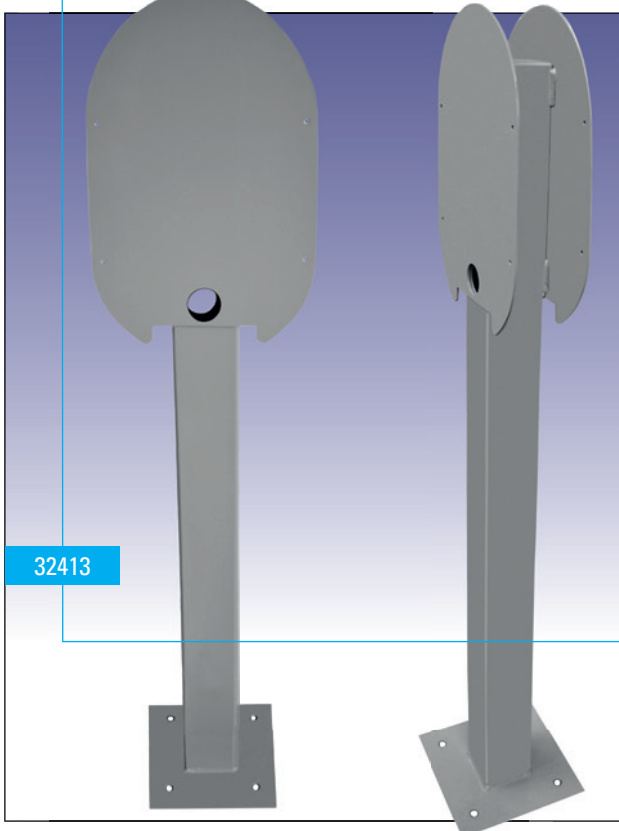
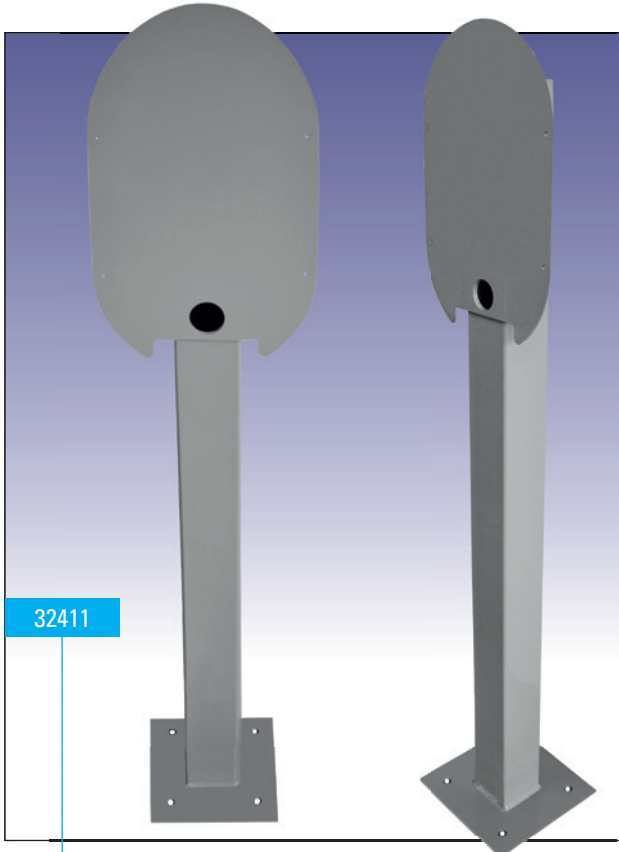


CABLE HOLDER

P/N	Description
32402	Stainless steel cable holder with plugholder type 1.
32404	Stainless steel cable holder with plugholder type 2.

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WALL MOUNT HOLDER

P/N	Description
70470	Stainless steel wall mount with cable holder Mobi Box
70480	Stainless steel wall mount with cable holder Power Box



ORGANISER BAG

P/N	Description
32400	Practical organizer bag for cables and/or portable charger.

CONSOLE

P/N	Description
32411	Pedestal Single
32413	Pedestal Dual
32417	Base for Pedestal

Standards for electric vehicles and charging stations are quite complex and still in development for some areas. The most important standards for EV charging are:

- IEC 61851 Conductive Charging systems, general requirements
- IEC 62196 Plugs, connectors, outlet sockets and vehicle inlets for conductive charging.

IEC 61851 STANDARD

The IEC 61851 standard describes 4 charge modes:

- Mode 1: max. 16A AC 230/400V
- Mode 2: max. 32A AC 230/400V
- Mode 3: max. 63A AC 230/400V
- Mode 4: max. 400A DC 1000V

For charging at home or at work mode 2 and mode 3 are most common. Mode 2 uses a standard domestic or industrial outlet. The charge cable must include an In Cable Control and Protection Device(IC-CPD). Mode 3 uses a dedicated EV outlet.

TAKE A NOTE:

The car type defines the type of plug and maximum charging current. Check with the manufacturer of the car for this information. All modes, except mode 1, require communication between vehicle and charge station. Modes 1, 2 and 3 use a battery charger inside the vehicle. Mode 4 uses an external battery charger that converts the AC in to DC.

All modern electric and plug-in hybrid vehicles require communication with the charge station.

IEC 62196 standard

The plug configurations for mode 2 and 3 charging are described in the IEC 62196 standard:

Type 1: based on the US SAE1772 standard. All American and Japanese cars (or other that use their technology) are supplied with this inlet.

Type 2 is the European standard. European car makers will equip their cars with this inlet.

Also infrastructure suppliers (Charging stations) in Europe use this standard for their outlets.

Type 3 is a standard used in France and Italy on the infrastructure side.

It uses shutters on the contacts for extra safety protection.

Type 1

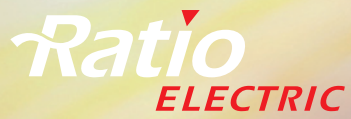


Type 2



Type 3





While the world of electric vehicles is developing rapidly, we would welcome your comments and ideas on any adaptations to our existing products as well as your useful suggestions for possible new products. You may send them to info@ratio.nl

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