RDC Charger

Advanced EV charger for home and business

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RDC Charger – data sheet
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Features

- **Up to 22kW of charging power** Enough to charge electric vehicle for distance of 100km in 45 minutes (calculation made for consumption of 16kWh per 100km).
- **Modern and simple design** With IP54 & IK10 standard suitable for indoor and outdoor use. Customable colours of the Charger enclosure.
- **Coloured LED light for charging status** Different color or color combination has a different meaning. You can easily see the status of the charger with the color of the LED light.
- **RFID, MIFARE card or QR code access control** To allow authorized usage only. Use RFID card MIFARE card or QR code to unlock and start charging process. Simple management, adding and removing charger users.
- **Charge with surplus energy** Whenever there is a surplus of renewable energy source. Suitable for systems where solar/wind inverter is connected to the home network.
- **Save by charging (eco charging) during off-peak hours**
- **Priority charging at the highest possible power**
- **Fully autonomous operation, automatic recovery from error**
- **Control up to 8 RDC Chargers - EV fleet** Suitable for multi-apartment buildings, hotels, etc. Chargers communicate with each other and enable optimal operation within the building. One Charger is master others are slaves.
- **HEMS – Home Energy Management System** Enables remote control of key consumers (heat pump, battery storage system…). Dynamic current limiter keeps consumption power below grid fuses.
- **Long range wireless power meters and relays for installation without cabling** For easy installation and optimization of the energy consumption in the building.
- **Fully compliant with IEC 61851**

Available

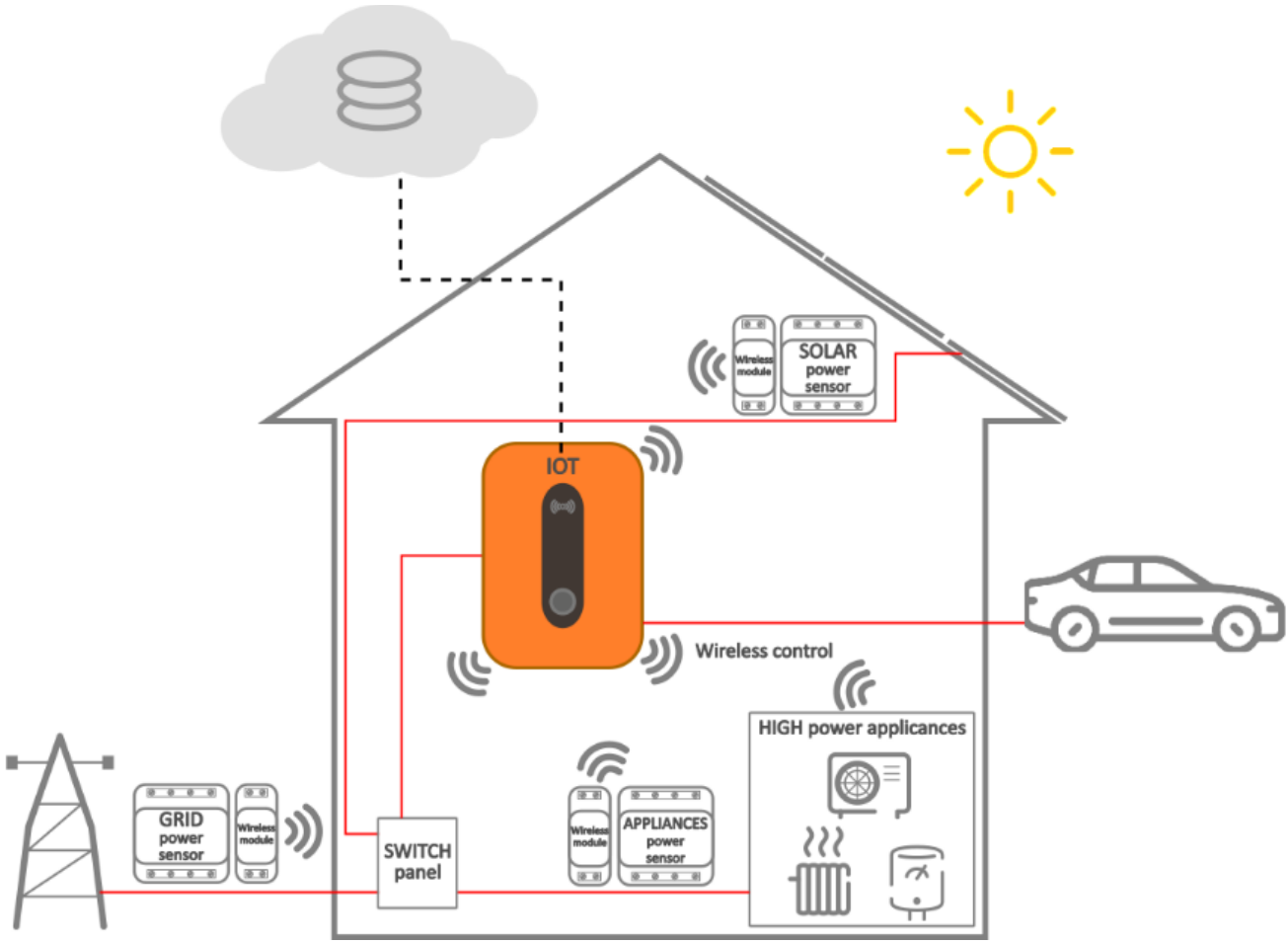
Models

Order code	Description
RDC-QR	Robotina Dynamic charger with type 2 cable and QR Code (digital key) reader. Modbus TCP/IP connectivity
RDC-RF	Robotina Dynamic charger with type 2 cable and standard RFID/MIFARE reader. Modbus TCP/IP connectivity
RDC-QR-R	Robotina Dynamic charger with type 2 cable and QR Code (digital key) reader. Modbus TCP/IP connectivity. Built in residual current device
RDC-RF-R	Robotina Dynamic charger with type 2 cable and standard RFID/MIFARE reader. Modbus TCP/IP connectivity. Built in residual current device
RDC-QR-I	Robotina Dynamic charger with type 2 cable and QR Code (digital key) reader and IOT linker for Cloud connectivity. Modbus TCP/IP connectivity.
RDC-RF-I	Robotina Dynamic charger with type 2 cable and standard RFID/MIFARE reader and IOT linker for Cloud connectivity. Modbus TCP/IP connectivity.
RDC-QR-RI	Robotina Dynamic charger with type 2 cable and QR Code (digital key) reader. Modbus TCP/IP connectivity. Built in residual current device and IOT linker for Cloud connectivity.
RDC-RF-RI	Robotina Dynamic charger with type 2 cable and standard RFID/MIFARE reader. Modbus TCP/IP connectivity. Built in residual current device and IOT linker for Cloud connectivity.

Accessories

Order code	Description
WPM1-E-D-CT	Wireless external single-phase Power sensor kit with current transformer
WPM3-E-D	Wireless external three-phase Power sensor kit
WPM3-E-D-CT	Wireless external three-phase Power sensor kit with current transformer
PM1-E-D-CT	External single-phase Power sensor with current transformer
PM3-E-D	External three-phase Power sensor
PM3-E-D-CT	External three-phase Power sensor with current transformer
CT1-E-50	1-phase split core current transformer, 50A
CT3-E-50	3-phase split core current transformer, 50A
CT3-E-100	3-phase split core current transformer, 100A
CT3-E-250	3-phase split core current transformer, 250A
CT3-E-400	3-phase split core current transformer, 400A
WM-1	Wireless Modbus bridge
WR-1	Wireless Relay, To control other loads in the building and optimize energy consumption
IOT-L2-W	4G LTE wireless modem for IOT linker **This option is only possible for RDC Chargers models, that already have an integrated IOT linker.**
IOT-L2-2-HQ	High function linker (HIQ Universe)
IOT-L2-2-OC	High function linker (HIQ Universe and OCPP protocol)
RDC-PR	Protective roof for RDC
RDC-FS	Freestanding set (pilar for up to 2 chargers)
RDC-FSD	Freestanding set for two RDC Chargers

RDC Charger System overview

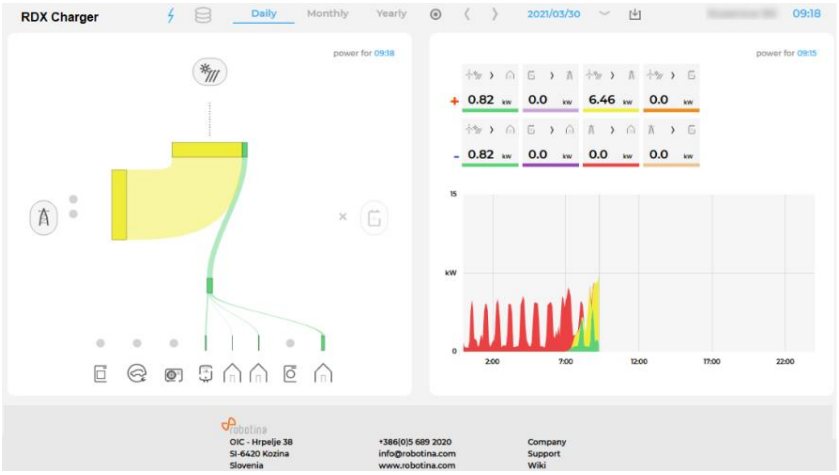


RDC Charger encompasses:

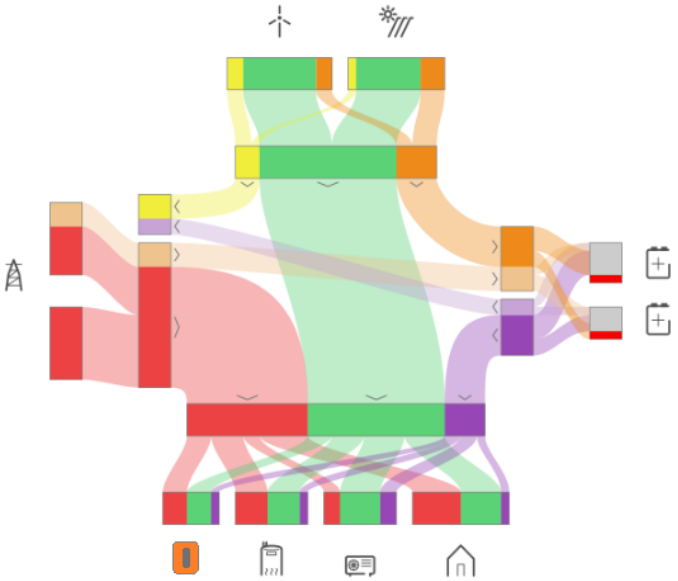
- Electric vehicle dynamic charging

- Control and configure using laptop

- Remote control by cloud application

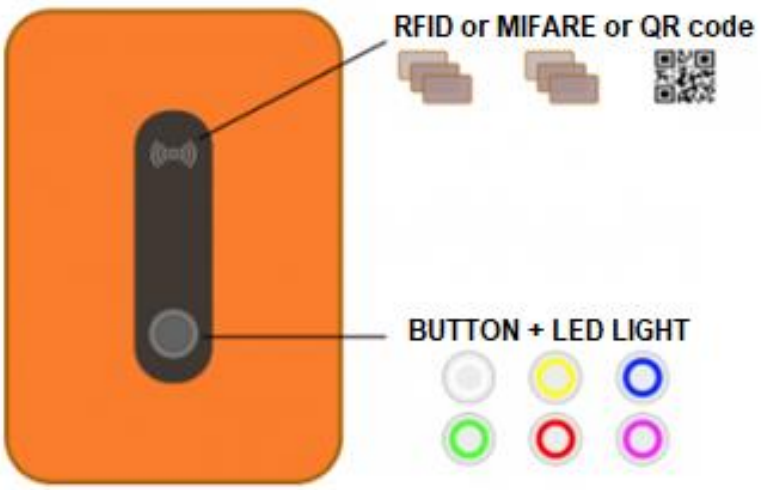


- HEMS – Home Energy Management System



Operation

- charging starts automatically as soon as vehicle is connected with power cable.
- short press button toggle enable/pause charging
- long press button toggle priority/economy charging
- LED indicator for charging status
- Swipe RFID/MIFARE/QR card to unlock RDC Charger



Dynamic charging/operation

RDC Charger not only allows it to adapt to all high-energy consumers in the building, but also allows all high-energy consumers to adapt to RDC Charger and its energy needs. Since the charger also functions as a HEMS system, it not only subdues other loads but also manages them. This optimizes the flow of energy in the building.
Dynamic Current Limiter preventing circuit breaker tripping (overloading), caused by high-energy appliances working at the sime time. DCL monitors a current draw by appliances and in real time allocates available capacity allowing them to run without overloading. Different high-energy appliances in the building can be prioritized differently with just one push of a button.
The same applies if there are several (up to 8) RDC Chargers in a building. It could also set priorities among them. If one charger needs a lot of energy quickly, the other charger will reduce the charging power.

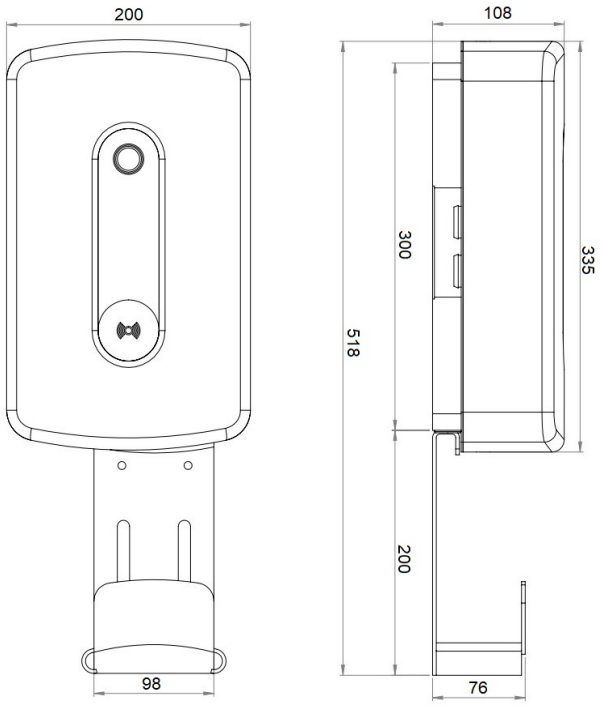
Eco charging profile

- Allows charging with lower power, desired current to charge EV at lower power.
- Charging at low tariff only, schedule timetable when low tariff is active and save it by charging at this period.
- Charging by surplus energy, charge EV only if there are any renewable energy surce available.
- Optimized for energy cost and battery life.

Priority charging profile

- Utilize all available power to charge as fast as possible ignoring eco charging settings. In case of overloading Dynamic current limiter will limit EV charging last.
- Temporary suspend high-power loads such as heat pump, electric boiler etc.
- After the battery is full, priority profile returns back to eco charging profile.

Technical specifications

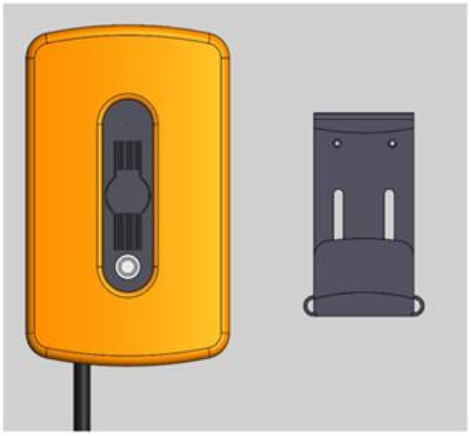
Nominal voltage	1x230Vac 50/60Hz, 3×230/400Vac 50/60Hz
Maximum current	1x32A, 3x32A
Maximum charging power	Single-phase connection → 7.4kW Three-phase connection → 22kW
Connector	Type2, 5m cable
Network connection	Ethernet 100M RJ45
	4G LTE (option)
Communication	OCPP 1.6
Wireless range	300m open / 50m indoor *rage varies depending on actual conditions
Frequency band	868Mhz
Ingress protection	IP54
Impact resistance	IK10
Operating temperature	-20°C to +60°C
Storage temperature	-40°C to + 70°C
Insulation	1200Vac
Residual current device	DC 6mA, AC 30mA (option)
Standards	IEC 61851-1: 2019 EN 300 220, EN 300 328 ERC-REC-70-03-41.2
Dimensions	

Mounting options

Cable holder

Installed directly on RDC Charger

Installed independently on the wall



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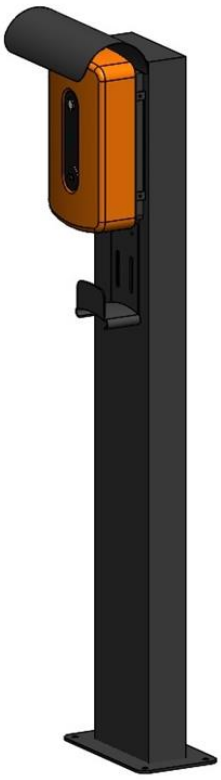
Mounted on the wall or independent. For this second option there are available two type of freestanding sets. For mounting one RDC Charger is RDC-FS. For mounting two RDC Chargers is RDC-FSD. For both options, it is recommended to use in a combination with RDC Charger protective roof (RDC-PR).

RDC-FS



RDC-FSD