# EVC-332

CybroTech

Level 2 Charging Station 22kW

Features

• charging profile:
  economy - optimized for energy cost and battery life
  priority - charge as fast as possible
• reactive load balancing, reduce charging according to household consumption
• reactive solar balancing, increase charging when solar energy is available
• scheduled load balancing, variable power limit over time
• load suspend, temporary turn off large appliances to speed up charging
• consumption peak limiter for protection against peak surcharges
• DC residual current 6mA, overvoltage and undervoltage protection
• RFID access control to allow authorized usage only
• fully autonomous operation, automatic recovery from error
• long range wireless power meter for installation without cabling
• fully compliant with IEC 61851

Components

☑ **WPM-H**
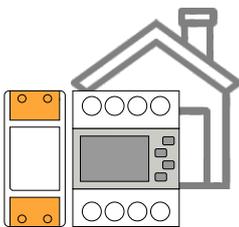
wireless power meter
household consumption

☑ **WPM-S**
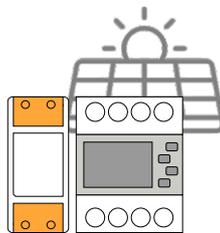
wireless power meter
solar production

☑ **WR-1**
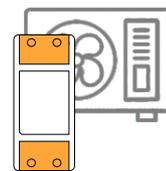
wireless relay
turn appliances on/off

☑ **RFID**

access control

start/stop

RFID
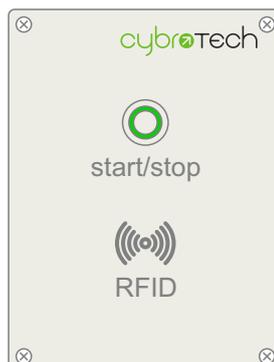
charger

◉ **C**: Type 2 connector + cable

Operation

- connect vehicle to charging station, charging starts automatically
- press button to stop charging (slow blinking), press again to restart
- press and hold button to activate priority charging (purple blinking)
- adjust configuration parameters using PC computer or mobile app
- enable RFID system to lock/unlock charging station with your card
- hold buton and power up to reset all parameters to factory default

short press

charging
pause

1s

press and hold

economy charging profile
priority charging profile

1s

| LOCKED | ⟷ | STANDBY | ⟷ | CONNECT | ⟷ | ECONOMY | ⟷ | PRIORITY |

locked
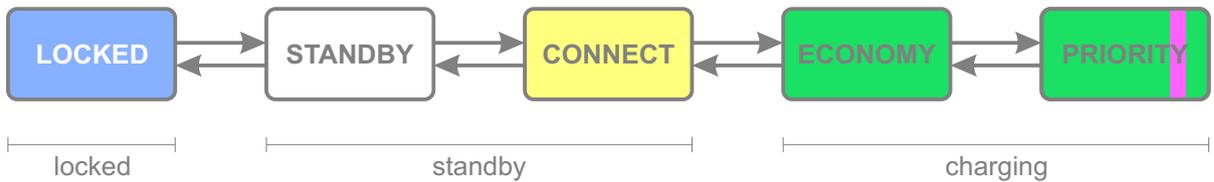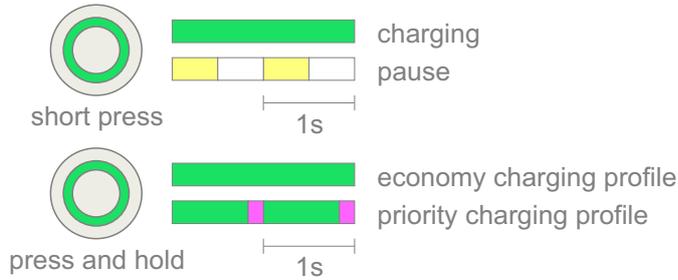
standby

charging

Economy charging profile

- optimized for energy cost and battery life
- adjustable start time to take advantage of low rate electricity
- limited charging current to reduce battery temperature and extend service life

Priority charging profile

- utilize all available power to charge as fast as possible
- temporary suspend high-power loads such as heat pump, electric boiler and air conditioner
- after configured time, priority profile returns back to economy

	Economy	Priority
charging time	7.5h	4h
maximum power	7.5kW	22kW
battery temperature	30°C	45°C
total energy cost	10€	14€

kW

priority charging profile

priority duration

economy charging profile

18:00   20:00   22:00   00:00   02:00   04:00   06:00

high rate

low rate

vehicle connected   deferred start

Power distribution

solar plant

M solar meter

house meter

M

power grid

switch panel

household

charger   vehicle
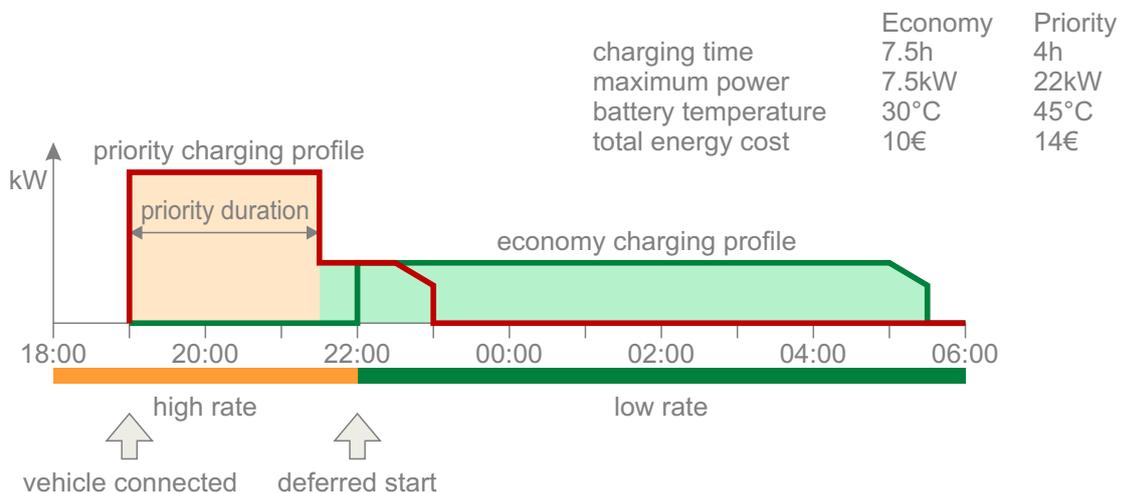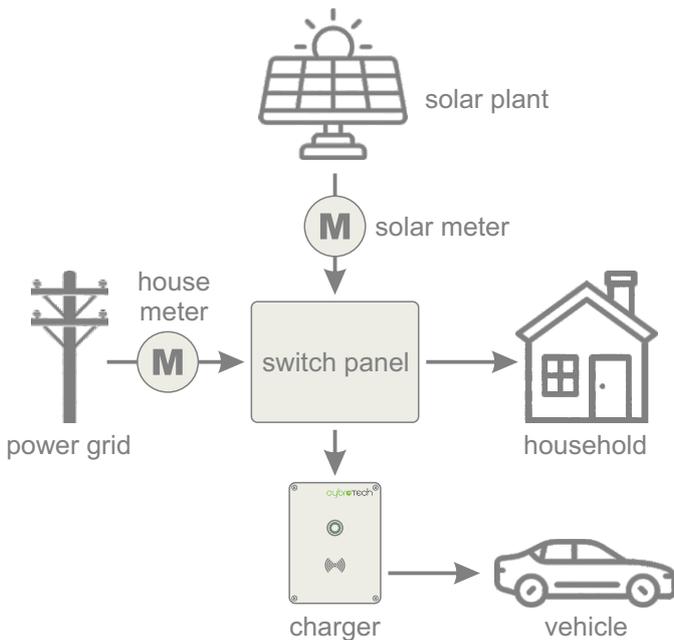
Configuration parameters

power grid limit
The maximum current available from the grid.

economy current limit
The maximum current that the charger can draw in economy charging profile.

economy start time, economy stop time
Period with low rate electricity.

priority duration
The time in minutes after which the priority charging profile switches back to economy.

overvoltage limit, undervoltage limit
Charging stops when supply voltage is out of range.
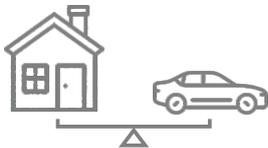
Reactive load balancing (WPM-H option)

• reduce charging current according to household consumption
• prevents fuse trip when combined consumption is too high
• long range wireless power meter for easy installation

Reactive solar balancing (WPM-S option)

• start charging whenever there is a surplus of solar energy
• suitable for systems where solar inverter is connected to the home network
• long range wireless power meter for easy installation

Load suspend (WR-1 option)

• temporarily turn off large appliances to allow maximum charging current
• long range wireless relay for easy installation

RFID access control (RFID option)

• use RFID card to unlock and start charging process
• simple card management, adding and removing cards

Order code

| E | V | C | – | 3 | 3 | 2 | C | – | R | F | I | D |

Device

Electric Vehicle Charger

Model

332 - 3x 32A (22kW)

Connection

C - Type 2 connector + cable

Options

RFID - card reader 125kHz
MIFARE - card reader 125kHz/13.56MHz
QR - QR code reader

| W | P | M | - | H |

Device

WPM wireless power meter

Position

H - household (modbus address 1)
S - solar (modbus address 2)

L1 L2 L3 N

WM-1   L1 L2 L3 N
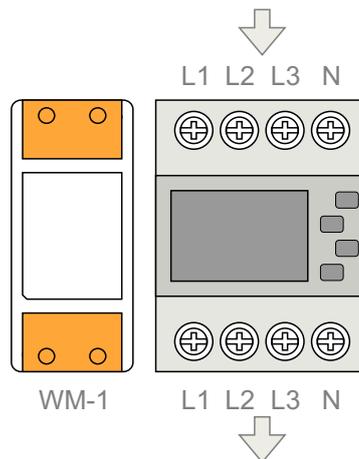
| W | R | - | 1 |

Device

WR-1 wireless relay (modbus address 200)

WR-1

NO
C
NC
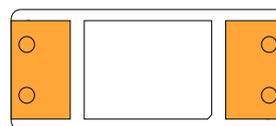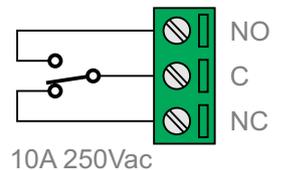
10A 250Vac
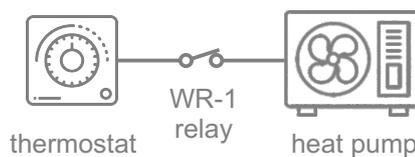
WR-1 suspends large appliances to preserve energy for charging.

thermostat   WR-1 relay   heat pump

Switch panel connection

WM-1

surge protection device
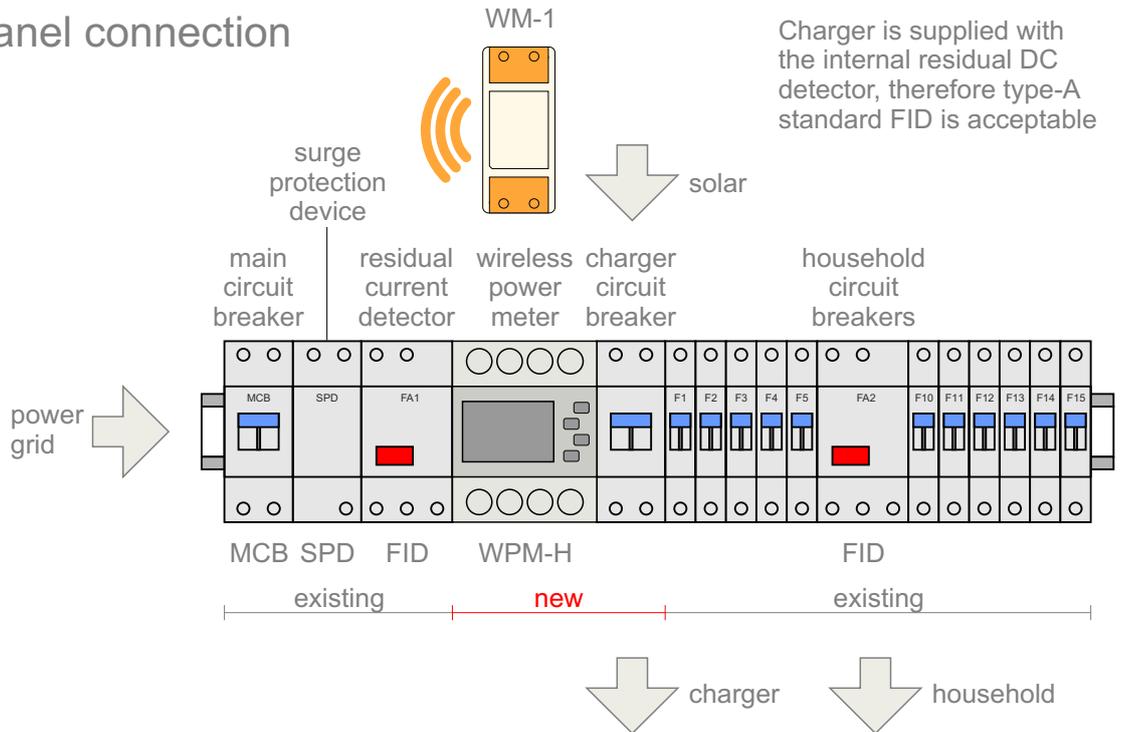
Charger is supplied with the internal residual DC detector, therefore type-A standard FID is acceptable

solar

main circuit breaker	residual current detector	wireless power meter	charger circuit breaker	household circuit breakers

power grid

MCB | SPD | FA1 | F1 F2 F3 F4 F5 | FA2 | F10 F11 F12 F13 F14 F15

MCB　SPD　FID　　　WPM-H　　　　　　FID

existing　　　　　new　　　　　existing

charger　　　household

cybro tech

start/stop

((·))
RFID

charger

When single-phase power supply is used, connect live wire to the L1 input.

Frequency subband

865.0-868.6	868.7-869.2	869.3-869.4	869.4-869.6	869.7-870.0
1% 25mW	0.1% 25mW	1% 10mW	10% 500mW	100% 5mW

Device uses L subband, which allows 1% utilization and 25mW output power

Technical specifications

Electrical parameters .

Nominal voltage	1x230Vac, 50/60Hz
	3x230/400Vac, 50/60Hz
Maximum current	1x32A or 3x32A
Connector/socket	Type 2, 5m cable
Standby consumption	4W

Remote meter

| Nominal voltage | 3x230/400Vac |
| Maximum current | 3x100A |

Radio interface

Frequency band	868MHz
Subband	L 866.8MHz, 1% utility, LBT
Modulation	FSK, 160kHz bandwidth
Output power	25mW
Operating range	300m with optical visibility

Network connection .

| Ethernet | 100M RJ45 |
| Wi-fi | 802.11 b/g/n |

Mechanical and environment

Ingress protection	IP65
Impact resistance	IK10
Operating temperature	-20°C to +50°C
Storage temperature	-40°C to +80°C
Dimensions WxHxD	22x32x14cm
Mounting WxH	4xM5 wall mount
Warranty	24 months

Safety

Insulation	1200Vac
Charging pilot negative	1mA, 20ms reaction time
Residual direct current	6mA, 200ms reaction time
Standards	EN 61851-1, EN 300 220-2, EN 301 489-1, EN 301 489-3