



# RDC Charger

## User manual



**Robotina d.o.o.**  
OIC-Hrpelje 38 Hrpelje  
SI-6240 Kozina  
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# EV fleet

RDX charger supports connection of up to 8 RDX Chargers - EV fleet.

In such configuration only one RDX Charger (master) is in charge of other connected chargers (slave). Master RDX Charger monitors:

- current draw by other slave chargers and in real time allocates (limits) available capacity allowing them to charge without overloading,
- data from slaves such as power, energy & settings and synchronize them with cloud service, therefore no need for extra [IOT linker](#) on slave RDX Charger.

**Note:** If there is no grid power sensor, master charger enables limiting of complete ev fleet by virtual grid power sensor.



Only one RDX charger is master in ev fleet !

**Procedure to set RDX Charger as slave is as follows:**

- [RDX Charger](#) → set Max current (1)
- [RDX Charger](#) → enable “EVSE works as slave” (2) Master SN presents serial number of master charger, it will appear once connection is established.
- [RDX Charger](#) → set current if connection with master is lost (3)
- [HEMS Configurator](#) → settings → set static IP (it's recommended) (4)
- [HEMS Configurator](#) → limiter → set “No limiter” for RDX Charger (5)

The image shows four screenshots illustrating the configuration process:

- RDX Charger v2.0.1**: The 'RDX Charger' screen shows 'Max current' set to 20 A (1).
- RDX Charger v2.0.1**: The 'EVSE Settings' screen shows 'EVSE works as slave' checked and 'Master SN: 40000' (2).
- RDX Charger v2.0.1**: The 'EVSE Settings' screen shows 'Limit if connection with master is lost' set to 6 A (3).
- HEMS Configurator v2.0.1**: The 'System settings' screen shows 'Use the following IP address (static IP)' checked with IP address 192.168.0.124 (4).
- HEMS Configurator v2.0.1**: The 'Dynamic Load Management' screen shows the 'No limiter' option selected for the RDX Charger (5).

		L1	L2	L3
Used current limit:		25	25	25
MAX current limit:		25	25	25
Enable cluster slave connection				
Master current limit:		0	0	0
Limit if connection with master is lost:		0	0	0
Enable limiting from cloud				
Cloud current limit:		1200	1200	1200
Limit if connection with cloud is lost:		1200	1200	1200

	Total	Power [w]			Current [A]			Voltage [v]			Phase order	Priority
		L1	L2	L3	L1	L2	L3	L1	L2	L3		
Grid	7424	2541	2320	2563	11,1	10,9	11,2	230	230	230	L1 L2 L3	
RDX Charger	7424	2541	2320	2563	11,1	10,9	11,2	231	232	233	L1 L2 L3	No limiter
Oil radiator	0	0	0	0	0,0	0,0	0,0	230	230	230	L1 L2 L3	No limiter

## Procedure to set RDX Charger as master is as follows:

- HEMS Configurator → settings → output column → select “EVSE RDX external” at desired position (1). Note that “EVSE inter.” is reserved and can't be changed!

HEMS Configurator v2.0.1

System settings

autodetect

HEMS SN: 31490 (v1.2.7b)

✓ eStore SN: 16853  enable detect

✗ HIQ Home SN:0  enable detect

✓ Virtual grid PS:  enable

Internal temperature: 41,6°C

Modbus (wired) cycle time: 731ms Modbus (wireless) cycle time: 261ms Modbus (TCP) cycle time: 435ms

SOURCES		icon		source management		meter	sub	new device	
Grid	Grid	✓ OK		add	del	VIRTUAL PH		/	
/	/	✗ /		add	del	/		/	
/	/	✗ /		add	del	/		/	
/	/	✗ /		add	del	/		/	
/	/	✗ /		add	del	/		/	
Unknown	/	✗							

CONSUMERS		icon		consumer management		meter	sub	output	man.time	P nominal
RDX Charger	Electric car	✓ OK		add	del	PM3-E-D	✗	EVSE inter.	1	0w
/	/	✗ /		add	del	/	✗	/	0w	0w
/	/	✗ /		add	del	/	✗	/	0w	0w
/	/	✗ /		add	del	/	✗	/	0w	0w
/	/	✗ /		add	del	/	✗	/	0w	0w
/	/	✗ /		add	del	/	✗	/	0w	0w
El.heater	Water boiler	✗ /		add	del	/	✗	Digital-8	0w	2500w
Background	Home									

Permanent memory parameters

Scan w-less dev. WM / WR binding

init parameters save parameters read parameters

long-press  autosave parameters

Fri 12:05:55 2023.feb.10 HEMS SN: 31490 (v1.2.7b)

home power [W] energy [Wh] timetable tariff DLM ev fleet IO mux settings exit

- HEMS Configurator → settings → enter name and select icon (2). Message “Error - device is not responding” may appear as IP address is not defined yet.

HEMS Configurator v2.0.1

## System settings

autodetect

HEMS SN: 31498 (v1.2.7b)

✓ eStore SN: 16853  enable

✗ HIQ Home SN:0  enable

✓ Virtual grid PS:  enable

Internal temperature: 41,6°C

Modbus (wired) cycle time: 721ms    Modbus (wireless) cycle time: 266ms    Modbus (TCP) cycle time: 1415ms

IP address: 192.168. 0.231

Obtain an IP address automatically (DHCP)

Use the following IP address (static IP)

IP address: 192.168. 0.231

Subnet mask: 255.255.255. 0

Default gateway: 192.168. 0. 1

DNS server: 8. 8. 8. 8

long-press

SOURCES	icon	source management	meter	sub	new device
Grid	Grid	✓ OK			VIRTUAL PH
/	/	add del	/	/	/
/	/	add del	/	/	/
/	/	add del	/	/	/
/	/	add del	/	/	/
/	/	add del	/	/	/
Unknown	/				

Error: no response from device.  
[add]  
[del] - clear type

CONSUMERS	icon	consumer management	meter	sub	output	man.time	P nominal
RDX Charger	Electric car	✓ OK	PM3-E-D	✗	EVSE Inter.	0min	<input checked="" type="checkbox"/>
/	/	add del	/	✗	/	0min	<input checked="" type="checkbox"/>
/	/	add del	/	✗	/	0min	<input checked="" type="checkbox"/>
/	/	add del	/	✗	/	0min	<input checked="" type="checkbox"/>
40105	Electric car	⚠ Error - device is not responding	EVSE RDX ex	✗	EVSE RDX ex	2	0min <input checked="" type="checkbox"/>
/	/	add del	/	✗	/	0min	<input checked="" type="checkbox"/>
40001	Electric car	⚠ Error - device is not responding	EVSE RDX ex	✗	EVSE RDX ex	0min	0min <input checked="" type="checkbox"/>
/	/	add del	/	✗	/	0min	<input checked="" type="checkbox"/>
El.heater	Water boiler	✗ /	/	✗	Digital-8	0min	2500W <input checked="" type="checkbox"/>
/	/	add del	/	✗	/	0min	<input checked="" type="checkbox"/>
Background	Home						

## Permanent memory parameters

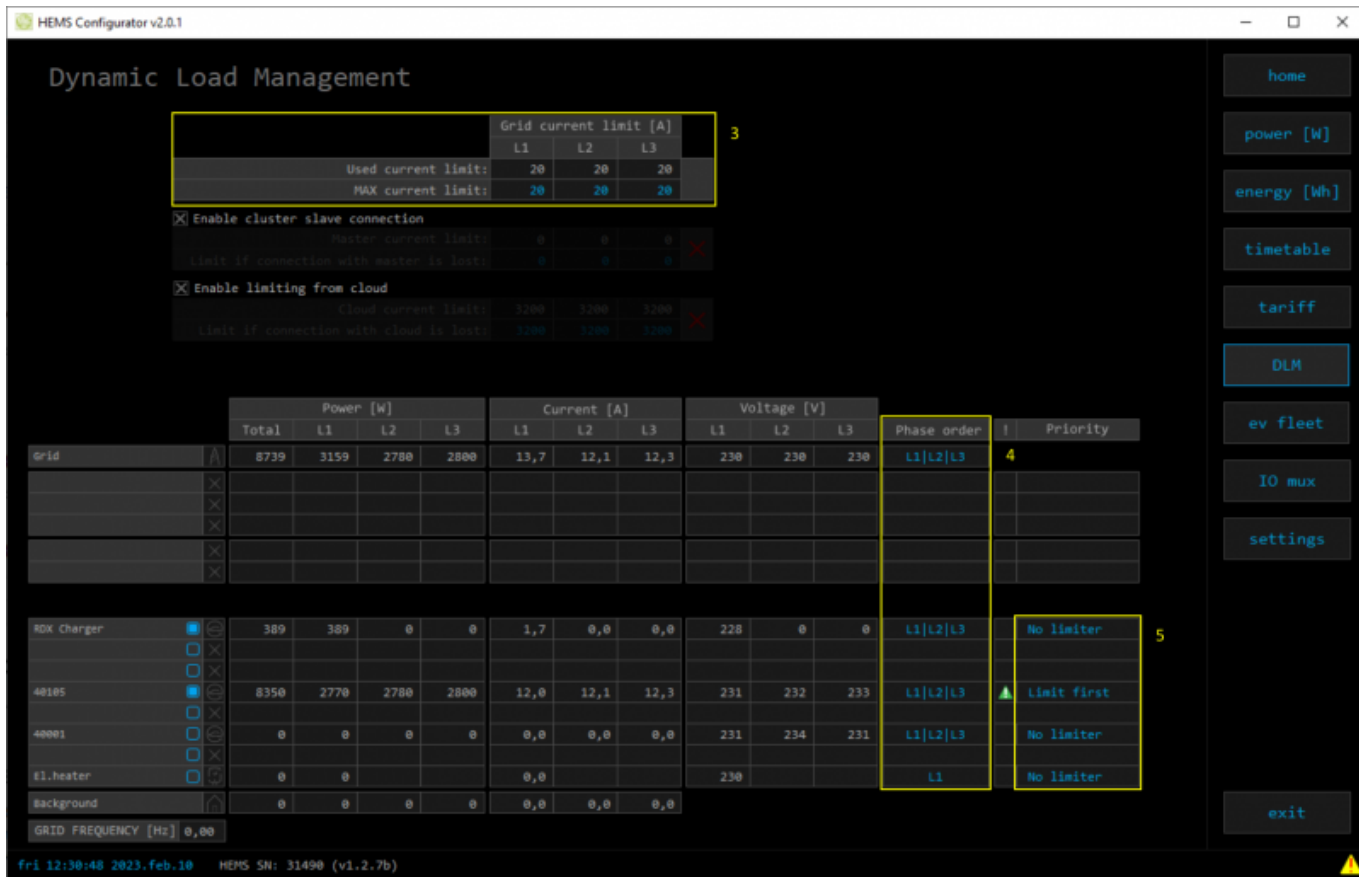
Scan w-less dev.    WM / WR binding

long-press

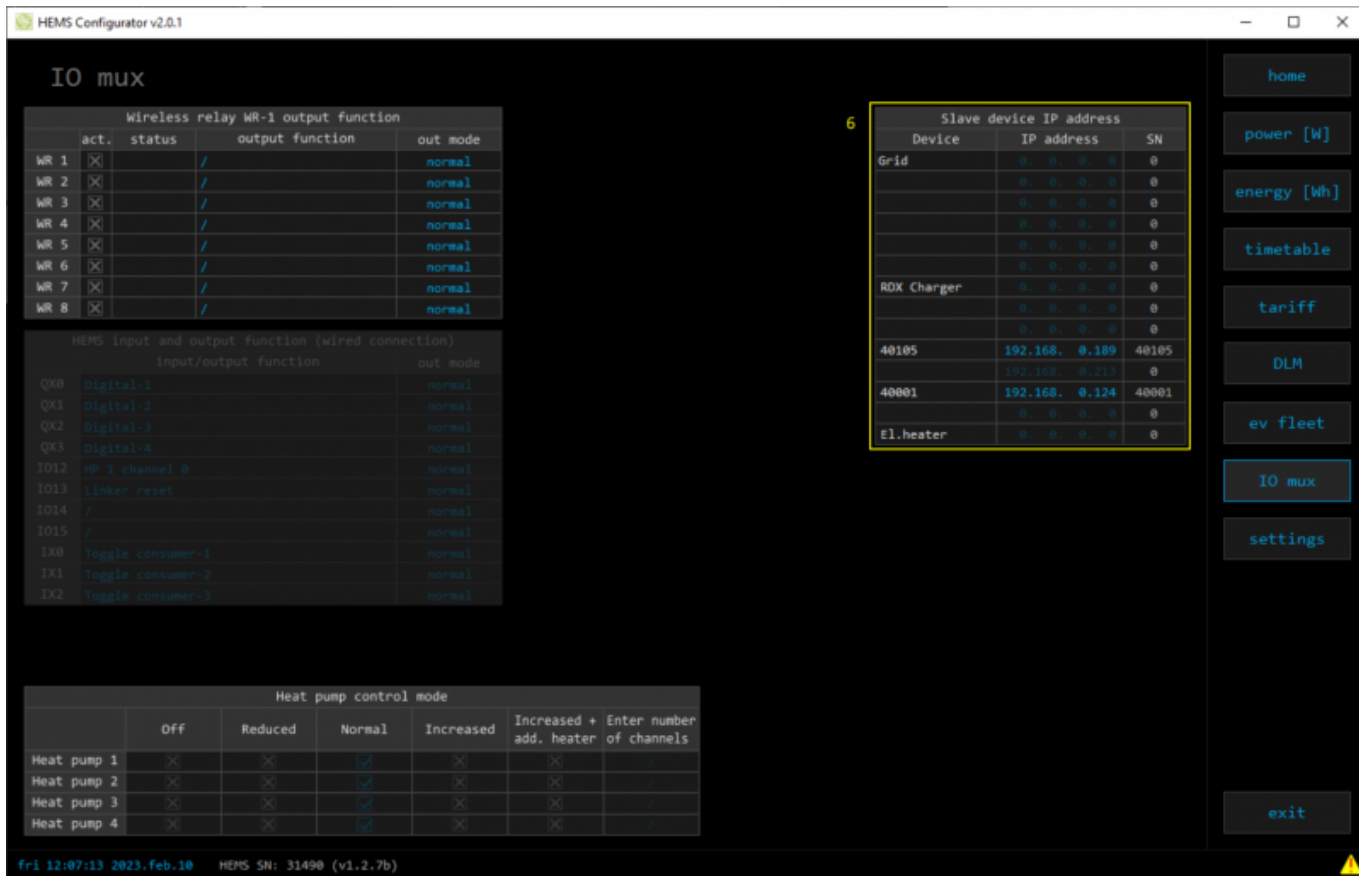
autosave parameters

Fri 12:05:16 2023.feb.10    HEMS SN: 31498 (v1.2.7b)

- HEMS Configurator → limiter:
- (3) enter allowed current value of grid fuses in case of connected grid power sensor, or max current limit of complete ev fleet if there is virtual grid active
- (4) make sure to configure phase order for grid and RDX Chargers correct as dynamic load management may not work properly. **Double check!**
- (5) select limiter priority for chargers: no limiter, limit last (last to be limited), limit second, limit first (first to be limited)



- HEMS Configurator → IO mux → enter IP address of slave RDX Charger (6). Serial number (SN) will be listed automatically once connection is established.



- HEMS Configurator → ev fleet:



- (7) master RDX Charger,  
 (8) connected slave RDX Charger with enabled control by master (green tick) and  
 (9) connected slave RDX Charger 3 phases with disabled control (red X) → master can not control it! To enable control, run RDX Charger app on slave charger and enable “EVSE works as slave”.

HEMS Configurator v2.0.1

Unit ID	Status	Power	EVSE max	Max current	Last session	Time	Energy	Control
40105	Charging	391 W	16 A	16 A	145 h 24 min	26392 Wh	EVSE works as slave (7)	
40105	Charging	7650 W	11 A	32 A	143 h 48 min	312850 Wh	Slave SN: 40105 ✓ (8)	
40001	EV not connected	0 W	0 A	20 A	6 h 32 min	40670 Wh	Slave SN: 40001 ✗ (9)	
40000	on	1350 W	0 A	1 A	0 h 00 min	0 Wh	Slave SN: 0 ✗	

Settings for each unit include: Priority charg., Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging: Current, Charge only at LD tariff, Charge with surplus energy.

Event log: RFID\_QR

EVSE works as slave (7)  
 Limit if connection with master is lost: 0 A

Navigation buttons: home, power [W], energy [Wh], timetable, tariff, DLM, ev fleet, IO mux, settings, exit

thu 15:26:39 2023, feb. 09 HEMS SN: 31490 (v1.2.7b)