



RDC Charger

User manual



Robotina d.o.o.
OIC-Hrpelje 38 Hrpelje
SI-6240 Kozina
Slovenia

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EV fleet 5

EV fleet

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

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

- [RDC Charger](#) → set Max current (1)
- RDC Charger → enable “EVSE works as slave” (2) Master SN presents serial number of master charger, it will appear once connection is established.
- RDC 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)' selected 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

	Total	L1	L2	L3
Grid	7424	2541	2320	2563

	L1	L2	L3
Grid	11,1	10,9	11,2

	L1	L2	L3
Grid	230	230	230

	Phase order	Priority
Grid	L1 L2 L3	

Device	Power [w]	Current [A]	Voltage [v]	Phase order	Limiter			
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!

The screenshot shows the HEMS Configurator v2.0.1 interface. The 'System settings' window is open, displaying various configuration options. The 'CONSUMERS' table is the primary focus, showing the 'RDX Charger' entry. The 'output' column for this entry is set to 'EVSE inter.' and '1'. A red arrow points to the 'EVSE inter.' text. A dialog box for IP address configuration is also visible in the top right, showing options for DHCP and static IP.

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

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

Permanent memory parameters: Scan w-less dev. WM / WR binding

Buttons: init parameters, save parameters, read parameters, backup, restore, exit

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

- 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"/>
/	/	✗ /	/	✗	/	0min	<input checked="" type="checkbox"/>
/	/	✗ /	/	✗	/	0min	<input checked="" type="checkbox"/>
/	/	✗ /	/	✗	/	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"/>
/	/	✗ /	/	✗	/	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"/>
/	/	✗ /	/	✗	/	0min	<input checked="" type="checkbox"/>
El.heater	Water boiler	✗ /	/	✗	Digital-8	0min	2500W <input checked="" type="checkbox"/>
/	/	✗ /	/	✗	/	0min	<input checked="" type="checkbox"/>
Background	Home	✗					

Permanent memory parameters

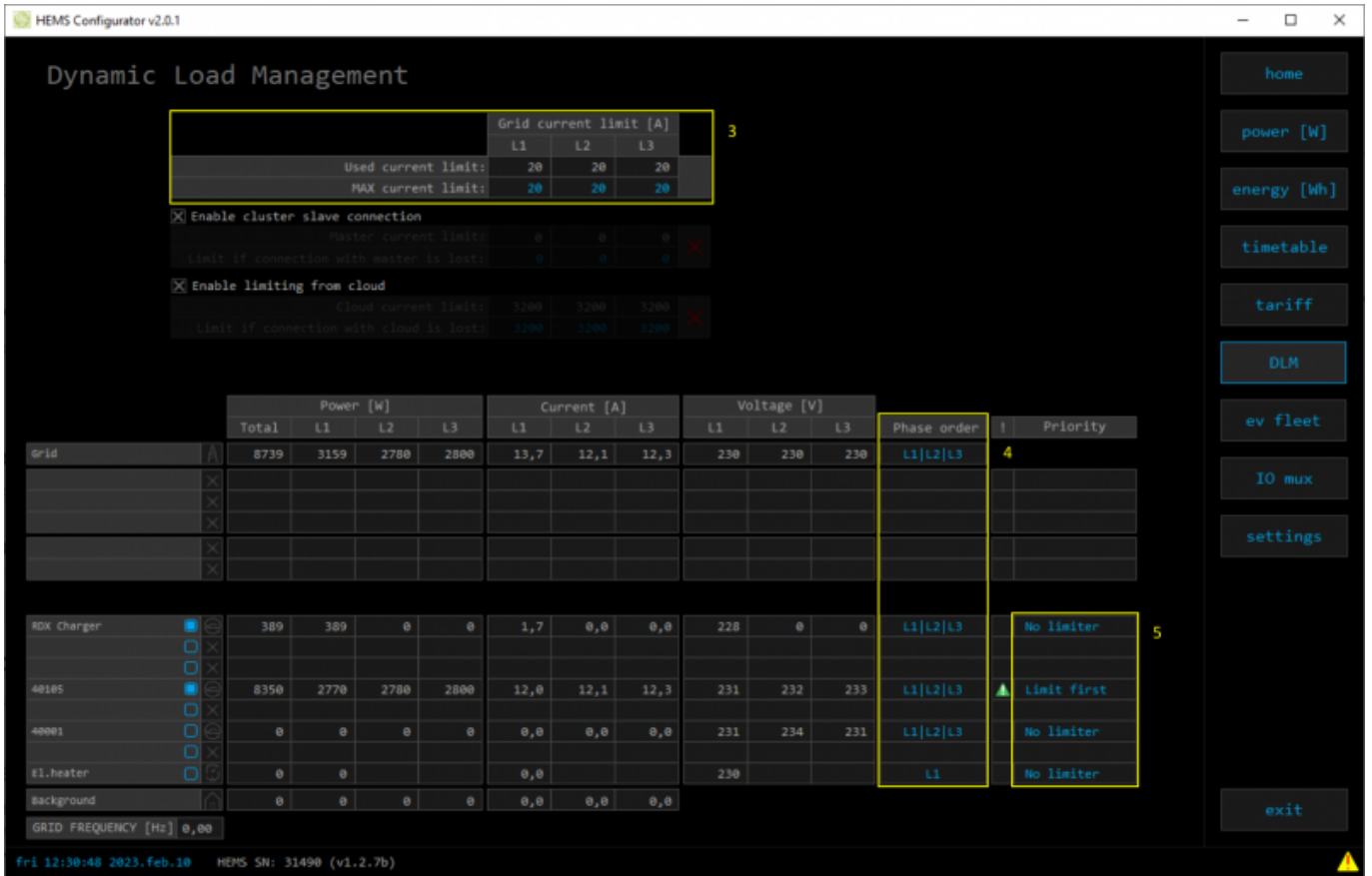
Scan w-less dev. WM / WR binding

long-press

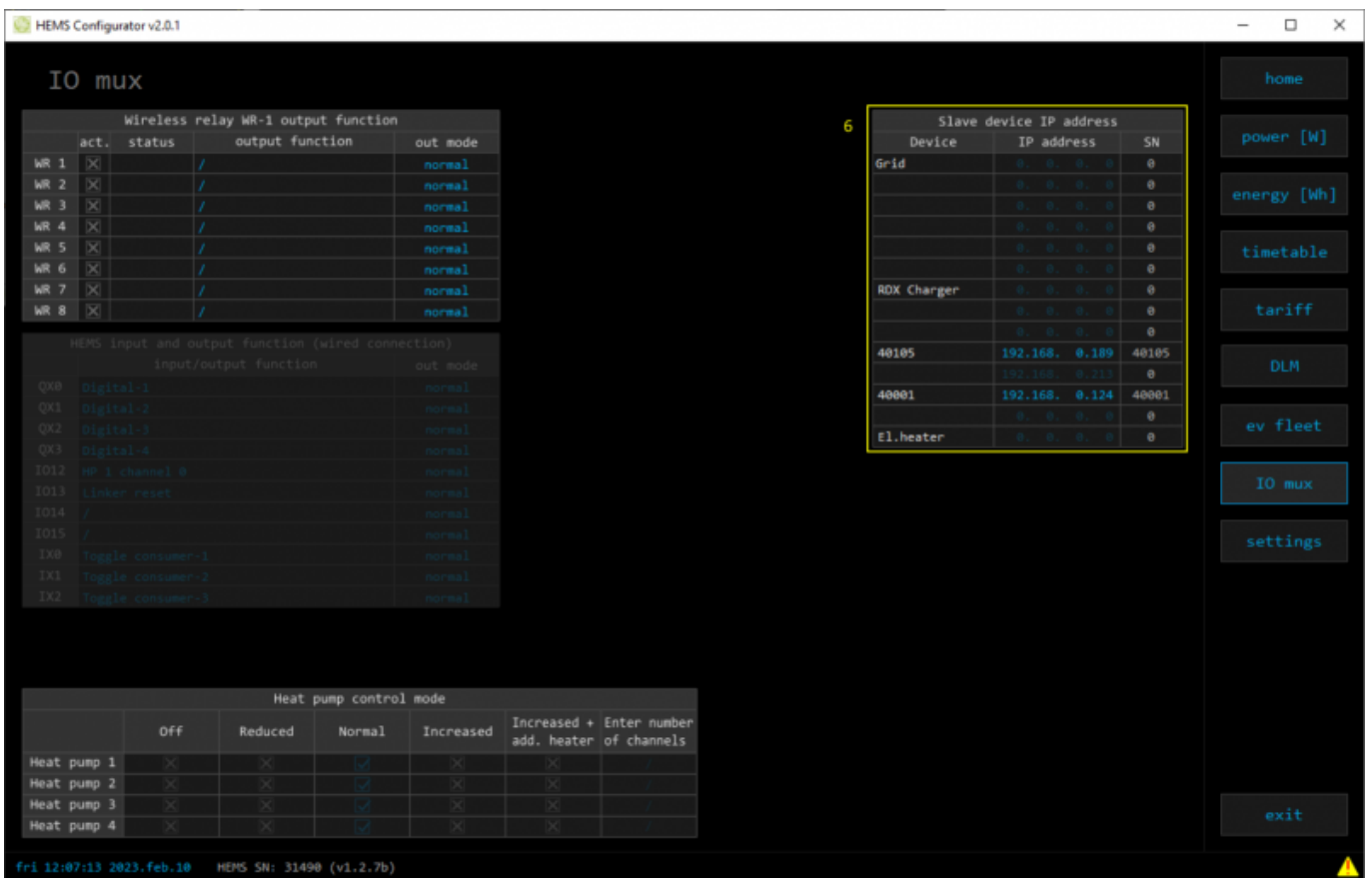
autosave parameters

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

Charger ID	Status	Power	EVSE max	Max current	Last session	Time	Energy	Slave SN	Control
1	Charging	391 W	16 A	16 A	145 h 24 min	26392 Wh	0	Master	7
2	On	0 W	0 A	0 A	0 h 00 min	0 Wh	0	0	
3	Off	0 W	0 A	0 A	0 h 00 min	0 Wh	0	0	
4	Charging	7650 W	11 A	32 A	143 h 48 min	312850 Wh	40105	Enabled (Green Tick)	8
5	Off	0 W	0 A	0 A	0 h 00 min	0 Wh	0	0	
6	EV not connected	0 W	0 A	20 A	6 h 32 min	40670 Wh	40001	Disabled (Red X)	9
7	On	1350 W	0 A	0 A	0 h 00 min	0 Wh	0	0	
8	Off	0 W	0 A	0 A	0 h 00 min	0 Wh	0	0	

Settings for all chargers:

- Priority charg.
- Locked
- Allow charging with ventilation
- Disable button
- Turn LED off after 3 minutes of inactivity
- Economy charging: Current: 6 A
- 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

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