

# 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.

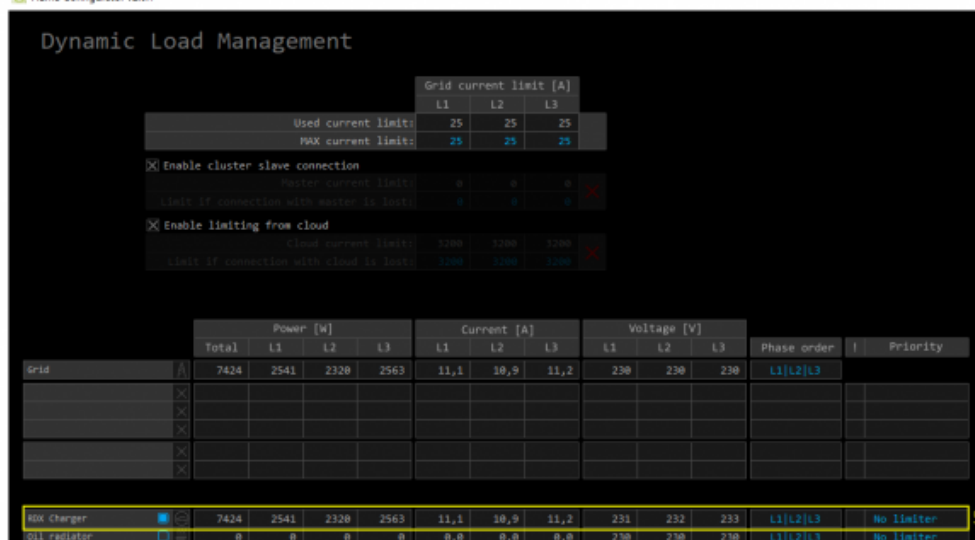
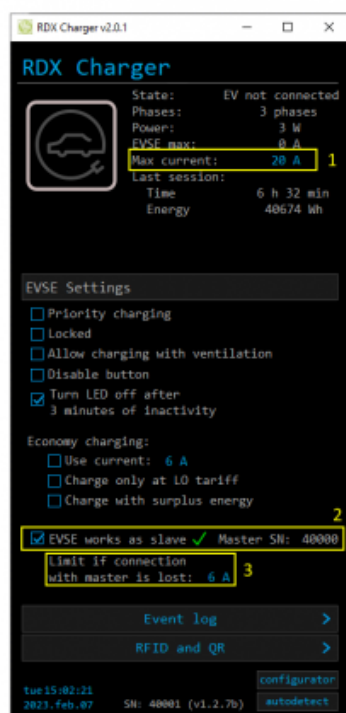
**Note:** If there is no grid power sensor, master charger enables limiting of complete ev fleet by virtual grid power sensor.



Only one RDX charger is master in ev fleet !

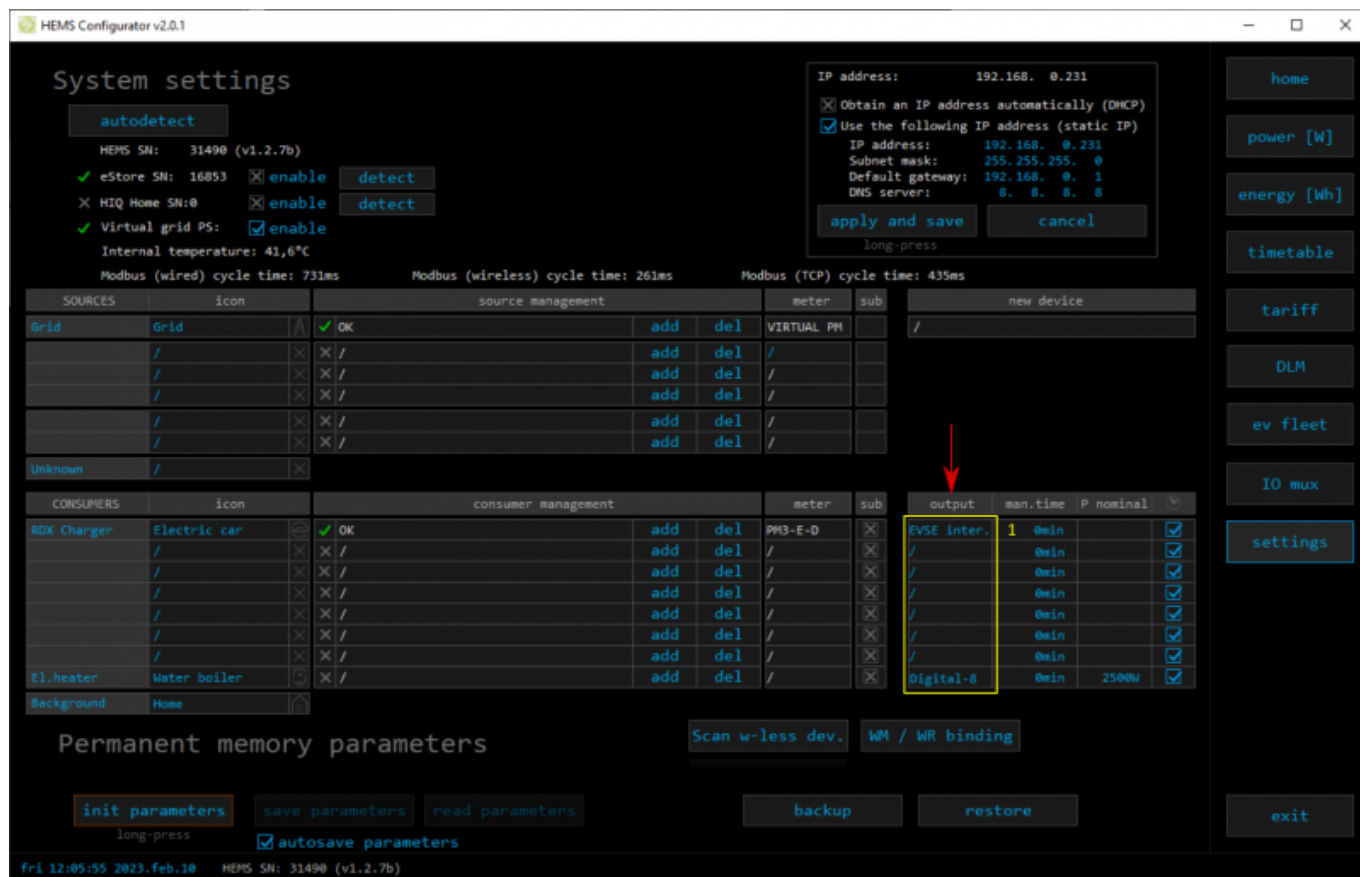
**Procedure to set RDX Charger as slave is as follows:**

- [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)

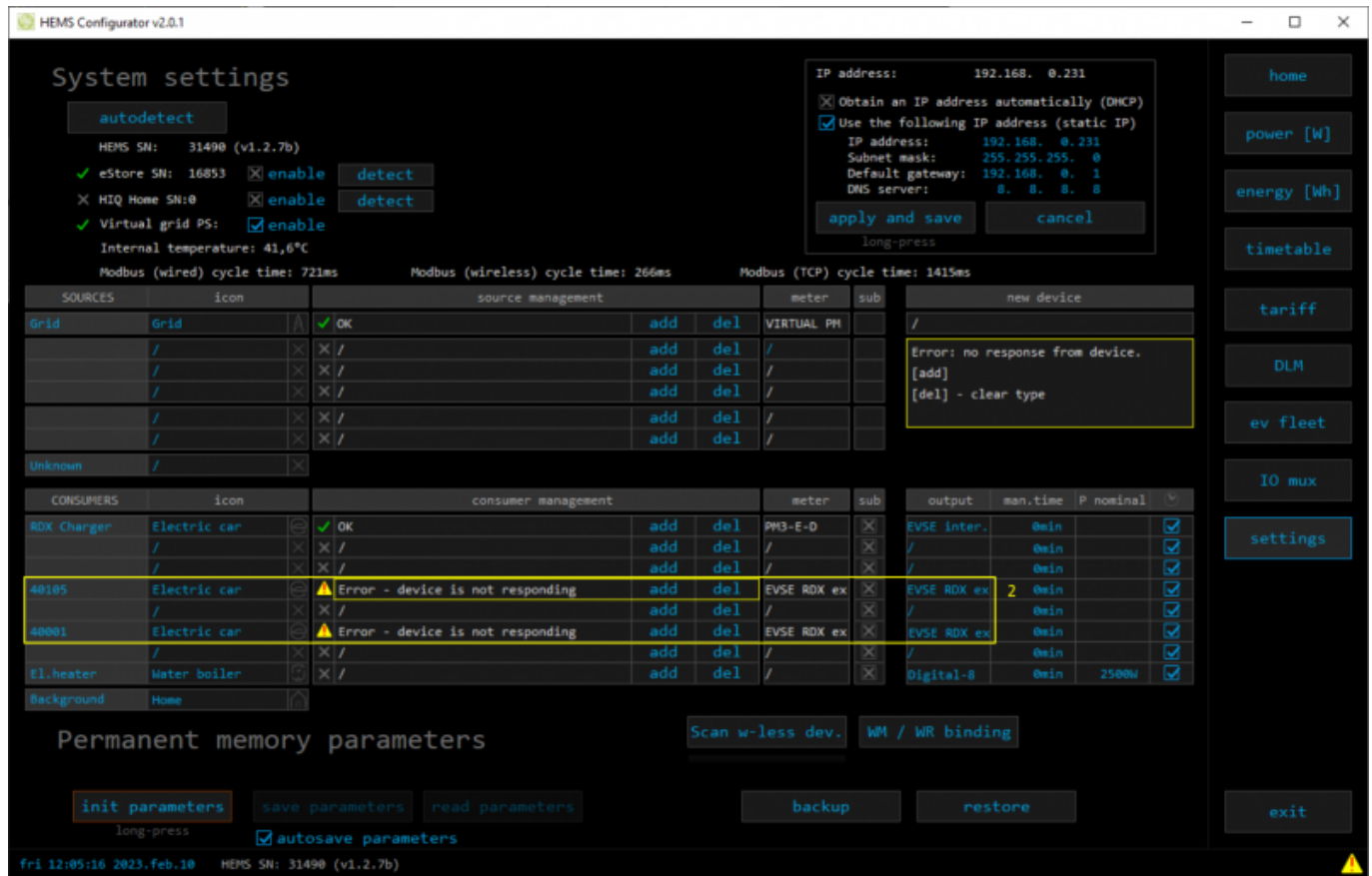


## Procedure to set RDX Charger as master is as follows:

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



- 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 v2.0.1

## Dynamic Load Management

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		Grid current limit [A]		
		L1	L2	L3
Used current limit:		20	20	20
MAX current limit:		20	20	20

☒ Enable cluster slave connection

		Master current limit:		
		L1	L2	L3
Limit if connection with master is lost:		0	0	0

☒ Enable limiting from cloud

		Cloud current limit:		
		L1	L2	L3
Limit if connection with cloud is lost:		3200	3200	3200

		Power [W]				Current [A]			Voltage [V]			Phase order	i	Priority
		Total	L1	L2	L3	L1	L2	L3	L1	L2	L3			
Grid	⚡	8739	3159	2780	2800	13,7	12,1	12,3	230	230	230	L1 L2 L3	4	
	⊗													
	⊗													
	⊗													
	⊗													
RDX Charger	🔌	389	389	0	0	1,7	0,0	0,0	228	0	0	L1 L2 L3		No limiter
	⊗													
	⊗													
40105	🔌	8350	2770	2780	2800	12,0	12,1	12,3	231	232	233	L1 L2 L3	▲	Limit first
	⊗													
40001	🔌	0	0	0	0	0,0	0,0	0,0	231	234	231	L1 L2 L3		No limiter
	⊗													
El.heater	🔌	0	0			0,0			230			L1		No limiter
	⊗													
Background	🏠	0	0	0	0	0,0	0,0	0,0						

GRID FREQUENCY [Hz] 0,00

Fri 12:30:48 2023.feb.10 HEMS SN: 31490 (v1.2.7b)

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- 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 v2.0.1

## IO mux

6

Wireless relay WR-1 output function			
	act.	status	output function
WR 1	⊗		/
WR 2	⊗		/
WR 3	⊗		/
WR 4	⊗		/
WR 5	⊗		/
WR 6	⊗		/
WR 7	⊗		/
WR 8	⊗		/

HEMS input and output function (wired connection)		
	input/output function	out mode
QX0	Digital-1	normal
QX1	Digital-2	normal
QX2	Digital-3	normal
QX3	Digital-4	normal
IO12	WR 1 channel 0	normal
IO13	Linker reset	normal
IO14	/	normal
IO15	/	normal
IX0	Toggle consumer-1	normal
IX1	Toggle consumer-2	normal
IX2	Toggle consumer-3	normal

Heat pump control mode						
	Off	Reduced	Normal	Increased	Increased + add. heater	Enter number of channels
Heat pump 1	⊗	⊗	✓	⊗	⊗	/
Heat pump 2	⊗	⊗	✓	⊗	⊗	/
Heat pump 3	⊗	⊗	✓	⊗	⊗	/
Heat pump 4	⊗	⊗	✓	⊗	⊗	/

Slave device IP address		
Device	IP address	SN
Grid	0. 0. 0. 0	0
	0. 0. 0. 0	0
	0. 0. 0. 0	0
	0. 0. 0. 0	0
	0. 0. 0. 0	0
RDX Charger	0. 0. 0. 0	0
	0. 0. 0. 0	0
40105	192.168. 0.189	40105
	192.168. 0.215	0
40001	192.168. 0.124	40001
	0. 0. 0. 0	0
El.heater	0. 0. 0. 0	0

Fri 12:07:13 2023.feb.10 HEMS SN: 31490 (v1.2.7b)

- 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 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”.

The screenshot displays the HEMS Configurator v2.0.1 interface. It features eight RDX Charger slots, each with a status icon, power/energy data, and settings. The settings include checkboxes for Priority charging, Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging, Current, Charge only at LO tariff, and Charge with surplus energy. The Master SN is 0. The Slave SN for slot 8 is 40105 (green tick), and for slot 9 is 40001 (red X). The 'EVSE works as slave' checkbox is checked for slot 8 and unchecked for slot 9. The sidebar on the right contains buttons for home, power [W], energy [Wh], timetable, tariff, DLM, ev fleet, IO mux, settings, and exit. The bottom status bar shows the date and time (Thu 15:26:39 2023, Feb. 09) and the HEMS SN (31490) with version (v1.2.7b).

Slot	Charger Type	Status	Power [W]	Energy [Wh]	Max current [A]	EVSE max [A]	Slave SN	EVSE works as slave
1	RDX Charger	Charging	391 W	26392 Wh	16 A	16 A	0	Master
2	RDX Charger	On	0 W	0 Wh	1 A	1 A	0	Slave
3	RDX Charger	Off	0 W	0 Wh	1 A	1 A	0	Slave
4	RDX Charger	Charging	7650 W	312850 Wh	32 A	32 A	40105	Enabled (Green Tick)
5	RDX Charger	Off	0 W	0 Wh	0 A	0 A	0	Slave
6	RDX Charger	EV not connected	0 W	40670 Wh	20 A	20 A	40001	Disabled (Red X)
7	RDX Charger	On	1350 W	0 Wh	1 A	1 A	0	Master
8	RDX Charger	Off	0 W	0 Wh	1 A	1 A	0	Slave
9	RDX Charger	Off	0 W	0 Wh	1 A	1 A	0	Slave