

# 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 RDC Charger.

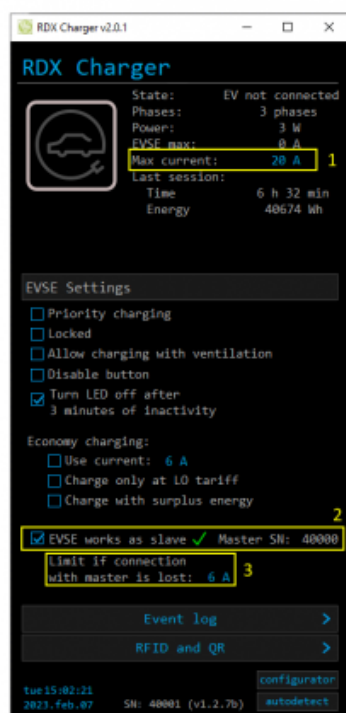
**Note:** If there is no grid power sensor, master charger enables limiting of complete ev fleet by virtual grid power sensor.



Only one RDC charger is master in ev fleet !

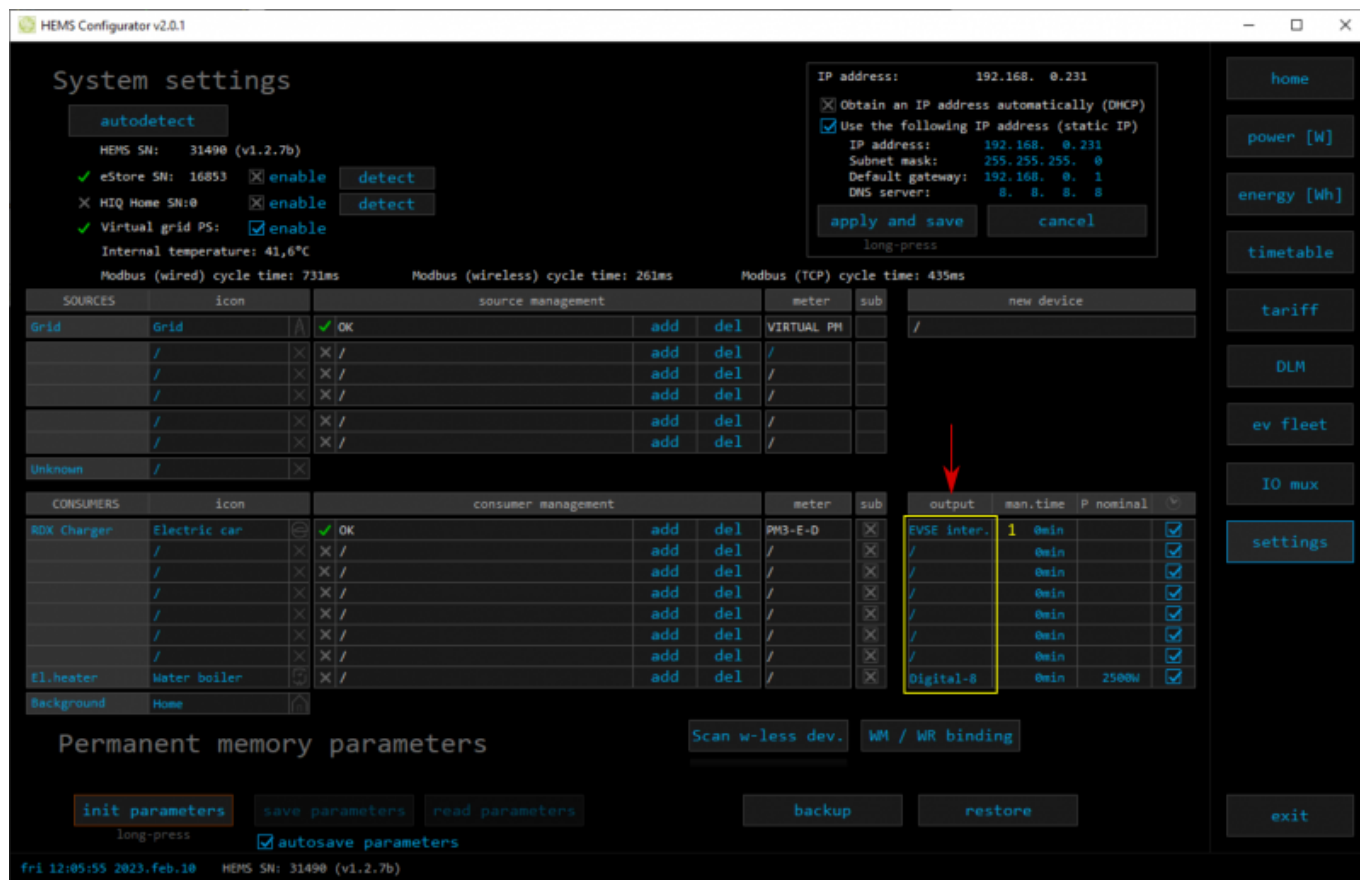
**Procedure to set RDC Charger as slave is as follows:**

- [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 RDC Charger (5)

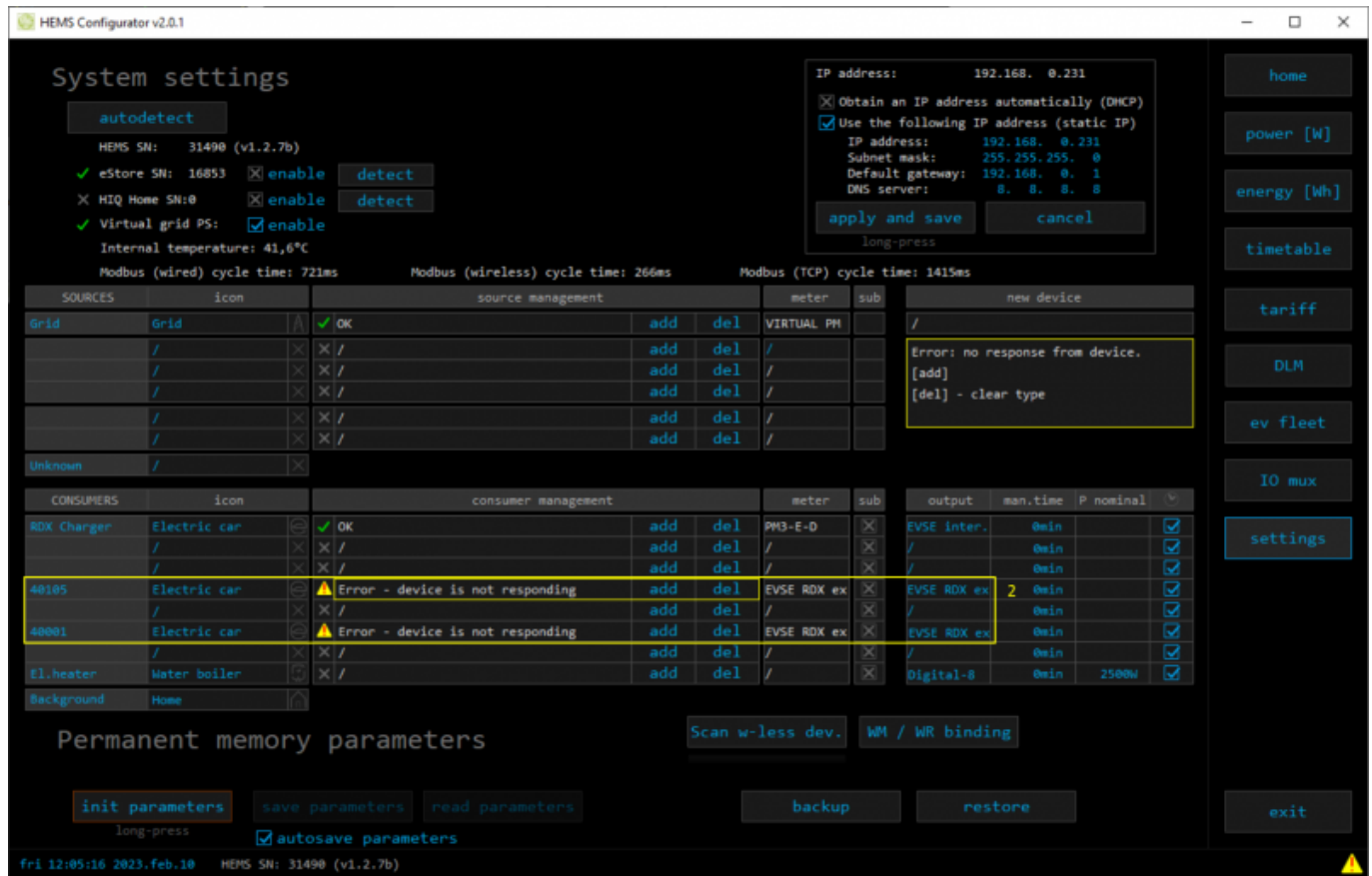


## Procedure to set RDC Charger as master is as follows:

- [HEMS Configurator](#) → settings → output column → select “EVSE RDC 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 RDC 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

3

		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	5
	⊗													
	⊗													
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)

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

- HEMS Configurator → IO mux → enter IP address of slave RDC 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)

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

- HEMS Configurator → ev fleet:

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

HEMS Configurator v2.0.1

Charger ID	Status	Power [W]	EVSE max [A]	Max current [A]	Last session Time	Last session Energy [Wh]	Settings	Master SN	Slave SN
7	Charging Phase LI	391 W	16 A	16 A	145 h 24 min	26392 Wh	Priority charge, Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging: Current: 6 A, Charge only at LO tariff, Charge with surplus energy	0	0
8	Charging 3 phases	7650 W	11 A	32 A	143 h 48 min	312850 Wh	Priority charge, Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging: Current: 8 A, Charge only at LO tariff, Charge with surplus energy	0	40105 ✓
9	EV not connected 3 phases	0 W	0 A	20 A	6 h 32 min	40670 Wh	Priority charge, Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging: Current: 6 A, Charge only at LO tariff, Charge with surplus energy	0	40001 ✗

Settings for each charger:

- Priority charge: ☐
- Locked: ☐
- Allow charging with ventilation: ☐
- Disable button: ☐
- Turn LED off after 3 minutes of inactivity: ☐
- Economy charging: ☐
- Current: 6 A
- Charge only at LO tariff: ☐
- Charge with surplus energy: ☐

Master SN: 0

Slave SN: 0 ✗

Slave SN: 0 ✗

Slave SN: 40105 ✓

Slave SN: 0 ✗

Slave SN: 40001 ✗

Slave SN: 0 ✗

Slave SN: 0 ✗

Event log: RFID\_QR

EVSE works as slave: ☐

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

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