

# 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.

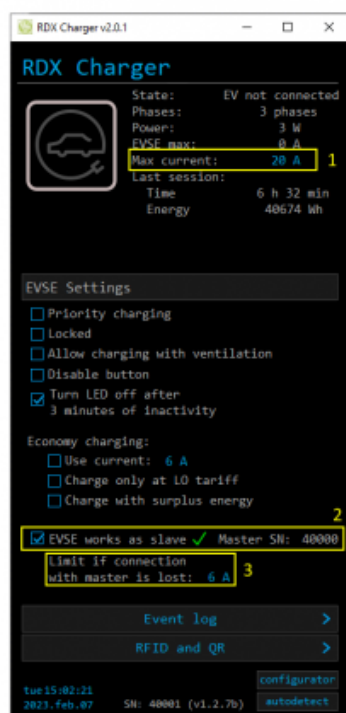
**Note:** If there is no grid power sensor, master charger enables limiting of complete ev fleet by virtual grid power sensor.



Only one RDX charger is master in ev fleet !

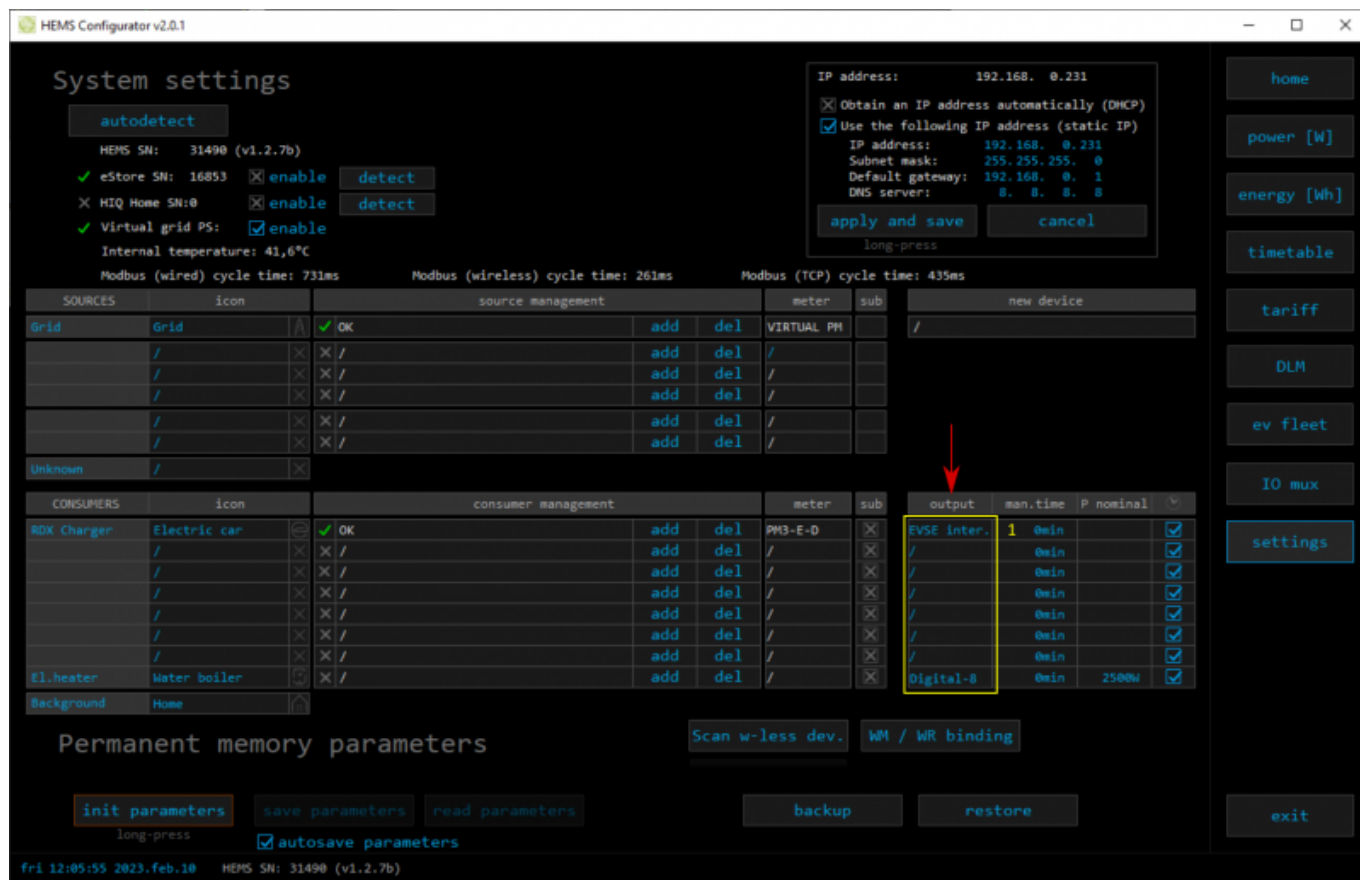
**Procedure to set RDX Charger as slave is as follows:**

- [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)

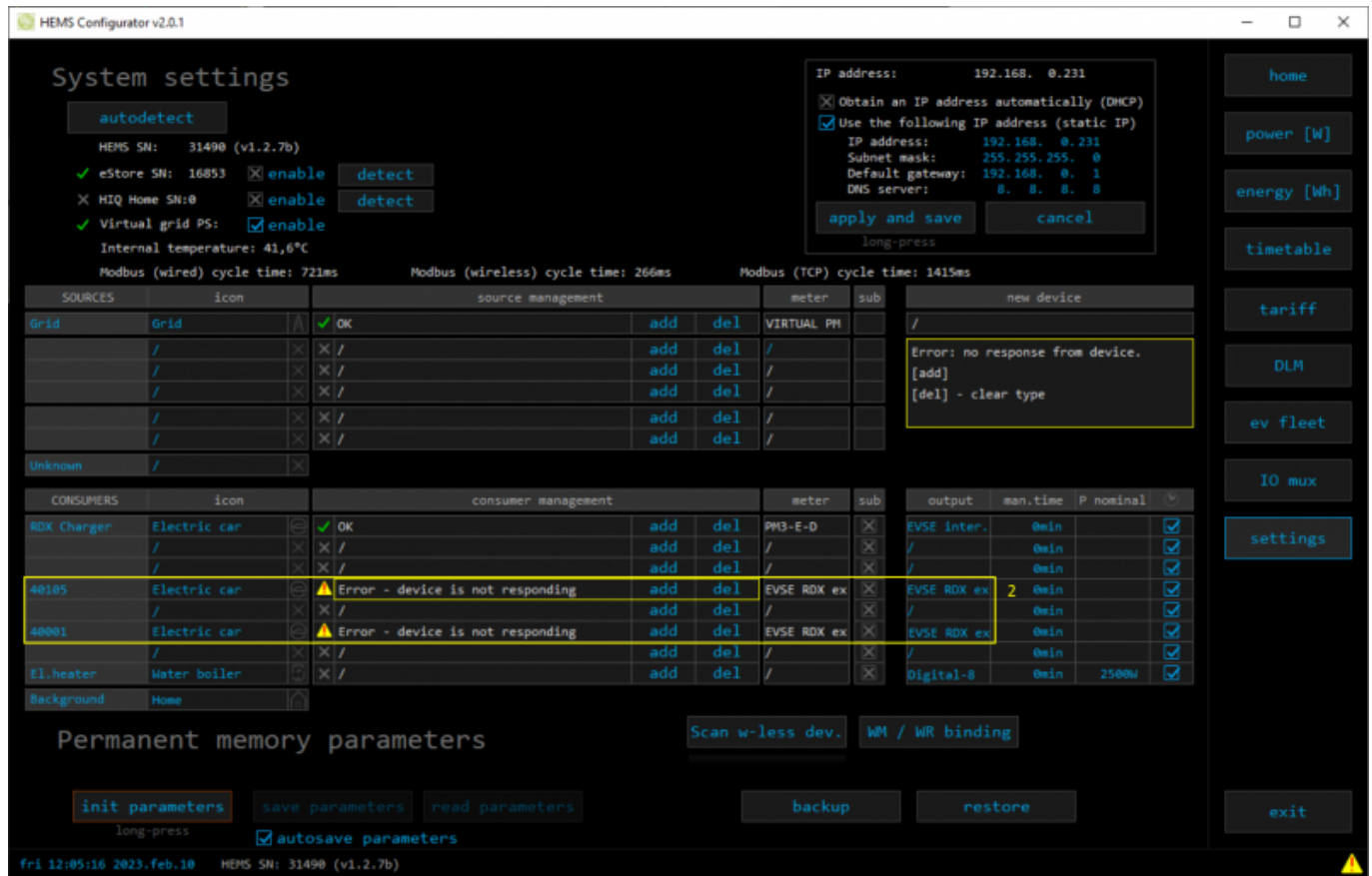


## Procedure to set RDX Charger as master is as follows:

- [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

	Total	Power [W]			Current [A]			Voltage [V]			Phase order	Priority
		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

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

- 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	<input checked="" type="checkbox"/>		/
WR 2	<input checked="" type="checkbox"/>		/
WR 3	<input checked="" type="checkbox"/>		/
WR 4	<input checked="" type="checkbox"/>		/
WR 5	<input checked="" type="checkbox"/>		/
WR 6	<input checked="" type="checkbox"/>		/
WR 7	<input checked="" type="checkbox"/>		/
WR 8	<input checked="" type="checkbox"/>		/

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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	/
Heat pump 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	/
Heat pump 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	/
Heat pump 4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	/

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 with eight RDX Charger slots. The interface is divided into several sections: a top status bar, a main configuration area for each charger, and a right-hand sidebar with navigation buttons.

**Charger Status and Settings:**

Charger ID	Status	Power [W]	EVSE max [A]	Max current [A]	Last session Time	Last session Energy [Wh]	Settings
40105	Charging	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
40106	On	0 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge, Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging: Current: 0 A, Charge only at LO tariff, Charge with surplus energy
40107	Off	0 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge, Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging: Current: 0 A, Charge only at LO tariff, Charge with surplus energy
40108	Charging	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
40109	Off	0 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge, Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging: Current: 0 A, Charge only at LO tariff, Charge with surplus energy
40001	EV not connected	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
40002	On	1350 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge, Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging: Current: 0 A, Charge only at LO tariff, Charge with surplus energy
40003	Off	0 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge, Locked, Allow charging with ventilation, Disable button, Turn LED off after 3 minutes of inactivity, Economy charging: Current: 0 A, Charge only at LO tariff, Charge with surplus energy

**Master-Slave Configuration:**

Master SN	Slave SN	Control Status
0	0	✗
0	0	✗
0	0	✗
0	40105	✓
0	0	✗
0	40001	✗
0	0	✗
0	0	✗

**Event log:** RFID\_QR

**EVSE works as slave:** ☒ 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)