

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.

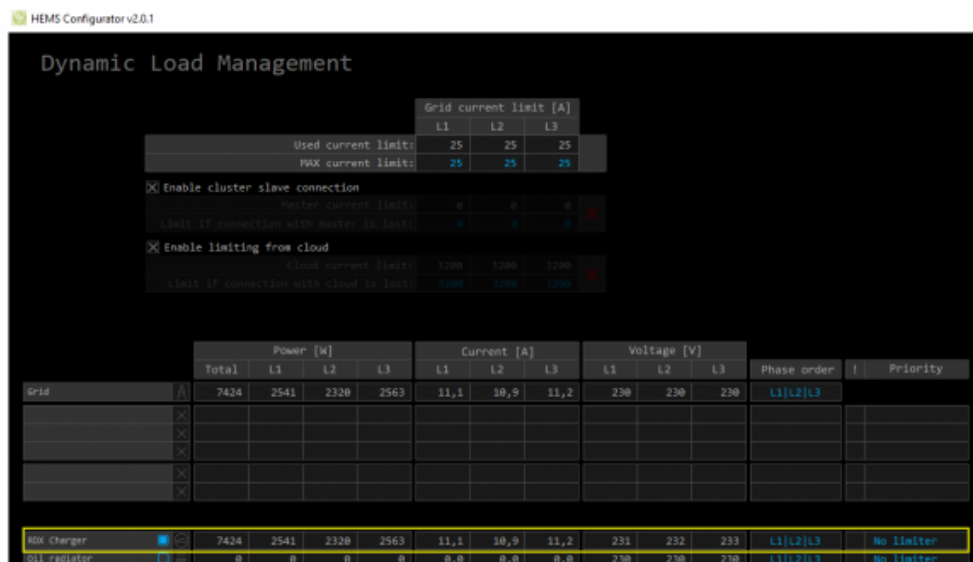
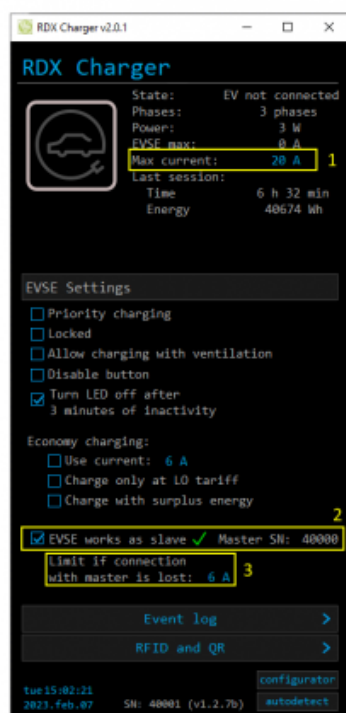
Note: If there is no grid power sensor, master charger enables limiting of complete ev fleet by virtual grid power sensor.



Only one RDX charger is master in ev fleet !

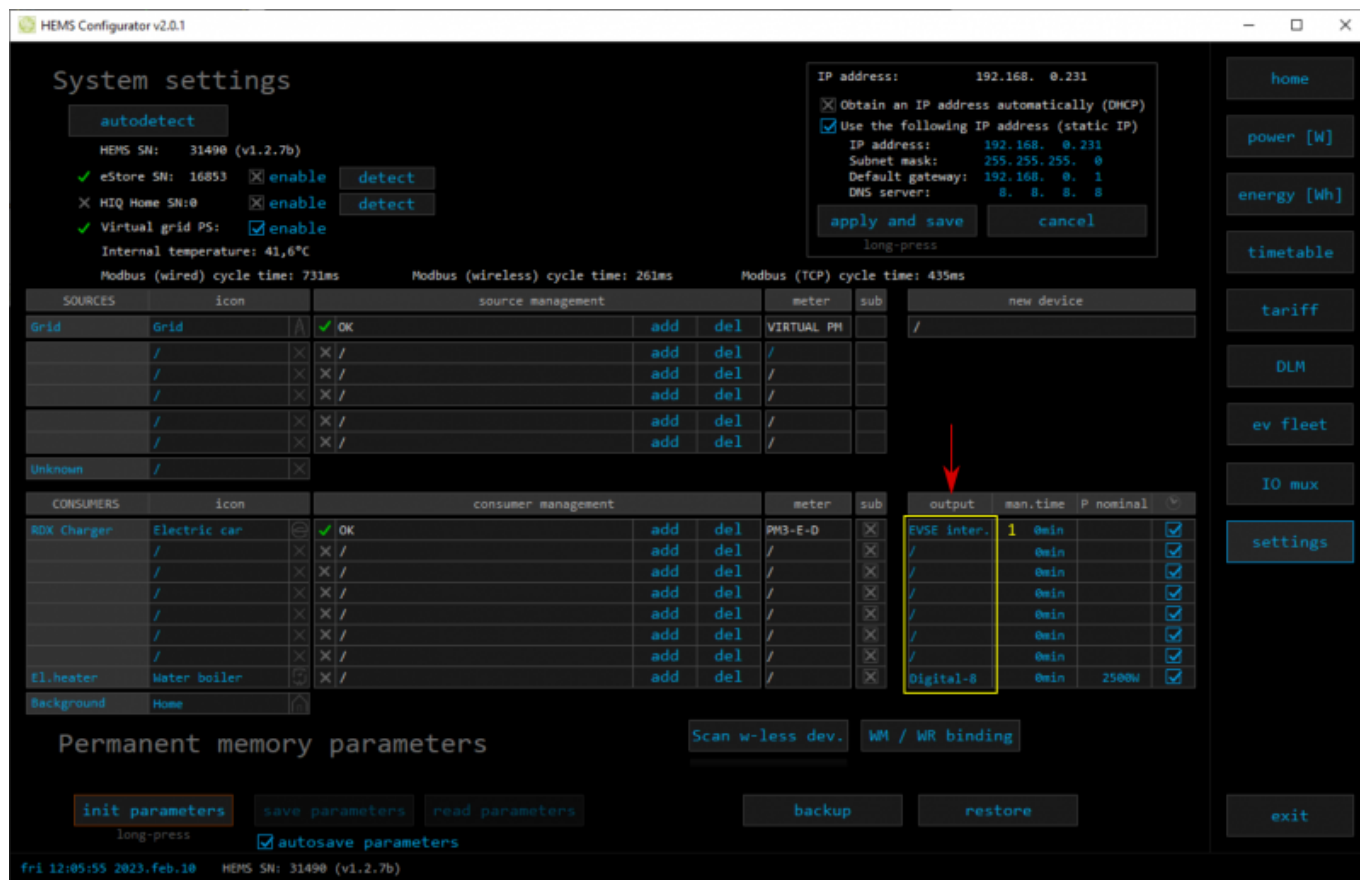
Procedure to set RDX Charger as slave is as follows:

- [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)

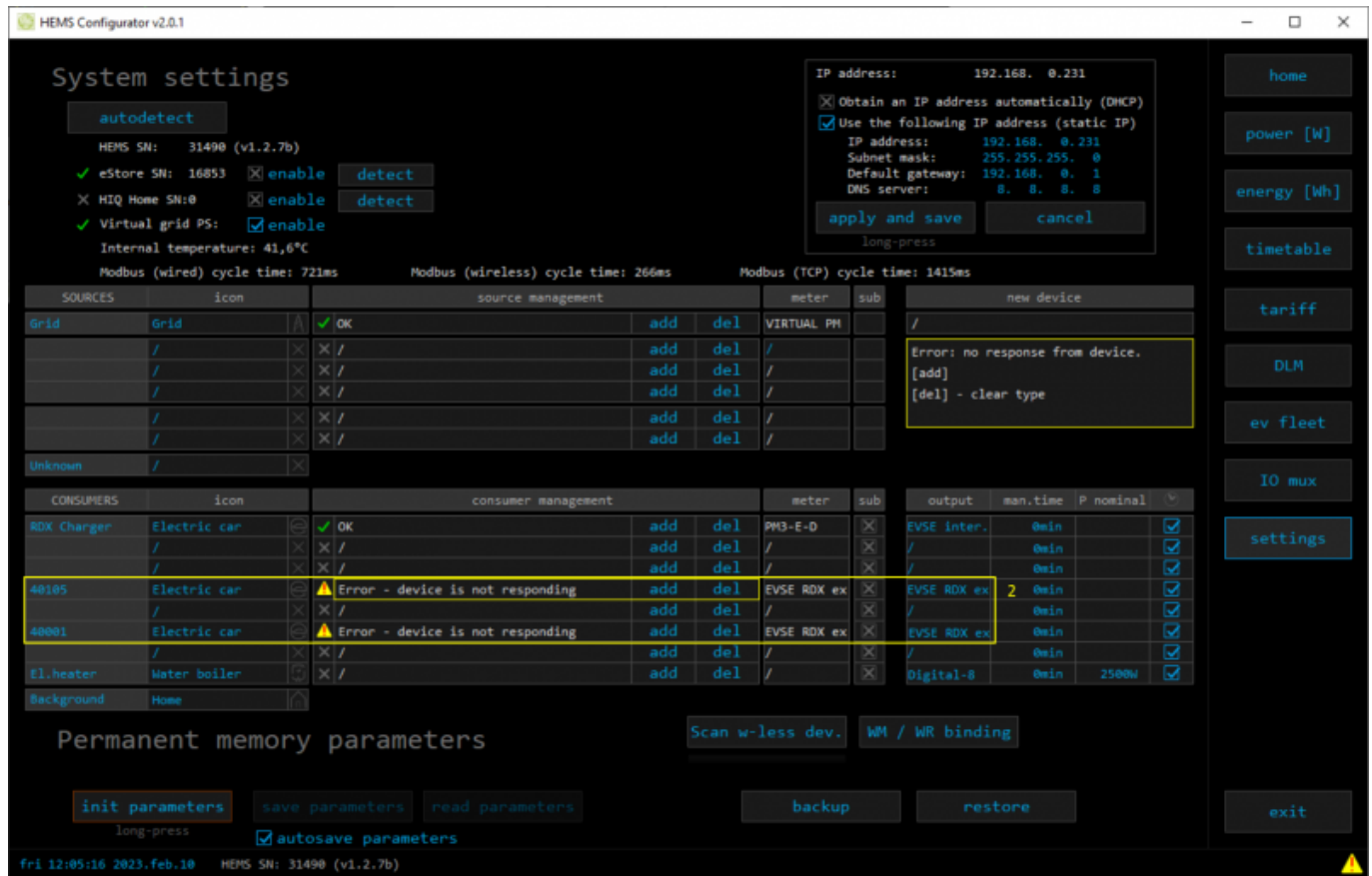


Procedure to set RDX Charger as master is as follows:

- [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

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

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☒ 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

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		Power [W]				Current [A]			Voltage [V]			Phase order	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	
	⊗												
	⊗												
	⊗												
	⊗												
ROX 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					

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GRID FREQUENCY [Hz] 0,00

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

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	⊗		/

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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
ROX 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

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
Heat pump 1	⊗	⊗	✓	⊗	⊗
Heat pump 2	⊗	⊗	✓	⊗	⊗
Heat pump 3	⊗	⊗	✓	⊗	⊗
Heat pump 4	⊗	⊗	✓	⊗	⊗

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”.

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
40105	Charging	391 W	16 A	16 A	145 h 24 min	26392 Wh	Priority charge: <input type="checkbox"/> Locked: <input type="checkbox"/> Allow charging with ventilation: <input type="checkbox"/> Disable button: <input type="checkbox"/> Turn LED off after 3 minutes of inactivity: <input type="checkbox"/> Economy charging: <input type="checkbox"/> Current: 6 A Charge only at LO tariff: <input type="checkbox"/> Charge with surplus energy: <input type="checkbox"/>	0	0
40106	On	0 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge: <input type="checkbox"/> Locked: <input type="checkbox"/> Allow charging with ventilation: <input type="checkbox"/> Disable button: <input type="checkbox"/> Turn LED off after 3 minutes of inactivity: <input type="checkbox"/> Economy charging: <input type="checkbox"/> Current: 0 A Charge only at LO tariff: <input type="checkbox"/> Charge with surplus energy: <input type="checkbox"/>	0	0
40107	Off	0 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge: <input type="checkbox"/> Locked: <input type="checkbox"/> Allow charging with ventilation: <input type="checkbox"/> Disable button: <input type="checkbox"/> Turn LED off after 3 minutes of inactivity: <input type="checkbox"/> Economy charging: <input type="checkbox"/> Current: 0 A Charge only at LO tariff: <input type="checkbox"/> Charge with surplus energy: <input type="checkbox"/>	0	0
40108	Charging	7650 W	11 A	32 A	143 h 48 min	312850 Wh	Priority charge: <input type="checkbox"/> Locked: <input type="checkbox"/> Allow charging with ventilation: <input type="checkbox"/> Disable button: <input type="checkbox"/> Turn LED off after 3 minutes of inactivity: <input checked="" type="checkbox"/> Economy charging: <input type="checkbox"/> Current: 8 A Charge only at LO tariff: <input type="checkbox"/> Charge with surplus energy: <input type="checkbox"/>	0	40105 ✓
40109	Off	0 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge: <input type="checkbox"/> Locked: <input type="checkbox"/> Allow charging with ventilation: <input type="checkbox"/> Disable button: <input type="checkbox"/> Turn LED off after 3 minutes of inactivity: <input type="checkbox"/> Economy charging: <input type="checkbox"/> Current: 0 A Charge only at LO tariff: <input type="checkbox"/> Charge with surplus energy: <input type="checkbox"/>	0	0
40001	EV not connected	0 W	0 A	20 A	6 h 32 min	40670 Wh	Priority charge: <input type="checkbox"/> Locked: <input type="checkbox"/> Allow charging with ventilation: <input type="checkbox"/> Disable button: <input type="checkbox"/> Turn LED off after 3 minutes of inactivity: <input checked="" type="checkbox"/> Economy charging: <input type="checkbox"/> Current: 6 A Charge only at LO tariff: <input type="checkbox"/> Charge with surplus energy: <input type="checkbox"/>	0	40001 ✗
40002	On	1350 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge: <input type="checkbox"/> Locked: <input type="checkbox"/> Allow charging with ventilation: <input type="checkbox"/> Disable button: <input type="checkbox"/> Turn LED off after 3 minutes of inactivity: <input type="checkbox"/> Economy charging: <input type="checkbox"/> Current: 0 A Charge only at LO tariff: <input type="checkbox"/> Charge with surplus energy: <input type="checkbox"/>	0	0
40003	Off	0 W	0 A	0 A	0 h 00 min	0 Wh	Priority charge: <input type="checkbox"/> Locked: <input type="checkbox"/> Allow charging with ventilation: <input type="checkbox"/> Disable button: <input type="checkbox"/> Turn LED off after 3 minutes of inactivity: <input type="checkbox"/> Economy charging: <input type="checkbox"/> Current: 0 A Charge only at LO tariff: <input type="checkbox"/> Charge with surplus energy: <input type="checkbox"/>	0	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

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