

# Dynamic Load Management

RDC Charger supports power consumption (current draw) control to prevent circuit breaker tripping (overloading).

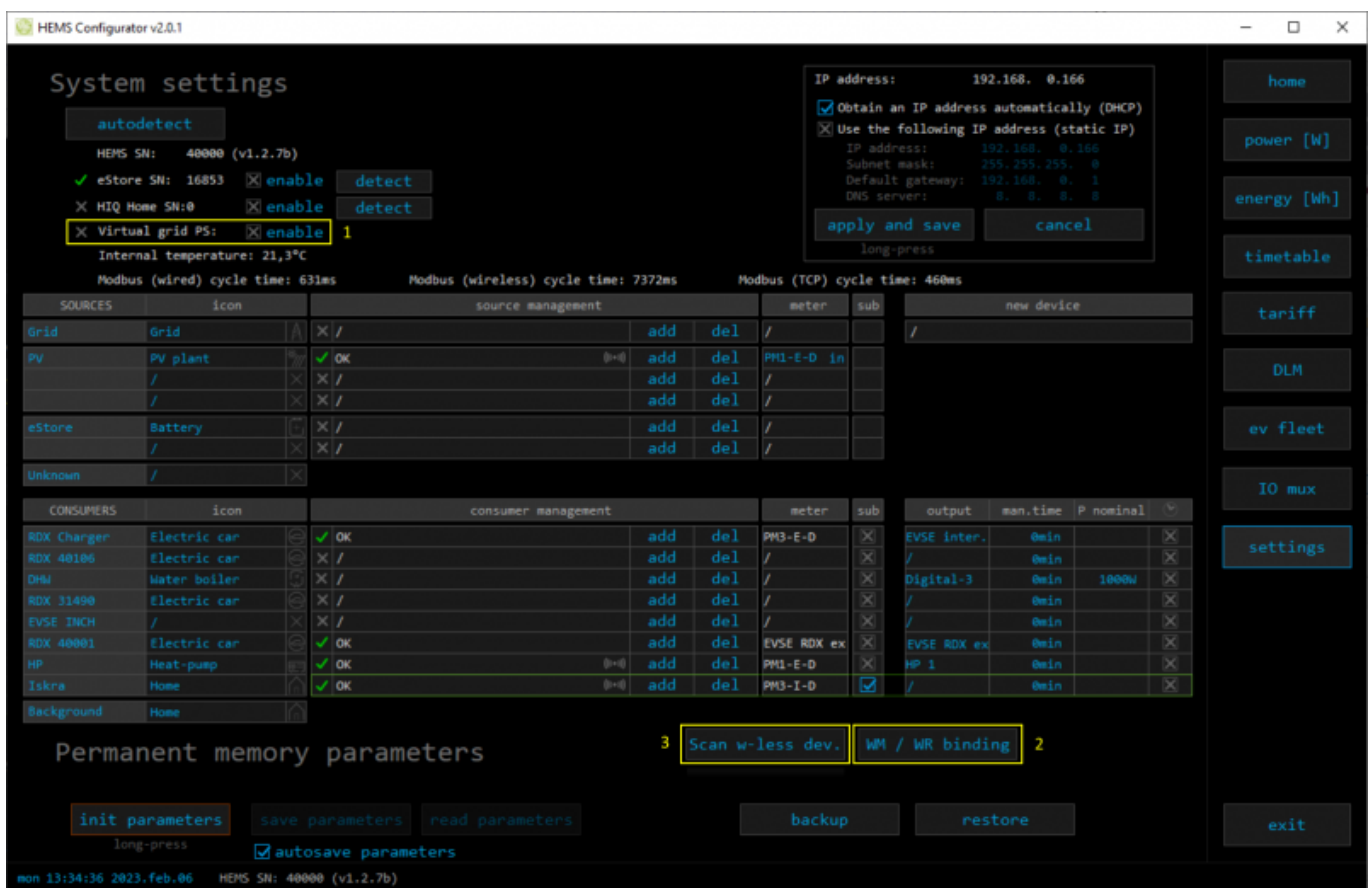
Overloading causes multiple high-energy appliances working at the same time, such as an oven, dishwasher, heat pump and EV charging.

RDC Charger monitors a current draw by appliances and in real time allocates (limits) available capacity allowing them to run without overloading.

**NOTE:** Power sensor must be mounted so that it can measure power & current on grid (power supply for home/facility).

Procedure to activate Dynamic Load Management is as follows:

- [HEMS Configurator](#) → settings → Virtual grid PS must be disabled (1)
- Wire [PM1-E-D](#) or [PM3-E-D](#) to [WM-1](#) module (use default address 149 or manually set address to 150)
- [HEMS Configurator](#) → settings → select WM/WR pairing button and follow [WM/WR pairing instructions](#) (2) (3)



The screenshot shows the HEMS Configurator v2.0.1 interface. The 'System settings' section has 'Virtual grid PS' set to 'enable' (1). A modal window for IP address configuration is open, showing 'Obtain an IP address automatically (DHCP)' selected. The 'Permanent memory parameters' section shows 'Scan wireless dev.' (3) and 'WM / WR binding' (2) highlighted. The 'SOURCES' table lists Grid, PV, eStore, and Unknown. The 'CONSUMERS' table lists various devices like RDX Charger, RDX 40106, DHM, RDX 31490, EVSE INCH, RDX 40001, HP, and Iskra. The 'Background' is set to 'Home'.

SOURCES	icon	source management	meter	sub	new device
Grid	Grid	X /	add	del	/
PV	PV plant	OK	add	del	PM1-E-D in
/	/	X /	add	del	/
/	/	X /	add	del	/
eStore	Battery	X /	add	del	/
/	/	X /	add	del	/
Unknown	/	X	add	del	/

CONSUMERS	icon	consumer management	meter	sub	output	man.time	P nominal
RDX Charger	Electric car	OK	PM3-E-D	X	EVSE inter.	0min	X
RDX 40106	Electric car	X /	/	X	/	0min	X
DHM	Water boiler	X /	/	X	Digital-3	0min	1000w X
RDX 31490	Electric car	X /	/	X	/	0min	X
EVSE INCH	/	X /	/	X	/	0min	X
RDX 40001	Electric car	OK	EVSE RDX ex	X	EVSE RDX ex	0min	X
HP	Heat-pump	OK	PM1-E-D	X	HP 1	0min	X
Iskra	Home	OK	PM3-I-D	X	/	0min	X

- Power sensor is detected. Add it to grid position (4)

System settings

autodetect

HEMS SN: 40000 (v1.2.7b)

✓ eStore SN: 16853  enable detect

✗ HIQ Home SN:0  enable detect

✗ Virtual grid PS:  enable

Internal temperature: 21,3°C

Modbus (wired) cycle time: 639ms Modbus (wireless) cycle time: 8096ms Modbus (TCP) cycle time: 465ms

SOURCES	icon	source management	meter	sub	new device
Grid	Grid	add del	PM3-E-D	/	PM3-E-D detected
PV	PV plant	add del	PM1-E-D	In	New PM3-E-D detected. [add] - associate [del]
eStore	Battery	add del	/	/	
Unknown	/	add del	/	/	

CONSUMERS	icon	consumer management	meter	sub	output	man.time	P nominal
RDX Charger	Electric car	add del	PM3-E-D	✗	EVSE inter.	0min	✗
RDX 40106	Electric car	add del	/	/	/	0min	✗
DHW	Water boiler	add del	/	✗	Digital-3	0min	1000W ✗
RDX 31490	Electric car	add del	/	✗	/	0min	✗
EVSE INCH	/	add del	/	✗	/	0min	✗
RDX 40001	Electric car	add del	EVSE RDX ex	✗	EVSE RDX ex	0min	✗
HP	Heat-pump	add del	PM1-E-D	✗	HP 1	0min	✗
Iskra	Home	add del	PM3-I-D	✓	/	0min	✗
Background	Home						

Permanent memory parameters

init parameters save parameters read parameters

autosave parameters

backup restore

exit

mon 13:35:01 2023,feb,06 HEMS SN: 40000 (v1.2.7b)

- Power sensor configured successfully (5)

System settings

autodetect

HEMS SN: 40000 (v1.2.7b)

✓ eStore SN: 16853  enable detect

✗ HIQ Home SN:0  enable detect

✗ Virtual grid PS:  enable

Internal temperature: 30,0°C

Modbus (wired) cycle time: 626ms Modbus (wireless) cycle time: 7114ms Modbus (TCP) cycle time: 452ms

SOURCES	icon	source management	meter	sub	new device
Grid	Grid	add del	PM3-E-D	5	/
PV	PV plant	add del	PM1-E-D	In	
eStore	Battery	add del	/	/	
Unknown	/	add del	/	/	

CONSUMERS	icon	consumer management	meter	sub	output	man.time	P nominal
RDX Charger	Electric car	add del	PM3-E-D	✗	EVSE inter.	0min	✗
RDX 40106	Electric car	add del	/	/	/	0min	✗
DHW	Water boiler	add del	/	✗	Digital-3	0min	1000W ✗
RDX 31490	Electric car	add del	/	✗	/	0min	✗
EVSE INCH	/	add del	/	✗	/	0min	✗
RDX 40001	Electric car	add del	EVSE RDX ex	✗	EVSE RDX ex	0min	✗
HP	Heat-pump	add del	PM1-E-D	✗	HP 1	0min	✗
Iskra	Home	add del	PM3-I-D	✓	/	0min	✗
Background	Home						

Permanent memory parameters

init parameters save parameters read parameters

autosave parameters

backup restore

exit

Fri 14:32:21 2023,feb,03 HEMS SN: 40000 (v1.2.7b)

- HEMS Configurator → DLM, enter allowed current value of grid fuses (6)
- make sure to configure correct phase order (7), otherwise dynamic load management may not

work properly

- select limiter priority for RDC Charger (8): no limiter, limit last (last to be limited), limit second, limit first (first to be limited)

**Dynamic Load Management**

		Grid current limit [A]		
		L1	L2	L3
Used current limit:		25	25	25
MAX current limit:		25	25	25

6

Enable cluster slave connection

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

Enable limiting from cloud

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

		Power [W]				Current [A]			Voltage [V]			Phase order	Priority
		Total	L1	L2	L3	L1	L2	L3	L1	L2	L3		
Grid	⚡	13920	4620	4640	4660	20,0	20,0	20,3	230	230	230	L1 L2 L3	7
	<input checked="" type="checkbox"/>												
	<input checked="" type="checkbox"/>												
	<input checked="" type="checkbox"/>												
	<input checked="" type="checkbox"/>												
RDC charger	<input checked="" type="checkbox"/>	13920	4620	4640	4660	20,0	20,0	20,3	231	232	233	L1 L2 L3	▲ Limit first 8
Oil radiator	<input type="checkbox"/>	0	0	0	0	0,0	0,0	0,0	230	230	230	L1 L2 L3	▲ Limit last
Chiller	<input type="checkbox"/>	0	0	0	0	0,0	0,0	0,0	0	0	0	L1 L2 L3	No limiter
	<input checked="" type="checkbox"/>	0	0	0	0	0,0	0,0	0,0	229	0	0	L1 L2 L3	No limiter
	<input checked="" type="checkbox"/>												
	<input checked="" type="checkbox"/>												
Background	⬆	0	0	0	0	0,0	0,0	0,0					

GRID FREQUENCY [Hz] 0,00

mon 15:30:00 2023.feb.06 HEMS SN: 40105 (v1.2.7b)