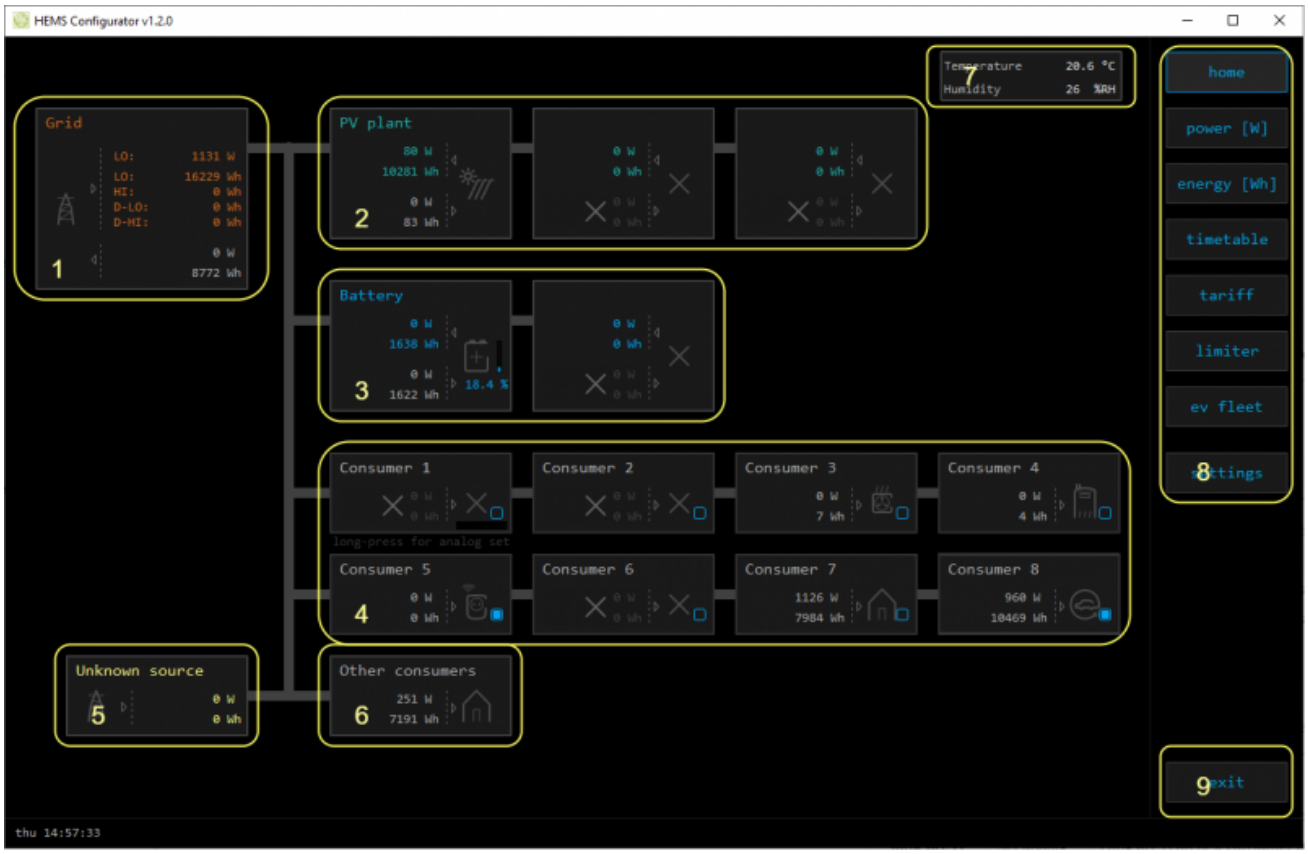
HEMS v1.2.2 Configurator

HEMS Configurator

home

Basic system overview.



1. Grid		
›	From grid	Tariff (LO, HI, D-LO, D-HI) and power from grid in W
		Imported energy by tariff in Wh
‹	To grid	Power exported to grid in W
		Exported energy in Wh
2. Plants		
‹	Produced	Produced power in W and energy in Wh
›	Consumed	Consumed power in W and energy in Wh
3. Storage systems		
‹	Sourced	Power in W and energy in Wh sourced from storage (battery)
›	Stored	Power in W and energy in Wh stored (to battery)
bargraph and %[1]	SOC	Battery State Of Charge
4. Consumers		
›	Consumed	Consumed power in W and energy in Wh

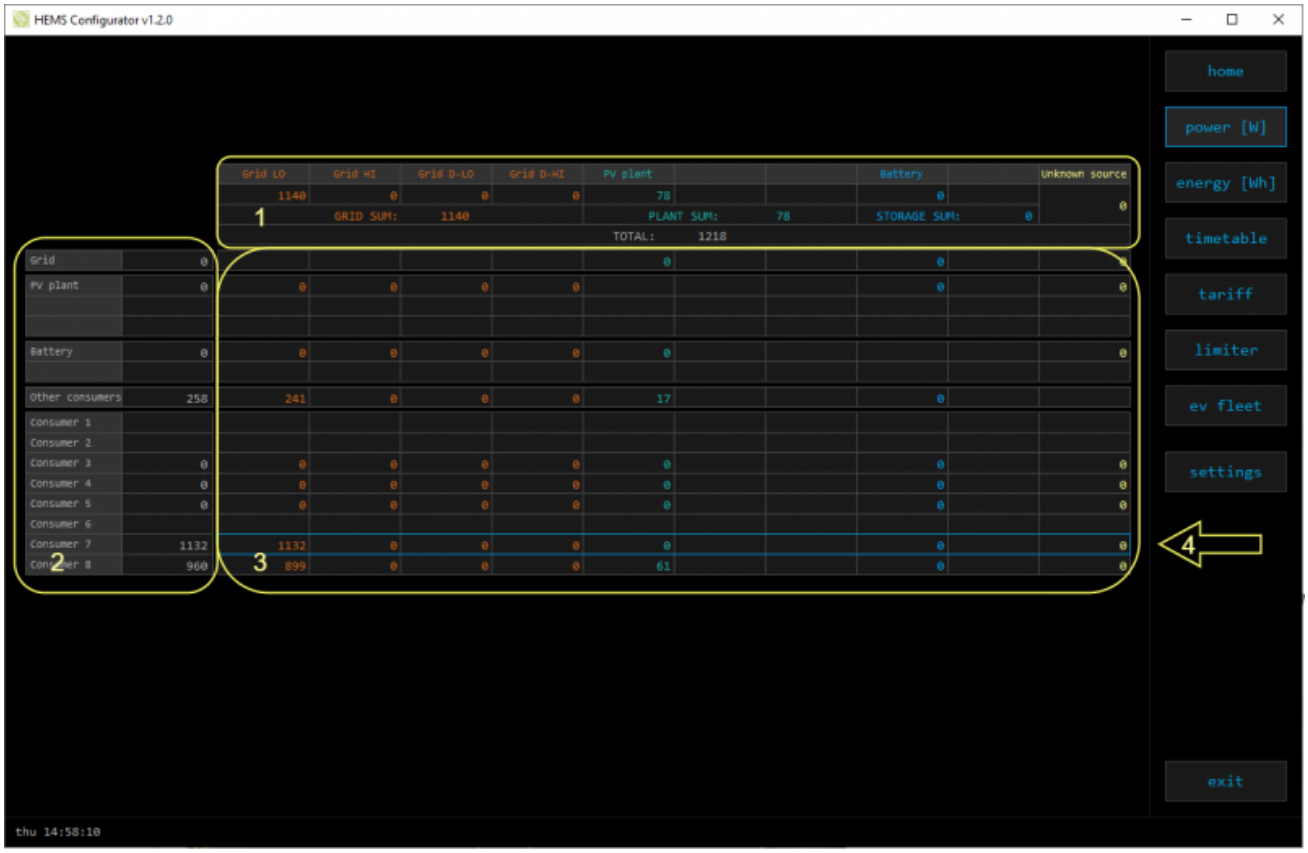
[]	Status	Output status for managed consumers
bargraph[2]	Analog out	Analog output value
click	Toggle	Click in frame toggles managed consumers output
long-press[2]	Set analog	Long press on first consumer pops-up dialog for analog value set
5. Unknown source		
›	Sourced	Power in W and energy in Wh from unknown source
 Accumulate also all differences caused by power-sensor inaccuracy		
6. Other consumers		
›	Consumed	Consumed power in W and energy in Wh by other (not measured) consumers
7. Temperature and humidity		
	Temperature	Temperature in ºC
	Humidity	Humidity in % RH
8. Page navigation		
	Home	Home screen
	Power [W]	Power screen
	Energy [Wh]	Energy screen
	Timetable	Timetable screen
	Tariff	Tariff screen
	Limiter	Limiterscreen
	EV fleet	EV fleet screen
	IO mux	IO mux screen
	Settings	Settings screen
9. Exit		
	Exit	Close appliction

[1] only for eStore

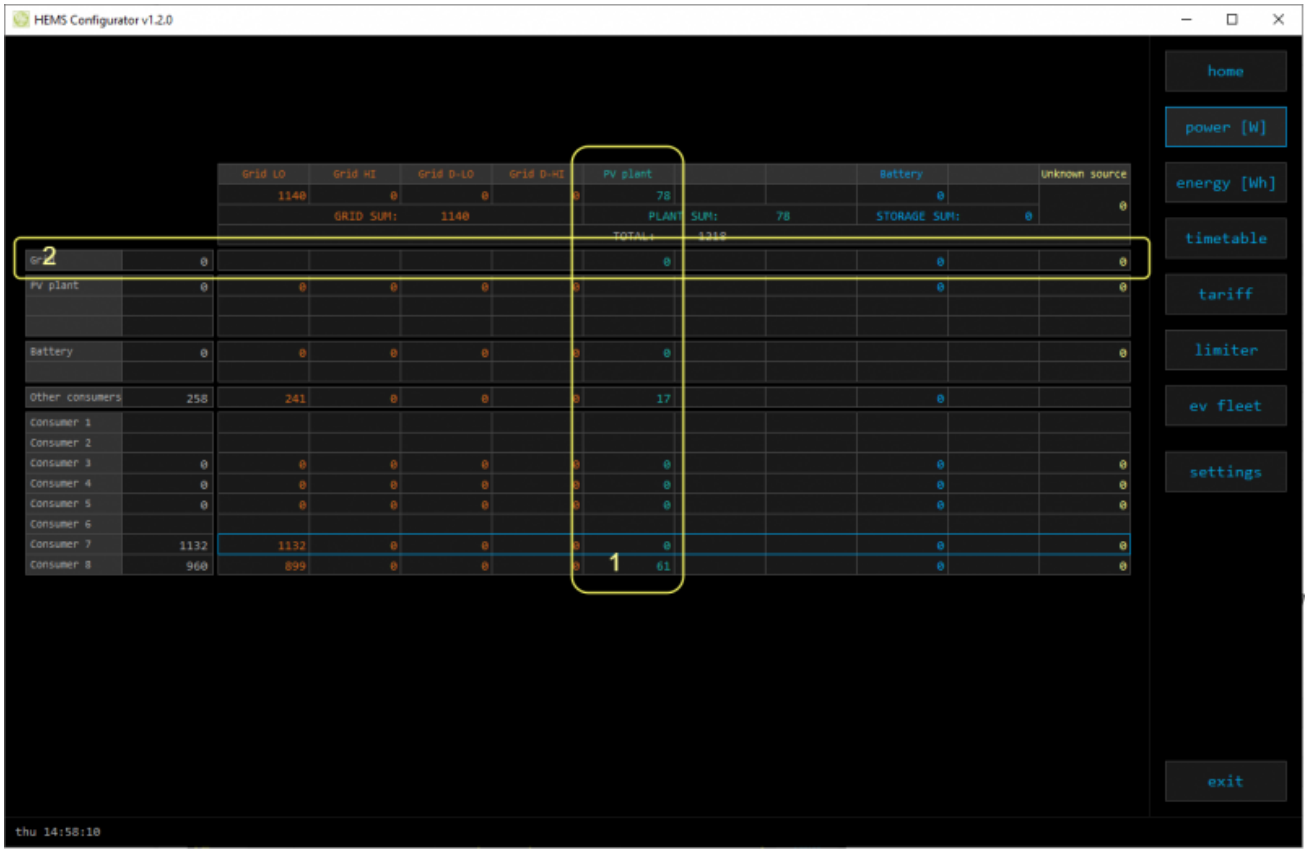
[2] only for first managed consumer

power

Overview of current power distribution by source / consumer.



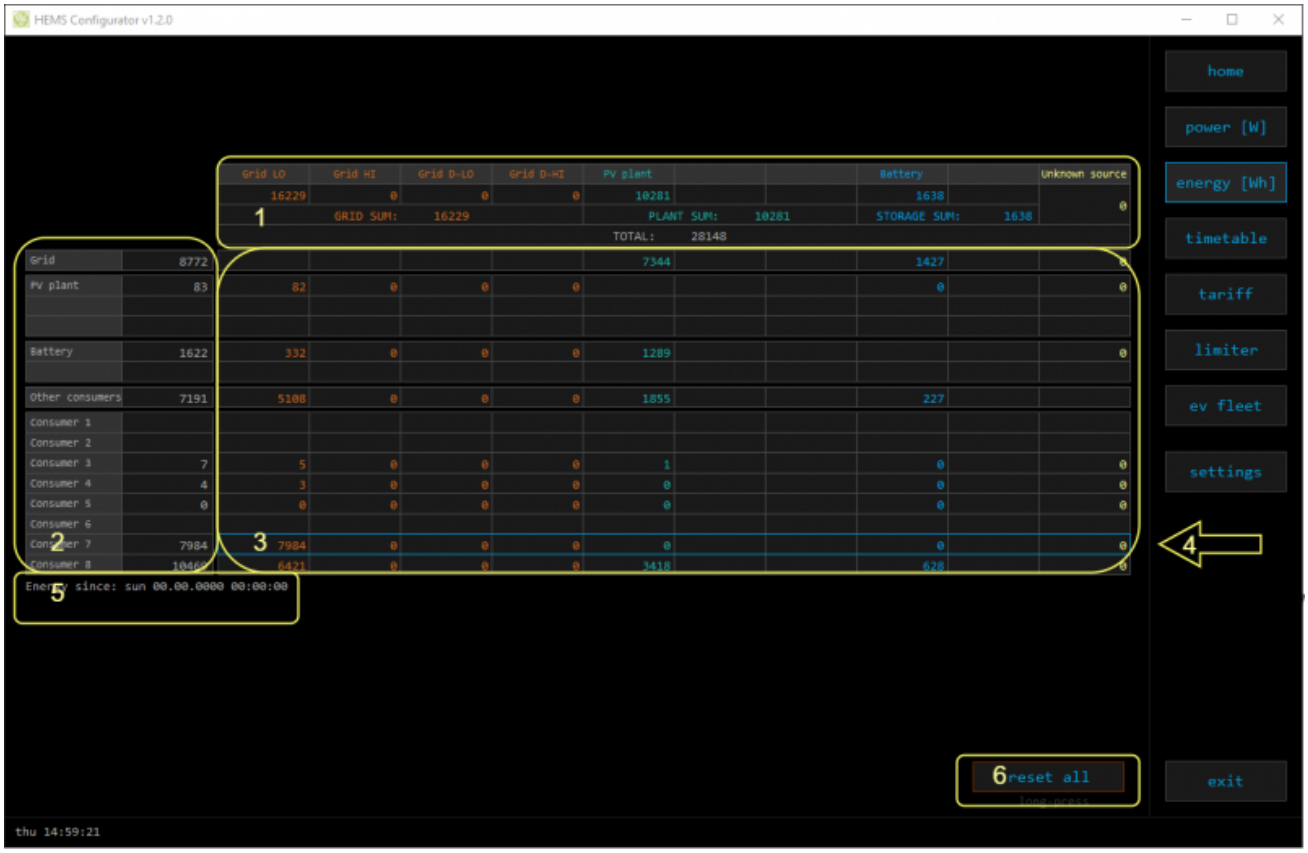
1. Sourced power
Sourced power for each source
Sums per source type
Total of all sourced power
2. Consumed power
Power for each consumer
3. Power distribution
Partial distributed power
4. Submeter (Blue outline)
Power meter is not part of internal circuit



1. Sourced power distribution
How sourced power is consumed by each consumer
2. Consumed power distribution
Who sources consumed power

energy

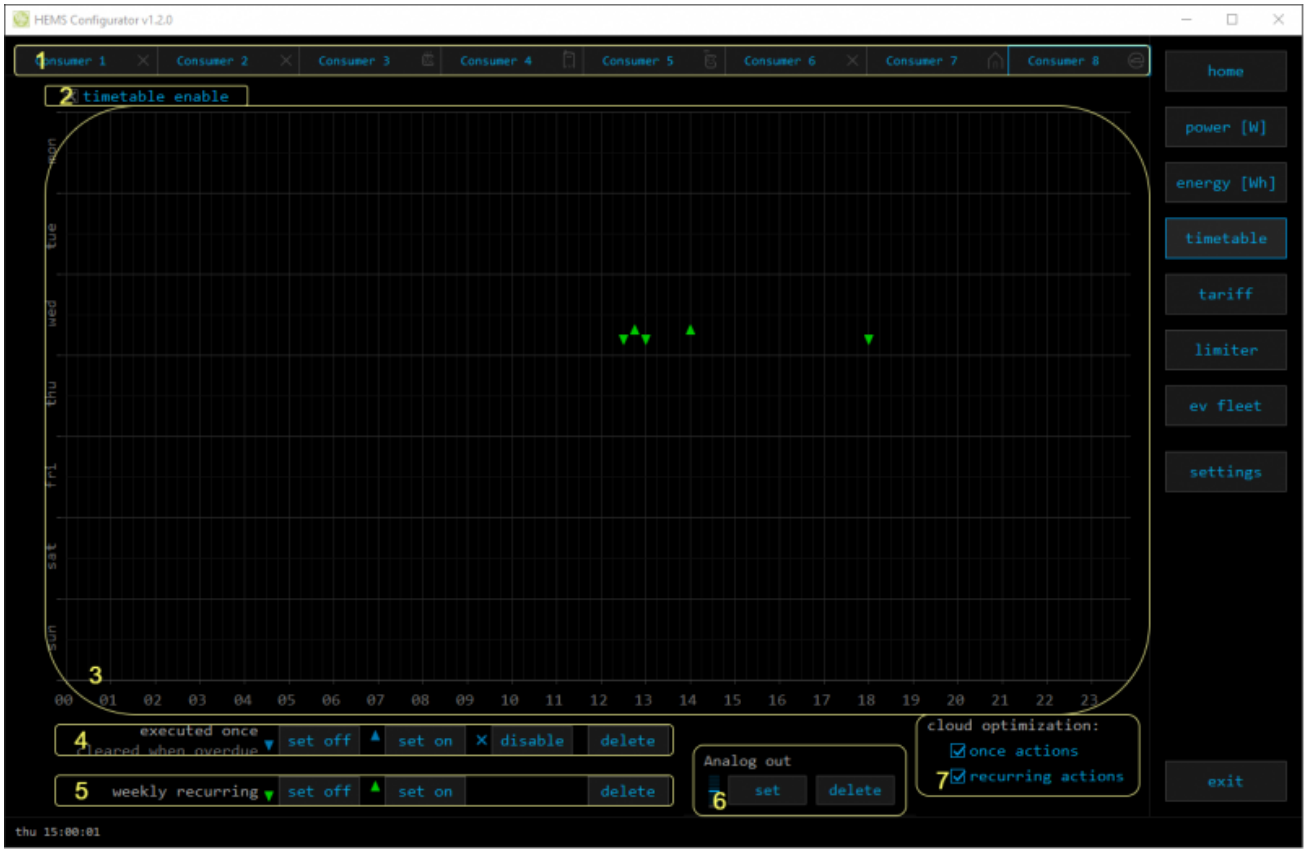
Energy overview of a given time distributed by sources / consumers.



1. Sourced energy
Sourced energy for each source
Sums per source type
Total of all sourced energy
2. Consumed energy
Energy for each consumer
3. Energy distribution
Partial distributed energy
4. Submeter (Blue outline)
Power meter is not part of internal circuit
5. Energy since
Date and time since energy is recorded
6. Reset all
Long-press to reset all energy counters

timetable

Weekly timetable for managed consumers.

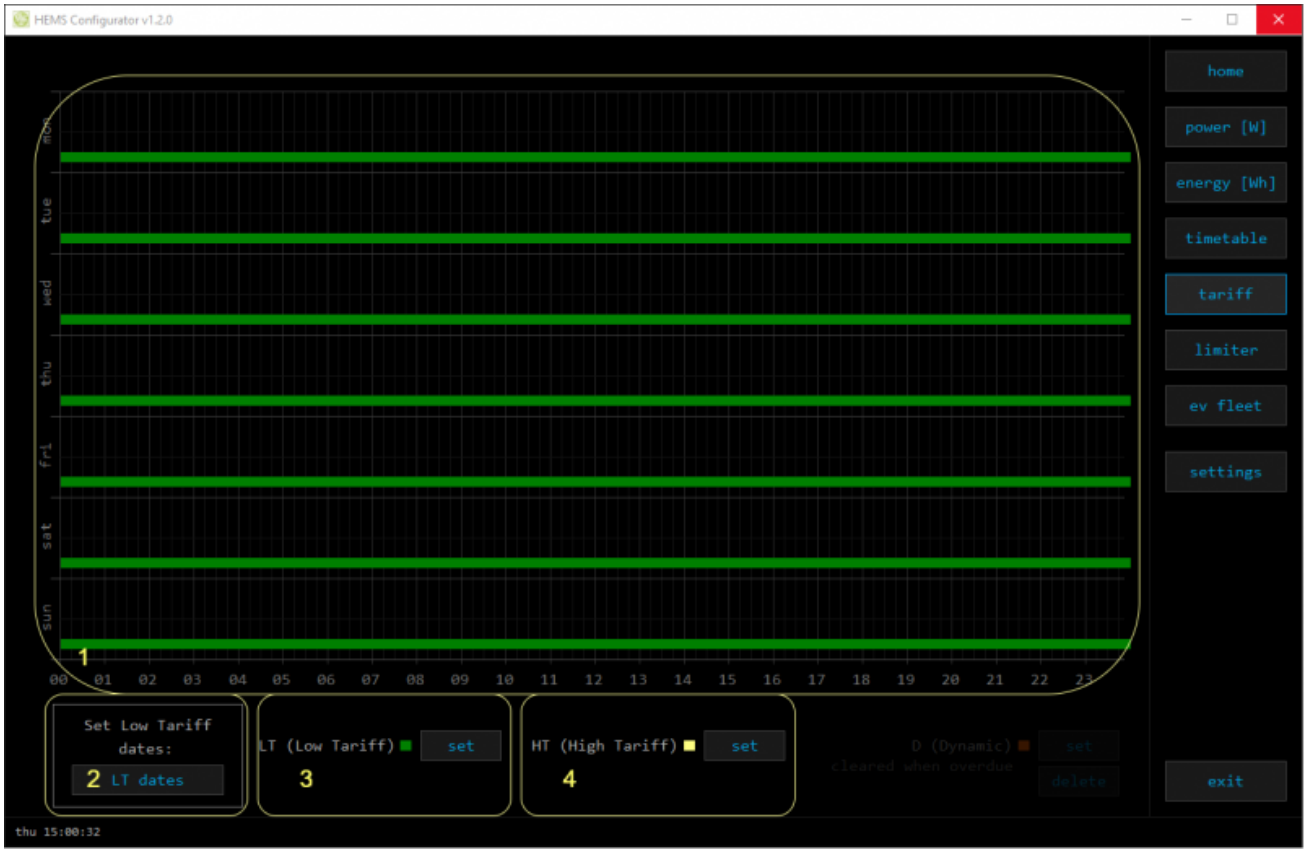


1. Managed load menu
Switch between managed loads
2. Enable checkbox
When un-checked timetable is not executed
3. Events grid
Events displayed in weekly grid (15 min resolution)
Click to select time and set event by clicking buttons below
4. Once actions (top priority timetable actions)
Actions are executed and then automatically cleared.
“Disable” action will just disable recurring action.
5. Recurring actions (low priority actions)
Actions are executed each week.
6. Analog out [1]
Action to set analog output. Analog actions are recurring.
7. Cloud optimization
When enabled (checked) cloud optimization is enabled.

[1] only for Consumer 1

tariff

Weekly tariff timetable for grid energy per tariff distribution.



1. Tariff grid
Graphical weekly timetable with tariffs.
Click to select term, click-and-drag to select multiple terms.
2. Low tariff dates
Set low tariff dates for holidays.
3. Low tariff
Set low tariff for selected terms.
4. High tariff
Set high tariff for selected terms.

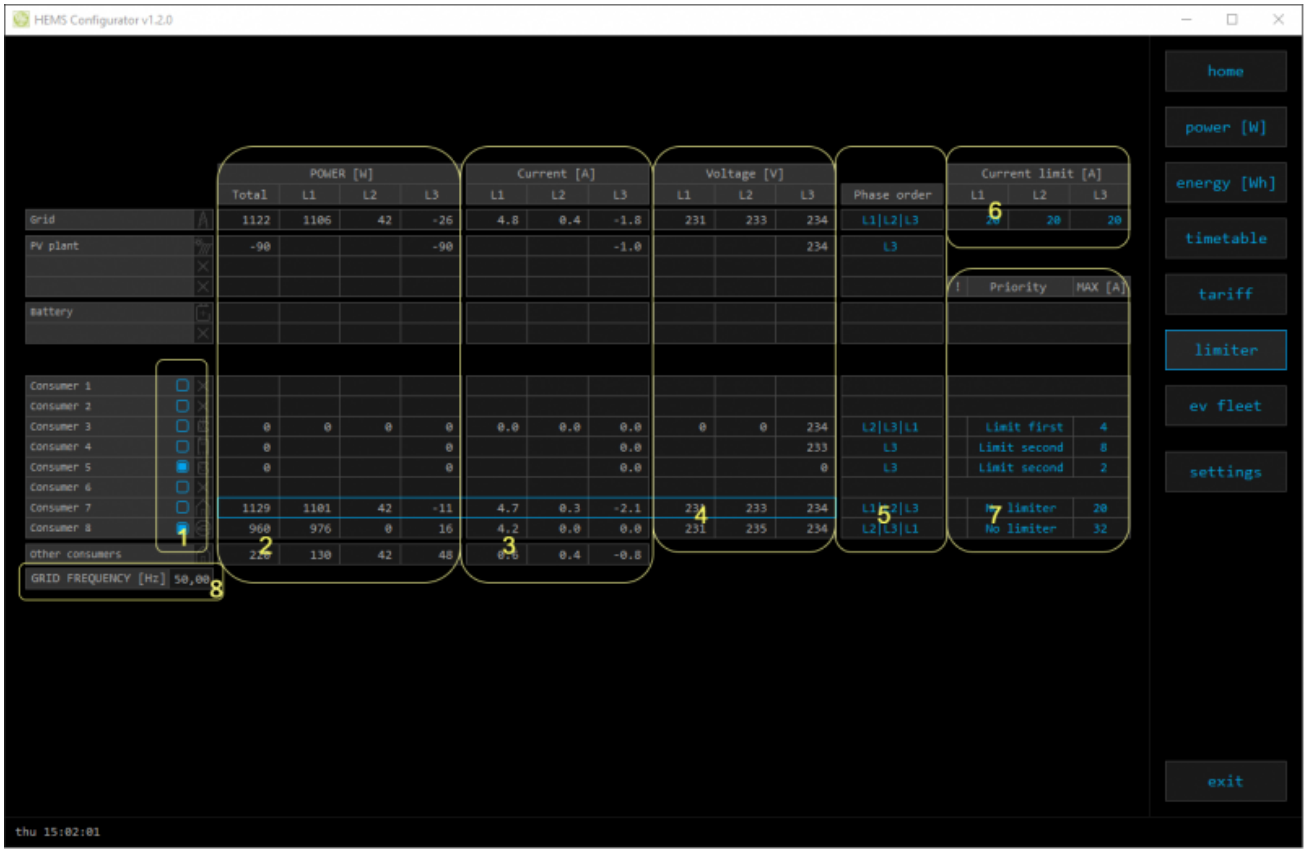
lo tariff dates

Holiday dates when tariff is low

1. Date table
Up to 24 days when tariff is low on holiday
2. Use easter mondays
Use preprogrammed roman-catholic easter monday holidays

limiter

Overview and configuration of limiter



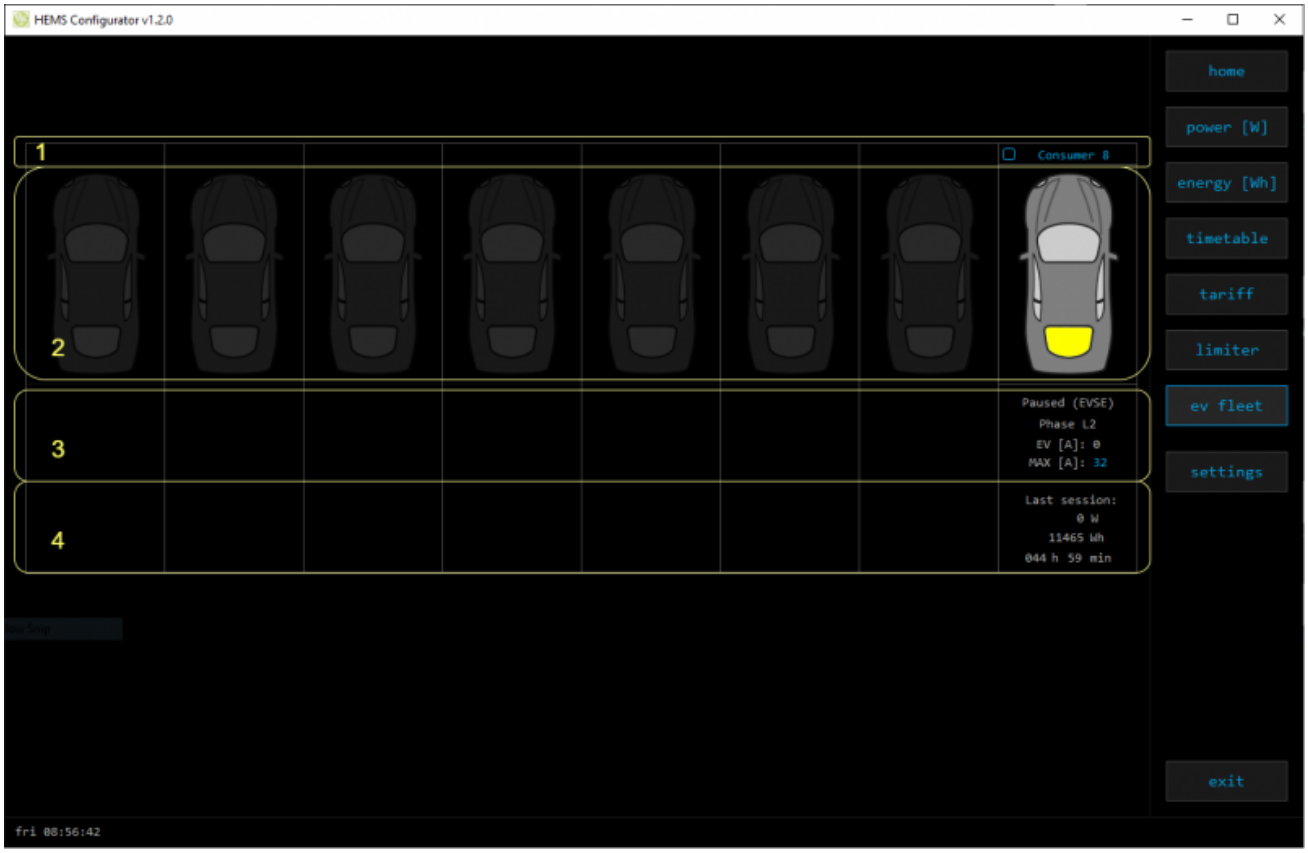
1. Consumer management	
Turn consumers on or off	
2. Power	
Total power and power for each phase	
3. Current	
Current for each phase	
4. Voltage	
Voltage for each phase	
5. Phase order	
Firstly set correct phase order for grid power sensor and then set for other powers sensors/devices. NOTE: changing grid phase order will NOT apply to phase order of other devices!	
6. Current limit	
Current limit threshold for main grid fuse	
7. Status, priority and current setpoint	
⚠ ⚠	Yellow status when limiter is enabled and active. Green status when enabled and not active
Priority	Device priority group (no limiter, limit last, limit second, limit first)
Max [A][1]	Device expected current draw
8. Grid frequency	

Grid frequency measured on grid power meter sensor

[1] parameter is dynamically set for all devices, except for the EV charging stations

ev fleet

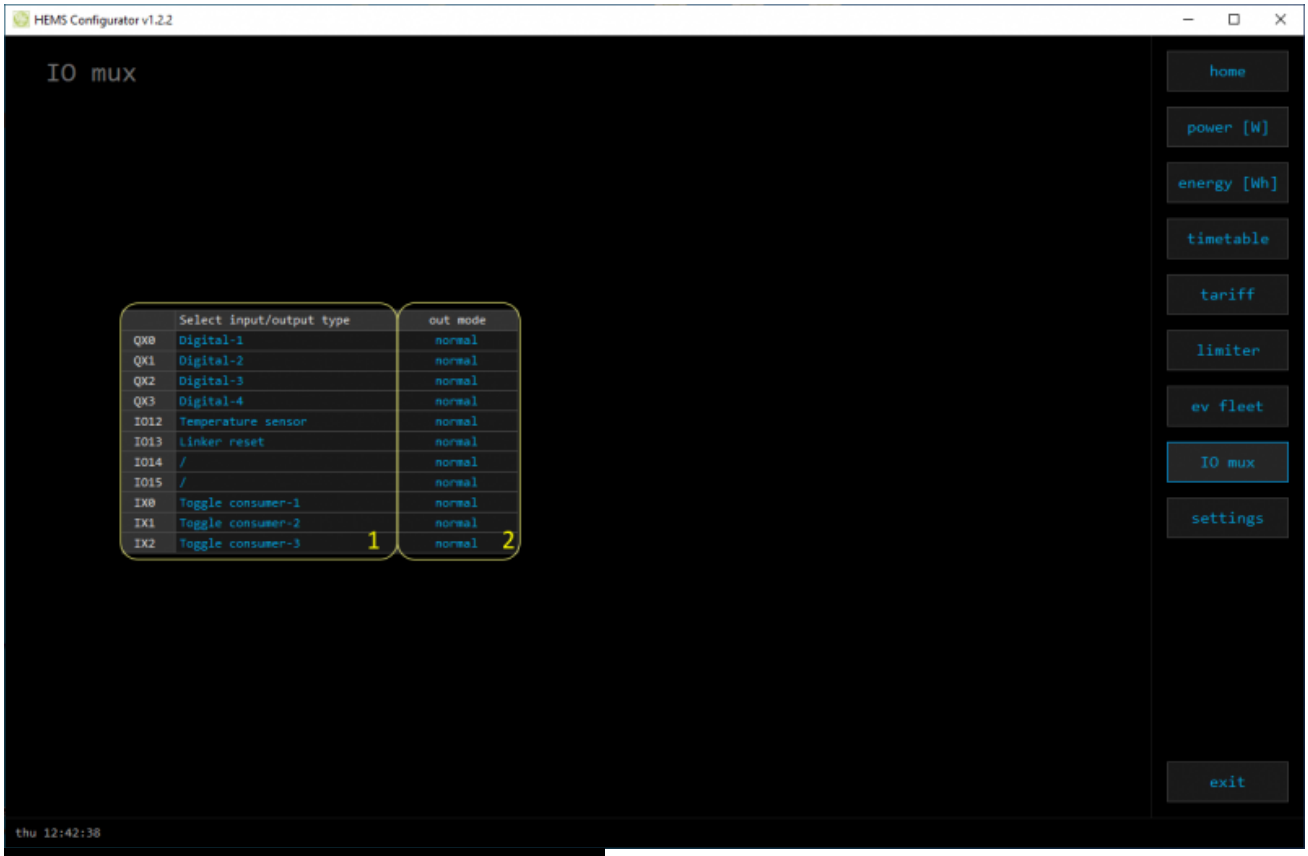
Overview and configuration of EV charging stations

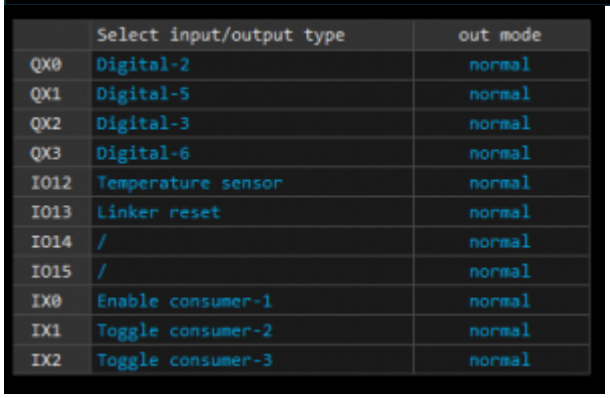


1. EV charging station management	
Turn EV station on or off	
2. EV vehicle status	
GREY	Stand by
RED	Error
YELLOW	Charging paused
BLUE	Charging
GREEN	Charging ended
3. EV charging station status	
Status	Status of EV charging station
Phase detection	Detection of utilized phases
EV [A]	EV charger max allowed current
MAX [A]	User set MAX charging current
3. EV charging session	
Power	Actual power draw
Energy	Energy delivered to EV
Duration	Session charging duration

io mux

Overview and configuration of input/output ports IO mux





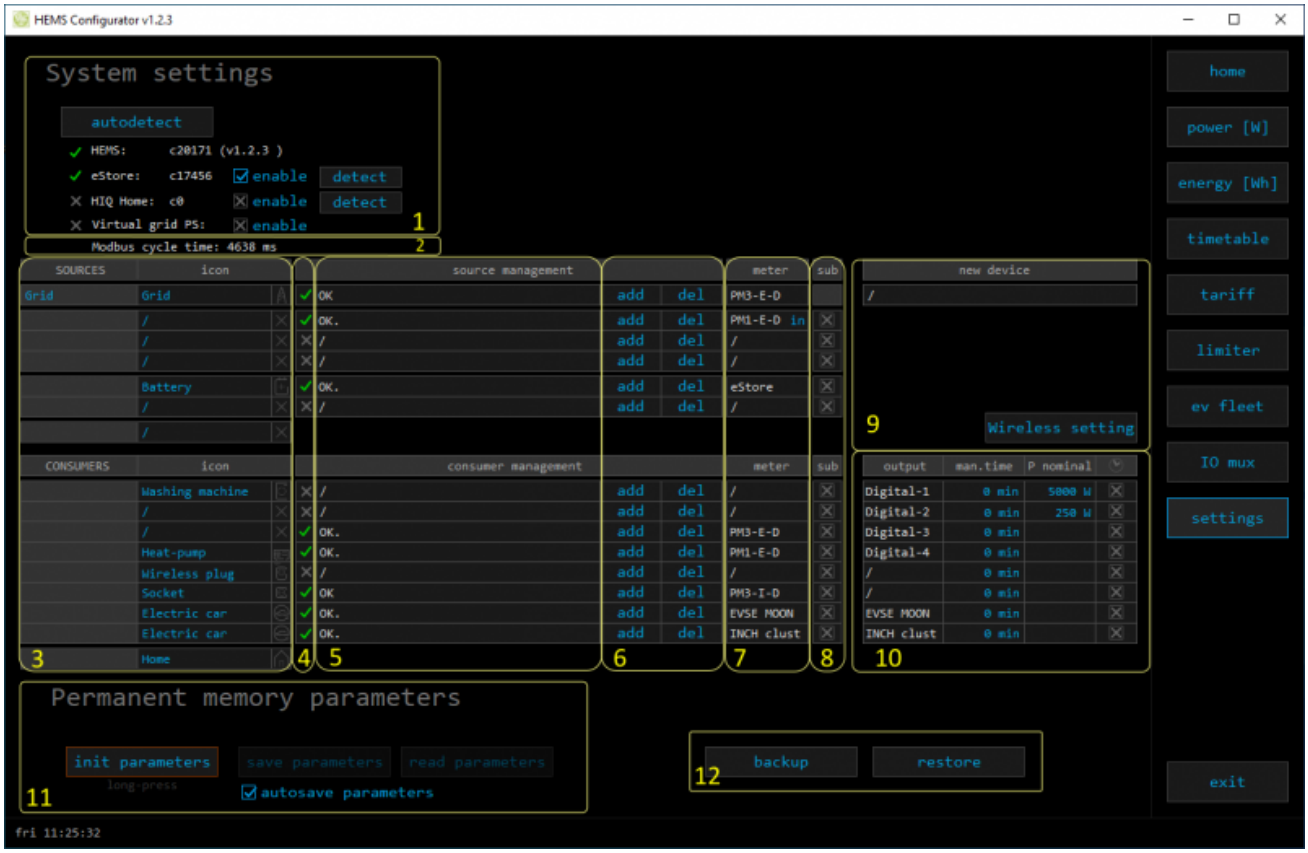
	Select input/output type	out mode
QX0	Digital-2	normal
QX1	Digital-5	normal
QX2	Digital-3	normal
QX3	Digital-6	normal
IO12	Temperature sensor	normal
IO13	Linker reset	normal
IO14	/	normal
IO15	/	normal
IX0	Enable consumer-1	normal
IX1	Toggle consumer-2	normal
IX2	Toggle consumer-3	normal

1. Select input/output type
On the left side there are defined MC controller (MC-230) ports to which could be assigned MC-230 functions (digital, linker reset, router reset, etc).
Default settings are for e.g. QX0 → digital 1 while digital 1 is defined for consumer 1 (settings page). It could be changed in a way to define new function to QX0 (linker reset)
If it is selected Enable consumer at input IXO,IX1 or IX2 it means that dedicated consumer will be managed (ON/OFF) by input signal on IXO,IX1 or IX2. For example, thermostat signal is wired to IXO port and via IO mux defined “Enable consumer 1” to IX0. While thermostat is active, it is consumer 1 active as well and vice versa.
Limitations: one temperature sensor is allowed, one consumer could be managed by one input only

2. out mode
Managed consumer input/output mode (normal or inverted)

settings

Easy and intuitive system setup.



1. System settings		
[autodetect]		Click to find HEMS in local network
eStore	c.....	eStore serial number (automatically detected or can be entered manually).
	[] enable	When checked HEMS will read Grid, first plant and first Storage directly from eStore (so there is no need to duplicate power-sensor).
	[detect]	eStore address is cleared and new eStore can be detected.
HIQ Home	c.....	HIQ Home serial number (automatically detected or can be entered manually).
	[] enable	When checked HEMS will read Grid power and energy from HIQ Home (so there is no need to duplicate power-sensor).
	[detect]	HIQ Home address is cleared so new can be detected.
Virtual grid PS	[] enable	Check if system is without main grid power meter. Energy, power and currents are calculated from other power meters.
2. Modbus cycle time		
Modbus cycle time	Time in ms for modbus communication to complete reading of all connected devices.	
3. Sources and Consumers settings table		
SOURCES	Source name	
icon	Source icon	
4. Device status		

Status	Status OK, Warning, Error, Detected	
5. Device message		
source and consumer management	Source or consumer power-sensor management	
	message	Messages regarding source or consumer power-sensor
6. Device configuration		
Configuration	add	Associate new power-sensor to source or consumer
	del	Disassociate power-sensor from source or consumer & configure it as new power-sensor
7. Device type		
meter	Source or consumer power-sensor type	
configuration	in/ex	Power plant connection[1]
8. Submeter option		
sub	Check if this power meter or device is not part of internal circuit. Energy division for this device is ignored and outlined in blue border.	
9. Wireless settigs		
new device	Power-sensor configured as new one detected or wireless module configuration[2]	
Wireless setting	Setting up wireless modules: pairing, adding and delete the wireless modules and setting repeater level	
10. Device output		
output	Select consumer output type	
	‹››	Set repeater level[3]
man. time	Managed consumer manual override timer	
P nominal	Enter consumer's power in Watts. It is disabled if there is assigned power sensor to this consumer.	
clock	Enable timetable	
11. Permanent memory parameters		
[init parameters]	Init all parameters to default values	
[save parameters]	Save all parameters to permanent memory	
[read parameters]	Read all parameters from permanent memory	
[] autosave parameters	Parameters will be automatically saved to permanent memory in 15 minutes after last parameter change	
12. Backup / Restore to PC		
[backup]	Backup all parameters to PC[4]	
[restore]	Restore all parameters from PC backup[4]	

[1] only for the first power plant

[2] wireless setting must be enabled

[3] only for wireless modules and wireless setting must be enabled

[4] older versions of backup files may be used. Any unsuccessfully backed or restored parameters will be displayed but operation will end successfully if you use **continue**.