HEMS v1.2.2 Configurator

Latest version of HEMS Configurator can be found under download folder.

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home

Basic system overview.



1. Grid		
	From grid	Tariff (LO, HI, D-LO, D-HI) and power from grid in W
>	From grid	Imported energy by tariff in Wh
	To grid	Power exported to grid in W
<	To grid	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 system	S	
<	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 sourc	e	
>	Sourced	Power in W and energy in Wh from unknown source
		all differences caused by power-sensor inaccuracy
6. Other consume	rs	
>	Consumed	Consumed power in W and energy in Wh by other (not measured) consumers
7. Temperature ar	nd humidity	
	Temperature	Temperature in ^o C
	Humidity	Humidity in % RH
8. Page navigation	า	
	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

Consumer 1 Consumer 2 Consumer 3 0								
Orid L0 Orid HI Orid 0-10 Or								
Grid L0 Grid D-L0 Grid D-MI PV plent Battery Onknown source 1140 0 0 73 0								
Grid L0 Grid HI Grid D+L0 Grid D+HI PV plant Battery unknown Source energy [N 1140 0 0 78 0								
Grid L0 Grid HI Grid D+L0 Grid D+HI PV plant Battery unknown Source energy [N 1140 0 0 78 0								
1140 0 0 78 0				C				
1140 0 0 0 78 5TORAGE SUN: 0 0 c2 0							Unknown source	energy [Wh
col total 1315 timetable ev plant 0				8				
c2 0		GRID	5011: 1140			STORAGE SUM: 0	,	
PV plant 0<	e-2 0				0		0	
Anti-Strain Strain S		8	8 8	8				
Other consumers 255 241 0 0 0 17 0 0 0 ev fleet Consumer 1 Consumer 2 Consumer 3 0								
Other consumers 255 241 0 0 17 0 0 0 17 0								
Consumer 1 Consumer 2 Consumer 3 O	Battery 0			8	9			
Consumer 1 Consumer 2 Consumer 3 O	Other services							
Consumer 2 Consumer 3 O		241	0 0		- 17	8		
Consumer 3 0								
Consumer 4 0				8	0			
Consumer 6					0			
				8	0			
	Consumer 7 1132				е		8	
Consumer II 960 899 0 0 0 1 51 0 0 0								

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.

HEMS Configurator v	1.2.0										
	ſ	Grid LO 16229	Grid HI Đ	Grid D-LO 8	Grid D-HI 0	PV plant		Battery 1638		Unknown source	
		16229								0	
						TOTAL :	28148				
Grid	8772					7344		1427			
	83	82								0	
Battery	1622		8	0	0	1289				9	
Other consumers	7191	5106	0	8	0	1855		227			
Consumer 1 Consumer 2											
Consumer 3	7									0	
	4									9	
	0									0	
Consumer 6	7984	3 7984								e	
Consumer 8 Energy since: sun	10469	6421	0					628			7
hu 14:59:21									6res	et all	

- 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

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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

C I	HEMS - Set I	LO tariff date	5 —		×
	Set	LO ta	riff da	ates	
/		LO tari	ff date		
	day	month	day	month	
	88	80	80	88	
	80	80	80	80	
	80	80	80	80	
	88	80	80	88	
	80	80	80	80	
	80	80	80	80	
	80	80	80	80	
	88	80	80	80	
	80	80	80	80	
	80	80	80	80	
	81	80	80	80	
	80	80	80	80	
	2Use ea	ster mond	ays (Roma	n Catholio	c)
		ex	it		

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

HEMS Configurator v1.2.0															- 0
	_				_			_				_			power [W]
	(POWER	EN1		C.11	rrent [A]		Va	ltage [V]			Curr	rent limit	I FAT	
	Total			в			L3			, L3	Phase order	L1		L3	
rid	A 1122	1105	42	-26	4.8	0.4	-1.8	231	233	234	L1 L2 L3	6	20	20	
V plant	°∭ -90			-90			-1.0			234	B				
paurie				- 90			-1.0								
												1 Pr	iority	MAX [A]	tariff
attery	œ.														
nsumer 1															ev fleet
onsumer 2				0	0.0	0.0	0.0		0	234				4	
onsumer 4		0	ø	0	0.0	0.0	0.0	9		234				8	
onsumer 5				8			0.0			0					
										-					
	1129	1101		-11	4.7	0.3	-2.1	23		234	L1 2 L3	17		20	
onsumer 8 🛛 🧧	960	976	9	16	4,2	0.0	0.0	231	235	234	1152 13 12 13 11	No		32	
ther consumers	960 22	130	42	48	3	0.4	-0.8								
GRID FREQUENCY [Hz] 50															
and a second	8														

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1. Consumer manageme	nt
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	
	der for grid power sensor and then set for other powers anging grid phase order will NOT apply to phase order of other
6. Current limit	
Current limit threshold for	main grid fuse
7. Status, priority and c	urrent setpoint
<u>▲</u> ▲	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

HEMS Configurator v1.2	2.0				- 🗆 ×
1				Consumer 8	
f f				f f	
2					
				Paused (EVSE) Phase L2	
3				Phase L2 EV [A]: 0 MAX [A]: 32	
				Last session: 0 W	
4				11465 Wh 044 h 59 min	
row Snip					
fri 08:56:42					

1. EV charging sta	tion management
Turn EV station on o	r off
2. EV vehicle statu	IS
GREY	Stand by
RED	Error
YELLOW	Charging paused
BLUE	Charging
GREEN	Charging ended
3. EV charging sta	tion 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 see	sion
Power	Actual power draw
Energy	Energy delivered to EV
Duration	Session charging duration

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io mux

Overview and configuration of input/output ports IO mux

HEMS Co	onfigurator v1.2.2					- 0	
T 0							
10	mux						
							.TT
	QXB	Select input/output type Digital-1	out mode normal				
	QX0 QX1		normal				
	QX1 QX2		normal				
	QX3		normal				
	1012	Temperature sensor	normal				.ee
	1013		normal				
	1014		normal				
	1015		normal				
	IX0		normal				
	IX1		normal				
	IX2	Toggle consumer-3	normal 2				
12:42							
	Select	input/output type	aut anda				
	Detect	Input/output type	out mode				

	Select input/output type	out mode
QX0	Digital-2	
QX1	Digital-5	
QX2	Digital-3	normal
QX3	Digital-6	normal
1012	Temperature sensor	normal
I013		normal
1014		normal
1015		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. $QX0 \rightarrow digital 1$ 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 IX0,IX1 or IX2 it means that dedicated consumer will be managed (ON/OFF) by input signal on IX0,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.

									– 🗆 ×
System settings									
✓ HEMS: c20171 (v1.2.3) ✓ eStore: c17456 enable detect X HIQ Home: c0 enable detect X virtual grid PS: enable 1									
Modbus cycle time: 4638 ms 2									
SOURCES icon source management	Ϋ́		meter	sub		new devic	e		
Grid Grid 🛛 🖂 🗸 OK	add		PM3-E-D		1				
🛛 🕹 🗸 🔨 ок.	add		PM1-E-D in	×					
x x x	add		/	$ \mathbf{X} $					limiter
etersele eter / a second x x / a second second second second	add		/	\times					TIMICEP
Battery 🗄 🗸 OK.	add		eStore	$ \mathbf{X} $					
/ X X	add		/	\mathbf{X}					
					9			ting	
CONSUMERS icon consumer management			meter	sub	output	man.time	P nominal	0	
Washing machine	add		1	X	Digital-1			X	
in the second	add	del	/	X	Digital-2			X	
инин на страна 🗡 🗸 🗸 ок.	add		PM3-E-D	\mathbf{X}	Digital-3			X	
Heat-pump 👘 🗸 OK.	add		PM1-E-D	×	Digital-4			×	
Wireless plug 🕒 🗙 /	add		/	X	/			X	
Socket □ ✓ OK Electric car □ ✓ OK.	add add		PM3-I-D EVSE MOON	X	/ EVSE MOON			X	
Electric car 🖂 🗸 OK.	add		INCH clust	X	INCH clust			×	
3 Hone 4 5	6		7	8	10			<u> </u>	
Permanent memory parameters init parameters long-press ave parameters 11 autosave parameters		12			res				
fri 11:25:32									

1. System settings

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 Consun	ners setti	ngs table
SOURCES	Source name	
icon	Source icon	
4. Device status		

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Status	Status O	K, Warning, Error, Detected		
5. Device message				
source and consumer	Source or consumer power-sensor management			
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	, parame	ters		
[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**.

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