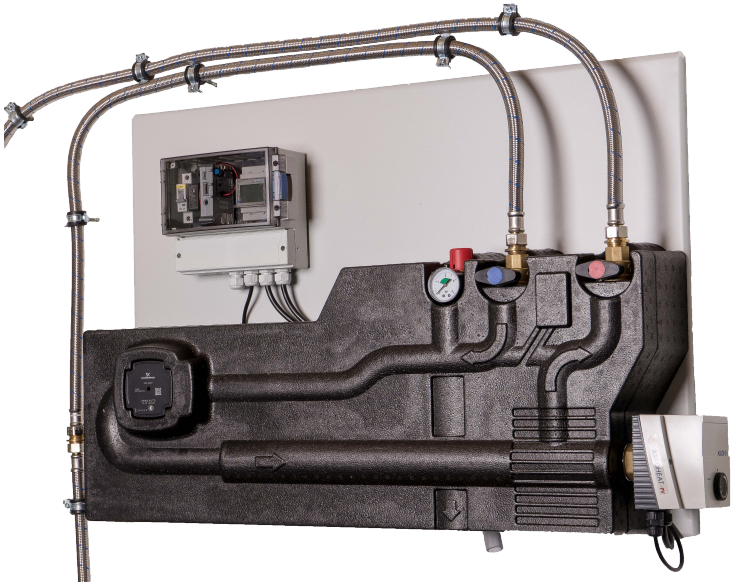
ASKOFAMILY+

EVERYTHING REQUIRED FOR SURPLUS PV POWER STORAGE



CE

ASKOMA we care about energy

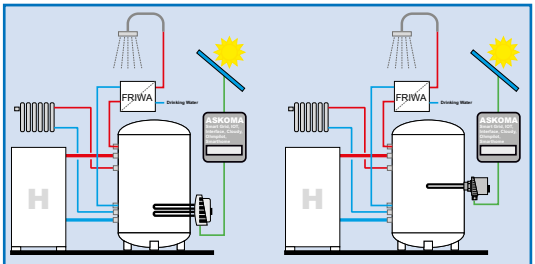
ASKOHOME +

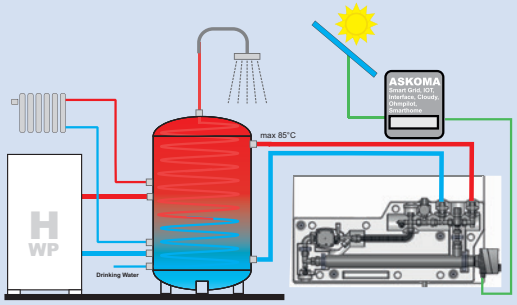
Installer
ASKOHOMEI...

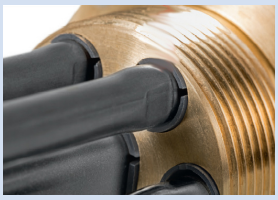
ASKO*HOME+*
(Demo application is available in Play/AppStore for free testing)

ASKOFAMILY+

- **ASKO***HEAT+* SCREW-IN AND FLANGE HEATER
- **ASKO***WALL+* WALL CONSOLE READY FOR CONNECTION
- **ASKO***SET+* incl. **ASKO***BASIC*
- **ASKO***HOME*
- **ASKO***HOME+*







POWER TO HEAT

In the **ASKO***FAMILY+* the **ASKO***SET+* together with the **ASKO***HEAT+* is used. The **ASKO***HEAT+* converts your electricity surplus from the PV system, wind turbine, water turbine or CHP into heat and stores this energy as heat in your buffer tank / boiler in the house. This heat is then available when needed. The whole thing is easy to install thanks to **the finished cable connector system**.

Example of maximum PV electricity storage:
You have a 1000L buffer tank with a fresh water station that you heat up to 40°C with your heat pump with a high COP.
With the **ASKO***WALL+* and the **ASKO***HEAT+* you can load this buffer tank up to 85°C.

This means: 1000L x 45°C temperature difference to max. 85°C x 1.16 = 52 kWh
You can save up to 52 kWh of PV power.
Thanks to the PV surplus storage, you can protect the compressor of your heat pump in summer operation and increase the service live of the heat pump due to the hot water heating.
This energy will then be available on demand as needed.

ASKO*SET+*

The **ASKO***SET+* consists of an energy meter (bidirectional counter up to 100A) and an ASKOMA energy manager with power pack. Those are mounted at the house node (fuse box) when installing the **ASKO***HEAT+* in the buffer tank.

If you use the **ASKO***WALL+*, the energy manager and the power pack are placed in the pre-mounted junction box. But the energy meter is still installed at the house node.
You connect the energy manager, the house router and the **ASKO***HEAT+* with an on-site LAN cable. Then connect the energy manager with the energy meter using a RS485 cable and the wiring for **power to heat** is done.

If an existing inverter does not have a digital interface or if the protocol is not compatible with the energy manager, a second energy meter (up to 100A) is integrated into the inverter. The PV electricity production can then be measured and visualised. Also the power consumption in the house can then be calculated and visualised.
If the PV system has an output of more than 100A, an energy meter with flip conversions is used (see option 4.1 on the last page).

ASKO*HEAT+*

The **ASKO***HEAT+* are available in two device variants for boiler installation:
- Flange heater, Ø180mm in power ranges 1.75, 3.5, 4.4, 5.8kW
- Screw-in heater 1½" in power ranges 1.75, 3.5, 4.4, 5.2kW
All screw-in heater 1½" are also applicable for **ASKO***WALL+* .

The **ASKO***HEAT+* flange- and screw-in heater are produced as Incoloy 825 versions, suitable for a simple direct mounting in all heating and drinking water tanks. Thanks to the insulated construction and the dip switch, they can be used in black steel, enamelled as well as stainless steel tanks, and corrosion can be prevented.

ADVANTAGES ASKO*HEAT+*

- 7-stage settings for heating elements
- Insulated mounting of the heating tubes against corrosion
- Pre-wired in the heating element and ready to plug in
- Straightforward cable connection on provided connector plug
- Low surface load (7W/cm²) for low calcification
- 4 x PT1000 probes connectable to Modbus TCP / RTU
- Off line operation possible
- As Ø 180mm flange with seal
- The screw-in heater 1½" with solid brass nipples
- Thanks to dip switch applicable for all tank materials

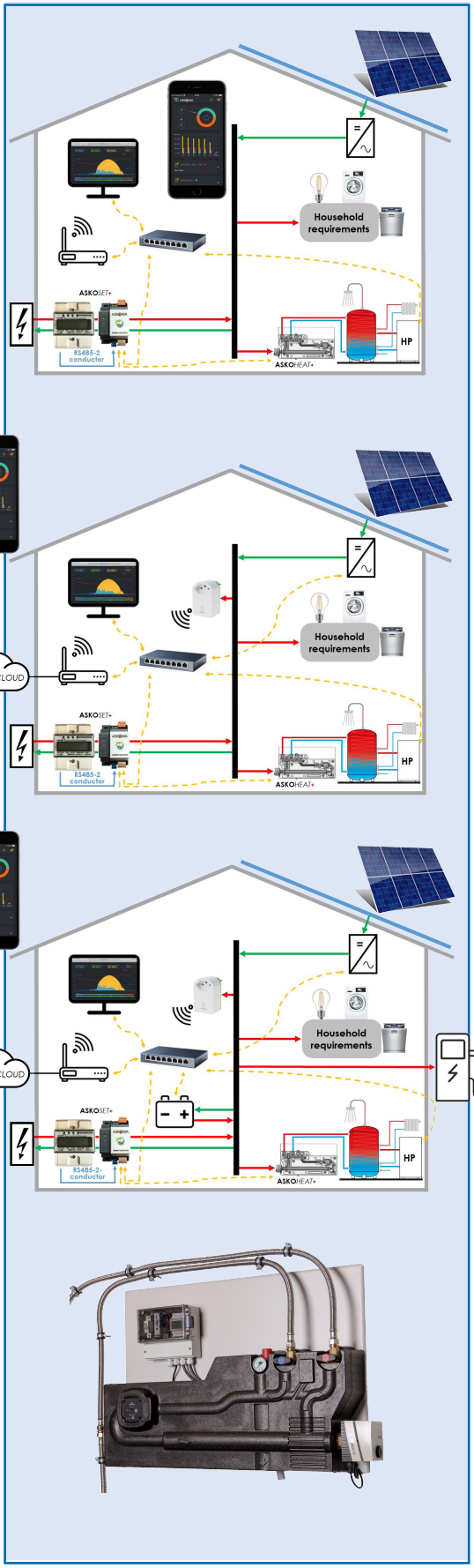
Subject to technical changes

232_V3_012021

ASKO*BASIC* (included in **ASKO***SET+*)

Contains the following possibilities:

- Power to heat, 7-stage regulation for a heating element
- Manual use, 100% output (autom. shut down after 24h)
- Actuation as emergency heating of heat pumps, 100% output
- Anti-legionella management
- System can only be monitored via in-house network
- Real-time visualisation only
- No cloud services necessary
- Visualisation about in-house network via PC, tablet and mobile phone



EXTENDING OPTIONS (postable any time)

ASKO*HOME* (extension to **ASKO***BASIC*)

- It can be accessed remotely and is visible
- PV excess current prioritised on several **ASKO***HEAT+*
- All data is stored in the Cloud
- History data visible
- Storage temperature stratification can be visualised using four PT1000 probes
- SmartPlugs (switchable, personalised sockets switchable and monitoring)
- Heat pump visualisation
- Inverter can be chosen (no energy meter for inverter necessary, see picture 2)

ASKO*HOME+ (extension to* **ASKO***BASIC / HOME)*

Read out, visualise and charge management of:

- Energy yield estimate
- Car charging station (continuously variable)
- Battery storage

ADVANTAGES ASKO*WALL+*

- For max. surplus PV power storage
- Automatic temperature control
- Min. flow temperature can be freely selected (50-75°C)
- Temperatures up to 85°C possible
- Full buffer tank volume can be used
- Legionella protection thanks to high temperature
- Self-regulating pump
- No turbulence in thermal stratification of tank
- Pressure relief valve 3 bar
- Hydraulic unit tested up to 10 bar
- Slight changes possible
- Heating elements up to 9kW can be used

Subject to technical changes

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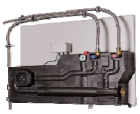
ORDER OPTIONS ASKO*FAMILY +*

	Order no.	Appellation	Description	Immersion length mm	Use
1.1. ASKO*WALL +*					
	012-2103	**ASKO***WALL +*	**ASKO***WALL +* for heating water, composed of a hydraulic unit with mud flap, filling valve, vent valve, connection for possible expansion tank, pressure relief valve, return flow shutoff, flow shutoff, thermostatic valve 50-75°C, connection for **ASKO***HEAT +* according to choice of power, drain cock, circulation pump and insulation housing. Electrical junction box prepared for **ASKO***SET +* system, including pre-wiring of the circulation pump and the heating element.	1300x700	
2.1. ASKO*SET +*					
	012-2275	**ASKO***SET +*	Contains energy manager and power supply 24V (if bidirectional energy meter is available on site from smart meter list). A possible extension tool would be a second smart meter to display PV production and energy consumption if the inverter was non-readable.		WALL/Tank
	012-2280	**ASKO***SET +*	Contains bidirectional energy meter, energy manager and power pack 24V. A possible extension would be a second smart meter to display the pv production and the energy consumption if the inverter was non-readable.		WALL/Tank
3.1. Screw-in heater ASKO*HEAT +*, 7 levels, 230V / 400V, LAN, Modbus TCP / RTU, REST API JSON and 0-10V					
	012-6391	AHIR-BI-plus-1.75	**ASKO***HEAT +*, 230V / 400V, 7 levels 1.75kW	400	WALL/Tank
	012-6392	AHIR-BI-plus-3.5	**ASKO***HEAT +*, 400V, 7 levels 3.5kW	600	WALL/Tank
	012-6393	AHIR-BI-plus-4.4	**ASKO***HEAT +*, 400V, 7 levels 4.4kW	700	WALL/Tank
	012-6394	AHIR-BI-plus-5.2	**ASKO***HEAT +*, 400V, 7 levels 5.2kW	750	WALL/Tank
3.2. Flange heater ASKO*HEAT -F+*, 7 levels, 230V / 400V, LAN, Modbus TCP / RTU, REST API JSON and 0-10V					
	012-6791	AHFR-BI-plus-1.75	**ASKO***HEAT -F+*, 230V / 400V, 7 levels 1.75kW	250	Tank
	012-6792	AHFR-BI-plus-3.5	**ASKO***HEAT -F+*, 400V, 7 levels 3.5kW	360	Tank
	012-6793	AHFR-BI-plus-4.4	**ASKO***HEAT -F+*, 400V, 7 levels 4.4kW	420	Tank
	012-6794	AHFR-BI-plus-5.8	**ASKO***HEAT -F+*, 400V, 7 levels 5.8kW	540	Tank
4.1. Options					
	012-0130	**ASKO***HOSE*	Two oxygen-tight OXYban connection hoses for a flexible connection of the **ASKO***WALL* to the buffer tank (length 1600mm)		WALL
	012-0125	**ASKO***SENSOR*	Probe set with 3 x PT1000 probes and junction box for **ASKO***HEAT +* if used in tank		Tank
	012-0126	**ASKO***SENSOR*	Probe set with 4 x PT1000 probes for **ASKO***HEAT +* to be attached on the **ASKO***WALL*		WALL
	012-0134	Energy meter up to 200A and flip conversions	Energy meter for node point or inverter reading up to 200A with three flip conversions		

The advantages of an ASKO*HEAT +* compared to a normal heating element are as follows:

Settings

- The heating element has a **local web interface**. All settings can be conveniently made locally with the usual web browsers, which means that there is also an up-to-date device status display
- Enter in the **web browser**: **http://askoheat.local** or the direct IP address e.g. **http://192.168.1.29**

Assembling

- The electrical connection of the device is easy to install using the **supplied plug**.
- Thanks to these plugs, the device can be **easily** and completely disconnected from the power and data network **for service work**.
- Can be used **in an insulated design with a dip switch** for all storage materials and for heating as well as drinking water.

Function

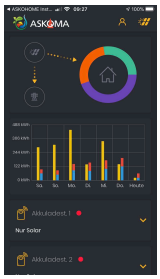
- The **7 power levels** can be controlled via **Modbus TCP / RTU**, **REST API JSON** or via **0-10V**.
- **POWER to HEAT** function directly via bidirectional energy meter, energy manager or building automation controls
- Control can either take place via **specified power** or **energy surplus control** (feed-in value).
- Plug & Play for **SENEC.Home** battery and **SMA** Sunny Home Manager (SEMP)
- **Button for emergency heating** on the device = Heating element switches to 100% output for 24 hours
- **Heat pump request** via **potential-free input** (output adjustable)

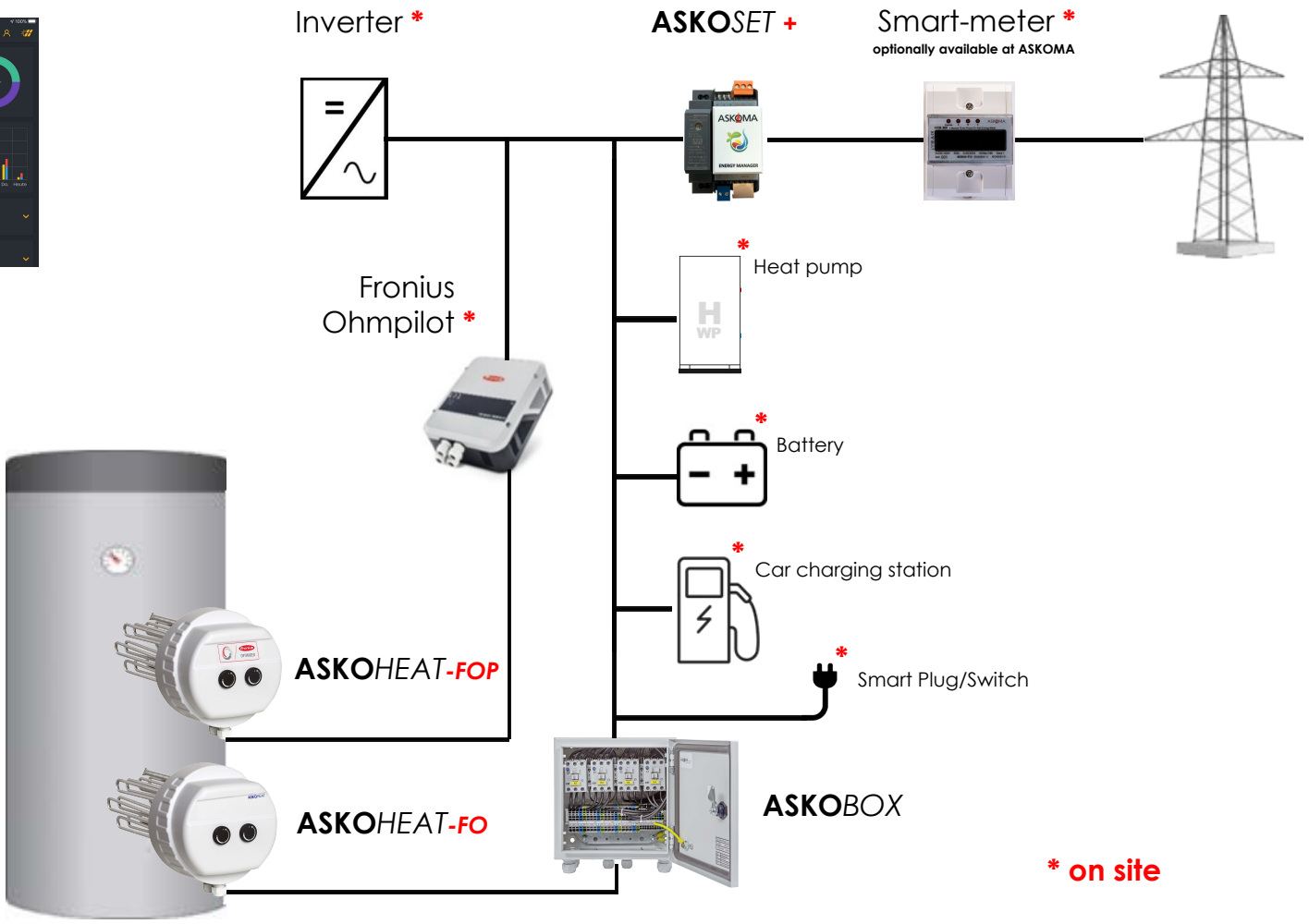
Comfort control

- Up to **4 x PT1000 temperature sensors** can be read out in order to display the stratification temperature behavior in the storage tank. In addition, the sensors can be selected individually for regulation.
- **4 dynamic legionella protection time programs** are integrated, daily, weekly, fortnightly, monthly (interval start after last high temperature).
- **Use of night power** = drinking water can be kept at the desired, freely adjustable temperature in the boiler with night power (low rate tariff).
- **Minimum temperature** = A minimum temperature can be defined, which is never fallen below.

ASKOFAMILY+

ASKOMA & FRONIUS OHMPILOT, CONTINUOUSLY VARIABLE POWER TO HEAT SOLUTION FOR 36kW





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ASKOMA we care about energy

ASKOHOME +

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ASKO*HOME+*
(with demo login you can test it free of charge in the Play / AppStore)

You can obtain all of our products from quality-conscious wholesalers and from your skilled tradesman.
We are happy to answer any questions you may have.

ORDER OPTIONS 36kW SOLUTION

	Order no.	Appellation	Description	Immersion length mm
		Ohmpilot must be available on site (cannot be ordered from ASKOMA)		
	4.240.160	Fronius Ohmpilot	Consumption regulater that continuously transfers excess PV electricity to the **ASKO***HEAT -OP* for hot water preparation	
		1.1. ASKOMA components for storage tanks with connection flange Ø 240mm		
	012-5611	AHFOR-BI-OP-18.0, Ø 240mm	**ASKO***HEAT -FOP* Ø 240mm, 400V, continuously variable 18.0kW	490
	012-1748	AHFOR-BI-A-18.0, Ø 240mm	**ASKO***HEAT -FO* Ø 240mm, 400V, cascadable 18.0kW	490
	012-0110	Switching box with power contactors	**ASKO***BOX* for Fronius 36kW solution HxWxD: 280x250x145mm	
		1.2. ASKOMA components for storage tanks with connection flange Ø 280mm		
	012-5612	AHFOR-BI-OP-18.0, Ø 280mm	**ASKO***HEAT -FOP* Ø 280mm, 400V, continuously variable 18.0kW	490
	012-1848	AHFOR-BI-A-18.0 Ø 280mm	**ASKO***HEAT -FO* Ø 280mm, 400V, cascadable 18.0kW	490
	012-0110	Switching box with power contactors	**ASKO***BOX* for Fronius 36kW solution HxWxD: 280x250x145mm	
		2.1. ASKO*SET +*		
	012-2275	**ASKO***SET +*	Contains energy manager and power supply 24V (if bidirectional energy meter is available on site from smart meter list). A possible extension tool would be a second smart meter to display PV production and energy consumption if the inverter was non-readable.	
	012-2280	**ASKO***SET +*	Contains bidirectional energy meter, energy manager and power pack 24V. A possible extension would be a second smart meter to display the pv production and the energy consumption if the inverter was non-readable.	

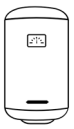
Supported devices in our software package ASKO*HOME* and ASKO*HOME+* extension

(you can find a current overview here)

ASKO*HOME*:

Heat pumps:
- Every SG Ready heat pump (with relay box CUDE 2302)
- SG Ready with relay box Rutenbeck TCR IP4
- PV Ready capable heat pump via Shelly 1 or other relays out of category "switch"
- Alpha Innotec Luxtronic 2.0 / 2.1
- Heliotherm RCG X
- STIEBEL ELTRON via ISG Web
- S+W Futura HSW
- Roth Werke heat pump control 2.0 / 2.1
- Novelan
- Dimplex WPM Econ5
- Oertli SI-GEO (WPM PCO+)
- Oertli LI / LA/ SI (WMP Econ5)
- CTA Aeroheat (exact types upon request)
- CTC EcoLogic M+ L

Inverter:
- Fimer / ABB Trio with VSN3000
- Fronius Symo, Hybrid, Galvo, Gen24
- Fronius Smart Meter as production measurement
- SolarEdge SE
- SMA Sunny Tripower / Boy
- Kostal PLENTICORE plus
- Kostal PIKO IQ / PIKO 4.2-20 / PIKO BA / PIKO MP
- KACO Tx1 and Tx3 (blueplanet and Powador)
- Delta
- SolarMax S and MT
- Production measurement via EM300, EM420
- Production measurement via smart-me Meter 3-phase 5(80)A, MID
- RCT Battery Inverter
- Huawei SUN2000
- SungrowLogger 1000
- Sungrow SH5.0-10RT
- EMU M-Bus Center production measurement
- Solax Hybrid
- Solar-Log Base



Hot water:
- **ASKO***HEAT+*
- Fronius Ohmpilot with **ASKO***HEAT-OP*
- AC-Thor with **ASKO***HEAT-OP*

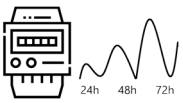
Smart Meter:
- ASKOMA *RS485(RTU)*
- ASKOMA RTU 2.0 *RS485(RTU)*
- Fronius Smart Meter
- Fronius Smart Meter as energy measurement
- SolarEdge Energy Meter
- Smart-me Cloud
- B-Control EM3000
- GUDE Expert Net Control 2312-1
- EmonCmsSmartMeter
- Carlo Gavazzi EM24
- my-PV Power Meter
- Clemap ONE
- Kostal Smart Energy Meter
- Shelly 1PM, 2.5, EM, 3EM, 4Pro
- Socomec Countis E27/E47
- Huawei Smart Power Sensor on SUN2000
- EMU M–Bus Center production measurement
- EMU PROFESSIONAL
- TQ EM420
- Solax Hybrid Smart Meter Measurement
- Climkit
- Siemens PAC3300, PAC 2200 (TCP version)
- Orno *RS485(RTU)*
- Smartfox Energy Meter 3EA *RS485 (RTU)*
- Solar-Log Baser

Smart Plug / Switch:
- smart-me Relais on 3-phase meter
- smart-me Plug (e. g. for bicycle)
- Relay box GUDE 2302/2312
- myStrom WIFI Switch
- myStrom Energy Control Switch 1+2
- Shelly 1, 1PM, 2.5, 4Pro
- Rutenbeck TCR IP4

ASKO*HOME+* extension:

Batteries:
- Victron Energy Venus GX with appropriate memory
- Kostal PLENTICORE plus with memory (e. g. BYD B-BOX H) and energy manager EM300-LR
- sonnenBatterie eco 7.0, eco 8.0,10.0, Performance
- Fronius Hybrid, Gen24 with BYD, FB
- GREENROCK salt water batteries
- E3 / DC
- Tesla Powerwall 2
- SOLARWATT MyReserve
- Solaredge StorEdge
- Innovenergy salidomo 9/18
- Powerball system memory
- SMA Sunny Island
- RCT Power Storage
- Solax Hybrid
- Huawei LUNA2000
- ads-tec StoraXe (with Siemens PAC3300)
- VARTA Storage, element, link, pulse

Car charging station
- KEBA Wallbox P30c and P30x
- go-eCharger HOME+
- ABB EVLunic Pro S and Pro M
- JUICE CHARGER 2
- Etrel Inch Home
- easee Home + Charge (incl. automatic 1- / 3-phase switching
- Alfen EVE Single Pro-Line (Load-Balancing–Active license required)(incl. automatic 1- / 3-phase switching)
- Weidmüller Business
- Zaptec Pro, Home, GO
- Mennekes Amtron Xtra, Premium, Professional and Amedio Professional
- Wallbe Pro



Energy yield forecast

The connection is always LAN, unless otherwise noted