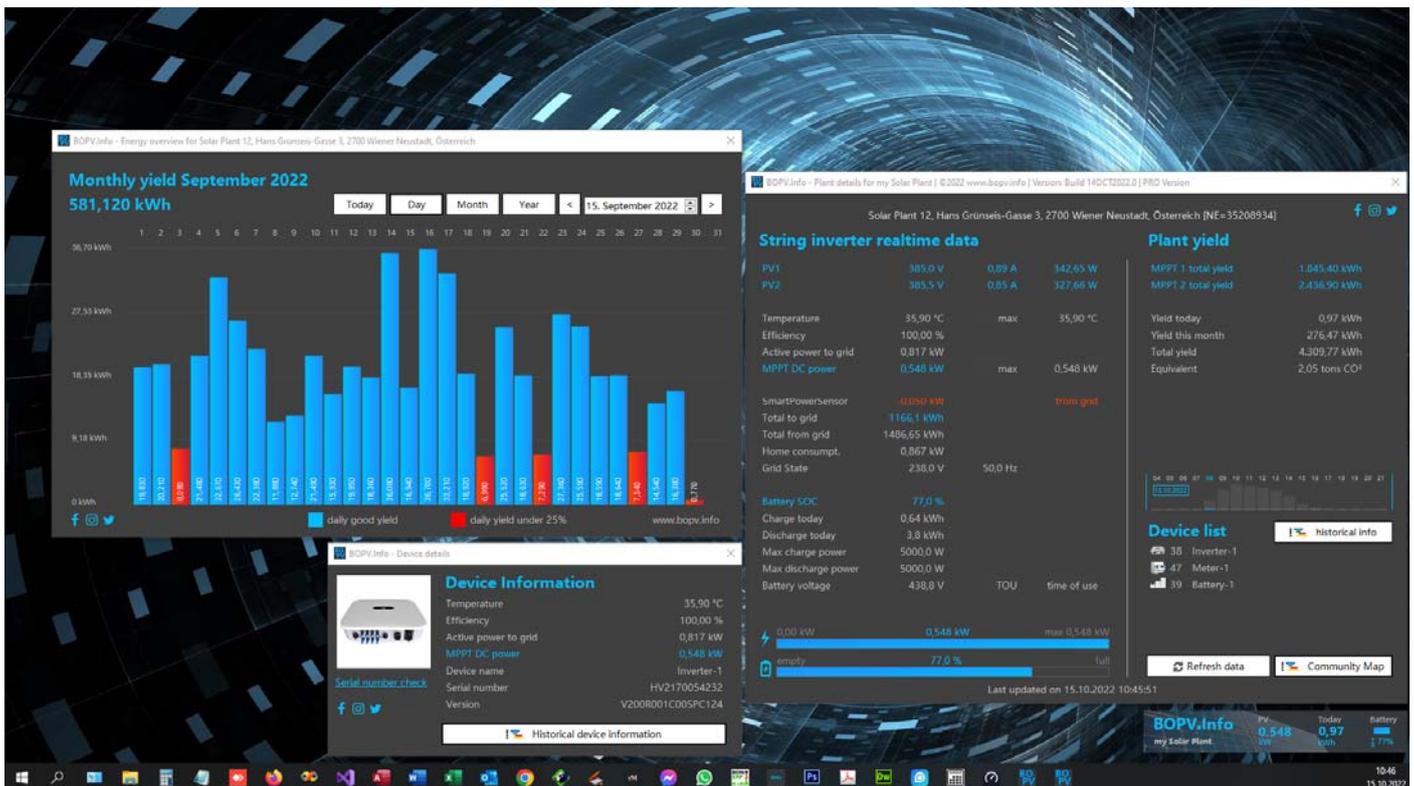


HUAWEI SUN2000 & LUNA2000

Windows App (+ FRONIUS GEN24)

Manual Version April 2024

System Requirements: Windows 10/11 and .NET Framework 4.8, Huawei SUN2000 Inverter



Foreword

You have probably already logged in to the Huawei FusionSolar portal via your smartphone app or via a browser and observed your system. It takes minutes to find all the information you want. And the repeatedly required login is annoying.

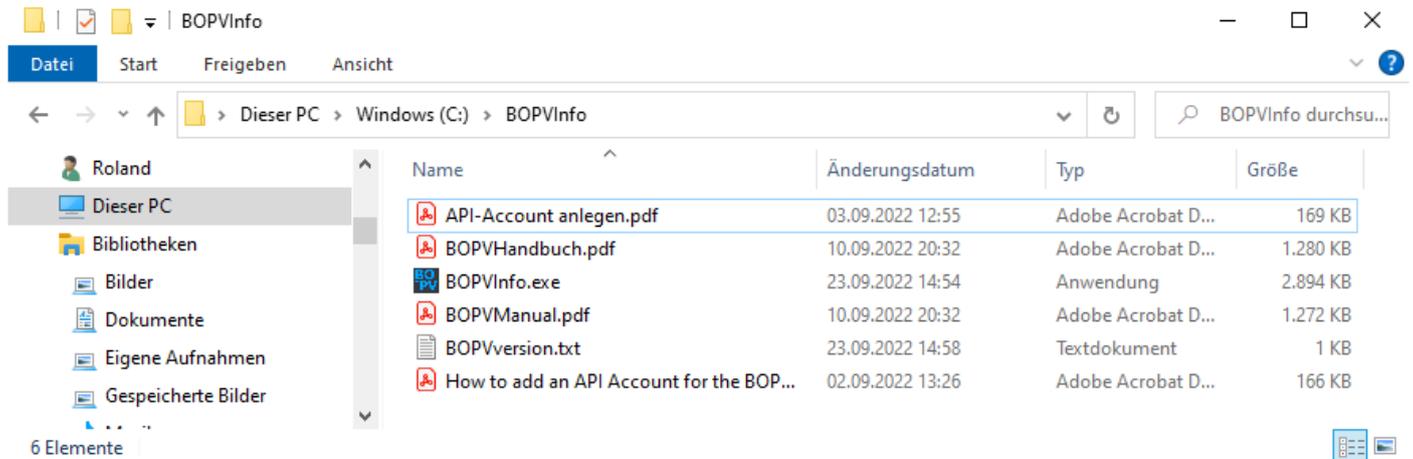
In addition, you may sit privately or professionally almost daily at the PC and would also like to follow the performance of your PV system on your company PC or on your home office computer. You can do this with the BOPV.Info application. Or you would like to charge your car with the PV surplus, operate the air conditioning or heating or switch on an additional consumer (e.g. heating element in the hot water tank).

Then BOPV.Info ist the perfect windows app for you.

If you want a bit more features, check out www.BOPV.uno or www.BOPV.mini.

Installation

Download the installation package from www.bopv.info. After installation, you will find a shortcut on the desktop, a shortcut in the startup folder and the program files on C:/BOPVInfo.

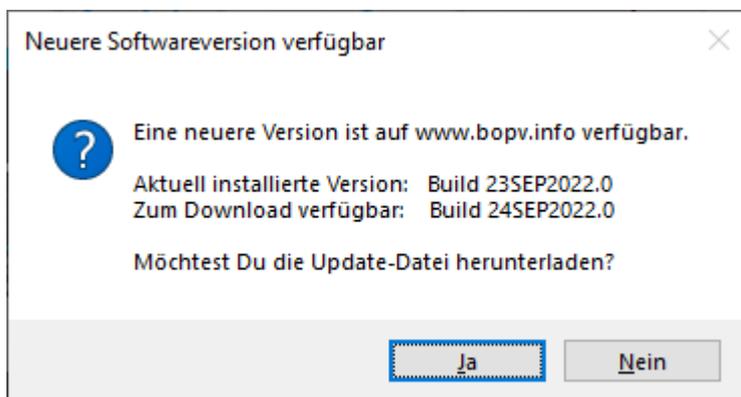


Start the application with a double click.

If a Windows security prompt comes, confirm it with "Run anyway". The files are regularly scanned for viruses and are therefore considered safe.

Update

Every time you start the program BOPV.Info check if an update is available and ask yourself if you want to download it. Answer "yes" and the setup of the current version will be downloaded and executed. Your data and settings will be retained during the update.



Settings

The first time you start BOPV.Info, you will automatically be taken to the settings. You only have to enter the API credentials for the beginning. You can find out how to get these in the separate PDF "How to add an API Account for the BOPV.pdf". If you do not have admin rights yourself, please ask your installer. Select "API" as the data source.

Datenquellen
Datenquellen: API + BOPV.mini Server IP BOPV.mini server: 192.168.0.242
test

Northbound API Zugangsdaten
API URL: https://intl.fusionsolar.huawei.com
Benutzer: WhiteCubePV_API
Passwort: *****
Erstelle einen neuen 'Northbound' Benutzer im FusionSolar Portal (für die Anleitung hier klicken).
 Bei neuen API Accounts ab 2023 aktivieren

PRO version
Versionsinfo: PRO Version (6/10 activated) [jetzt bestellen](#)
Lizenzaktivierung

Sprache / Sonstiges
Sprache: deutsch
Temperatursensoren

ModbusTCP Konfiguration*
IP Adresse: 192.168.0.188 test
MBUS-ID SUN2000 1: 3 Strings: 2 Name:
MBUS-ID SUN2000 2: 2 Strings: 2 Name:
MBUS-ID SUN2000 3: 0 Strings: 0 Name:
MBUS-ID LUNA/DTSU: 2 String Daten aufzeichnen

Widget Einstellungen
Anlagenname: WhiteCube PV
PV Power: PV Batterie-Kapazität (kWh): 30,000
Heute: Heute
Batterie: Batterie
Ins Netz: reset Widget Labels
Hauslast:
Hintergrund: black
 Energy Management
 klassisches Hausbild topmost

Sync Einstellungen
Cloud API sync Interval: 3 Minuten 5 Minuten 10 Minuten

Balkonkraftwerk
Shelly IP Adresse: 192.168.0.240 test
 Shelly PRO 4 PM Channel: 0
reset MAX Werte
speichern & neu start

Explanation of the individual points in the settings:

"Northbound API credentials" = API access data and API server (intl.fusionsolar.huawei.com i.e.)

"PRO version" = Enter the license key you received when you purchased the PRO version

"Widget labels" = You can personalize the labels in the small status window.

"reset widget labels" = resets the individual widget labels

"ModbusTCP configuration" = function of the PRO version – explained further down in the manual

"2nd PV plant (balkony)" = IP address for Shelly Plug S Balkonkraftwerk. If you are using a Shelly PRO 4 PM, then tick the appropriate box.



"Sync Settings" = query interval on the Huawei FusionSolar Cloud

"reset MAX values" = reset stored max values of temperature and PV-Power

"save and restart" = apply changes and restart

"Language" = choose your interface language

"use original inverter names in device list" = Shows the names from FusionSolar and not the type in the device list

Basic functions:

Immediately after starting, the status window appears on the screen:



or this screen:



You can position the status window individually on the screen with the left mouse button. When exiting the application via the "Exit" menu, the last window position is saved.

Explanation of the values in the status window:

"Bottom left" = name of the first inverter in the system or an individual designation ("Plant name" in the settings)

"PV" = current DC power of your photovoltaic system in kW

"Today" = today's total yield in kWh

"Battery" = the battery indicator (if a battery is installed).

With the right mouse button, you get to the menu:

Explanation of the menu items:

"Show plant details" = opens or closes the detail window (will be explained in the next section). If the check mark is visible on the left side of the menu item, the detail window opens automatically when the program is started. You can also open the detail window by double-clicking on any blue text module in the status window.

"Refresh device list" = logs in again and updates the device list (like a restart)

"Use energy surplus" = Here you can set how your PV surplus should be used

"DAIKIN remote control" = starts the DAIKIN screen remote control (IP address required at first start)

"KIOSK mode" = starts the presentation mode in the current screen as a full-screen application

"Settings" = here you get to the settings

"Exit" = finished BOPV.Info and saves all window positions



BOPV Info

WhiteCube PV

PV **5,108**
PV2: 299 W

Heute **13,26**
kWh

go-e charger **ON** 2,07 kW 9A 1p

Ins Netz **0,024**
kW

Hauslast **3,850**
kW

Batterie
1 %
0,3 kWh

Wohnraum	21,45 °C
Schlafzimmer	23,00 °C
Gaestezimmer	24,12 °C
Speis	24,25 °C
Pooltechnik	12,75 °C
Büro	21,00 °C
Außen	1,00 °C

DC Leistung:

Hausverbrauch:

Ins Netz:

Historische Geräteinformationen
(nur für API User bis 06/22)

Ertragsübersicht
Jahr, Monat, Tag, Stunde

Lokale Aufzeichnungen
aller Grunddaten (neu)

- Widget umschalten
- Zeige Kraftwerksdetails
- Berichte**
- Community Map - Kraftwerksvergleich
- Moduloptimierer Details
- KIOSK Modus
- DAIKIN Fernsteuerung
- Geräteliste aktualisieren
- Überschussenergie verbrauchen
- Logfile
- Einstellungen
- BOPV.app
- BOPV.mini
- Ertrag- und Kostenrechner
- Tutorials
- Update (Build 27FEB2023.0 installiert)
- Hilfe auf www.bopv.info
- Beenden

Plant details

You can access the plant details either via the first menu item or by double-clicking on one of the blue texts in the widget. Here you can see all plant data in the overview. The values are usually self-explanatory. We are happy to answer questions about the values in the Facebook support group:

<https://www.facebook.com/groups/1160839111137832>

"Refresh device list" = logs in again and updates the device list (like a restart)

"Settings" = here you get to the settings

You can change the window in height if you get more or less information displayed.

BOPV.Info - Plant details for NE=35227571 | ©2022 www.bopv.info | Version: BETA 10.09.2022

Solar Plant 12, Hans Grünseis-Gasse 3, 2700 Wiener Neustadt, Österreich [NE=35227571]

String inverter realtime data

PV1	371,2 V	0,27 A	100,22 W
PV2	317,1 V	0,13 A	41,22 W
Temperature	33,10 °C	max	44,75 °C
Efficiency	100,00 %		
Active power to grid	2,945 kW		
MPPT DC power	0,058 kW	max	8,240 kW ⚡
SmartPowerSensor	0,000 kW		
Total to grid	2510,26 kWh		
Total from grid	112,16 kWh		
Home consumpt.	2,945 kW		
Grid State	243,5 V	49,97 Hz	
Battery SOC	95,0 %		
Charge today	11,05 kWh		
Discharge today	6,47 kWh		
Max charge power	5000,0 W		
Max discharge power	5000,0 W		
Battery voltage	439,1 V	Maximum-	self-consumpt.
DAIKIN surplus	cooling 22°C	09:00-16:00	off ⚙
Wallbox surplus		11:00-16:00	off ⚙
myStrom surplus	3,500 kW	11:00-15:00	off ⚙
After surplus	2,945 kW		

⚡ 0,00 kW 0,058 kW max 8,240 kW

🔋 empty 95,0 % full

Last updated on 10.09.2022 20:26:56

Plant yield

MPPT 1 total yield	2.050,86 kWh
MPPT 2 total yield	1.899,81 kWh
Yield today	19,69 kWh
Yield this month	220,05 kWh
Total yield	3.764,68 MWh
Equivalent	1,79 tons CO ²

Device list

- 38 INVERTER
- 47 SMART POWER SENSOR DxSU666-H
- 39 BATTERY

🔄 Refresh device list ⚙ Settings

The designations "PV1", "PV", ... and "MPPT 1", "MPPT 2", ... are not very revealing. Here you can provide the individual strings and MPP trackers with individual names. Simply double-click on an entry and enter an alternative label.

New PV-string label ✕

Please enter new label for this PV string:

14x 330W SO (DAS)

The result can then look like this:

BOPV BOPV.Info - Solarkraftwerk Details für WhiteCube PV | ©2022 www.bopv.info | Version: Build 14OCT2022.0 | PRO Version ✕

WhiteCubePV, Hans Grünseis-Gasse 3, 2700 Wiener Neustadt [NE=35064335] f @ t

String Wechselrichter Echtzeit Daten

14x 330W SO (DAS)	521,5 V	0,81 A	422,42 W
12x 370W N/S	216,8 V	1,18 A	255,82 W
20x 370W O/W	337,5 V	1,84 A	621,00 W
14x 330W SO (DAS)	519,3 V	0,84 A	436,21 W
Temperatur	39,30 °C	max	49,00 °C
Effizienz	94,01 %		
Wirkleistung	1,657 kW		
MPPT DC Leistung	1,763 kW	max	17,306 kW
Smart Power Sensor		not	connected
Batterie		not	connected

Gesamtertrag

Pultdach 1	4.000,70 kWh
Nebengebäude	2.065,73 kWh
Buero	6.078,85 kWh
Pultdach 2	4.010,94 kWh
Gesamt heute	3,87 kWh
Gesamt Monat	691,44 kWh
Gesamtertrag	15.729,18 kWh
Equivalent	7,47 Tonnen CO ²

If you double-click on an entry in the device list "Device list", you will get more information about this connected device. If you click on the serial number, it will be copied to the clipboard and the Huawei website for serial number query will be opened. You can check your warranty there.

BOPV BOPV.Info - Geräteinformation ✕

[Seriennummer prüfen](#)

f @ t

Geräteinformationen

Temperatur	39,30 °C
Effizienz	94,01 %
Wirkleistung	1,657 kW
MPPT DC Leistung	1,763 kW
Gerätebezeichnung	SUN2000-30KTL-M3
Seriennummer	6T21B9051083
Version	V100R001C20SPC117

Historische Geräteinformationen

Multi-power plant management for installers (will no longer be available for new API accounts from 2023)

If you manage more than one solar power plant, you can manage up to 100 solar power plants with BOPV.Info. A selection screen will automatically appear when you start the program after you have entered the API access data. Simply select the desired power plant.

BOPV.Info - please select plant

Please select your plant!

Search:

More than one plant found in your account. Please select a plant to display real time data.

0	BOPVInfo Demo Solar Plant 1	NE=35277616	John Sample Sample Street 1 41185 Samletown
1	BOPVInfo Demo Solar Plant 2	NE=35316159	John Sample Sample Street 2 41185 Samletown
2	BOPVInfo Demo Solar Plant 3	NE=35264126	John Sample Sample Street 3 41185 Samletown
3	BOPVInfo Demo Solar Plant 4	NE=35118185	John Sample Sample Street 4 41185 Samletown
4	BOPVInfo Demo Solar Plant 5	NE=34663722	John Sample Sample Street 5 41185 Samletown
5	BOPVInfo Demo Solar Plant 6	NE=34928451	John Sample Sample Street 6 41185 Samletown
6	BOPVInfo Demo Solar Plant 7	NE=35351891	John Sample Sample Street 7 41185 Samletown
7	BOPVInfo Demo Solar Plant 8	NE=35269788	John Sample Sample Street 8 41185 Samletown
8	BOPVInfo Demo Solar Plant 9	NE=35196281	John Sample Sample Street 9 41185 Samletown
9	BOPVInfo Demo Solar Plant 10	NE=35340574	John Sample Sample Street 10 41185 Samletown
10	BOPVInfo Demo Solar Plant 11	NE=34971649	John Sample Sample Street 11 41185 Samletown
11	BOPVInfo Demo Solar Plant 12	NE=35338274	John Sample Sample Street 12 41185 Samletown
12	BOPVInfo Demo Solar Plant 13	NE=35161548	John Sample Sample Street 13 41185 Samletown
13	BOPVInfo Demo Solar Plant 14	NE=35060054	John Sample Sample Street 14 41185 Samletown
14	BOPVInfo Demo Solar Plant 15	NE=35047041	John Sample Sample Street 15 41185 Samletown
15	BOPVInfo Demo Solar Plant 16	NE=35341196	John Sample Sample Street 16 41185 Samletown
16	BOPVInfo Demo Solar Plant 17	NE=35158287	John Sample Sample Street 17 41185 Samletown
17	BOPVInfo Demo Solar Plant 18	NE=35095489	John Sample Sample Street 18 41185 Samletown
18	BOPVInfo Demo Solar Plant 19	NE=35342124	John Sample Sample Street 19 41185 Samletown
19	BOPVInfo Demo Solar Plant 20	NE=35281998	John Sample Sample Street 20 41185 Samletown
20	BOPVInfo Demo Solar Plant 21	NE=35044530	John Sample Sample Street 21 41185 Samletown

Load plant BOPVInfo Demo Solar Plant 2

Attention: This function is only available to API accounts created before 2023 after a change to the HUAWEI API. New API users cannot use this function at all or only to a limited extent.

As you can see in this example screenshot, you can also manage larger plants:

BOPV.Info - Plant details for WhiteCube PV | ©2022 www.bopv.info | Version: Build 14OCT2022.0 | PRO Version
✕

Solar Plant 12, Hans Grünseis-Gasse 3, 2700 Wiener Neustadt, Österreich [NE=34971649]

String inverter realtime data

PV1	784,3 V	2,84 A	2.227,41 W
PV2	784,3 V	2,79 A	2.188,20 W
PV3	788,2 V	2,87 A	2.262,13 W
PV4	788,2 V	2,74 A	2.159,67 W
PV9	791,2 V	2,69 A	2.128,33 W
PV10	791,2 V	2,71 A	2.144,15 W
PV11	793,6 V	2,71 A	2.150,66 W
PV12	793,6 V	2,81 A	2.230,02 W
PV15	779,3 V	2,78 A	2.166,45 W
PV16	779,3 V	2,89 A	2.252,18 W
PV17	786,3 V	2,90 A	2.280,27 W
Razsmernik 4 - 6T2...			
PV1	786,9 V	2,81 A	2.211,19 W
PV2	786,9 V	2,82 A	2.219,06 W
PV3	755,3 V	2,88 A	2.175,26 W
PV4	755,3 V	2,91 A	2.197,92 W
PV9	726,9 V	3,03 A	2.202,51 W
PV10	726,9 V	3,07 A	2.231,58 W
PV11	735,5 V	2,97 A	2.184,44 W
PV12	735,5 V	2,87 A	2.110,89 W
PV15	734,3 V	2,78 A	2.041,35 W
PV16	734,3 V	2,77 A	2.034,01 W
PV17	693,3 V	2,67 A	1.851,11 W
PV18	693,3 V	2,82 A	1.955,11 W
Razsmernik 3 - 6T2...			
PV1	740,3 V	2,84 A	2.102,45 W
PV2	740,3 V	2,92 A	2.161,68 W
PV3	735,0 V	2,86 A	2.102,10 W
PV4	735,0 V	2,82 A	2.072,70 W
PV9	738,5 V	2,87 A	2.119,50 W
PV10	738,5 V	2,90 A	2.141,65 W
PV11	742,3 V	2,81 A	2.085,86 W
PV12	742,3 V	2,84 A	2.108,13 W
PV15	778,1 V	2,83 A	2.202,02 W
PV16	778,1 V	2,82 A	2.194,24 W
PV17	807,2 V	2,64 A	2.131,01 W

Temperature	43,05 °C	max	49,40 °C
Efficiency	98,36 %		
Active power to grid	96,128 kW		
MPPT DC power	97,733 kW	max	97,733 kW

Smart Power Sensor	not	connected
Battery	not	connected

⚡

0,00 kW
97,733 kW
max 97,733 kW

Plant yield

Razsmernik 2 - ES21...	
MPPT 1 total yield	17.370,17 kWh
MPPT 2 total yield	17.248,95 kWh
MPPT 5 total yield	17.298,81 kWh
MPPT 6 total yield	17.478,57 kWh
MPPT 8 total yield	16.805,38 kWh
MPPT 9 total yield	8.571,28 kWh
Razsmernik 1 - ES21...	
MPPT 1 total yield	16.613,10 kWh
MPPT 2 total yield	17.394,72 kWh
MPPT 5 total yield	16.871,12 kWh
MPPT 6 total yield	17.182,64 kWh
MPPT 8 total yield	17.198,42 kWh
MPPT 9 total yield	8.766,76 kWh
Razsmernik 4 - 6T21...	
MPPT 1 total yield	17.978,19 kWh
MPPT 2 total yield	17.629,69 kWh
MPPT 5 total yield	17.789,14 kWh
MPPT 6 total yield	17.295,87 kWh
MPPT 8 total yield	16.773,01 kWh
MPPT 9 total yield	15.554,39 kWh
Razsmernik 3 - 6T21...	
MPPT 1 total yield	16.544,57 kWh
MPPT 2 total yield	16.470,85 kWh
MPPT 5 total yield	16.506,11 kWh
MPPT 6 total yield	16.627,32 kWh
MPPT 8 total yield	17.376,24 kWh
MPPT 9 total yield	8.765,40 kWh

Yield today	128,85 kWh
Yield this month	15.312,33 kWh
Total yield	377.202,67 kWh
Equivalent	179,17 tons CO ²

Device list

- 🔌 62 HV2160166048
- 🏠 01 Razsmernik 2 - ES2140034862
- 🏠 01 Razsmernik 1 - ES2140034955
- 🏠 01 Razsmernik 4 - 6T2149034273
- 🏠 01 Razsmernik 3 - 6T2149034271

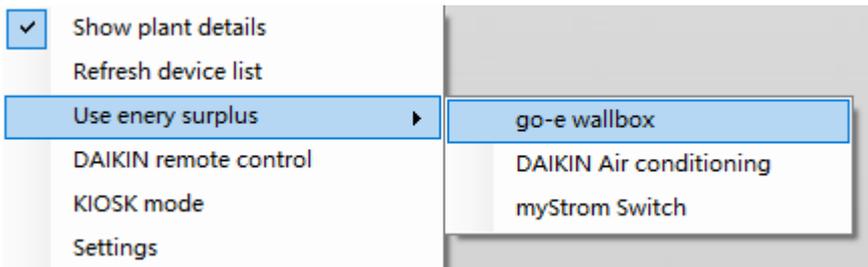
↻ Select another plant

🗺️ Community Map

Last updated on 15.10.2022 11:03:03

Surplus functions

With BOPV.Info, you can also consume your PV electricity surplus yourself in a surplus-controlled manner. Either with a go-e wallbox, a DAIKIN air conditioner or with a myStrom switch. This is only possible with an API connection.



go-e Wallbox

You can access the go-e wallbox either via the local network or via the go-e Cloud. Choose "local API" or "cloud API" according to your preference. With the local API, you only need the IP address of the wallbox. With the Cloud IP you need the serial number and an API key. Click on the question mark next to the input fields to see where in the go-e app you can find this information and which API functions you need to activate in the go-e app.

You can choose three modes:

"fix" = starts the charging process in the specified time with the specified amps and the set phases

"auto" = starts the charging process in the specified time if there is enough energy surplus. The basic house consumption is taken into account, which should always remain available in any case. Depending on the energy surplus, the wallbox charges from 6A 1-phase to 16 amperes 3-phase.

"auto conservative" = like "auto", but always 1 amp less

Use "test connection", "test with xA xp" and "stop" to check the connectivity of the wallbox.

A screenshot of the 'BOPV.Info - go-e wallbox settings' page. The page has a dark background with blue and white text. At the top left, there's a logo and the title. The main content is divided into two sections: 'go-e wallbox cloud API settings' and 'Options'. Under 'go-e wallbox cloud API settings', there are input fields for 'API mode' (set to 'cloud API'), 'Local IP address' (192.168.0.246), 'Serial number' (200199), and 'API key' (masked with asterisks). There are question marks and a cloud icon next to the serial number and API key fields. A checkbox 'activate wallbox logic control' is checked. Under 'Options', there are three buttons: 'test connection', 'test with 6A 3p', and 'stop'. Below these, there are more settings for 'Charging logic dependent on the energy surplus', including 'Charging times from' (09:00 to 18:00), 'Charging mode' (auto), 'House consumption' (2,000 kW), and a checkbox 'Use 1 and 3 phases autom.' which is checked. A 'save and restart' button is at the bottom right. An image of a go-e wallbox is shown on the right side of the page.

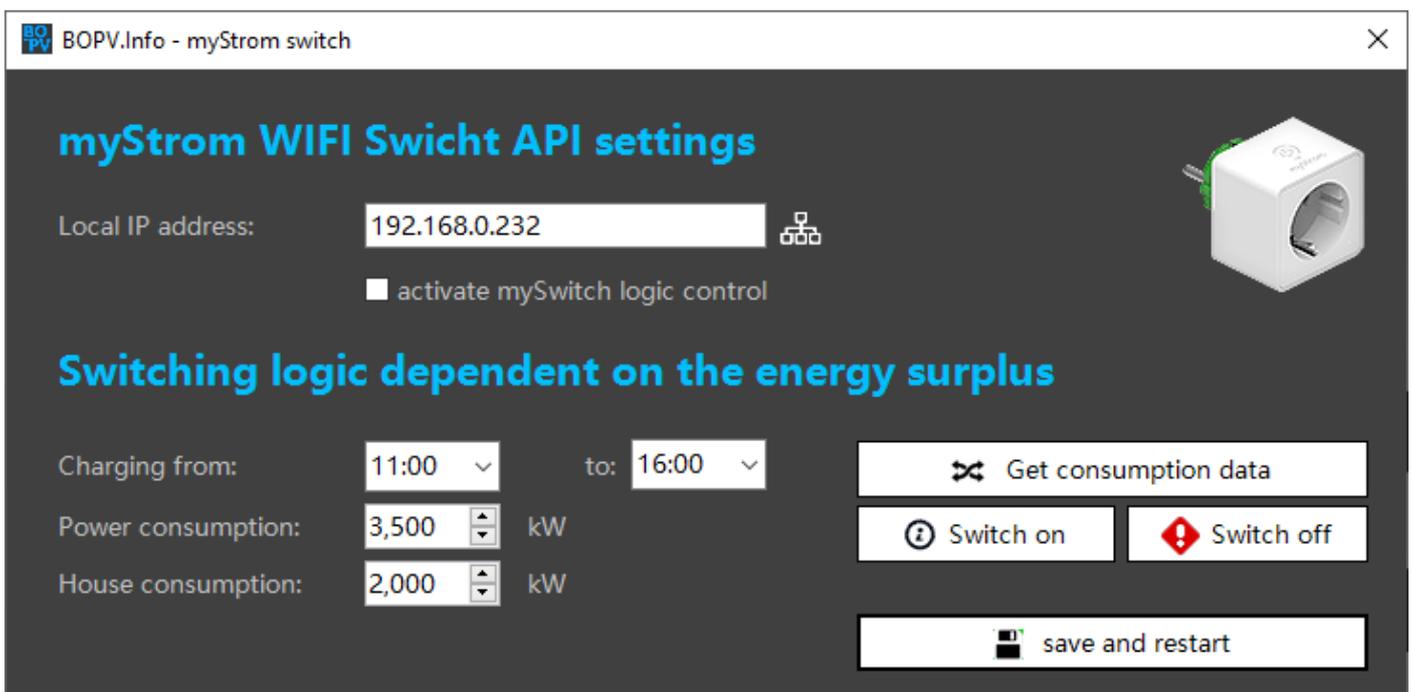


myStrom Switch

The myStrom Switch can be reached via a local IP address. In the Manufacturer APP, you need to disable local authentication.

The switch is activated within the specified time as soon as sufficient energy surplus is available for the connected consumer. In the screenshot example, the myStrom switch switches on as soon as more than 5.5 kW of energy comes from the PV system. Under "Power consumption" you enter the connection value of the connected consumer. Under "House consumption" you specify how much kW should remain for the basic house consumption after activation of the switch.

With "Get consumption data" you can check how much power the connected device needs. To do this, switch on beforehand with "Switch on".



DAIKIN air conditioning as excess consumer

As soon as you have installed the WLAN adapter in your DAIKIN air conditioning system, you can reach it via IP address. Not all DAIKIN air conditioners support the local API – please test it.

In the example screenshot, the air conditioning system is started within the specified period in "cool 24 degrees" mode as soon as more than 5 kW are supplied by the PV system.

DAIKIN API settings

IP address: 192.168.0.233

Conditioning logic dependent on the energy surplus

Heating / cooling time: from: 11:00 to: 15:00 activate conditioning logic control

From an energy surplus: 5,000 kW Mode: cooling Temperature: 24 °C

BOAir DAIKIN AIR CONDITIONING
Operating mode: COOL
DEVICE IS ACTIVE
ROOM: 25°C | OUTSIDE: 21°C
Operating mode: COOLING
Fan speed: AUTO
Temperature: 22°C
Swing mode: BOTH

In the Plant Details you can see which surplus consumers are currently active or inactive. You can also double-click on the respective entries and get to the settings here as well.

Active power to grid	4,082 kW		
MPPT DC power	4,235 kW	max	19,390 kW ⚡
Smart Power Sensor	not connected		
Battery	not connected		
DAIKIN surplus	cooling 24°C	11:00-15:00	off ⚙
Wallbox surplus	2,07 kW 9A 1p	09:00-18:00	on ⚙
myStrom surplus	3,500 kW	11:00-16:00	off ⚙
After surplus	2,012 kW		

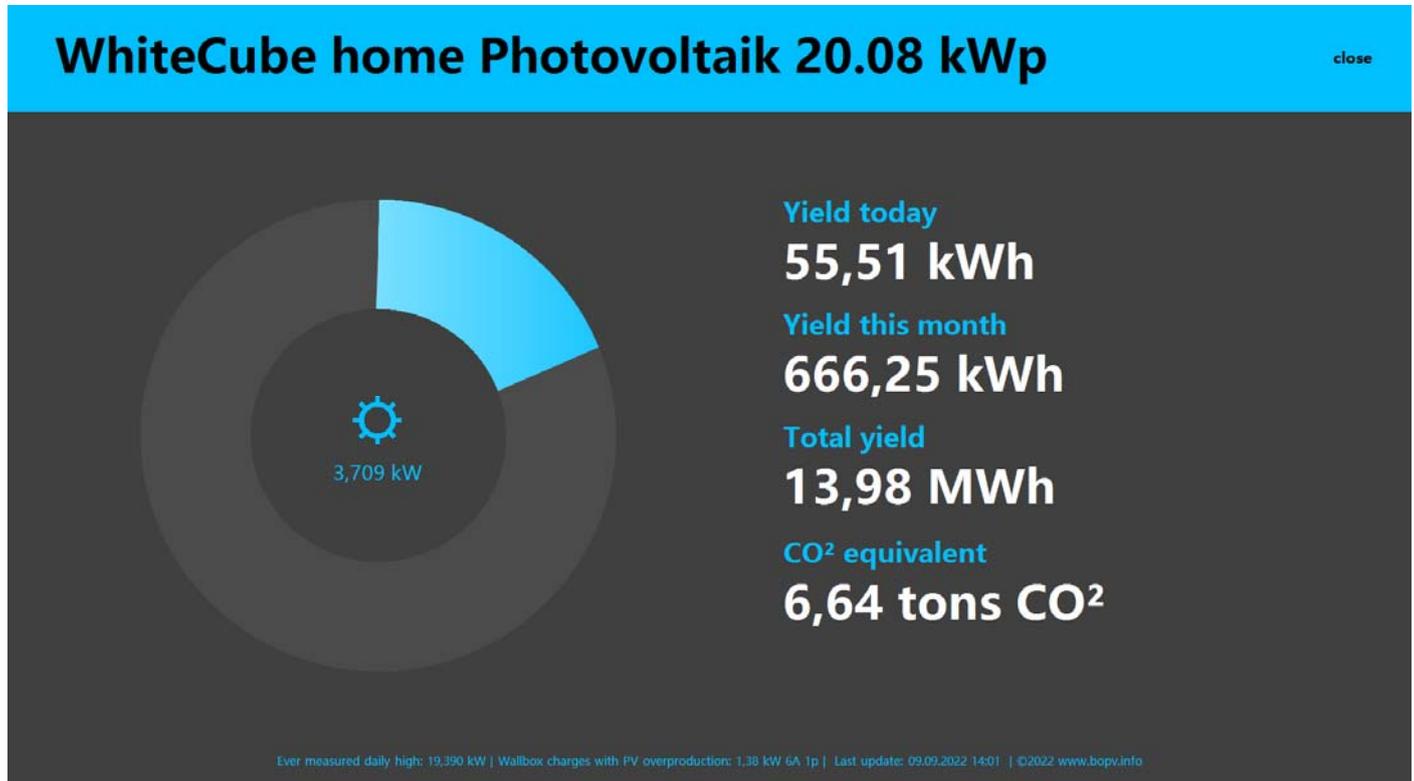
Note on the accuracy of excess charges

Since the data in the Huawei FusionSolar Cloud is only updated every 5 minutes, the excess charge is not accurate to the second and also not exact. If you have connected a LUNA battery, it compensates for the inaccuracies in any case. If not, then you have to calculate more or less network reference depending on the setting. In any case, excess loading over BOPV.Info is a profit. Surplus functions can only be used with the API!

KIOS mode (presentation mode)

You can start kiosk mode from the widget Context Menu.

For multi-screen users: The KIOS mode always starts in the screen in which the widget was started. If you want to use a different screen for the presentation, move the widget there, close it with "Exit" and then restart it. Then the KIOSK mode opens in the same screen as the widget.



Command line parameters

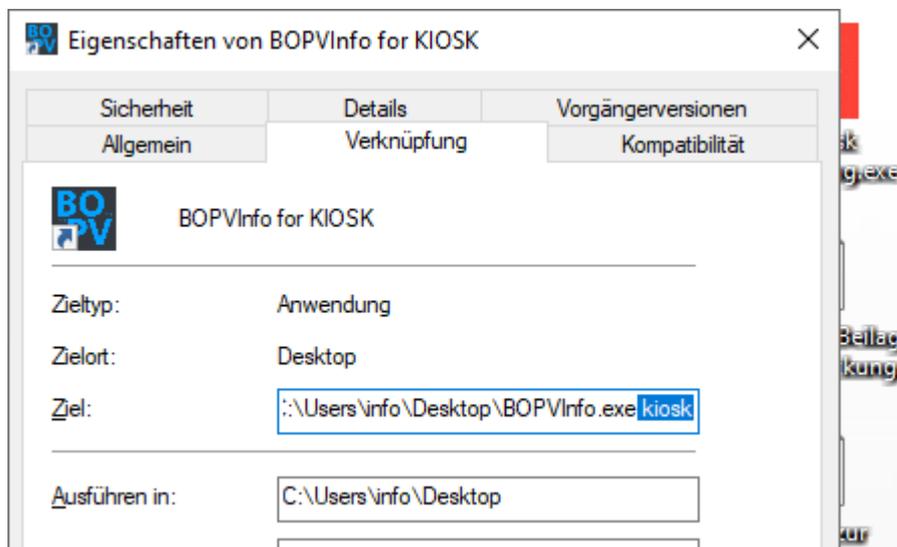
Optional: Create a link to the application and specify the following parameters in the shortcut:

"kiosk" = starts immediately in kiosk mode

"reset" = resets screen positions of widget and plant details

"demo" = hides the plant name (e.g. for screenshots for sharing).

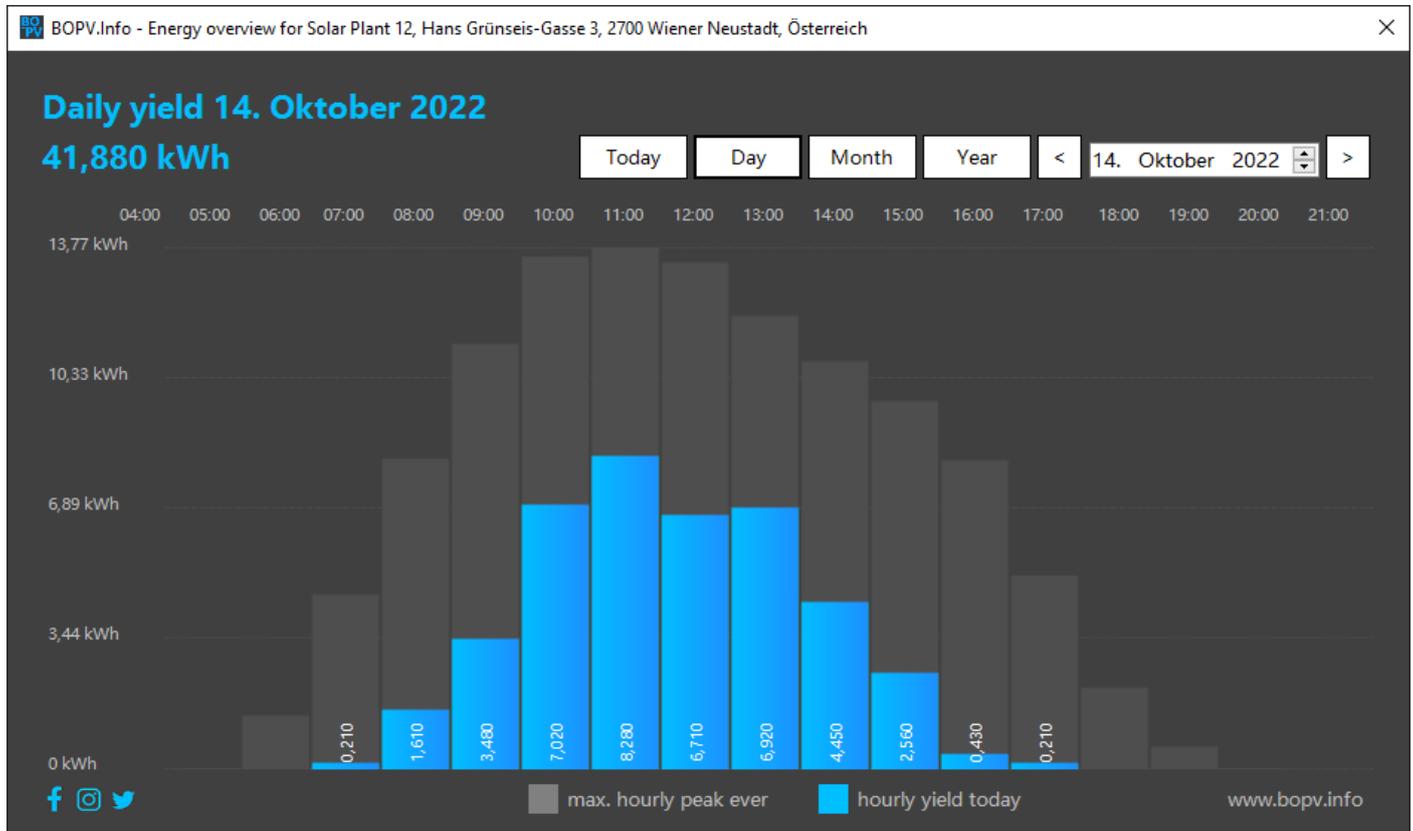
"PLAYGROUND" = starts immediately in playground mode



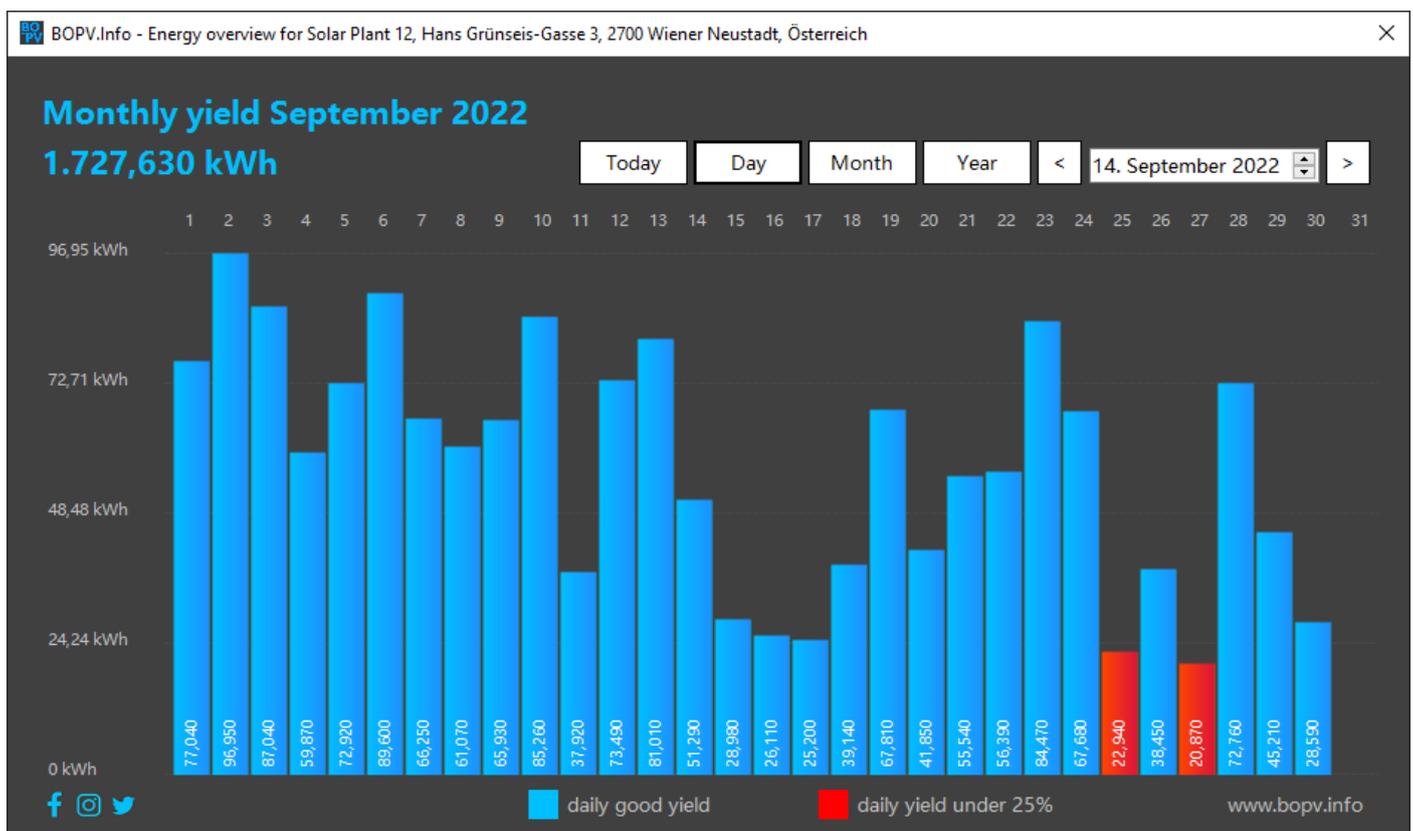
Yield overview

Via the widget menu > "Yield overview" you get to the yield overview where you can retrieve the yield data of your solar plant for every hour, every day and every month.

In the day view, the maximum hourly values of the most productive days of the system are displayed in dark gray bars for comparison.



In the month view, below-average days are displayed in red. The bars are clickable.



The year view is structured like the month view. Again, you can click on a month bar to get to the day view.



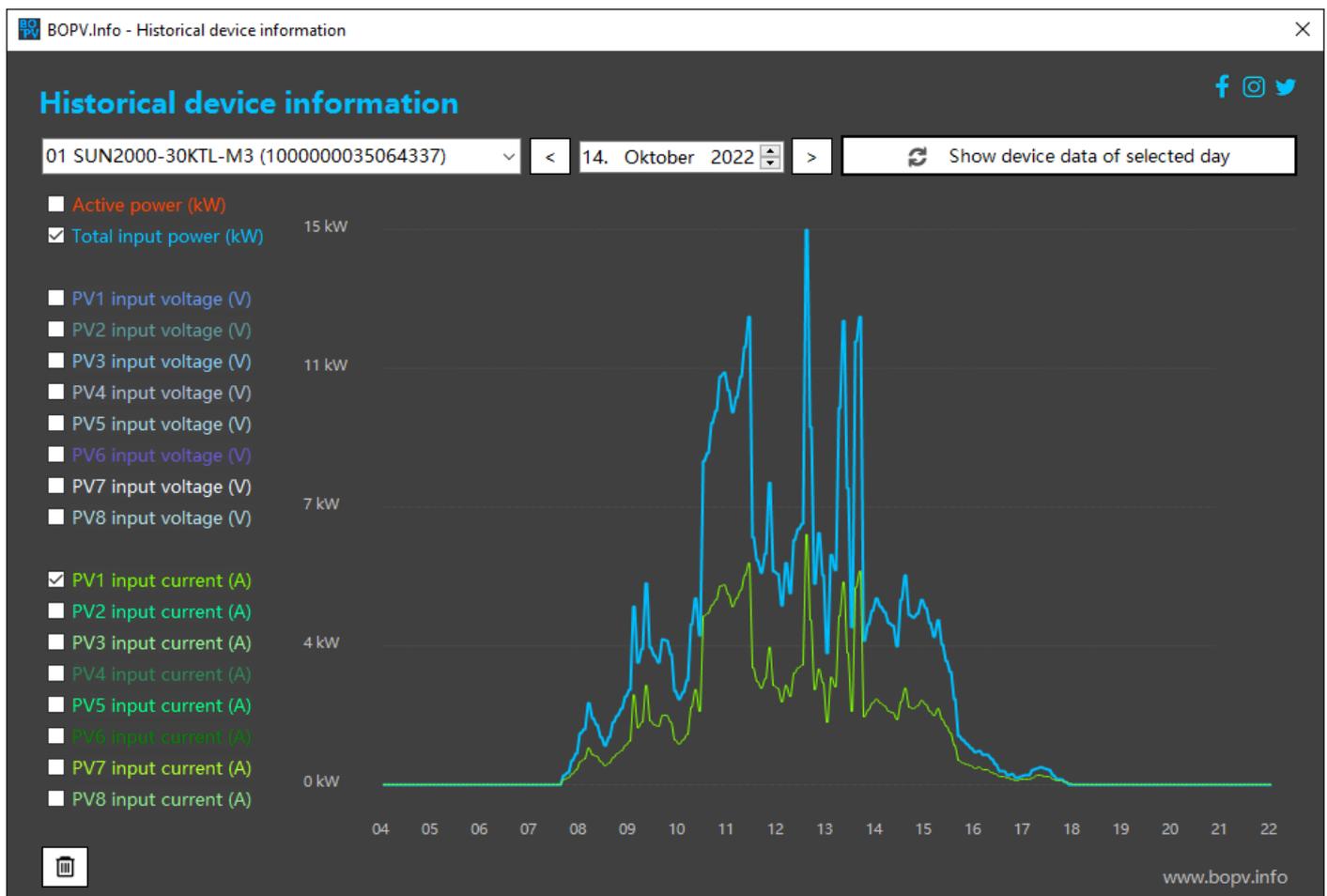
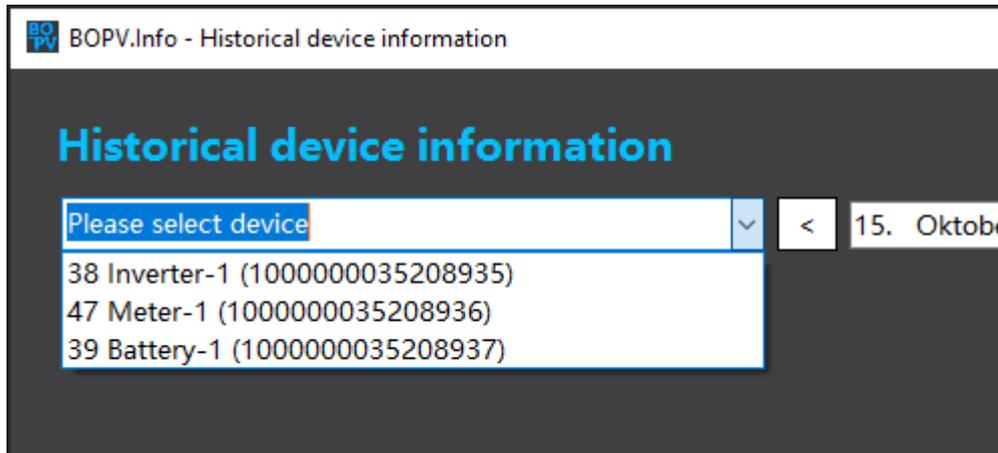
Please note that this feature only works with older API accounts. For new API accounts, you'll see a message that the 5-minute northbound option hasn't been enabled. This feature has unfortunately been blocked by Huawei for all new API users.

Historical device data

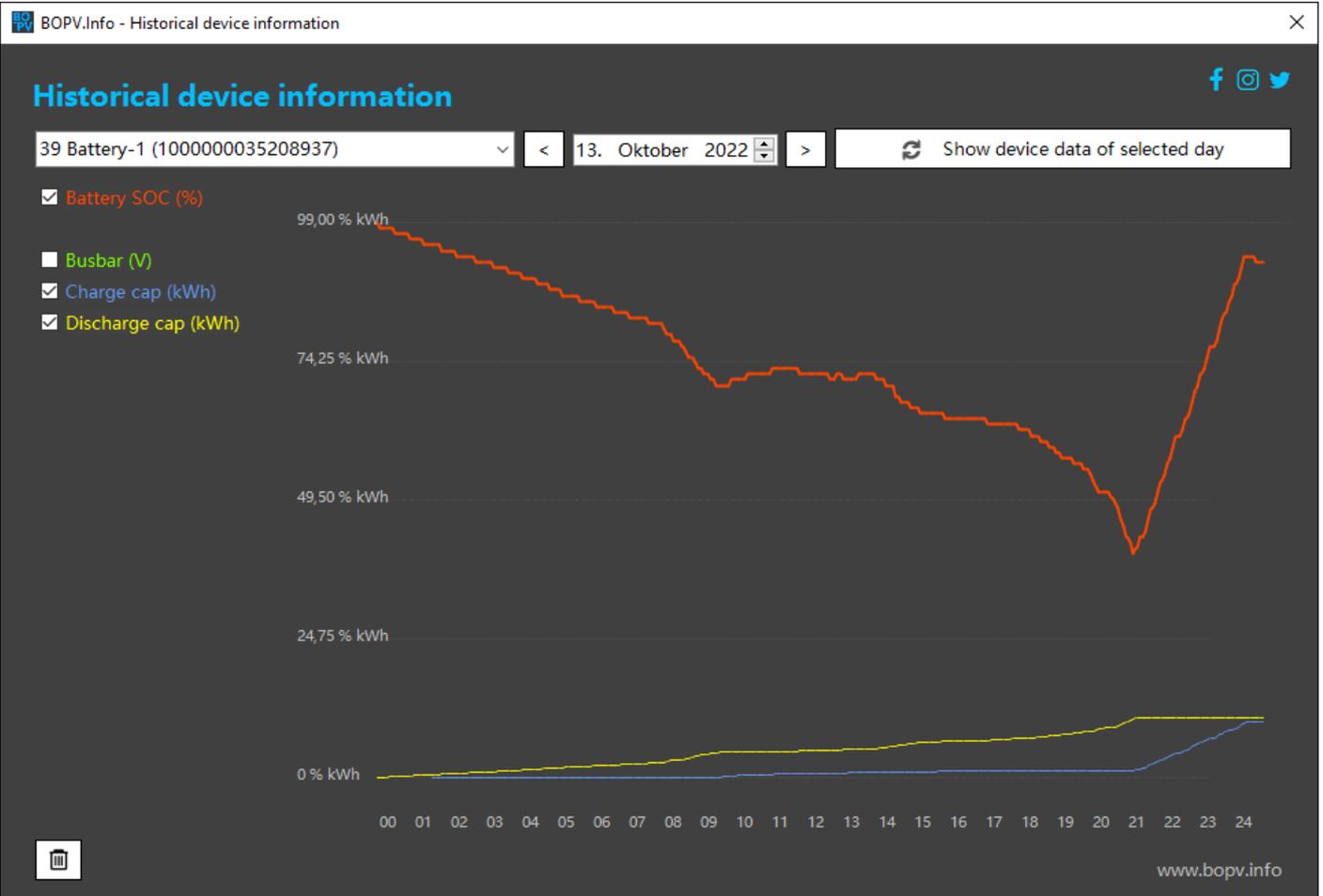
THESE FEATURES ARE ONLY ENABLED IN API ACCOUNTS OLDER THAN JULY 2022. IN NEWER API ACCOUNTS, THIS FUNCTION ON THE PART OF HUAWEI IS UNFORTUNATELY NO LONGER AVAILABLE.

Via the widget menu > "Historical device information" you get to the historical device overview where you can retrieve and compare the daily data of inverter, battery and SmartPowerSensor.

First, select the device for the evaluation in the upper left corner and then select the day. In the left column, select which data you want to see.



Please note that this feature only works with older API accounts. For new API accounts, you'll see a message that the 5-minute northbound option hasn't been enabled. This feature has unfortunately been blocked by Huawei for all new API users.



In the SmartPowerSensor view, you see feed-in positively and reference negatively.



Modbus TCP direct query of inverters (optional)

The coupling with the FusionSolar API has the advantage that the BOPV.Info can be used regardless of location. However, it also has the disadvantage that the data in the FusionSolar Cloud is only updated every 5 minutes.

If you want to get real-time data, you have to connect directly to the inverter. Then you can query the values every few seconds. Since it does not make sense to query all values every few seconds, the API connection is always the basis and the Modbus connection is a supplement (the turbo).

In addition, the PV system must have a Huawei WLAN dongle with which the system is connected to the in-house network either via WLAN or Ethernet. The PC running BOPV.Info must be on the same network.

To use the Modbus connection, all Huawei devices must have the latest firmware. You can perform the latest firmware directly in the FusionSolar Portal under "Upgrades". Only for older WLAN dongles there is a different update procedure (please ask search engines or installer).

In the FusionSolar setup, you still have to activate the Modbus for the WLAN dongle and set the access authorization. To do this, connect the WLAN hotspot directly to the inverter, click "Commissioning the device" > log on to the inverter > activate settings > communication configuration > dongle parameter settings > Modbus TCP > connection without restriction. You can also read out the Modbus comm address. Also under communication settings > RS485_1 > comm.address (read).

If you use two inverters, then connect to the second inverter and read the comm address there as well. A maximum of 3 inverters can be connected to BOPV.Info via Modbus. The data of both inverters are output cumulatively.

BOPV BOPV.Info - Einstellungen ✕

Datenquellen

Datenquellen: IP BOPV.mini server:

Northbound API Zugangsdaten

API URL:

Benutzer: Erstelle einen neuen 'Northbound' Benutzer im FusionSolar Portal (für die Anleitung hier klicken).

Passwort:

Bei neuen API Accounts ab 2023 aktivieren

PRO version

Versionsinfo: [jetzt bestellen](#)

Sprache / Sonstiges

Sprache:

ModbusTCP Konfiguration*

IP Adresse:

<input checked="" type="checkbox"/> MBUS-ID SUN2000 1:	<input type="text" value="3"/>	Strings:	<input type="text" value="2"/>	Name:	<input type="text" value="10KTL-M1 Süd"/>
<input checked="" type="checkbox"/> MBUS-ID SUN2000 2:	<input type="text" value="2"/>	Strings:	<input type="text" value="2"/>	Name:	<input type="text" value="10KTL-M1 Ost"/>
<input type="checkbox"/> MBUS-ID SUN2000 3:	<input type="text" value="0"/>	Strings:	<input type="text" value="0"/>	Name:	<input type="text"/>
<input checked="" type="checkbox"/> MBUS-ID LUNA/DTSU:	<input type="text" value="2"/>			<input checked="" type="checkbox"/> String Daten aufzeichnen	

Widget Einstellungen

Anlagenname:

PV Power: Batterie-Kapazität (kWh):

Heute:

Batterie:

Ins Netz:

Hauslast:

Hintergrund:

Energy Management

klassisches Hausbild topmost

Sync Einstellungen

Cloud API sync Interval: 3 Minuten 5 Minuten 10 Minuten

Balkonkraftwerk

Shelly IP Adresse:

Shelly PRO 4 PM Channel:

To enable the Modbus Communication, go to Settings. Enter the IP address of your Wi-Fi dongle.

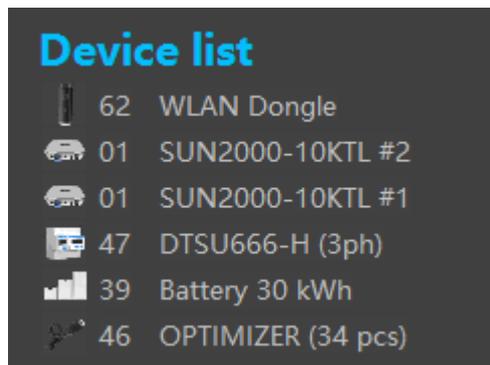
If you only have one inverter, activate the checkbox at "MBUS-ID inverter 1:" and enter the Modbus comm address to the right. Usually the WLAN dongle is "0" or "1" and the inverters start at "1" or "2". Click on "test" to start a test communication. If you see a message box with the inverter name, serial number and PV string data, then the connection works.

If an error message appears, it may be that the IP address or the KOMM address is incorrect or that the query has simply failed. Try several times until you get a result. If an error occurs during the query, the checkbox is automatically deactivated. You have to activate this again.

If you are using two inverters, repeat with the second line.

It may be that the sequence of inverters (if you use 2 or 3) in the device list is reversed in the plant details, then you also have to reverse the order of the comm addresses as in the screenshot above.

If you are using Windows 11 or an external firewall, make sure that Modbus port 502 has been enabled for the application on the network.



A query can sometimes take a few seconds. You will see a small arrow in the widget to the right of the Modbus TCP logo. If this is blue, then the current query runs.



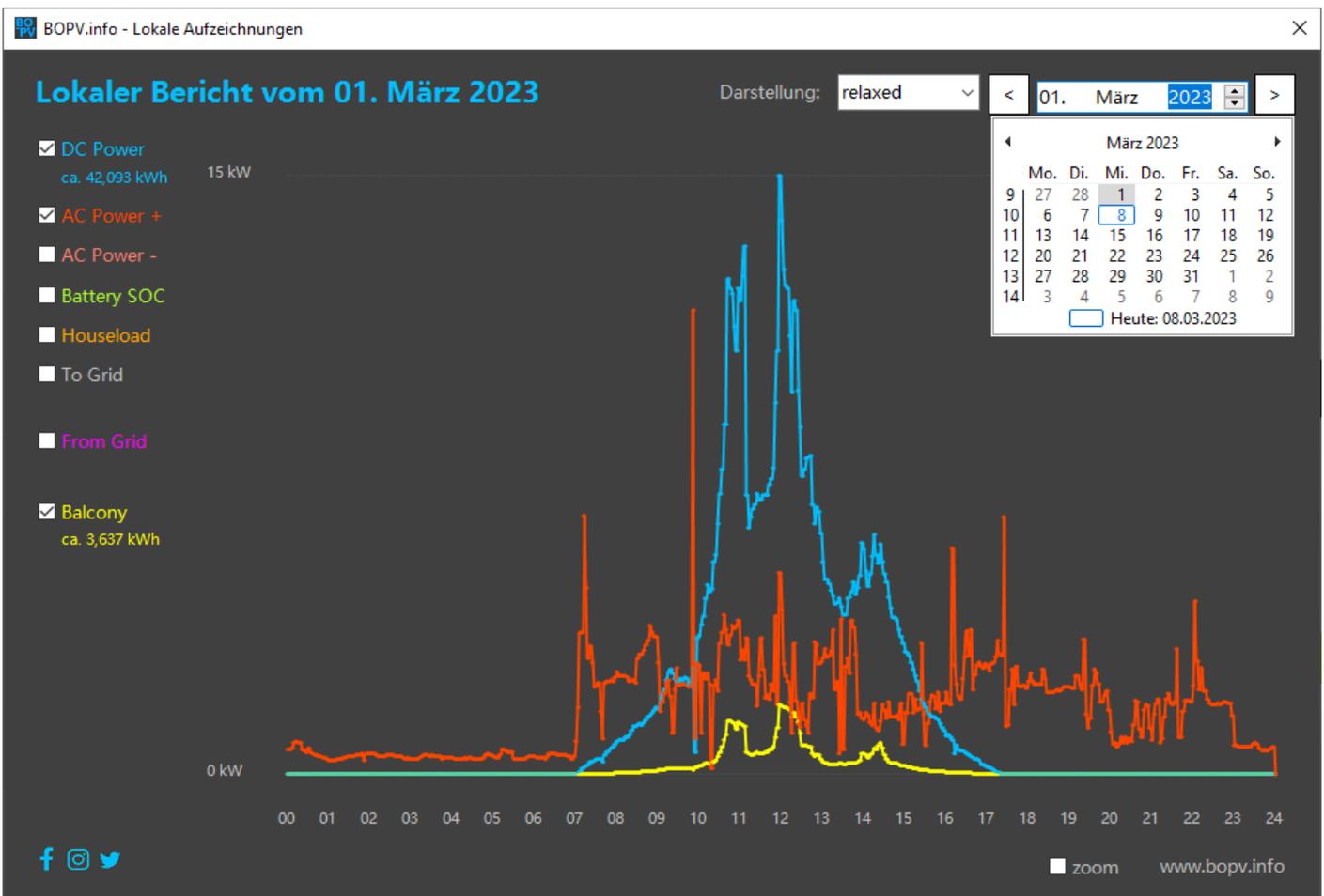
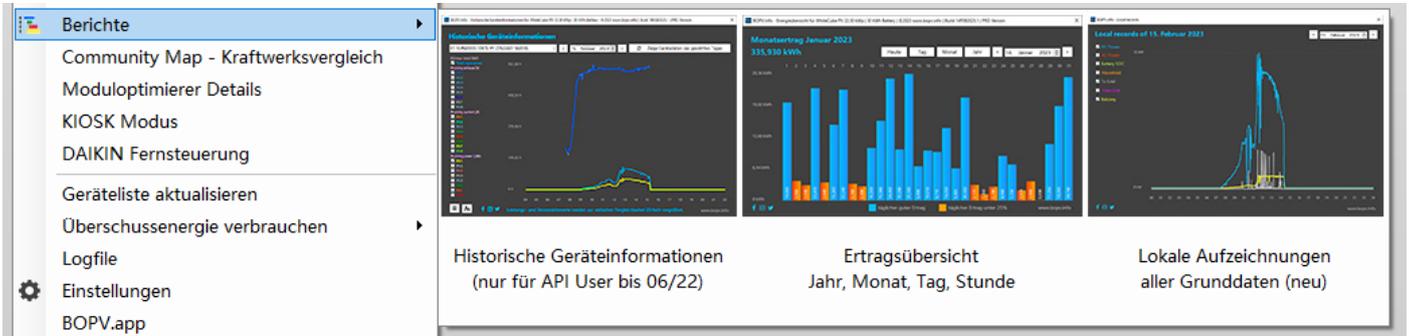
The following data is retrieved via Modbus: 8 PV strings per inverter (amps, volts), MPPT DC power, Active Power to grid, PowerSensor in/out. Some additional values are calculated from this. The rest is queried via the API.

Local Records

For all those users who do not receive 5-minute data from the API user and also for those users who only query the inverter via Modbus, we have integrated a local reporting system.

Whenever the BOPV.Info application is running, it records all relevant data locally on disk. This data can then be clearly displayed. To do this, call the "Local Recordings" function in the Reports menu.

The function itself is self-explanatory:



Yield and Energy Cost Calculator

In this table you can enter the monthly PV yield, feed-in, grid consumption and electricity prices. As a result, you will receive a detailed listing for each year.

In our other application "Private Construction Manager" (www.priconman.com) this function is also available, but there with additional electricity price calculator and extensive printing options.

Like Private Construction Manager, this feature is only available in German.

BOPV.Info - Ertrag- und Kostenrechner
✕

Ertrag- und Kostenrechner

Eingaben: PV-Ertrag, Einspeisung, Netzbezug, Strompreise

Auswertung für 2022 anzeigen
 10-jahres Auswertung ab 2022
 Stromkosten berechnen

Jahr: 2022

Jahr	Monat	Produktion kWh	Hausverbrauch kWh	PV-Verbrauch kWh	Einspeisung kWh	Netzbezug kWh	Bezugspreis Euro	Verkaufspreis Euro	Sonderausgaben Euro
2022	Januar	0,00	0,00	0,00	0,00	0,00	0,000000	0,000000	0,00
2022	Februar	0,00	0,00	0,00	0,00	0,00	0,000000	0,000000	0,00
2022	März	0,00	0,00	0,00	0,00	0,00	0,000000	0,000000	0,00
2022	April	2.178,20	2.575,29	1.649,29	528,91	926,00	0,269600	0,000000	0,00
2022	Mai	2.896,76	1.658,92	1.216,92	1.679,84	442,00	0,269600	0,000000	0,00
2022	Juni	3.030,65	2.006,62	1.631,62	1.399,03	375,00	0,291790	0,000000	0,00
2022	Juli	2.989,70	1.761,93	1.361,93	1.627,77	400,00	0,317320	0,307290	0,00
2022	August	2.320,35	1.400,04	898,04	1.422,31	502,00	0,342351	0,307290	0,00
2022	September	1.727,63	1.098,72	676,97	1.050,66	421,75	0,367578	0,307290	0,00
2022	Oktober	1.033,45	816,47	446,55	586,90	369,92	0,451538	0,514500	0,00
2022	November	492,70	1.222,45	484,84	7,86	737,61	0,501329	0,514500	0,00
2022	Dezember	341,76	1.767,68	338,20	3,56	1.429,48	0,529744	0,514500	0,00
2022	GESAMT	17.011 kWh	14.308 kWh	8.704 kWh	8.307 kWh	5.604 kWh	2.226,12 €	1.567,95 €	0,00 €

Eintrag oben wählen:

An Energieversorger bezahlt € 658,17

Eintrag speichern

Verbrauchte Energie hätte € 5.087,26 gekostet.

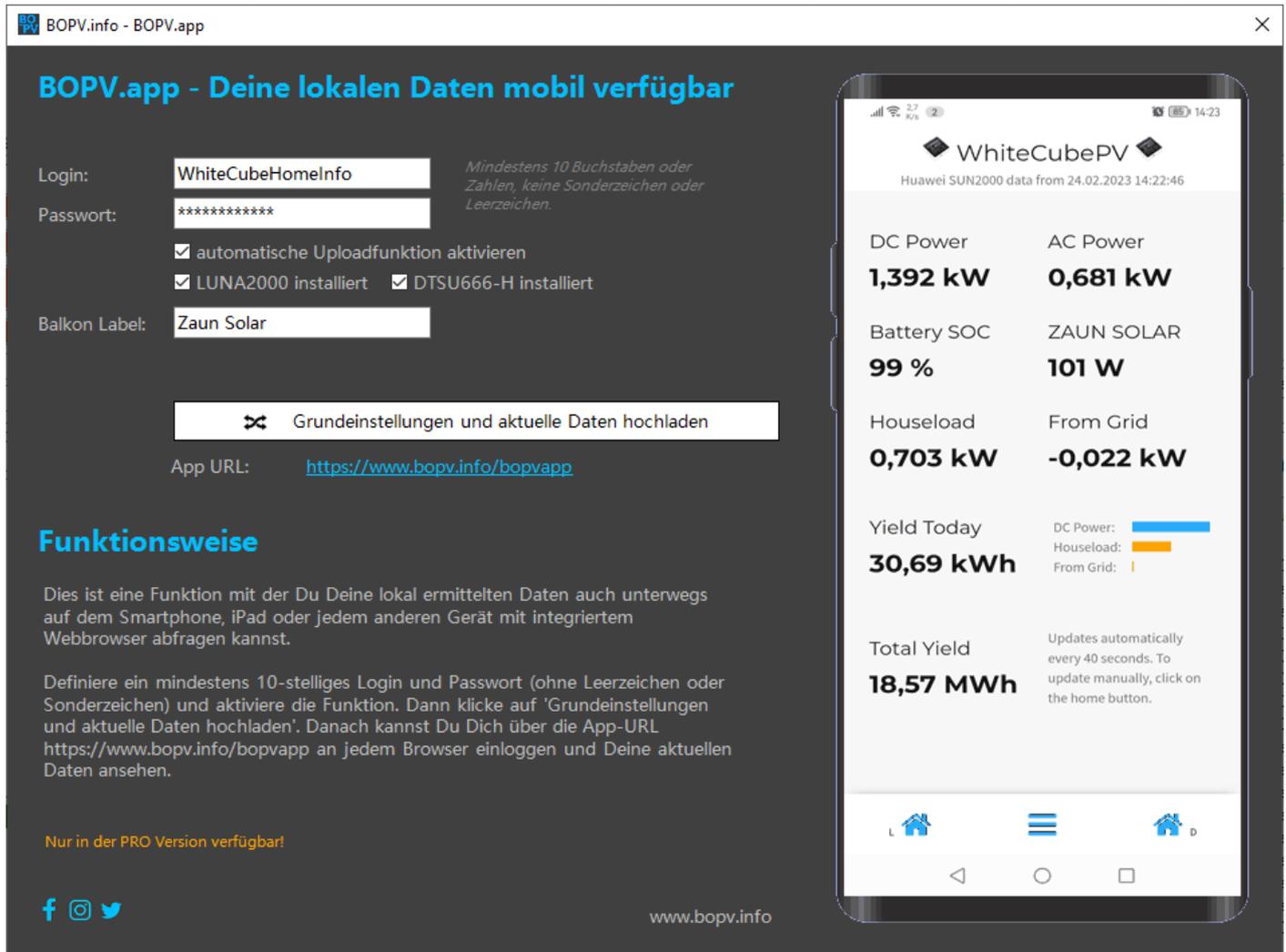
[Druckbare Auswertungen und PV-Amortationsberechnung sind mit dem Private Construction Manager möglich \(\[www.priconman.com\]\(http://www.priconman.com\)\)](#)

(available in german language only)
www.bopv.info

BOPV.app

Recently, it has been possible to send the BOPV.info's data to the cloud and retrieve it via a web app on any browser anywhere in the world. The advantage over FusionSolar is that the app is much easier to call up and starts much faster and that the data (with Modbus access) is only about 40 seconds old. With FusionSolar, the data is at least 300 seconds (5 minutes) old. This feature is only available in the PRO version!

Configuration



The image shows two parts of the BOPV.app interface. On the left is the configuration page, and on the right is a mobile app interface.

Configuration Page:

- Header: BOPV.info - BOPV.app
- Title: BOPV.app - Deine lokalen Daten mobil verfügbar
- Login: WhiteCubeHomeInfo (Note: Mindestens 10 Buchstaben oder Zahlen, keine Sonderzeichen oder Leerzeichen.)
- Password: *****
- Options: automatische Uploadfunktion aktivieren, LUNA2000 installiert, DTSU666-H installiert
- Balkon Label: Zaun Solar
- Button: Grundeinstellungen und aktuelle Daten hochladen
- App URL: <https://www.bopv.info/bopvapp>
- Section: Funktionsweise
- Text: Dies ist eine Funktion mit der Du Deine lokal ermittelten Daten auch unterwegs auf dem Smartphone, iPad oder jedem anderen Gerät mit integriertem Webbrowser abfragen kannst.
- Text: Definiere ein mindestens 10-stelliges Login und Passwort (ohne Leerzeichen oder Sonderzeichen) und aktiviere die Funktion. Dann klicke auf 'Grundeinstellungen und aktuelle Daten hochladen'. Danach kannst Du Dich über die App-URL <https://www.bopv.info/bopvapp> an jedem Browser einloggen und Deine aktuellen Daten ansehen.
- Note: Nur in der PRO Version verfügbar!
- Footer: www.bopv.info

Mobile App Interface:

- Header: WhiteCubePV
- Sub-header: Huawei SUN2000 data from 24.02.2023 14:22:46
- DC Power: 1,392 kW
- AC Power: 0,681 kW
- Battery SOC: 99 %
- ZAUN SOLAR: 101 W
- Houseload: 0,703 kW
- From Grid: -0,022 kW
- Yield Today: 30,69 kWh
- Total Yield: 18,57 MWh
- Updates automatically every 40 seconds. To update manually, click on the home button.

Start the configuration via the context menu "BOPV.app". Define your own login and password. These must be at least 10 characters long and may contain only letters and numbers, but not spaces or special characters.

Activate "Enable automatic upload function" and check LUNA2000 or DTSU666-H if you have a battery and/or smart meter installed. If you have set FRONIUS GEN24 as the data source, then LUNA2000 counts as battery and DTSU666-H as smart meter.

Define a name for the optimal balcony power plant (if you have one installed).

With "Upload basic settings and current data" you upload the data to the BOPV server and the website with the data or login appears.

Functionality

When activated, the BOPV.Info sends its collected real-time data to the server on www.bopv.info (server location IONOS Germany) every few seconds.

The web app reads the data and displays it clearly.

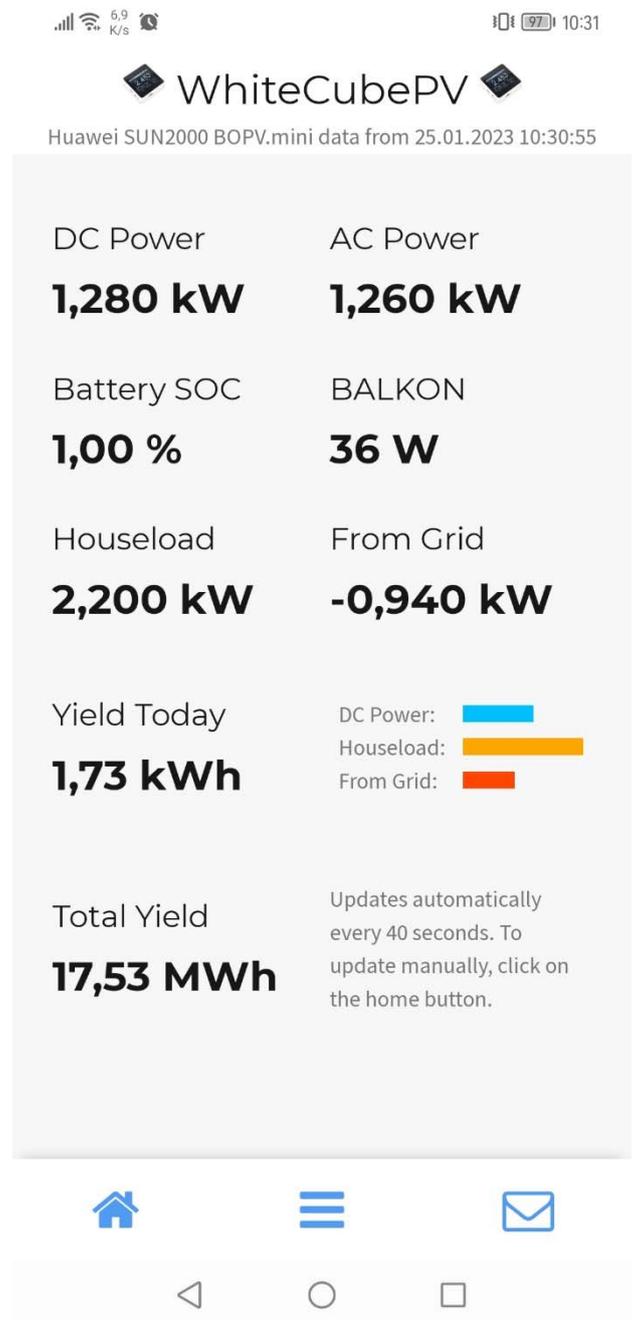
The address for the web app is:

<https://www.bopv.info/bopvapp>

Simply log in to the web app once with the access data stored in configuration – done.

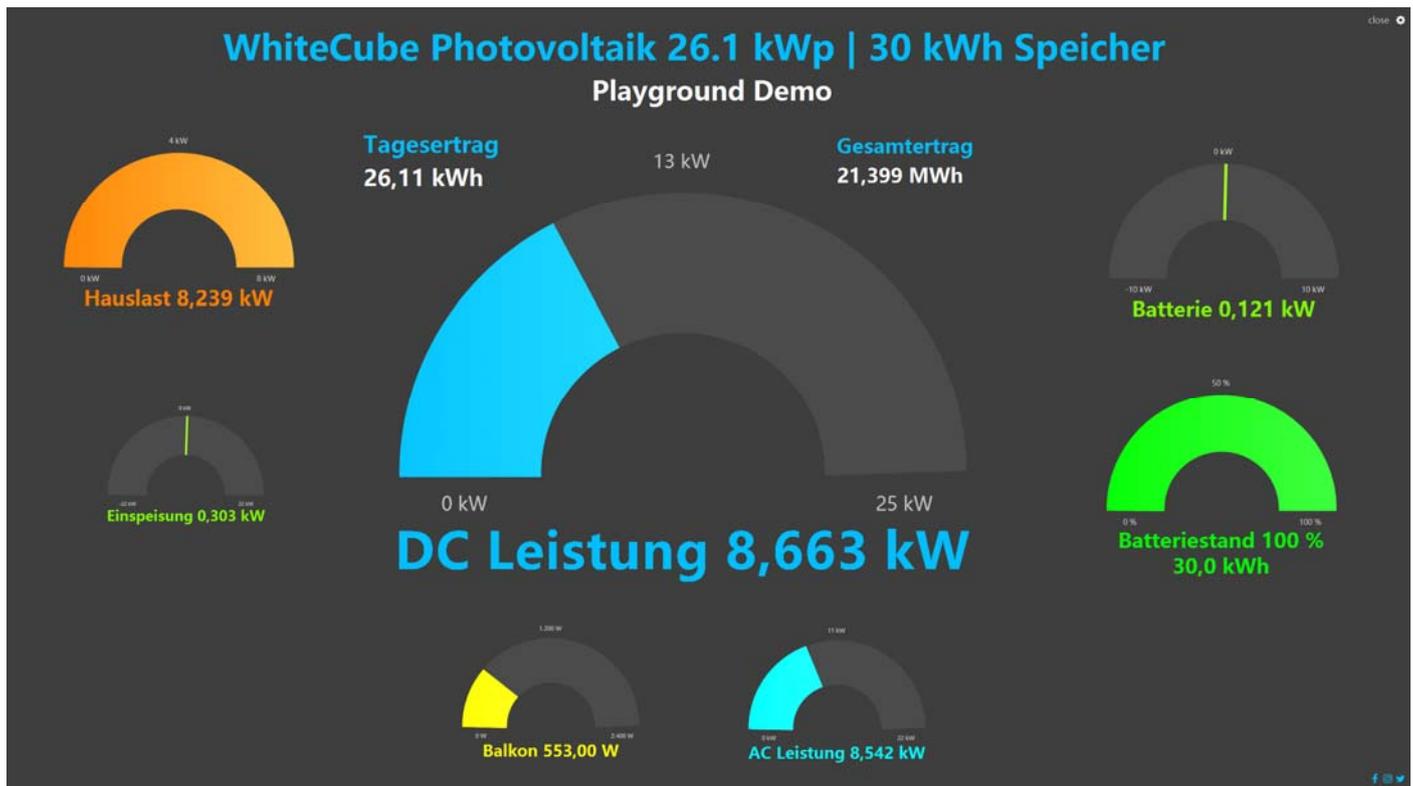
The web app runs on all smartphones, tablets and computers. Whether Android, iOS, Apple, Linux or Windows.

Caution: BOPV.mini and BOPV.Info use different app URLs with different databases.



Playground

You can start the playground mode via the widget context menu. The Playground is an alternative KIOSK view. Here you can position the values arbitrarily.



By clicking on the gear symbol in the upper right corner you start the editor mode. You can change the labels, colors and max values of the individual elements as you like. With the left mouse button pressed you can change the position of all elements (values, texts). With the mouse wheel you change the size of the elements.

Playground Settings

Item	Label	Color	Max. Value	Unit	Size
<input checked="" type="checkbox"/> DC Power	DC Leistung	█	25	kW	1292
<input checked="" type="checkbox"/> AC Power	AC Leistung	█	22	kW	404
<input checked="" type="checkbox"/> Battery SOC	Batteriestand	█	100	%	524
<input checked="" type="checkbox"/> Battery Load	Batterie	█ █	10	kW	524
<input checked="" type="checkbox"/> Grid	Einspeisung	█ █	22	kW	356
<input checked="" type="checkbox"/> Houseload	Hauslast	█	8	kW	524
<input checked="" type="checkbox"/> Balcony PV	Balkon	█	2400	W	404
<input checked="" type="checkbox"/> Yield Today	Tagesertrag				
<input checked="" type="checkbox"/> Total Yield	Gesamtertrag				

Background Color: Marker Color:

Main Title:

Sub title:

Own Image:

Usage: *size = mousewheel, position = mousedrag*

Closing remarks

The manual is deliberately kept short and crisp in order not to bore the users. BOPV.Info is self-explanatory in many points, so long explanations in the manual are omitted. If you have questions, simply login to the Facebook group and exchange ideas with other users. Of course, I also answer myself:

<https://www.facebook.com/groups/1160839111137832>

All functions described in this manual are included in the functional scope. Other functions that you will find in the application are not part of the purchase version and could change at any time.

Legal, Disclaimer

Options that are not described in the manual are also not officially included in the range of functions.

Use of this software is at your own risk. There is no entitlement to support. Neither in the TRIAL version nor in the PRO version. Please test the TRIAL version extensively before you buy the PRO version.

The functions of BOPV.Info are heavily dependent on the Huawei Northboud API. If Huawei changes important API queries or limits them, this is not a reason for a complaint. Even if the software becomes partially or completely unusable as a result. It's the same with Huawei's Modbus feature.

Troubleshooting

If the application does not start at all after installation, then either the .NET Framework 4.8 is missing, a Windows Update is waiting for the restart or the .NET settings are corrupted. If the .NET settings are corrupted, please delete the following file and then restart and reconfigure BOPV.Info:

C:\Users\info\AppData\Local\bonit.at_Software_OG\BOPVInfo.exe_Url_3pdw4sftq0tao0iu3vjd1ylbj2rumqoo\1.0.0.0\user.config

Yellow = replace by your user

Green = can be different

www.bopv.info

bonit.at Software OG
Roland Berghöfer
Hans Grünseis-Gasse 3
2700 Wiener Neustadt