SOLAR ELECTRIC

KOSTAL

KOSTAL PIKO CI Conf Tool

PC configuration tool for PIKO CI inverter

Operating manual

Legal notice

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General note on gender equality

KOSTAL Solar Electric GmbH is aware of how language impacts on gender equality and always makes an effort to reflect this in documentation. Nevertheless, for the sake of readability we are unable to use non-gender-specific terms throughout and use the masculine form instead.

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Valid from version:

1.1.2

Contents

1. About this manual

Read this manual carefully in its entirety. It forms part of the KOSTAL PIKO CI Conf Tool application of KOSTAL Solar Electric GmbH and contains important information.

KOSTAL Solar Electric GmbH assumes no liability for damages arising from non-observance of this manual.

If you have any technical questions, simply contact our service hotline.

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Validity of this manual

These instructions apply to all PIKO CI inverters and are intended for the electrical specialist who configures the inverter and puts it into operation.

The most recent version of the operating manual for the product is available in the download area at **www.kostal-solar-electric.com**.

Navigation in the document

In order to enable navigation through this document, it contains clickable areas.

The table of contents takes you to the specified chapter in one click.

You can navigate to the referenced points in the document within the instruction text using the cross-references.

2. Safety

This chapter provides you with important information on handling your product safely.

2.1 Proper use

KOSTAL PIKO CI Conf Tool is a free configuration tool for the PIKO CI inverter series.

The configuration software enables one or more inverters to be configured and put into operation via an existing LAN connection to the inverter. This means that the inverter no longer has to be commissioned on site with a smartphone.

2.2 Obligations as the commissioner

As the commissioner, you are responsible for the proper use of the product.

This includes the following obligations:

- ensuring that all settings are configured correctly and in agreement with the energy provider.
- ensuring that the manual is accessible to all users.
- instructing other users in the product.

2.3 Qualification

These instructions are intended for the electrical specialist who configures the PV system and puts it into operation.

Specialist knowledge is required to use the KOSTAL PIKO CI Conf Tool.

You must have the following knowledge/qualifications:

- Knowledge of how an inverter works and operates.
- Knowledge of the relevant laws, standards and guidelines.

2.4 Disclaimer

The KOSTAL PIKO CI Conf Tool may only be used for its intended purpose. Any use that differs from or goes beyond the stated intended purpose is considered inappropriate. The manufacturer accepts no liability for any damage resulting from this.

All names, trademarks, product names or other designations used in this manual may be legally protected even if this is not labelled as such (e.g. as a trademark). KOSTAL Solar Electric GmbH assumes no liability and provides no guarantee for their free usage. The illustrations and texts have been compiled with great care. However, the possibility of errors cannot be ruled out. The compilation is made without any guarantee.

Any instance of misuse of the KOSTAL PIKO CI Conf Tool will result in the termination of the warranty, guarantee and general liability of the manufacturer.

KOSTAL Solar Electric GmbH assumes no liability for any damage resulting from non-observance of this manual.

KOSTAL Solar Electric GmbH does not provide any quality guarantee when providing data specifications or other descriptions of the software, even if they refer to DIN standards and/or other standards.

KOSTAL Solar Electric GmbH provides no guarantee that the application will interact with third-party software programs and will not infringe on their rights.

3. About KOSTAL PIKO CI Conf Tool

The KOSTAL PIKO CI Conf Tool is a configuration tool used to configure the PIKO CI inverter using a direct LAN connection.

This means that you no longer need to stand in front of the inverter with a smartphone in order to configure the inverter.

The configuration tool can be used to address and configure all PIKO CI inverters in the local LAN network.

The user interface offers the same settings as the KOSTALI PIKO CI Conf App provides on smartphones.

The tool provides the following functions:

- Log in to the inverter as a ***system operator*** or an ***installer***
- Power flow diagram view
- Present values view
  Using various statistics, the user can display the current values for daily, monthly, annual and total yield. Detailed information can be displayed by expanding the statistics.
- Information about the inverter's yield data for daily, monthly, annual or total time periods.
- Download overall inverter log data or covering a limited time period.
- Configure the inverter
- Update inverter firmware
- Query inverter versions

4. System requirements

Certain conditions must be fulfilled to use the app:

- The computer must be connected to the same LAN network as the inverters.
- The computer must have an Internet connection.
- An up-to-date Windows operating system must be installed on the computer.

5. Installation

The PC used for installation must be running on an up-to-date Windows operating system.

Downloading the app

Download the app from the download area.

You can find it at **Download** > ***Applications – Tools*** > **KOSTAL PIKO CI Conf Tool**.

Installing the app

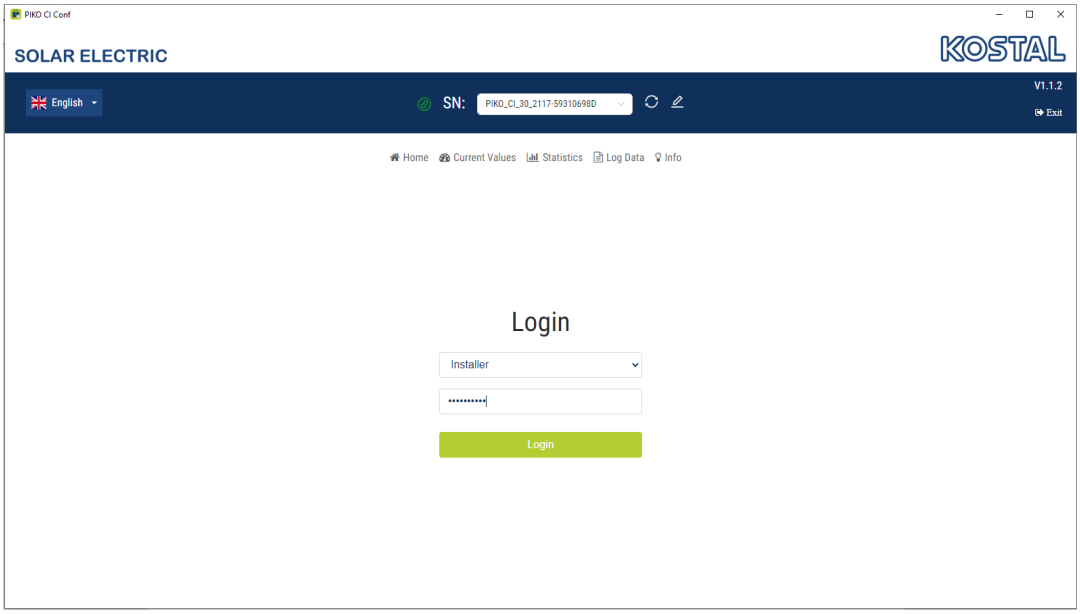
Start the installation by executing the ***KOSTAL PIKO CI Conf.exe*** file.

Once it has been successfully installed, the ***PIKO CI Conf*** app will appear on the desktop.

6. Launching the app

1. Launch the app by double-clicking on ***PIKO CI Conf***.

➔ The start screen appears with the log-in window.



2. The update button enables you to search the local LAN network for inverters and then to log in as an installer, for example.

✓ The app has been launched.

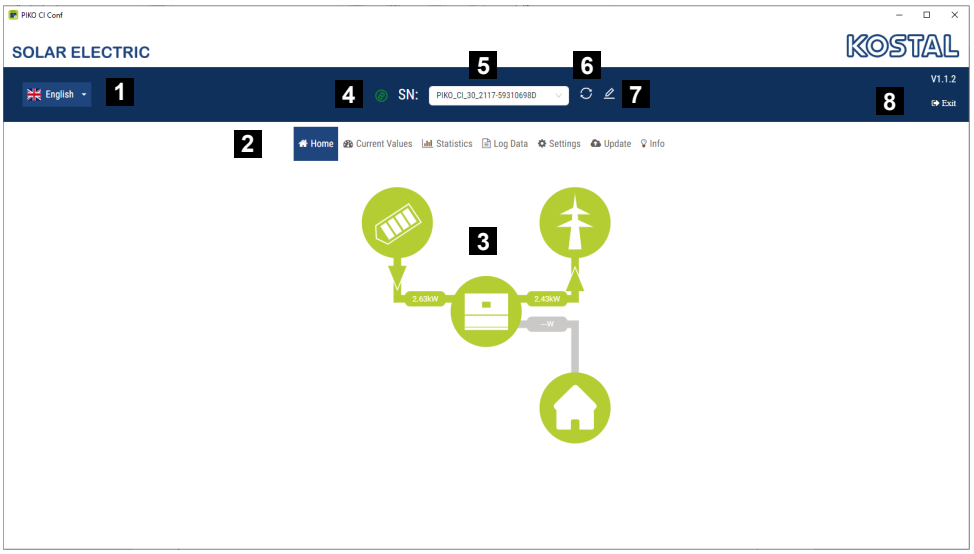
7. User interface

The free ***KOSTAL PIKO CI Conf Tool*** provides you with a graphical user interface with which you can monitor, configure and update **PIKO CI** inverters in the same LAN network.

The tool provides the following functions:

- Log in to the inverter as a ***system operator*** or an ***installer***
- Power flow diagram view
- Present values view
  Using various statistics, the user can display the current values for daily, monthly, annual and total yield. Detailed information can be displayed by expanding the statistics.
- Information about the inverter's yield data for daily, monthly, annual or total time periods.
- Download overall inverter log data or covering a limited time period.
- Configure the inverter
- Update inverter firmware
- Query inverter versions

7.1 The interface



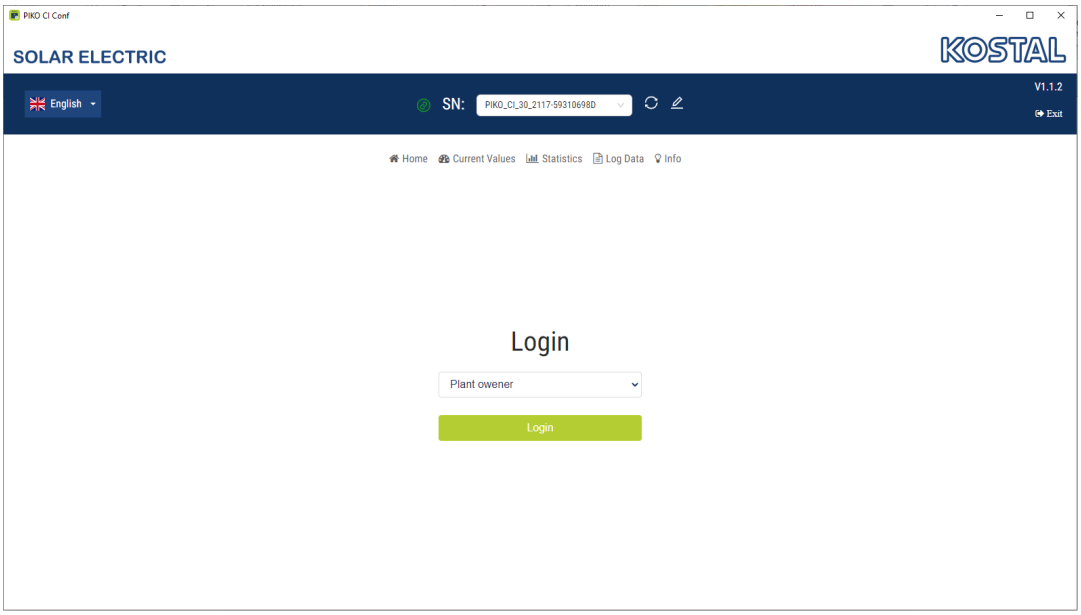
1 Selection of language
2 Menus
3 Power flow diagram
4 Current connection status. Green: Connection to inverter active. Red: Connection interrupted.
5 Pull-down menu with all of the PIKO CI inverters found in the local LAN network
6 Update the connection and start the search in the LAN network again
7 Rename the inverter
8 Logout

7.2 Log in to the inverter

As soon as the app is launched, it searches the local LAN network for available PIKO CI inverters.

The update button enables you to restart the search process or restore a missing connection.

All available inverters are displayed in the pull-down menu. As soon as an inverter has been selected, you can log in as an ***installer*** or ***system operator***.



Log in as system operator

To log in as a system operator you do not require a password.

As a ***system operator***, the following menu items are available to you:

- Home
- Present values
- Statistics
- Log data
- Info

Log in as installer

As an ***installer***, you must log in with the installer password.

The default password for the installer is ***superadmin***.

This user role can configure more settings than the system operator, such as network settings, power limitations and grid guidelines.

The password should be changed after initial commissioning. This can only be done in the KOSTAL Solar App. If you forget your password, it can be reset for you by the Service team.

After logging in, you will see the same menu items as the system operator plus the following:

- Settings
- Update

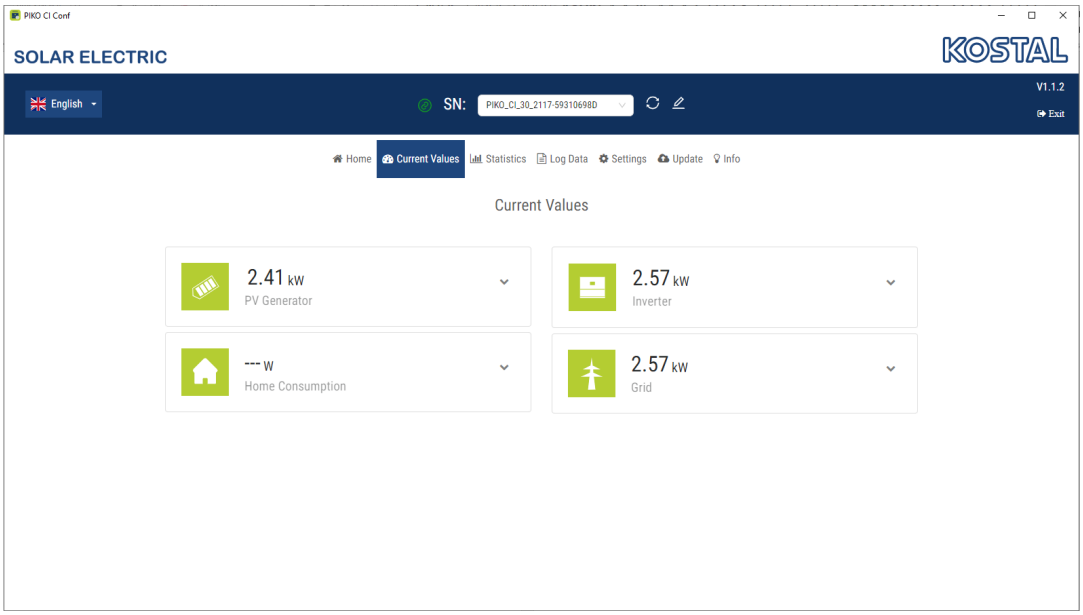
7.3 Home menu

The Home menu displays the power flow diagram.

The directions of flow for the energy to and from the inverter are shown. The values indicate the power currently present.

Colour	Meaning
Green	Energy is being supplied
Orange	Energy is being purchased/consumed
Grey	No energy flow

7.4 Current values menu



The different statistics show the user the current energy values on the AC and DC side for the daily, monthly, annual and total yield. Detailed information can be displayed by expanding the statistics.

PV generator

Shows the generated voltage, current and energy of the PV generators per DC input.

Parameter	Explanation
DC input x	Shows the generated voltage, current and power of the PV generators per DC input.

House consumption

Display of the current home consumption and the sources from which home consumption is covered.

INFO

In a device network comprising multiple KOSTAL inverters, the data is merged in the portal. Correct and complete visualisation takes place exclusively in the KOSTAL Solar Portal and in the KOSTAL Solar App and not in the individual inverter.

Parameter	Explanation
Total energy	Measured value of the energy currently being generated in kWh
Total feed-in energy	Displays the total energy that has been fed into the grid in kWh.
Lx consumer power	Displays the consumption per phase in the house network in watts.
Total consumption	Displays the total consumption in the house network in kWh.
Lx inverter output	Displays the power per phase from the inverter in watts.
Total inverter output	Displays the total output from the inverter in kWh.

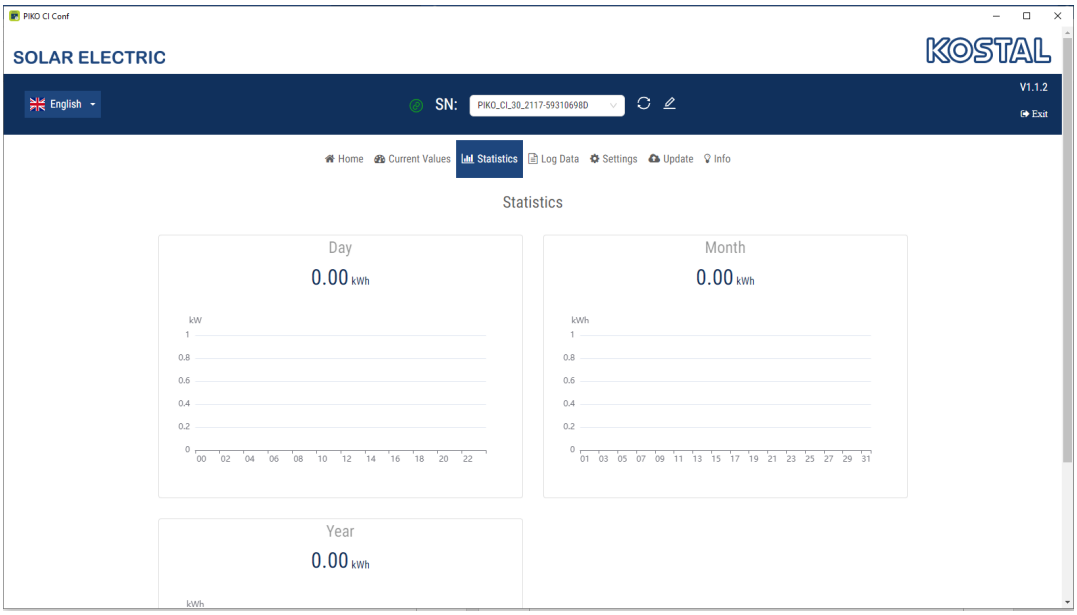
Inverter

Displays the current status of the inverter, the current performance data on the grid side (AC) and how the energy is distributed to the phases.

Grid

Shows the current performance data of the grid side (AC).

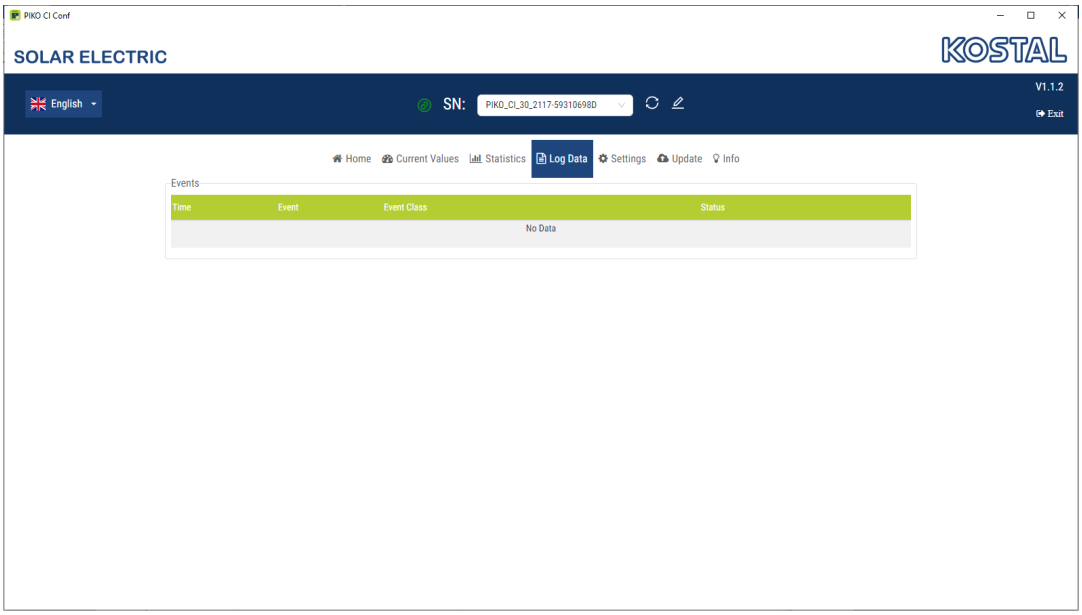
7.5 Statistics menu



The ***Statistics*** page provides information about the inverter's yield data per day, month or year.

Parameters	Explanation
Day	Displays the yield data for the current day.
Month	Displays the yield data for the current month.
Year	Displays the yield data for the current year.

7.6 Log data/Events menu



The log data menu shows you inverter events that are active or inactive.

There is no need to take action when an event occurs occasionally or only briefly and the device resumes operation afterwards. If an event persists or recurs frequently, the cause must be determined and rectified.

You can find a list of the current event codes and actions in the inverter documentation.

7.7 Settings menu

If you are logged in to the PIKO CI as the installer, you can configure the inverter by going to Settings.

This menu item can be used to retrieve inverter data and configure the inverter.

Basic settings

Set the general parameters of the inverter.

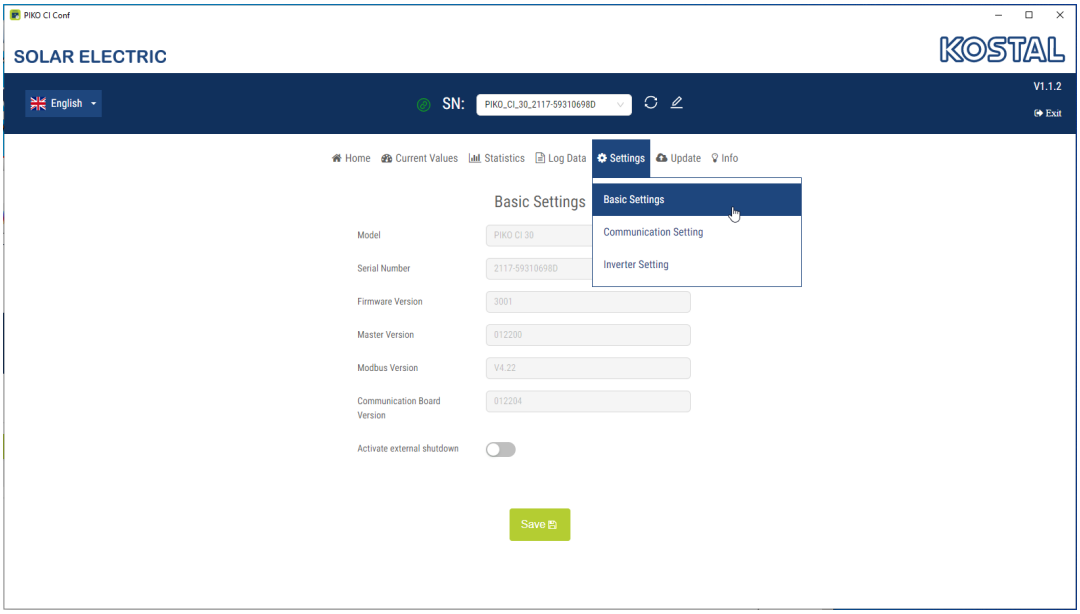
Communication settings

Set the inverter's network communication parameters. (e.g. Ethernet (LAN)/WLAN/WiFi/ RS485 settings)

Inverter settings

The menu items can be used to set the parameters in the inverter which are specified by the grid operator. Parameters may only be changed on the inverter by qualified electricians who are familiar with the system and at the request of the grid operator

7.7.1 Basic settings



Basic information	Explanation
Type	Inverter model.
Serial number	Inverter serial number.

Basic information	Explanation
Firmware version	Inverter safety firmware version. Contains the safety, open and shutdown functions required for appliance safety and grid service functions.
Master version	Controller board (CB) firmware version.
Modbus version	Modbus version used in the inverter.
Communication board version	Communication board firmware version
Activate external shutdown	Activate central grid and system protection monitoring in the inverter.

7.7.2 Communication settings

Set the inverter's network communication parameters. (e.g. Ethernet (LAN)/WLAN/WiFi/ RS485 settings).

WLAN settings	Explanation
WLAN IP	WLAN IP address of the inverter WiFi module.

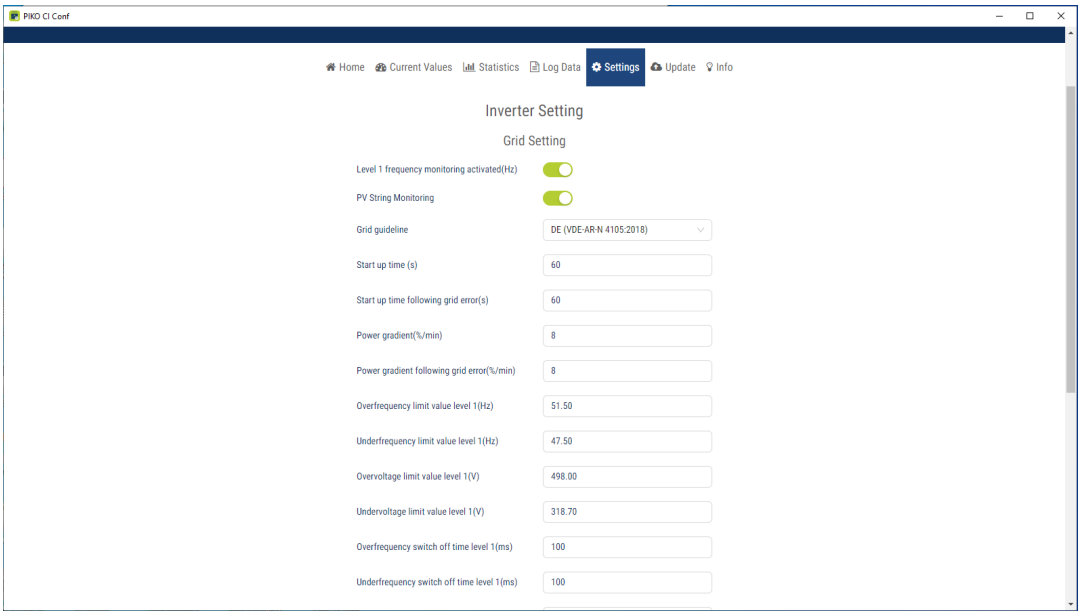
LAN settings	Explanation
IP mode	The option ***Automatically acquire IP address*** is activated by default. This means that the inverter obtains its IP address from a DHCP server.
IP address	Enter IP address of inverter. If the inverter is not allocated an IP address automatically through a DHCP server, the inverter can be configured manually. The data necessary for configuration, such as IP, subnet mask, router and DNS addresses, can be found on your router/gateway.
Subnet mask	Enter the subnet mask e.g. 255.255.255.0
Router/gateway	Enter the IP address of the router/gateway
Auto DNS	The ***Auto DNS*** option is activated by default. This means that inverters can also be addressed using a name instead of an IP address. For this purpose, the IP addresses of the DNS servers must be entered.

LAN settings	Explanation
DNS server 1	Enter the IP address of the DNS server (Domain Name System)
DNS server 2	Enter the IP address of the backup DNS server (Domain Name System)
Last time of communication	Shows when communication with the inverter last took place.
Last status of communication	Shows the status of communication with the grid.

RS485 settings	Explanation
Baud rate	RS485 transmission rate
Data bit	RS485 data bit
Stop bit	RS485 stop bit
Parity bit	RS485 parity bit
Terminating resistor	Activate terminating resistor for the RS485 bus. This must be activated on the last inverter connected to the RS485 bus.
Modbus address	Modbus address

Master/slave settings	Explanation
Master/slave settings	Select whether the inverter should act as a master (LAN or RS485) or slave. If set as master inverter, information or setting parameters (e.g. during power reduction) are sent to the slave inverters.

7.7.3 Inverter settings



The menu items can be used to set the parameters in the inverter which are specified by the grid operator. Parameters may only be changed on the inverter by qualified electricians who are familiar with the system and at the request of the grid operator

Grid settings	Explanation
Frequency monitoring of level 1 activated	Activate/deactivate frequency monitoring level 1
PV string monitoring	If the function is activated, one value per PV string is displayed on the home page. In addition, an event is output if the polarity of the PV string is reversed.
Grid guideline	Select grid guideline (e.g. VDE-AR-N 4105)
Start up time (s)	Start-up waiting time after switching on the inverter
Start up time following grid error (s)	Start-up time following inverter grid error
Power gradient (%/min)	Power gradient after switching on the inverter
Power gradient following grid error (%/min)	Power gradient after grid error of the inverter
Overfrequency limit value x (Hz)	Set overfrequency limit threshold value
Underfrequency limit value x (Hz)	Set underfrequency protection threshold value
Overvoltage limit value x (V)	Set overvoltage protection limit value

Grid settings	Explanation
Undervoltage limit value x (V)	Set undervoltage protection limit value
Overfrequency switch-off time x time (s)	Set overfrequency switch-off time
Underfrequency switch-off time x time (s)	Set underfrequency shut-off time
Overvoltage switch-off time x time (s)	Set overvoltage switch-off time
Undervoltage switch-off time x time (s)	Set undervoltage switch-off time
Max. grid start voltage (V)	If the supply voltage is higher than the upper limit of the reconnection voltage after the inverter has been shut down for protection due to a fault, the inverter may not be reconnected to the grid.
Min. grid start voltage (V)	After the inverter is shut down for protection due to a fault, if the supply voltage is lower than the lower limit of the reconnection voltage, the inverter may not be reconnected to the grid.
Max. grid start frequency (Hz)	After the inverter is shut down for protection due to a fault, if the grid frequency is higher than the upper limit of the reconnection frequency, the inverter may not be reconnected to the grid.
Min. grid start frequency (Hz)	After the inverter is shut down for protection due to a fault, if the grid frequency is lower than the lower limit of the reconnection frequency, the inverter may not be reconnected to the grid.
Moving average	Set 10 minutes of average overvoltage value

7.8 Update menu

A software update can be imported into the inverter using this menu.

When the system is updated, multiple files in the inverter are always updated. The user has two system update methods to choose from so that they do not necessarily have to install all the files individually.

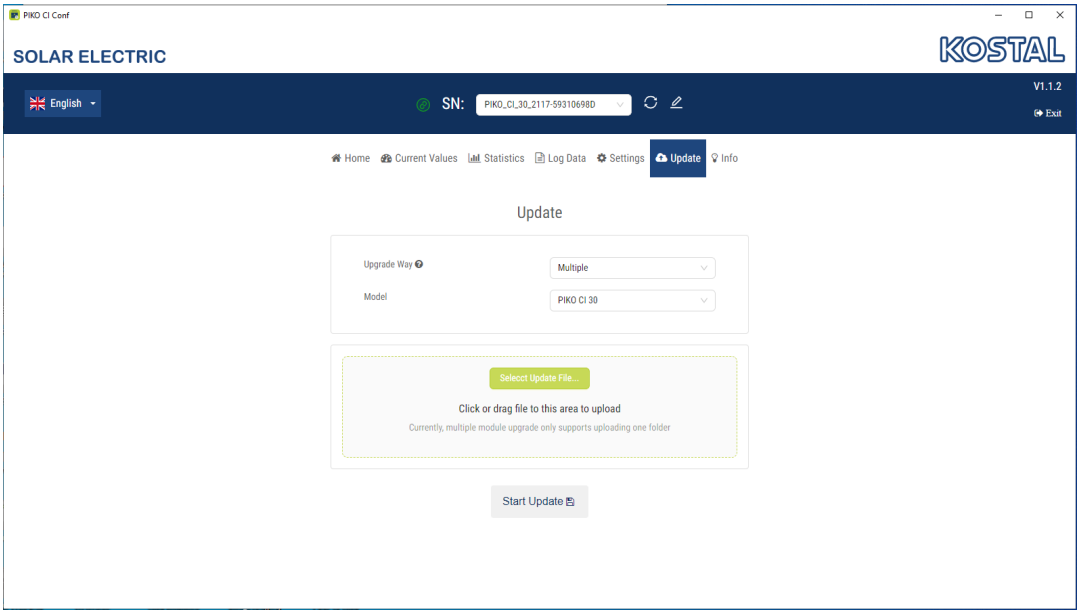
The ***Multiple*** system update option automatically updates all files on the inverter one after the other.

The ***Single*** system update option allows the user to select the files individually, updating them on the inverter in a targeted way.

The following files must be updated, depending on the inverter:

Designation	Explanation	PIKO CI 30	PIKO CI 50/60	PIKO CI 100
Master CB	Master Control Board Firmware	m_9511-302000.bin	m_9511-600900.bin	m_G9512-A10400-00.bin
Slave CB	Slave Master Control Board Firmware	---	---	s_G9512-A10401-00.bin
CSB	Communication Service Board Firmware	G711-0002200.bin	G711-0002200.bin	G9512-A10404-00.bin
AFCI	arc detection	---	---	G711-0011200-00.bin

Multiple system update



Fully install all update files:

1. Select the ***Multiple*** system update option.
2. Under ***Model***, select the inverter type to be updated.
3. Using the ***Select update files…*** button, select the folder where all of the update files for the system are stored.

➔ The selected file is displayed.

4. Start the update by selecting ***Start Update***.

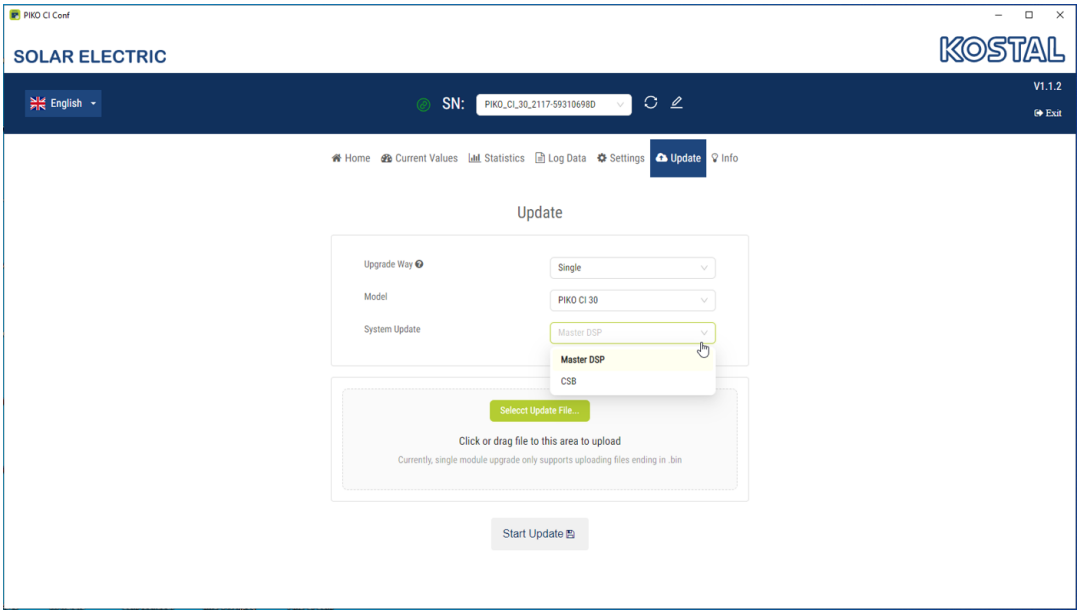
➔ The progress of the update is displayed.

➔ After a successful update, the inverter usually needs to be restarted.

5. Confirm the update by clicking ***OK***.

✓ The update has been carried out. If you want to update other system components, proceed with the next system.

Single system update



Install update files individually:

1. Select the ***Single*** system update option.
2. Under ***Model***, select the inverter type to be updated.
3. Under ***System Update***, select the system that you want to update (e.g. CSB).
4. Use the ***Select update files…*** button to select the correct system file.

➔ The selected file is displayed.

5. Start the update by selecting ***Start Update***.

➔ The progress of the update is displayed.

➔ After a successful update, the inverter usually needs to be restarted.

6. Confirm the update by clicking ***OK***.

✓ The update has been carried out. If you want to update other system components, proceed with the next system.

7.9 Info menu

On the Info page, the user can view events pending in the inverter and the inverter's installed version (e.g. software, MC, IOC, hardware). This information can also be viewed without logging in to the Webserver.

Device information – Devices

Shows information about the versions installed on the inverter.

Parameters	Explanation
Name	Name of inverter Can be changed by going to Settings > Basic settings.
Serial number	Inverter serial number
Guideline	The configured country setting for the inverter
Firmware version	Inverter safety firmware version. Contains the safety, open and shutdown functions required for appliance safety and grid service functions.
Internal code	Controller board (CB) firmware version.
Modbus version	Modbus version used in the inverter.
Communication board version	Communication board firmware version

Device information – Network

Provides information about the assigned network settings.

LAN settings	Explanation
IP mode	The option ***Automatically acquire IP address*** is activated by default. This means that the inverter obtains its IP address from a DHCP server.
IP address	Enter IP address of inverter. If the inverter is not allocated an IP address automatically through a DHCP server, the inverter can be configured manually. The data necessary for configuration, such as IP, subnet mask, router and DNS addresses, can be found on your router/gateway.
Subnet mask	Enter the subnet mask e.g. 255.255.255.0

LAN settings	Explanation
Router/gateway	Enter the IP address of the router/gateway
Auto DNS	The ***Auto DNS*** option is activated by default. This means that inverters can also be addressed using a name instead of an IP address. For this purpose, the IP addresses of the DNS servers must be entered.
DNS server 1	Enter the IP address of the DNS server (Domain Name System)
DNS server 2	Enter the IP address of the backup DNS server (Domain Name System)
Last time of communication	Shows when communication with the inverter last took place.
Last status of communication	Shows the status of communication with the grid.

Solar portal parameters	Explanation
Last connection to the solar portal	Last transfer, shown in minutes or as a time
Last communication status	Indicates whether the transfer was successful.

8. Service and support

If you have any technical questions, please call our service hotline:

- Germany and other countries (language: German, English):
  +49 (0)761 477 44-222
- Switzerland:
  +41 32 5800 225
- France, Belgium, Luxembourg:
  +33 16138 4117
- Greece:
  +30 2310 477 555
- Italy:
  +39 011 97 82 420
- Poland:
  +48 22 153 14 98
- Spain, Portugal (language: Spanish, English):
  +34 961 824 927

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