



Instruction Manual

• Operator

KACO blueplanet 2.0 - 5.0 TL1
- PSD, internal AFCI

Operator Instructions

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1 General Notes

1.1 About this documentation



WARNING

Improper handling of the inverter can be hazardous

› IMPORTANT SAFETY INSTRUCTIONS.



› You must read and understand the operating instructions before you can install and use the inverter safely.

This manual is intended for us inverter model and shall be followed during installation and maintenance.

Model type - US Version	Spezial feature
KACO blueplanet 2.0 TL1 M1 WM OD US3A	Standard
KACO blueplanet 2.0 TL1 M1 WM OD US39	PSD box, internal AFCI
KACO blueplanet 3.0 TL1 M2 WM OD US3A	Standard
KACO blueplanet 3.0 TL1 M2 WM OD US39	PSD box, internal AFCI
KACO blueplanet 4.0 TL1 M2 WM OD US3A	Standard
KACO blueplanet 4.0 TL1 M2 WM OD US39	PSD box, internal AFCI
KACO blueplanet 5.0 TL1 M2 WM OD U3A	Standard
KACO blueplanet 5.0 TL1 M2 WM OD US39	PSD box, internal AFCI

Table 1: Inverter types

1.1.1 Other applicable documents

During installation, observe all assembly and installation instructions for components and other parts of the system. These instructions are delivered together with the respective components and other parts of the system.

Some of the documents which are required for registering and approving your photovoltaic (PV) system are included with the operating instructions.

1.1.2 Retention of documents

SAVE THESE INSTRUCTIONS. These instructions and other documents must be stored near the system and be available whenever they are needed.

1.2 Design features

1.2.1 Symbols used in this document



General hazard symbol




Risk of fire or explosion



High voltage



Risk of burns

 **Authorized electrician** The tasks indicated with this symbol may only be carried out by an authorised electrician.

1.2.2 Description of safety instructions



DANGER

Imminent danger

Failure to observe this warning will lead directly to serious bodily injury or death.



WARNING

Potential danger

Failure to observe this warning may lead to serious bodily injury or death.



CAUTION

Low-risk hazard

Failure to observe this warning will lead to minor or moderate bodily injury.

CAUTION

Hazard with risk of property damage

Failure to observe this warning will lead to property damage.

1.2.3 Description of additional information



NOTICE

Useful information and notes

1.2.4 Description of action instructions

Action instructions

a) One-step actions or actions that can be carried out in any sequence:

- ⤷ Prerequisite(s) for your action(s) (optional if they have been performed earlier)
- ☞ Carry out action.
- ☞ (Additional actions, if applicable)
- » Result of your action(s) (optional)

b) Multi-step action instructions that must be carried out in a fixed sequence:

1. Carry out action.
2. (Additional actions, if applicable)
- » Result of your action(s) (optional)

2 Safety



DANGER

Lethal voltages are still present in the terminals and leads of the inverter even after the inverter has been switched off and disconnected. Lethal voltages are still present from the PV array, PV System Disconnects and the touch safe fuse holders.

With the PSD disconnected from both AC and DC sources, the inverters terminals are open, and the inverter can be removed and replaced with no voltage present.

Risk of severe injury or death if the leads and/or terminals in the inverter are touched when voltage is present.

Only authorised operator may open, install and maintain the inverter.

- › Keep the inverter closed when the unit is in operation.
- › Do not touch the leads and/or terminals when switching the unit on and off.
- › Do not make any modifications to the inverter.



WARNING



Non standard anti islanding trip points could damage connected devices

- › Any changes to the default anti-islanding frequency and voltage trip limits must be approved by the connecting electric utility.

NOTICE

In order to change the anti-islanding trip settings from their default values the following must be agreed with the connecting utility operator:



- Explicit authorization from the connecting electric utility is required.
- Connecting electric utility operator will specify the new values to be used in coordination with the system owner.
- When using the Mexico country code setting, the standard trip points exceed IEEE 1547 default limits based on requirements from Comisión Federal de Electricidad (CFE).

NOTICE

KACO new energy does not accept any risk of lost production resulting from detected arcs, whether false positive or actual occurrences.



KACO new energy cannot be held liable for any damage due to fire or arcing damage regardless of the status of detection of an arc in the attached PV array. This could include but is not limited to parallel arc faults, improperly maintained modules, racking or other associated equipment, or other factors.

You are responsible for observing all existing standards and regulations.

- Keep unauthorized persons away from the inverter and PV system.
- Complete all electrical installations in accordance with local electrical codes and the National Electrical Code (NEC), ANSI/NFPA 70.
- Ensure operational safety by providing proper grounding, conductor dimensioning and appropriate protection against short circuiting.
- Observe the safety instructions on the inverter and in these operating instructions.
- Switch off all voltage sources and secure them against being inadvertently switched back on before performing visual inspections and maintenance.
- When taking measurements while the inverter is live:
 - Do not touch the electrical connections.
 - Remove all jewellery from your wrists and fingers.
 - Ensure that the testing equipment is in safe operating condition.

- Stand on an insulated surface when working on the inverter while it is switched on.
- Modifications to the surroundings of the inverter must comply with the applicable national and local standards.
- When working on the PV array, it is also necessary to switch off the DC voltage with the DC disconnect in addition to disconnecting the PV array from the grid.

2.1 Intended use

The inverter converts clean renewable DC energy into AC energy for export (feed-in) into the utility.

The 2.0-5.0 TL1 M1/2 WM OD US__ designed, tested, and listed to the UL 1741, CSA-C22.2 No. 107.1.01 and the NFPA 70.

 **WARNING**



Potential danger

- › Only authorized personnel who are qualified for the VAC and VDC voltage ratings should install or maintain this equipment. Lethal hazards exist which may result in serious injuries or death.

Operate the inverter only with a permanent connection to the public power grid.

Any other or additional use is not considered the intended use. This includes:

- Mobile use
- Use in rooms where there is a risk of explosion
- Use in rooms where the humidity is higher than 95%
- Operation outside of the specification intended by the manufacturer
- Standalone operation.

2.2 Protection features

For your safety, the following monitoring and protective functions are integrated into the KACO blueplanet 2.0-5.0 TL1 inverter:

- Overvoltage injuries or death/varistors to protect the power semiconductors from high-energy transients on the grid and PV array side
- Temperature monitoring of the heat sink
- EMC filters to protect the inverter from high-frequency grid interference
- Grid-side grounded varistors to protect the inverter against surge pulses
- Islanding detection according to IEEE 1547.1 and VDE 0126-1-1
- Arc-fault circuit interrupter (AFCI) according of the National Electrical Code Section 690.11

2.3 Safety standards and regulatory compliance

The product line has been evaluated, and certified by nationally recognized test laboratories to the following safety features and regulatory compliance:

2.0-5.0TL1 M2 WM OD US__			
UL 1741-1:1999 Rev. May 2007	X	NFPA 70	X
CSA 22.2 No. 107-1:2001 Rev 2006	X	UL 1699B (DC AFDI)	X
IEEE Std. 1547-2003	X	UL 1998	X
IEEE Std. 1547.1-2005	X	Directive concerning Electromagnetic Compatibility with Class B (Council Directive 2004/108/EC)	X
FCC Rules 47 CFR Part 15	X	Low Voltage Directive (Council Directive 2006/95/EC)	X

The blueplanet inverter has complete on-board overcurrent, over-temperature and anti-islanding protection. The blueplanet inverter has complete on-board overcurrent, over-temperature and anti-islanding protection.

3 Configuration and Operation

3.1 Controls

The inverter has a backlit LCD as well as three status LEDs. The inverter is operated using six keys.



Figure 1: Control panel

Key

1	“Operating” LED	5	4-way key
2	“Feed-in” LED	6	“Enter” key
3	“Fault” LED	7	“ESC” key
4	LCD		

3.1.1 LED indicators

The three LEDs on the front of the inverter show the different operating states. The LEDs can take on the following states:



LED illuminated













LED flashing









LED not illuminated

The LED indicators show the following operating states:

Operating state	LEDs	Display	Description
Start	 		The green “Operating” LED is illuminated if an AC voltage is present, independently of the DC voltage.
Feed-in start	 	Power fed into the grid or measured values	The green “Operating” LED is illuminated. The green “Feed-in” LED is illuminated after the country-specific waiting period*. The inverter is ready to feed in, i.e. is on the grid. You can hear the line relay switch on.
	 		
Feed-in operation	 	Power fed into the grid or measured values	The green “Operating” LED is illuminated. The green “Feed-in” LED is illuminated. The “Feed-in” icon appears on the desktop. The inverter feeds into the grid.
	 		

* The waiting period ensures that the PV array voltage continuously remains above the power delivery limit of 150 V.

Operating state	LEDs	Display	Description
Non-feed-in operation	   	Status message	The display shows the corresponding message.
Voltage	 	Fault message	The display shows the corresponding message. The red "Fault" LED is illuminated.

3.1.2 Graphical display

The graphical display shows measured values and data and allows the configuration of the inverter using a graphical menu. In normal operation, the backlighting is switched off. As soon as you press one of the control keys, the backlight is activated. If no key is pressed for an adjustable period of time, it switches off again. You can also permanently activate or deactivate the backlighting. In sleep mode, the inverter deactivates the display regardless of the selected setting.

NOTICE



Depending on the tolerances of the measuring elements, the measured and displayed values are not always the actual values. However, the measuring elements ensure maximum solar yield.

Due to these tolerances, the daily and total yields shown on the display, by KACO Powador-web or by a third party monitoring solution may deviate from the values of the grid operator's feed-in meter or the optional Revenue Grade Meter inside the PSD box by up to 15%.

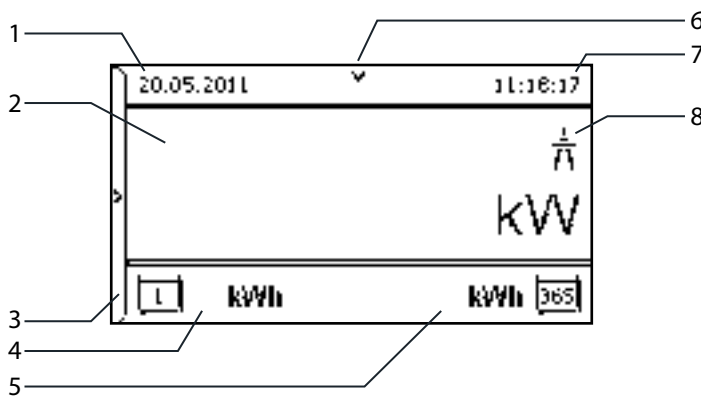


Figure 2: Desktop

Key

1	Current date	6	Status bar
2	Current power	7	Current time
3	Menu indicator	8	Feed-in indicator
4	Daily yield		
5	Annual yield		

3.1.3 Control keys

You operate the inverter using the 4-way key and the OK and ESC control keys.

3.1.3.1 Desktop / Inverter menu

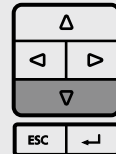
Opening the menu

- ⌚ The inverter is operating.
- ⌚ The LCD is showing the desktop.
- ☞ Press the right arrow key.
- » The menu opens up over the desktop from left to right.



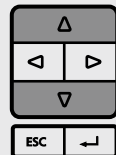
Displaying the daily output

- ⌚ The inverter is operating.
- ⌚ The LCD is showing the desktop.
- ☞ Press the down arrow key.
- » The LCD displays the daily yield in a diagram.
- ☞ To return to the desktop, press any key.



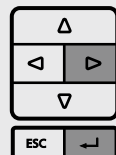
Navigate through the menu

- ⌚ You have left the desktop. The inverter displays the menu.
- ☞ Use the up and down arrow keys.



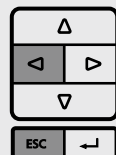
Opening a menu item or a setting

- ☞ Use the right arrow key and the OK key.



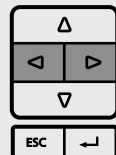
Jump to the next higher menu level/discard changes

- ☞ Press the left arrow key or the ESC key.



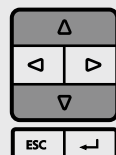
Open the parameter menu

- ☞ Simultaneously press the right arrow key and left key for 5 seconds.



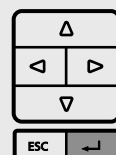
A Parameter/the value of an input field

- ☞ Use the keys with the up and down arrows.



Saving changed settings

- ☞ Press the OK key.



3.2 Commissioning the inverter

When started for the first time, the inverter displays the configuration assistant. It takes you through the settings necessary for the initial start-up.



NOTICE

After successful completion of the configuration, the configuration assistant does not appear again when the inverter is restarted. You can then change the country setting only in the password-protected parameter menu. The other settings can still be changed in the configuration menu.



NOTICE

The sequence of the settings required for initial start-up is preset in the configuration assistant. (See Installation Instruction at chapter 8.3 on page 38)

3.3 Menu structure

3.3.1 Display on the LCD

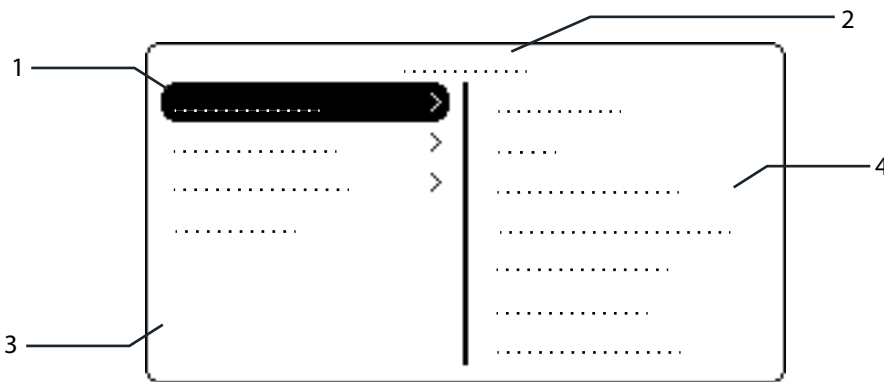



Figure 3: Main menu


Key


































1	Display of the menu level (0, 1, 2, 3)	3	Active menu (example: main menu)
2	Designation of the active menu	4	Menu items of the next lower menu level













3.3.2 Menu structure






















Icons used:

	Menu level (0, 1, 2, 3)		Password-protected menu
	Display menu		Submenu available
	Option menu		

Menu level	Display/settings	Action in this menu/meaning
Desktop	Desktop	↳ ☞ Press the right arrow key.
	"Measurements" menu	↳ ☞ Open the menu: Press the right arrow key or the OK key.

Menu level	Display/settings	Action in this menu/meaning
 Generator		Displays the DC-side voltage, amperage and power dependent on the available number of MPP trackers.
 Grid		Displays the AC-side voltage, amperage and power dependent on the grid grid monitoring selection. (See Parameter menu “ Grid mon. 3-ph. ”)
 Unit temperature		Displays the temperature in the inverter housing.
 Yield counter	 	Displays the yield in kWh. Reset the counter using the “Reset” key.
 Yield today		Displays the yield of the current day up to now.
 Total yield		Displays the total yield up to now.
 CO2 savings		Displays the calculated CO ₂ savings (in kg).
 Oper. hours counter	 	Displays the duration of operation in hours. Reset the counter using the “Reset” key.
 Oper. time today		Displays the duration of operation on the current day.
 Total op. time		Displays the total operating time.
 Log data view		<ul style="list-style-type: none"> ☞ Open the menu: Press the right arrow key or the OK key.
 Daily view	 	<p>Displays the recorded operating data graphically.</p> <ol style="list-style-type: none"> 1. Select the measured value to be displayed. <p>Supported measured values:</p> <ul style="list-style-type: none"> • Grid power P(grid) • DC power per string P(PV) 1-2 • DC voltage per string U(PV) 1-2 • Unit temperature <ol style="list-style-type: none"> 2. Select a day. 3. Press the OK key. <ul style="list-style-type: none"> » The display shows the selected data. <ul style="list-style-type: none"> ☞ Press any key to return to the previous menu.
 Monthly view	 	<p>Displays the recorded operating data graphically.</p> <ol style="list-style-type: none"> 1. Select a month. 2. Press the OK key. <ul style="list-style-type: none"> » The display shows the selected data. <ul style="list-style-type: none"> ☞ Press any key to return to the previous menu.
 Yearly view	 	<p>Displays the recorded operating data graphically.</p> <ol style="list-style-type: none"> 1. Select a year. 2. Press the OK key. <ul style="list-style-type: none"> » The display shows the selected data. <ul style="list-style-type: none"> ☞ Press any key to return to the previous menu.

Menu level	Display/settings	Action in this menu/meaning
0-1-2-3 Save to USB		<p>In this menu, you can export the saved operating data to a connected USB storage device.</p> <ul style="list-style-type: none"> ↻ You have connected a USB storage device to the inverter. 1. Select the data to be exported (year, month or day) with the 4-way key. 2. Press the OK key. » The inverter writes the data to the USB storage device.
0-1-2-3 “Settings” menu		<ul style="list-style-type: none"> ☞ Open the menu: Press the right arrow key or the OK key.
0-1-2-3 Language		<ul style="list-style-type: none"> ☞ Select the desired language for the user interface.
0-1-2-3 Define total yield		<p>You set the total yield to a freely selectable value, for example, when you have received a replacement unit and want to continue the recording from the present value.</p> <ul style="list-style-type: none"> ☞ Select the “Save” button and confirm with the OK button.
0-1-2-3 Interface		<ul style="list-style-type: none"> ☞ If the inverter is a terminal unit: Activate termination (“Bus termination” menu item) ☞ Assign a unique RS485 bus address to the inverter (“proLOG address” menu item). The address must not coincide with that of another inverter or a proLOG unit.
0-1-2-3 S0 pulse rate		<ul style="list-style-type: none"> ☞ Set the pulse rate of the S0 connection.
0-1-2-3 Logging interval		<ul style="list-style-type: none"> ☞ Set the time between two log data recordings.
0-1-2-3 Log data backup		<p>The inverter supports the backing up of all recorded yield data to a connected USB storage device.</p> <ul style="list-style-type: none"> ☞ Activate or deactivate log data backup.
0-1-2-3 Display		<ul style="list-style-type: none"> ☞ Configure the contrast setting for the display. ☞ Set the length of time without user input after which the backlighting of the LCD switches off. ☞ Alternatively: Permanently activate or deactivate backlighting by selecting “On” or “Off”.
0-1-2-3 Date & time		<ul style="list-style-type: none"> ☞ Set the time and date. <p>NOTICE: For self-diagnostic purposes, the inverter carries out a daily restart at midnight. To avoid having a restart occur during feed-in operation and to always obtain reliable log data, ensure that the time is correctly set.</p>
0-1-2-3 Ethernet		<ul style="list-style-type: none"> ☞ Assign a unique IP address. ☞ Assign a subnet mask. ☞ Assign a gateway.
0-1-2-3 Webserver		<ul style="list-style-type: none"> ☞ Activate or deactivate the integrated webserver.

Menu level	Display/settings	Action in this menu/meaning
	"Parameters" menu	<ul style="list-style-type: none"> ☞ Press the right arrow key or the OK key. <p>NOTICE: The inverter does not display the "Parameters" menu in the standard configuration. To display the menu:</p> <ol style="list-style-type: none"> 1. Open the menu. 2. Simultaneously hold down the up and down keys for several seconds.
	Country	<p>WARNING: Non standard anti islanding trip points could damage connected devices.</p> <ul style="list-style-type: none"> ☞  1. Input the four-character password via the 4-way key. The password is unit-specific. ☞  2. Confirm the entry with the OK key. ☞ 3. Set the desired country setting. <p>NOTICE: This option influences the country-specific operating settings of the inverter. Please consult KACO service for further information.</p>
	Grid type / guideline	<ul style="list-style-type: none"> ☞  Select the type of grid applicable to the use of the inverter.
	neutral conductor	<ul style="list-style-type: none"> ☞  Select if neutral conductor is connected.
	Overvoltage shudt.	<ul style="list-style-type: none"> ☞ Specify the shutdown threshold for fast and slow overvoltage shutdown. ☞ Set period from occurrence of the fault to shutdown of the inverter.
	Undervoltage shudt.	<ul style="list-style-type: none"> ☞ Specify the shutdown threshold for fast and slow undervoltage shutdown. ☞ Set period from occurrence of the fault to shutdown of the inverter.
	Overfreq. shudt.	<ul style="list-style-type: none"> ☞  Set limit value for overfrequency shutdown.
	Underfreq. shudt.	<ul style="list-style-type: none"> ☞  Set limit value for fast and slow underfrequency shutdown.
	DC starting volt.	<ul style="list-style-type: none"> The inverter begins feed-in as soon as this PV voltage is present. ☞  Set the starting voltage.
	Constant volt. control	<p>Offers the possibility of deactivating the MPP seek mode in order to operate the inverter with a constant DC voltage.</p> <ul style="list-style-type: none"> ☞  Activate or deactivate MPP seek mode. ☞ Set value for constant voltage control (200 - 800 V). <p>NOTICE: The possible input power is reduced at voltages lower than 350 voltage. The input current is limited to 18.6 A per input.</p>
	Power limitation	<p>The output power of the inverter can be set permanently to a lower value than the maximum output power by the internal power limiting. This may be necessary in order to limit the maximum power rating of the system at the grid connection point, upon the grid operator's request.</p> <p>The value can be protected from the very first output limitation entry. After setting a limitation, the value can only be changed by entering a device-specific password.</p> <ul style="list-style-type: none"> ☞  1. Activate password protection if necessary. ☞  2. Specify the activation status. ☞ 3. Specify the limit value for maximum feed-in power. ☞ 4. Confirm the entry with the OK button.

Menu level	Display/settings	Action in this menu/meaning
	Iso.resistor	Set threshold value (in 1 kOhm steps) at which the insulation monitor reports a fault.
	cos-phi specification	Configure power factor. If a power factor not equal to 1 is selected: Select the type of phase shift (under-excited/over-excited).
	Q const.	Set the idle power Q (in %) to a fixed value. Select the type of phase shift (under-excited/over-excited).
	cos-phi(P/Pn)	Open the menu: Press the right arrow button or the OK button.
	Number of nodes	This option defines how many support points can be defined in the subsequent menu. The maximum number of configurable support points depends on the selected grid type. Specify the number of support points for the idle power characteristic curve.
	1., 2. ...Support point	Specify the power factor for the 1st, 2nd (etc.) support point If a power factor not equal to 0 is selected: Select the type of phase shift (under-excited/over-excited).
	Q(U) 5 Samples	Open the menu: Press the right arrow button or the OK button.
	Lock-in power	Power range set as % of rated power, in which the network support process is active.
	Lock-out power	
	Time constant	Set the response speed of the control.
	Number of support points	Specify the number of support points for the idle power characteristic curve.
	1., 2. ...Support point	Specify the support points for voltage, power and nature of the phase shift
	“Information” menu	Open the menu: Press the right arrow key or the OK key.
	Inverter type	Displays the type designation of the inverter.
	AFCI module	Displays quantity of monitored trackers, parameter version and status information. NOTICE: In case of Arc fault it is necessary to check PV-system and confirm to clear the operation stop.
	SW version	Displays the installed software version.
	Serial number	Displays the serial number of the inverter.
	Display country	Displays the selected country setting. Optional: Displays the grid type if a grid type has been selected.
	“Vendor” menu	The display shows information about the unit manufacturer.

3.4 Monitoring the inverter

The inverter has an integrated web server. This makes it possible to monitor and record the operating state and yield of your PV system.

You can display the recorded data via:

- The integrated LCD
- The integrated web server using an Internet-capable device connected to the Ethernet interface of the inverter

You can read the recorded data using a storage medium connected to the USB interface of the inverter, e.g. a USB stick.

3.4.1 USB interface

Use an external USB storage device to read operating data saved in the inverter.

3.4.1.1 Reading log data



NOTICE

The USB interface is approved solely for usage with USB flash memories ("USB sticks"). The maximum available current is 100 mA. If a device with a higher power requirement is used, the power supply for the USB interface automatically shuts down to protect the inverter from damage.

Reading log data

1. Connect a suitable USB storage device to the USB interface on the underside of the inverter.
 2. Open the "Log data view" menu.
 3. Select the "Save to USB" item.
 4. Select the desired log data using the 4-way key.
 5. Press the OK key.
- » The inverter saves the selected log data to the USB storage device.

3.4.2 Web server

The inverter has an integrated web server. After configuration of the network and activation of the web server in the configuration menu, you can open the web server from an Internet browser. The language version of the web site delivered by the browser is dynamically adapted, based on the pre-set language preferences in your Internet browser. If your Internet browser requests a language that is unknown to the inverter, the web server uses the menu language set in the inverter.

3.4.2.1 Setting up the web server

Configuring the Ethernet interface

- ⊖ You have connected the inverter to your network.
1. Open the Settings/Ethernet menu.
 2. Assign a unique IP address.
 3. Assign a subnet mask.
 4. Assign a gateway.
 5. Save your settings.

3.4.2.2 Using the web server

To avoid problems with incompatibility, use the most recent version of your Internet browser.



NOTICE

You can also access the web server of the inverter via the Internet. To do this, additional settings of your network configuration, particularly your Internet router, are required.

Note that communication with the inverter is carried out over an unsecured connection, particularly in the case of a connection over the Internet.

Calling up the web server

- ⌚ Configure the Ethernet interface.
- ⌚ Connect the Ethernet interface.
- 1. Open an Internet browser.
- 2. In the address field of the Internet browser, enter the IP address of the inverter and call up the site.
 - » The Internet browser displays the start screen of the web server.

After it has been called up, the web server displays information about the inverter as well as the current yield data. The web server supports the display of the following measurement data and yield data:

- | | |
|-----------------|------------------------|
| • Feed-in power | • Generator power |
| • Status | • Generator voltage |
| • Grid power | • Unit temperature |
| • Grid voltage | • Grid monitoring mode |

In order to display and export yield data, proceed as follows:

Select the display period

1. Call up the web server.
2. Select the display period by choosing one of the keys: day view, month view, year view or overall view.

Filtering display data (day view only)

1. Call up the web server.
2. Select the day view.
3. To show or hide measured values, select or deselect the corresponding checkboxes in the "Select display" area.

Filtering grid monitoring phase data

1. Call up the web server.
2. Select the phase for grid monitoring.
3. To show or hide measured values, select the menu item "Grid"

Exporting data

1. Filter the display data if necessary.
2. Select the display period if applicable (day, month, year or overall view).
3. Click the "Export data" key.
4. Save the file.



NOTICE

Regardless of the display data selected in the "Select display" area, an export file always contains all measurement data and yield data available for the selected period.

3.5 Reset a arc event

To reset an arc event change into the “Parameter menu”. The menu item “Arc event” is added in this menu when an arc occurred. After confirming the event the “Arc event” menu item disappears and the inverter starts feeding in again. It is always necessary to reset the event in this way, there is no automatically reset possible.

3.6 Performing a software update

You can update the software of the inverter to a new version via the integrated USB interface. Use a FAT32-formatted USB stick to do this. Do not use any storage media, such as an external hard disk, with an external power supply.



NOTICE

Ensure that the power supply of the AC and DC sides is active. It is only possible to update all components of the inverter to the most current software version in this operating state.

CAUTION

Damage to the inverter

The update can fail if the power supply is interrupted during the update process. Parts of the software or of the inverter itself can then be damaged.

- » Do not interrupt the DC and AC power supply during the update process.

Preparing for the software update

1. Download the software update file from the KACO web site and store it on your hard disk.
 2. Copy the update file (.KUF) completely onto the USB stick.
- » Perform software update.

Perform software update.

- ⌚ Prepare for the software update.
 - ⌚ Ensure supply of DC and AC power.
1. Connect USB stick to the inverter.
- » The message “Firmware found. Would you like to load it?” appears on the display.
2. If you would like to perform the update, select the “Yes” button.
- » The inverter begins the update.

The update can take several minutes. The “Operating” LED flashes during the update process. The inverter may restart several times. The update is completely loaded when the display screen shows the desktop.

The inverter then returns to feed-in mode. You can check the success of the update in the menu:

Display software version

- ☞ Open the Information/SW version menu
- » The inverter will display the versions and checksums of the currently loaded software.



The text and figures reflect the current technical state at the time of printing. Subject to technical changes. Errors and omissions excepted.



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