

Remote access to the inverter via web user interface

Application instructions

for installers

1 Application

We have provided you with an intuitive web-based user interface for remote configuration of a KACO inverter which is connected to a network.



Figure 1. Web-based user interface - data view

Enter the unit's IP address (e.g. <http://192.168.100.13>) into the address bar of a common internet browser to gain access to the user interface.

The web user interface is split into three sections and separated by a selection bar. The area above the selection bar is used to display the unit and network data. The graphical interface of the inverter is simulated below the selection bar on the left hand side. The current performance and operating data are displayed on the right hand side. There is also the option to export data in csv format.



Figure 2. Selection bar with remote config deactivated

System data (e.g. yield data, charts, inverter status) can be displayed in the selection bar using [links](#) to different views (daily/monthly/annual/general view).

It is possible to move back and forward in time by clicking the arrow and double arrow buttons. The calendar button allows you to enter a specific date.

*We recommend using Internet Explorer, Firefox, Google Chrome or Mobile Safari for optimum display.

It is only possible to configure the inverter remotely if this function has been activated locally via the inverter’s webservice menu on the unit.

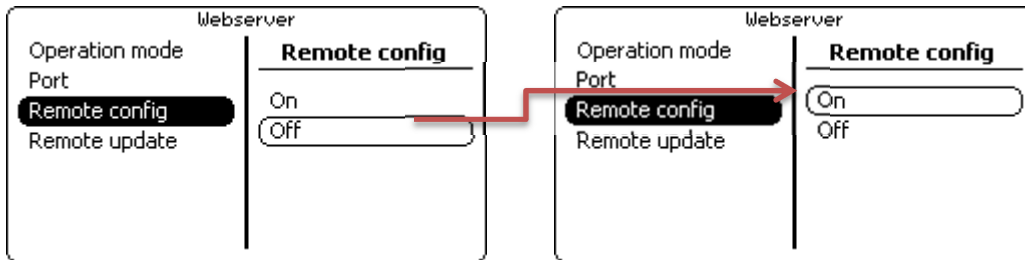


Figure 3. Access to remote config via the webservice menu interface on the inverter

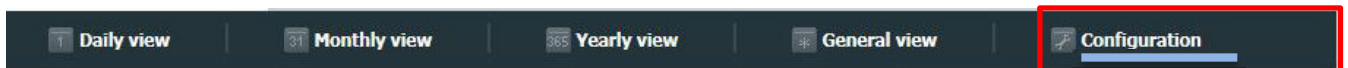


Figure 4. Selection bar with remote config activated

Following activation, the [link “Configuration”](#) is available in the selection bar on the web user interface.

If you are planning to update the unit remotely, this function must also be activated in the inverter’s webservice menu. This is only possible if the function has been activated locally via the inverter’s webservice menu on the unit.

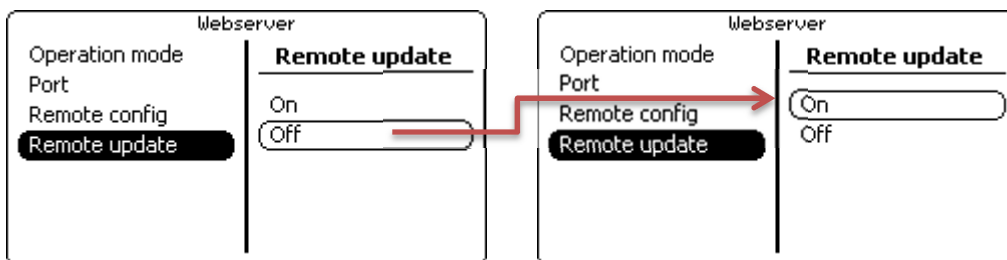




Figure 5. Remote update activation via the webservice menu interface on the inverter

2 Safety

CAUTION
<p>Setting parameters incorrectly can cause damage</p> <p>Changes to software parameters can seriously impair the functionality of the unit.</p> <ul style="list-style-type: none"> > The activities described in the document may only be carried out by specially trained personnel with the following qualifications: <ul style="list-style-type: none"> - Knowledge about how an inverter functions and operates - Training in the handling of hazards and risks during the installation and operation of electrical units and systems - Education concerning the installation and start-up of electrical units and systems - Knowledge of applicable standards and directives > Knowledge and adherence to this document with all safety notices.

CAUTION
<p>Unauthorised access can lead to damage</p> <p>If unauthorised persons gain access to the system, unit settings could be manipulated which could seriously impair the functionality and safety of the unit and lead to damage.</p> <ul style="list-style-type: none"> > The following functions must only be used on the local network or via a secure VPN connection.

	<p>NOTE</p> <p>The update can take several minutes. The "Operating" LED flashes during the update process. The inverter may restart several times.</p> <p>The following message appears if the DC power supply is too low: "DC power supply too low! Perform update anyway?".</p> <p>In this case, select "No" and perform the update with a stable voltage supply.</p>
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	<p>NOTE</p> <p>The unit-specific and serial number dependent password is required to set "critical" parameters. The unit-specific password can be obtained from KACO customer service, if necessary.</p> <p>Login data must be stored in a location which is not accessible to third parties.</p>
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Notification window prior to changing "critical" parameters	Operation and control
 <p>The screenshot shows a light blue dialog box with the title "Please enter device password". Below the title, it says "To modify this property, it is necessary to enter the device password". There is a text input field and a blue "Confirm" button at the bottom.</p>	<ul style="list-style-type: none"> ✓ Enter unit-specific password into <i>framed free-text section</i>. ✓ Acknowledge entry by clicking the "Confirm" button.

Figure 6. Enter unit-specific password

	<p>ACCESS DATA ^{*)}</p>
	<p>The two accounts "user" (restricted configuration options) and "installer" (advanced configuration options) are available for remote access to the unit:</p> <p>User name: <code>user</code></p> <p>Password: <code>Da_3u1B!</code> (initial setting)</p> <p>User name: <code>installer</code></p> <p>Password: <code>Mo_g010rP!</code> (initial setting)</p> <p>^{*) Important: Following initial start-up, you must change the access data via one of the menu items "Change user password" or "Change installer password" in the <i>Main menu</i> under <i>Functions</i>.}</p>

	<p>NOTE</p> <p>The functions described in the following chapter are only available on the inverters listed and with the existing software package (see chapter 5.1).</p> <p>Configurations and software updates may only be carried out if there is a suitable DC power supply.</p>
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	<p>DEVICE-SPECIFIC NOTE</p> <p>Modified parameters in the device series blueplanet 15.0-20.0TL3 from Software Version V4.x are only adopted when the device is restarted, but at the latest on the next day.</p>
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3 Navigation

The following table will support you during the remote config process using the web user interface and shows you the input screens behind the “Configuration” link.

Input screens that are marked on the side(user) are only available to installers, service partners and technicians and can not be accessed by system operators.

Note: In the case of inactive entry or use, the interface is made available for 10 minutes for configuration purposes. Once this time has elapsed, you must log in again.

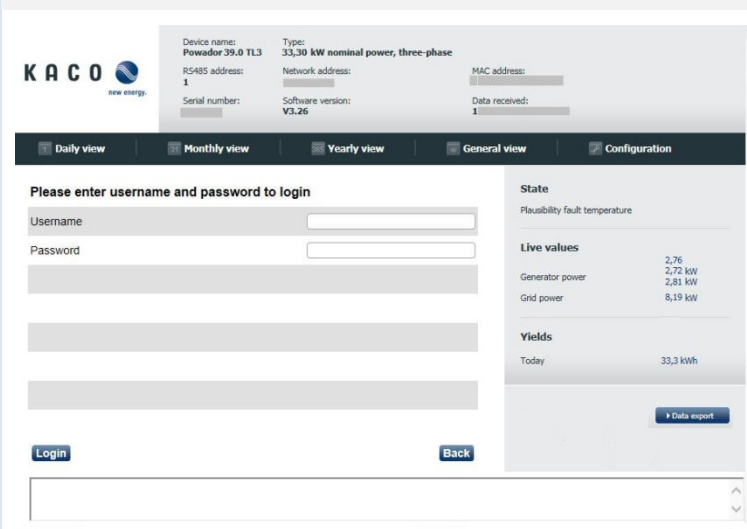
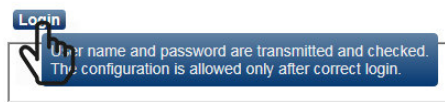
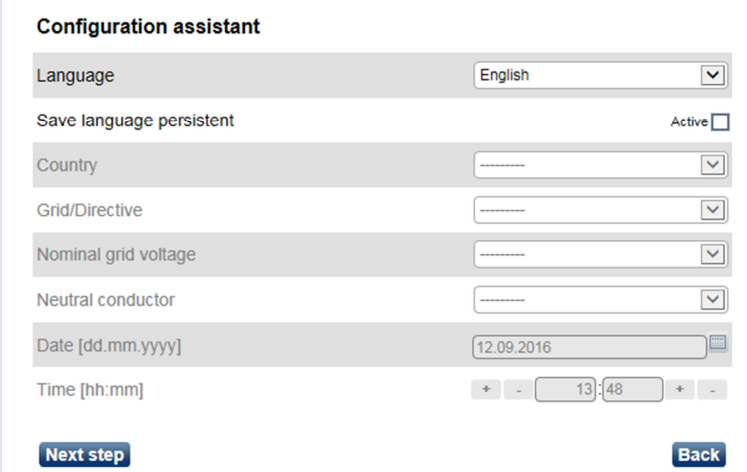
User	Inverter input screen	Operation and navigation
		<ul style="list-style-type: none"> ✓ Access data: Enter user name and password into the <i>framed free-text sections</i>. ✓ Confirm the entry with the “Login” button. ✓ Clicking the “Back” button will take you back to the previous input screen at any time. <p>Note: If you move your <i>cursor</i> over a button, further information regarding entry or relevant warning messages will be displayed.</p> 
		<ul style="list-style-type: none"> ✓ Select the display language via the <i>dropdown menu “v”</i> field. ✓ The language can be set permanently via the <i>active checkbox</i> on the inverter. <p>Note: If the checkbox is disabled, the language of the web user interface will only be set for the current session.</p> <ul style="list-style-type: none"> ✓ Confirm both actions by clicking the “Next step” button. ✓ Select the user country and network-specific country requirements <u>step-by-step</u> via the dropdown menu “v” field and acknowledge them by clicking the “Next step” button. ✓ Set the time and date for the user country. <p>Note: No entry is possible or permitted in the fields with a grey background.</p>

Figure 7. Configuration login screen

Figure 8. Configuration assistant

User Inverter input screen

Operation and navigation

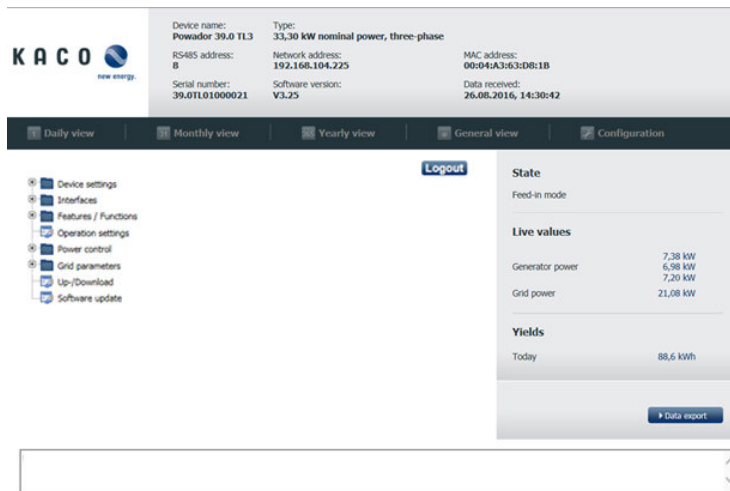


Figure 9. Inverter settings tree structure

Note: A specific parameter or function tree structure for the inverter is adopted according to your login details.

- ✓ By clicking the “+” box, the folder opens up to display other submenu items.
- ✓ Clicking the “Logout” button will cancel the current operation and you will be taken back to the data view.

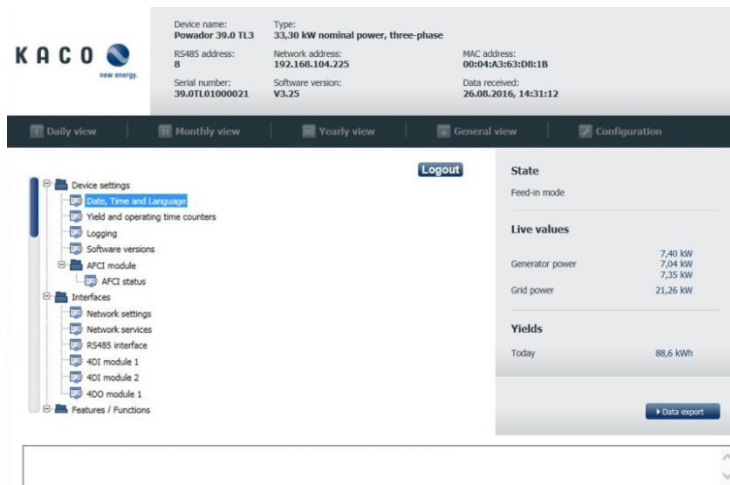


Figure 10. Menu items

- ✓ By clicking a menu item you will be taken to the associated input screen.
- ✓ You can scroll to all of the open main entries using the slide bar at the side.

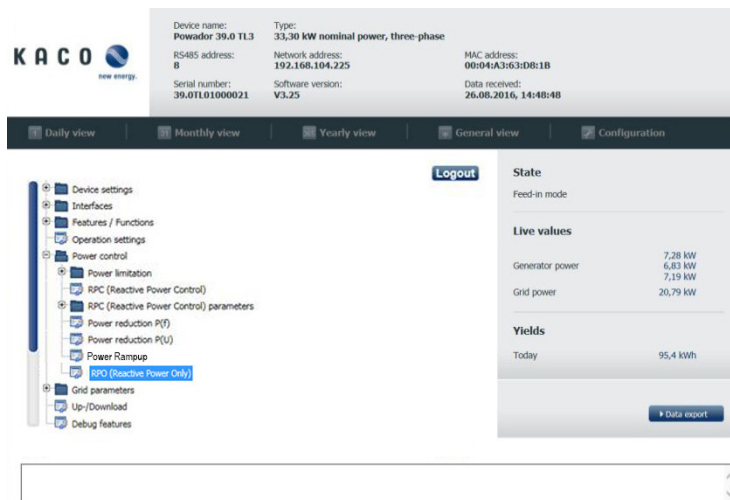


Figure 11. Menu entries – RPO unit series

Note: The RPO unit series includes special software entries in the power control.

- ✓ By clicking a menu item you will be taken to the associated input screen.
- ✓ You can scroll to all of the open main entries using the slide bar at the side.

User Inverter input screen

Operation and navigation

Submenu items - unit settings

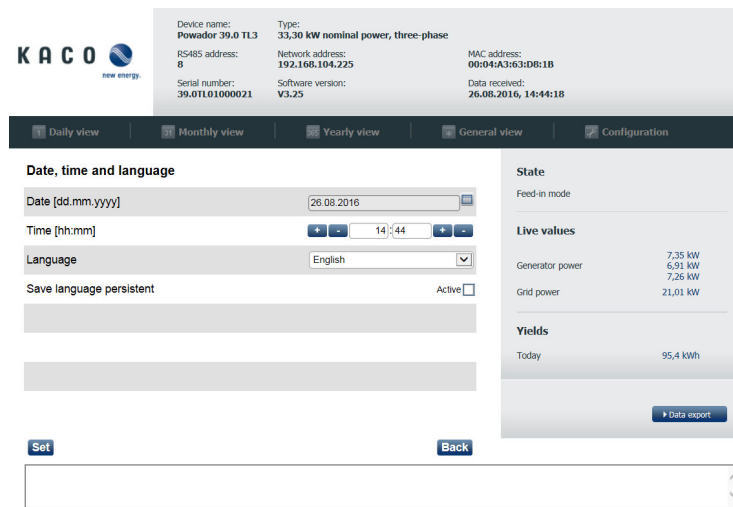


Figure 12. Set date, time, language

- ✓ Select the date using the "calendar" button.
- ✓ Enter the time into the *framed free-text section* or set the time using the "+/-" buttons.
- ✓ Set the language via the dropdown menu "√" field.

Note: The language can be set persistently via the *active checkbox* on the inverter.

- ✓ Set the entries by clicking the "Set" button.

Note: The plausibility of the information is checked before it is saved.

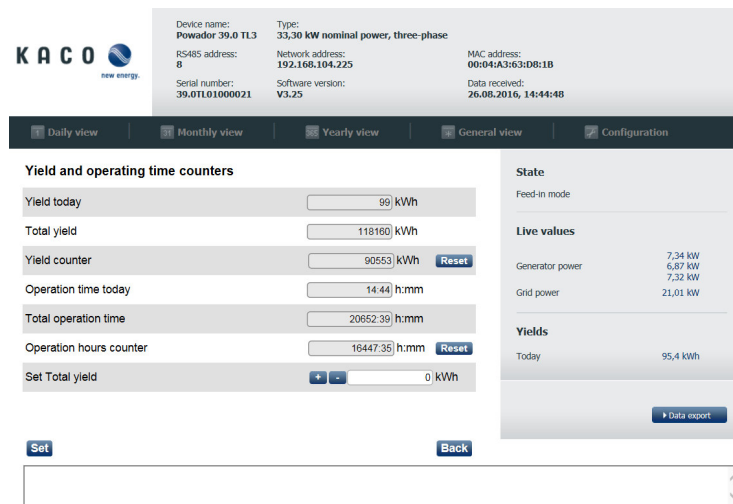


Figure 13. View and edit the yield and operating counters

Note: If necessary, the unit-specific password is requested via an additional menu dialogue.

- ✓ Values for the yield and operation counters can be set to 0 using the "Reset" button.
- ✓ You can enter the total yield you have achieved thus far into the free-text field itself or set it using the "+/-" buttons.
- ✓ Set the entries by clicking the "Set" button.

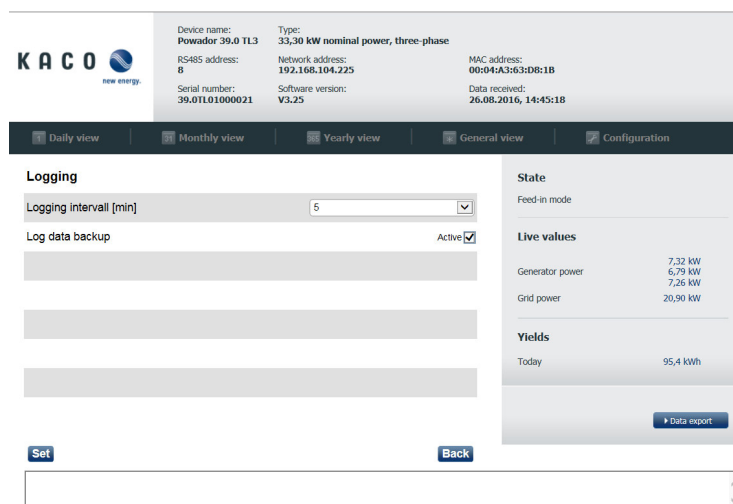


Figure 14. Configure the logging interval

- ✓ The logging interval for yield and operating data can be changed via the dropdown menu "√" field.
- ✓ When the log data backup checkbox is selected, the daily log data from the previous day is saved onto a USB stick at midnight.
- ✓ Set the entries by clicking the "Set" button.

User Inverter input screen

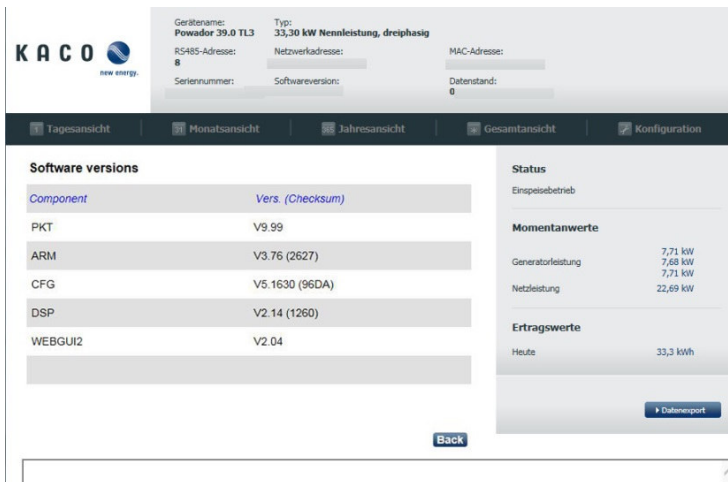


Figure 15. View software versions of all components

Operation and navigation

Note: Following every software update, check that the version number of the installed software component corresponds to the software package.

- ✓ The current software versions installed for each component can be viewed via the submenu item "Software versions".

Submenu item – AFCI module

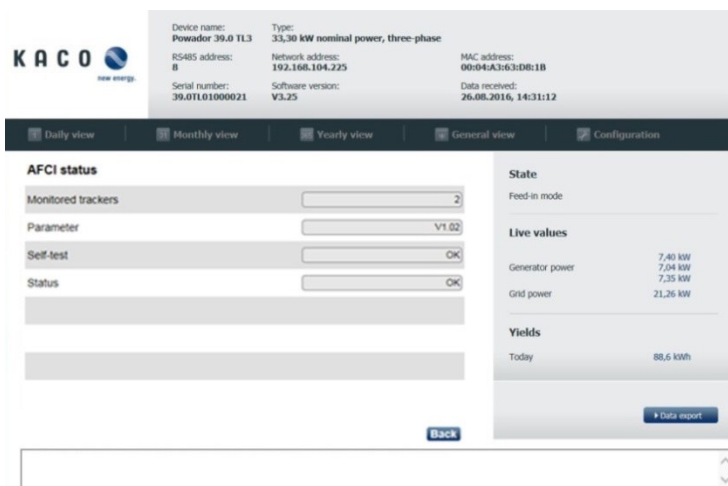


Figure 16. Viewing the AFCI status

Note: The following status can be seen in the "AFCI status" screen when the residual current circuit breaker is installed:

- ✓ Number of monitored MPP trackers
- ✓ Parameter version
- ✓ Self-test status
- ✓ Activation status
- ✓ Clicking the "Back" button will take you back to the previous input screen at any time.

Submenu items - interfaces

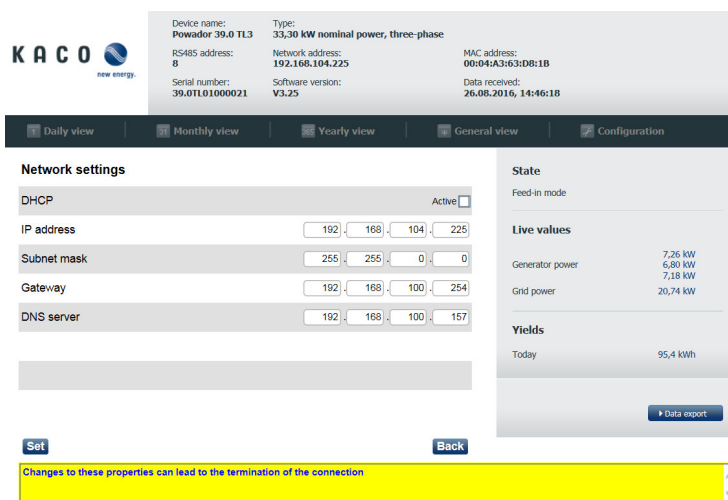


Figure 17. Configure the network settings

- ✓ Automatic IP address assignment can be activated by clicking the "Active" button.

Note: The following fields will be hidden when the DHCP is activated.

- ✓ IP address
- ✓ Subnet mask
- ✓ Gateway
- ✓ DNS server

Note: Warning messages^{*)} are highlighted in the comments box below.

- ✓ Set the entries by clicking the "Set" button.

^{*)} Changing these properties can result in the connection being terminated.

User Inverter input screen

Operation and navigation

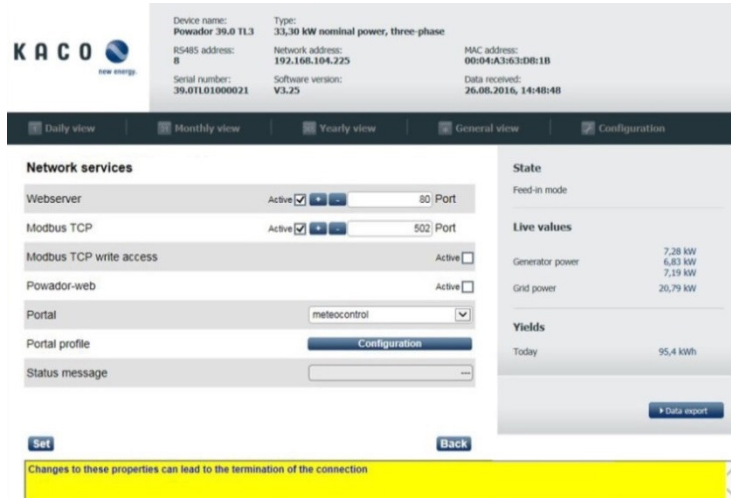


Figure 18. Configure network services

Caution: If you deactivate the webserver, the connection to the unit will be interrupted. In this case, it will only be possible to activate the webserver via the user interface on the unit's display.

- ✓ The features "Webserver", "Modbus TCP", "Modbus TCP write access" and "Powador-web" can be activated by ticking the boxes.
- ✓ Either enter the port for the webserver or use the "+/-" buttons to set it.
- ✓ Either enter the port for the Modbus TCP or use the "+/-" buttons to set it.
- ✓ Select the portal for system monitoring.
- ✓ Carry out the configuration of the portal profile using the "Configuration" button (see Figure 20).
- ✓ The status message shows the portal connection status.

Note: Warning messages are highlighted in the comments box below.

- ✓ Set the entries by clicking the "Set" button.

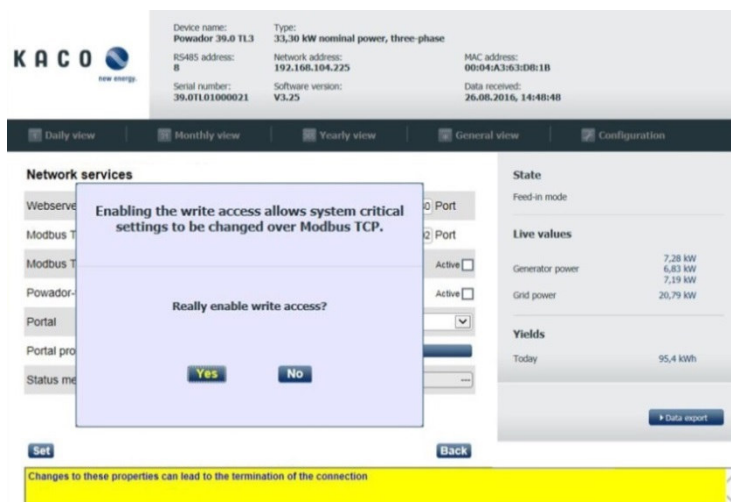


Figure 19. Confirmation prompt when activating the Modbus TCP write access

Note An additional confirmation is required to activate the write access on Modbus TCP.

- ✓ Permit Modbus TCP write access by clicking the "Yes" button.

User Inverter input screen

Operation and navigation

The portal configuration submenu item

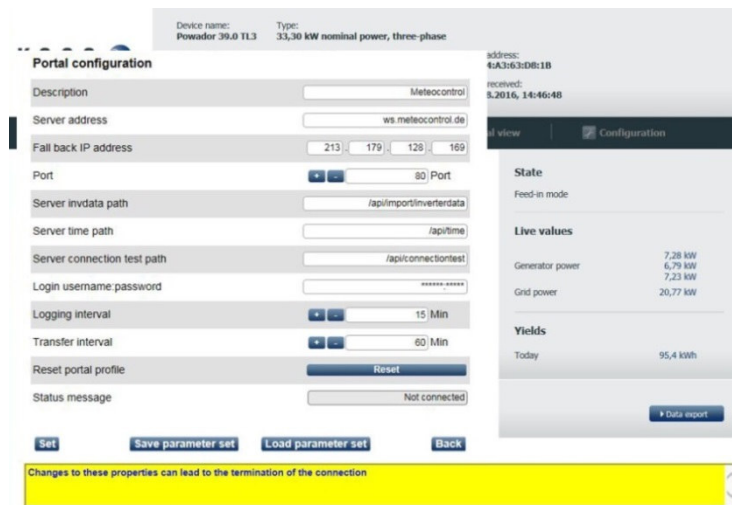


Figure 20. Configuring the portal

Note: Standard portal profiles have already been pre-defined. User-defined portal profiles require the following settings.

- ✓ Enter the user name for portal configuration.
- ✓ Enter the server address.
- ✓ Enter the fall back IP address (if the server jumps to an incorrect server address)
- ✓ Enter the port number or set it using the "+/-" buttons.
- ✓ Enter the interface paths for inverter data, time, connection test.
- ✓ Enter the password for the login username.
- ✓ Enter the time for the access and transfer interval or set it using the "+/-" buttons.

Note: You can reset the configuration to the default settings by clicking the "Reset" button.

- ✓ Export the portal settings to a file by clicking the "Save parameter set" button.

Note: Saved profiles can be loaded by clicking "Load parameter set".

- ✓ Set the entries by clicking the "Set" button.

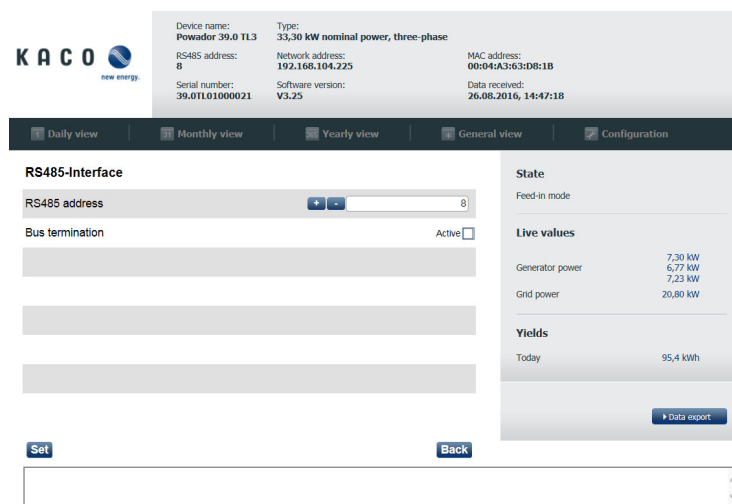


Figure 21. Configuring the RS485 interface

Note: By allocating an RS485 address, you address the inverter in the unit compound.

- ✓ Enter the RS485 address or set it using the "+/-" buttons.

Note: Bus termination is only available on units that allow software-based configuration.

- ✓ The first and last unit in a group of equipment are specified via bus termination.
- ✓ Set the entries by clicking the "Set" button.

User Inverter input screen

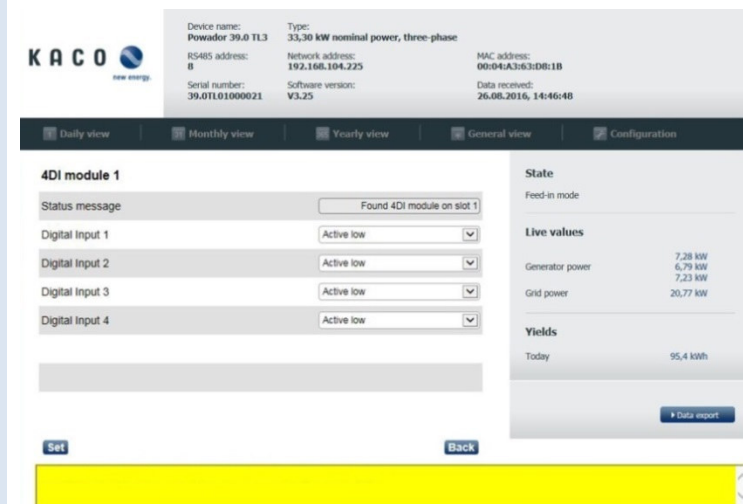


Figure 22. Configuring 1 or 2 extension modules for digital inputs

Operation and navigation

Note: Extension module(s) for digital inputs can be obtained from KACO service. (e.g. for connecting a ripple control receiver)

- ✓ The module status can be viewed via the status message.
- ✓ If the module is available: - For each input channel, select the activation level "Active low" for 0-1V or "Active high" for 5-40V.
- ✓ Set the selection by clicking the "Set" button.

Submenu items - characteristics/functions

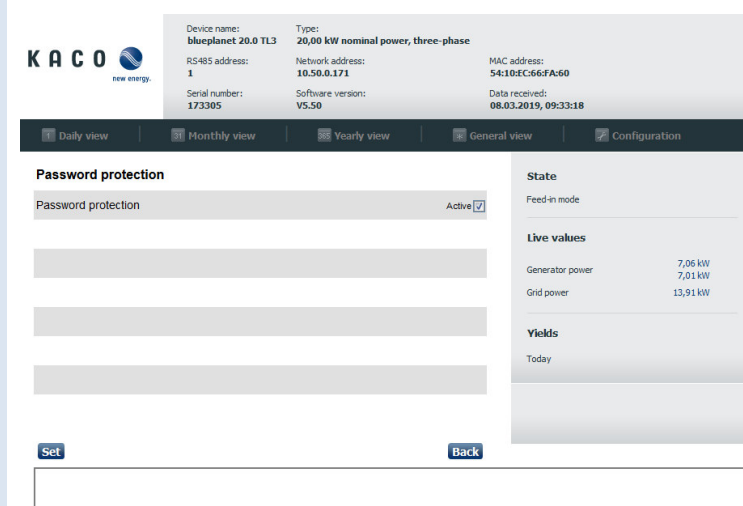


Figure 23. Activate Password protection

Note: The password protection functions protect the access to following Parameters.

- ✓ The Password protection can be activated by ticking the boxes.
- ✓ Set the selection by clicking the "Set" button.

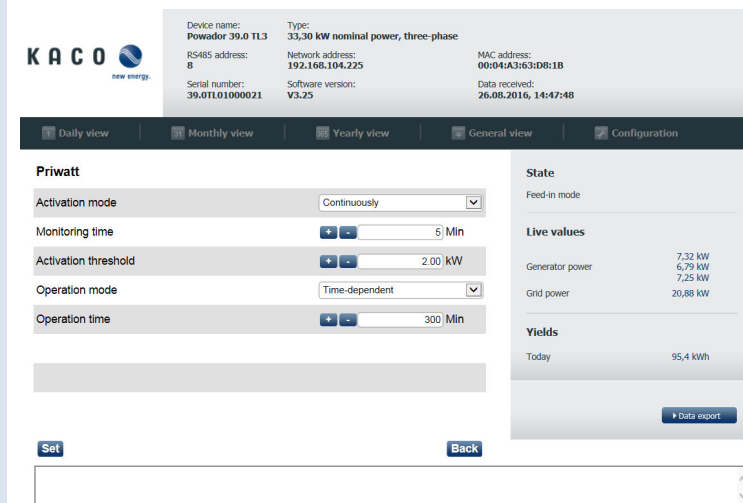


Figure 24. Configure the privatt function

Note: The privatt function is not available for RPO inverters

- ✓ Set the privatt function activation mode via the dropdown menu "v" field.
- ✓ Enter the monitoring time and activation threshold or set them using the "+/-" buttons.
- ✓ Set the operating mode via the dropdown menu "v" field.

Note: The operation time can only be set in the time-dependent operating mode. Otherwise, the input field is hidden.

- ✓ Set the entries by clicking the "Set" button.

User Inverter input screen

Operation and navigation

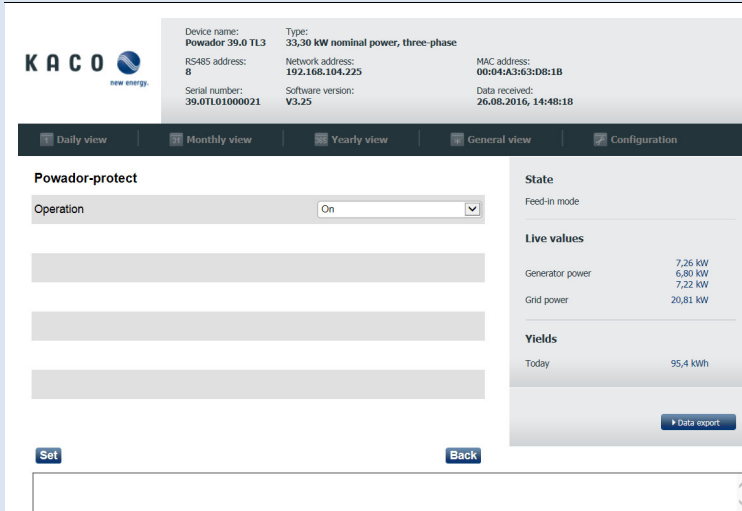


Figure 25. Configure Powador-protect mode

Note: The behaviour of the inverter when an optional “Powador-protect” is connected can be configured in this screen.

- ✓ Set the Powador-protect operation mode via the dropdown menu “v” field.
- ✓ Set the selection by clicking the “Set” button.

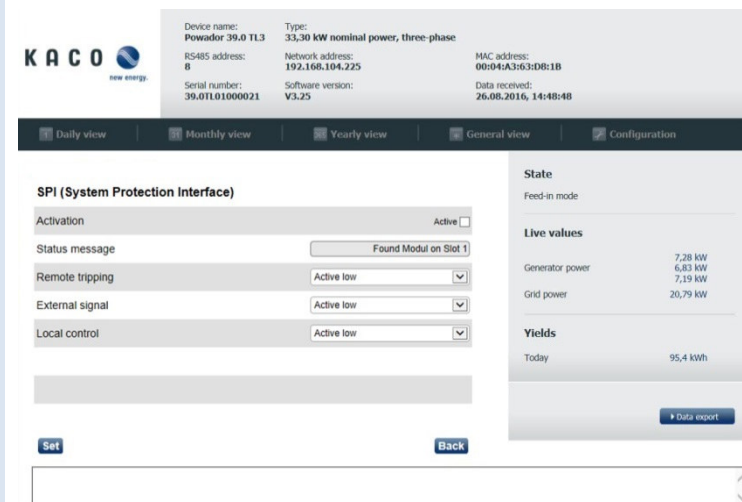


Figure 26. Configuring the SPI function

Note: This function is only available if supported by the inverter family.

- ✓ The function can be activated by ticking the boxes.
- ✓ The available module is reported by way of a status message.
- ✓ Set the logic level “Active low” for 0-1V or “Active high” for 5-40V via the dropdown menu “v” field.
- ✓ Set the selection by clicking the “Set” button.

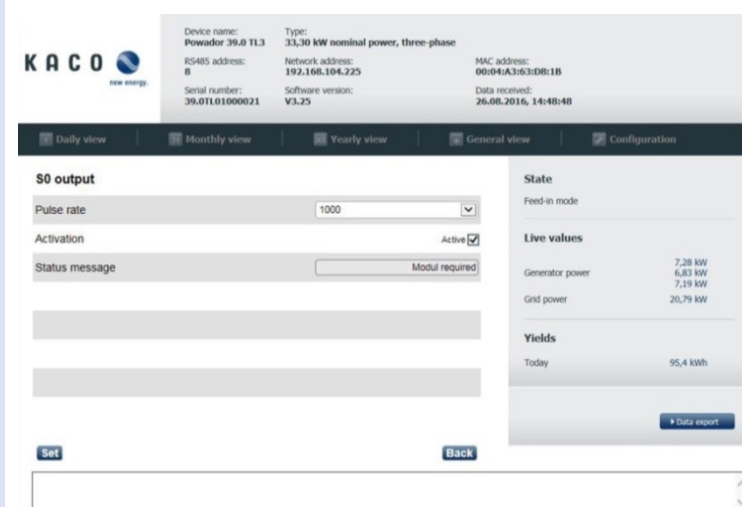


Figure 27. Configuring the S0 output

Note: The screen may differ depending on the hardware. The S0 output can be configured if the hardware supports this.

Configure the S0 function

- ✓ Activate/deactivate the S0 function
- ✓ Set the pulse rate.
- ✓ Set the selection by clicking the “Set” button.

User Inverter input screen

Operation and navigation

Installers & service partners

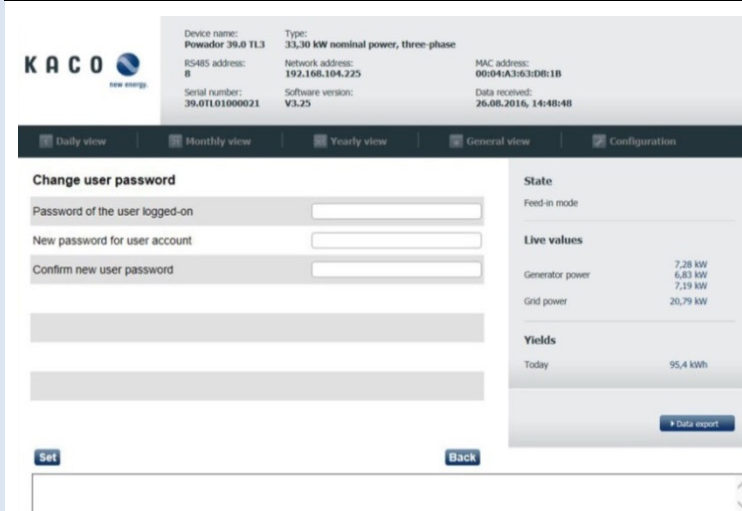


Figure 28. Changing the user password

Note: The user password protects you against unauthorised access to the inverters that are connected to the network.

- ✓ Enter the current password of the user who is currently logged in.
- ✓ Enter a new user password.
- ✓ Confirm the new user password by re-entering it.
- ✓ Set the entries by clicking the "Set" button.

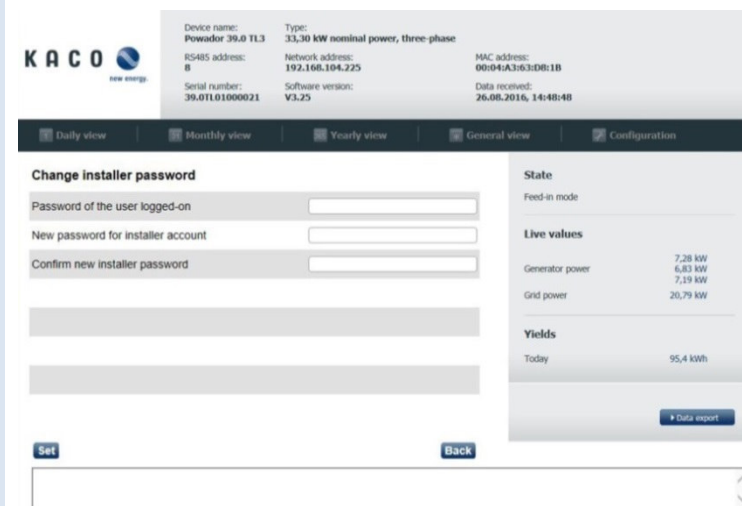


Figure 29. Changing the installer password

Note: The installer password protects you against unauthorised access to the inverters that are connected to the network.

- ✓ Enter the current password of the user who is currently logged on.
- ✓ Enter a new installer password.
- ✓ Confirm the new installer password by re-entering it.
- ✓ Set the entries by clicking the "Set" button.

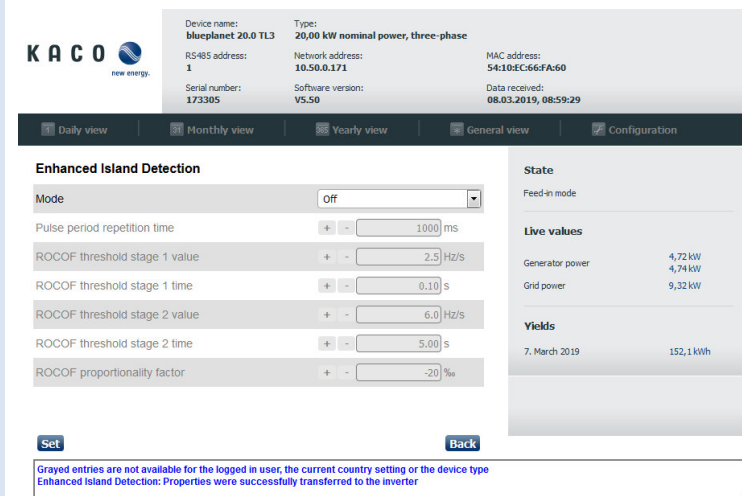


Figure 30. Enhanced Island Detection configuration

Note: Grid operators require shutdown of the device with standalone grid detection.

- ✓ Select the enhanced island detection mode via the dropdown menu "v" field
- ✓ Set active box of selected mode or configure it using the "+/-" buttons.
- ✓ Set the selection by clicking the "Set" button.

Note: Observe the further information in the comments box below.

User Inverter input screen

Operation and navigation

Submenu items - operation settings

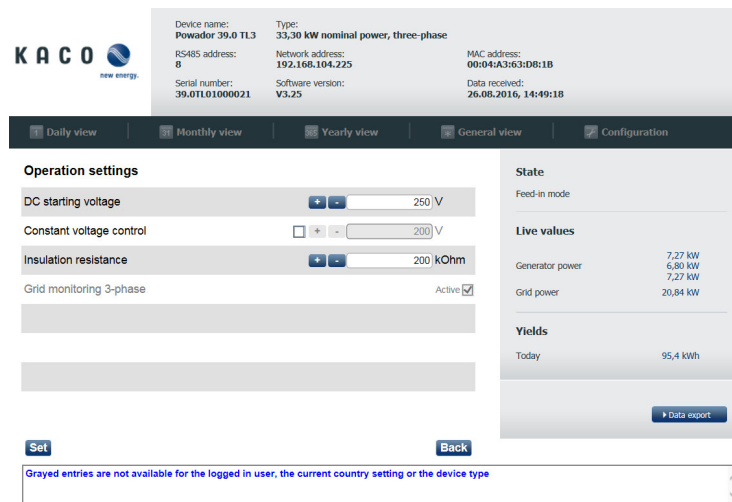


Figure 31. Configure the operation settings

- ✓ Enter the DC starting voltage or configure it using the “+/-” buttons.
- ✓ When activating the constant voltage control, set the voltage or configure it using the “+/-” buttons.
- ✓ Set the insulation resistance or configure it using the “+/-” buttons.
- ✓ Activate 3-phase monitoring for hardware support by ticking the checkbox.
- ✓ Set the entries by clicking the “Set” button.

Note: Observe the further information in the comments box below.

Submenu items – power control

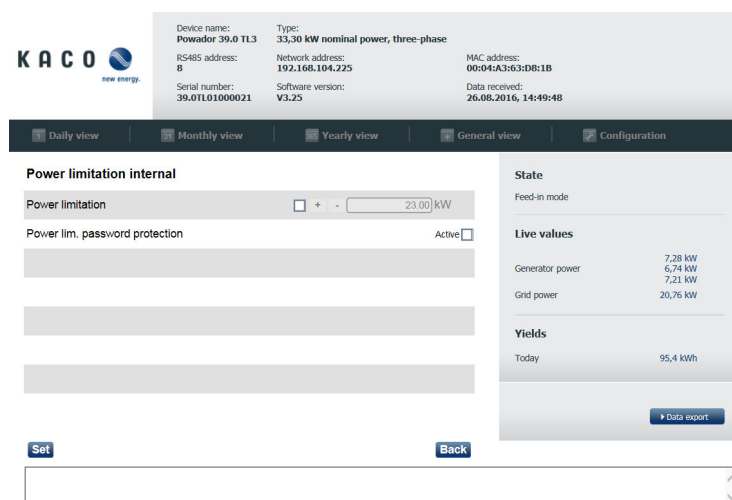


Figure 32. Configure the internal power limitation

- ✓ During activation you can enter the internal power limitation or configure it using the “+/-” buttons according to the specified range.
- ✓ When activating password protection, a change can only be made if the unit-specific password is entered.
- ✓ Set the entries by clicking the “Set” button.

Note: External power limitation is only possible if the extension module is installed and when it is supported by the hardware. You can obtain this from KACO service.

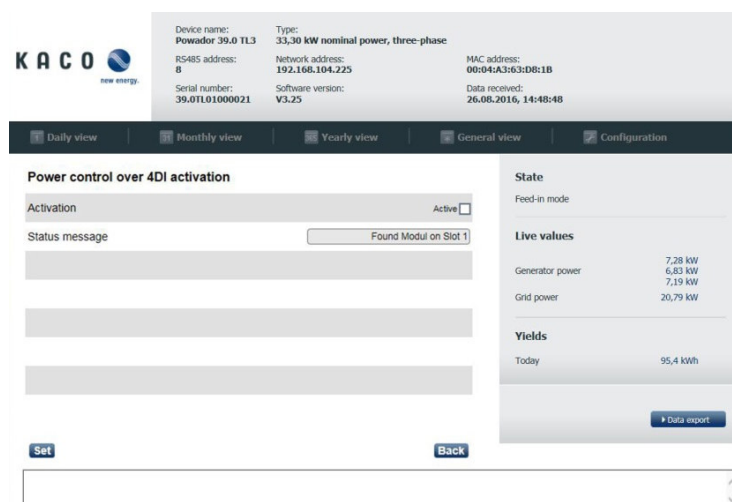


Figure 33. Configuring the external power limitation

- ✓ Activate the feature by clicking the checkbox.
- ✓ Note the status message with available extension module.
- ✓ Set the activation by clicking the “Set” button.

User Inverter input screen

Operation and navigation

Submenu item – External power limitation

Installers & service partners

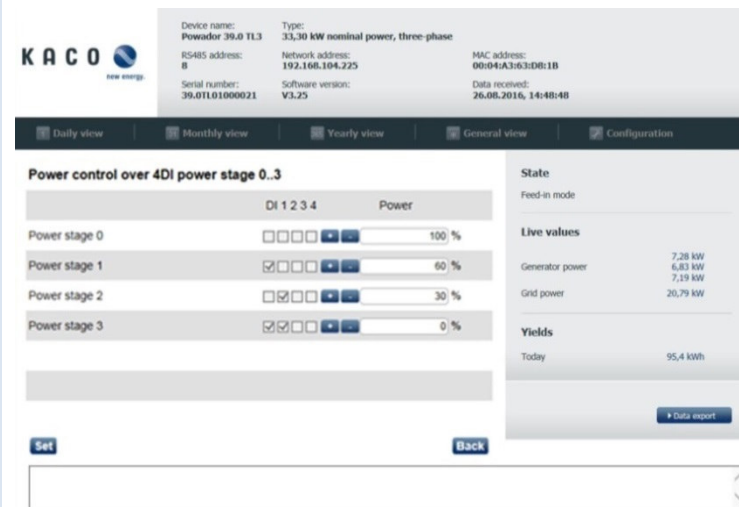


Figure 34. Defining input channels 0 ... 15 for power limitation

Note: When the extension module is installed, the individual power stages can be defined.

- ✓ Enter the power value in % or configure it using the “+/-” buttons.
- ✓ Repeat the configuration for every other channel.

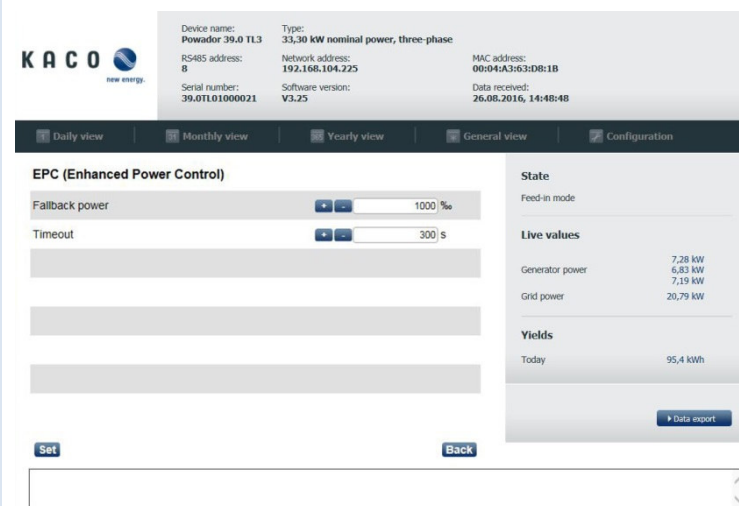


Figure 35. Configuring the extended power control

Note: The EPC function contains a quick power measurement output.

- ✓ Enter the fallback power in $\frac{0}{100}$ or configure it using the “+/-” buttons.
- ✓ Enter the timeout in seconds or configure it using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

Installers & service partners

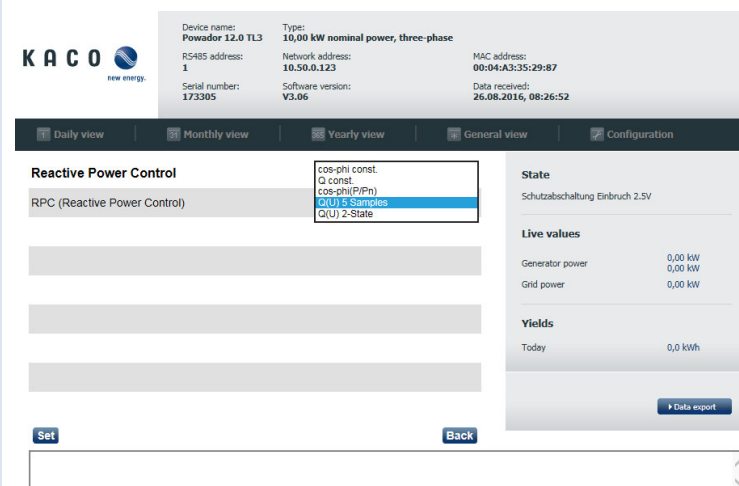


Figure 36. Select the reactive power mode

Note: The reactive power mode can be selected in accordance with the set country configuration.

- ✓ Select the reactive power mode via the dropdown menu “√” field.
- ✓ Set the selection by clicking the “Set” button.

Note: This mask is **not** available for RPO inverters

User Inverter input screen

Operation and navigation

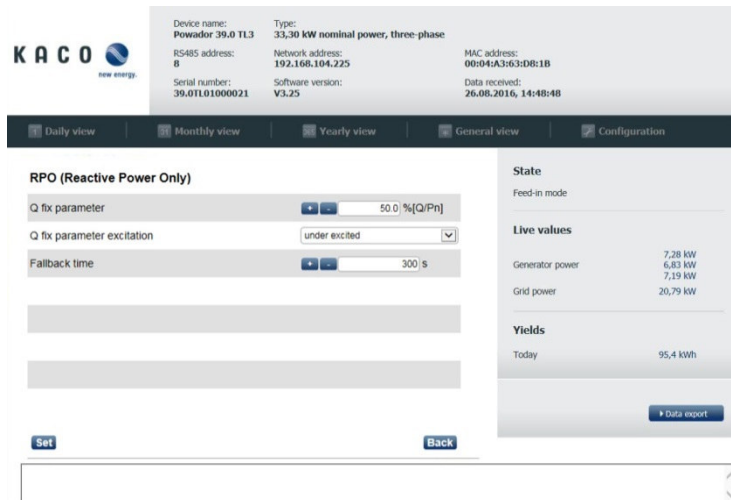


Figure 37. Configuring RPO mode

Note: The RPO unit series includes the pre-defined setting for reactive power supply during twilight and at night.

- ✓ Enter the Q-Fix parameter or configure it using the “+/-” buttons.
- ✓ Select Q-Fix parameter excitation via the dropdown menu “√” field.
- ✓ Enter the fallback time or configure it using the “+/-” buttons.
- ✓ Set the selection by clicking the “Set” button.

Submenu items – Parameters for the reactive power mode (Not for RPO-inverters)

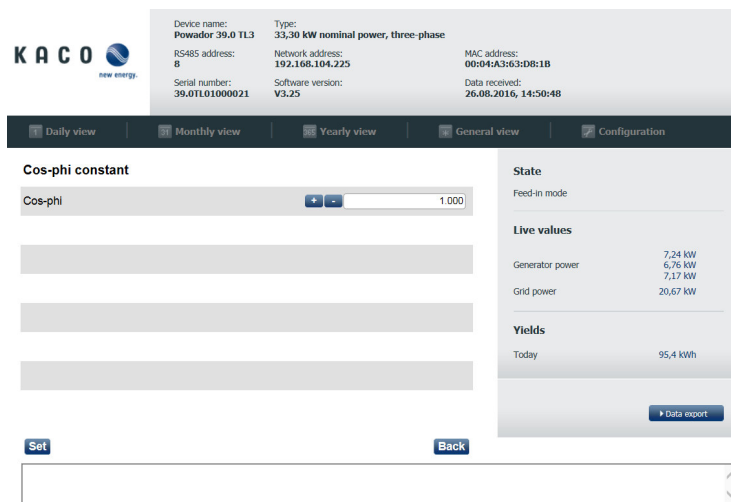


Figure 38. Configuring the “cos-phi constant” reactive power mode

Note: The following screens relate to the reactive power mode shown in Figure 36.

- ✓ Configure the cos-phi value or set it using the “+/-” buttons.
- ✓ If necessary, specify as “over-excited” or “underexcited” via the dropdown menu “√” field.
- ✓ Set the entries by clicking the “Set” button.

Installers & service partners

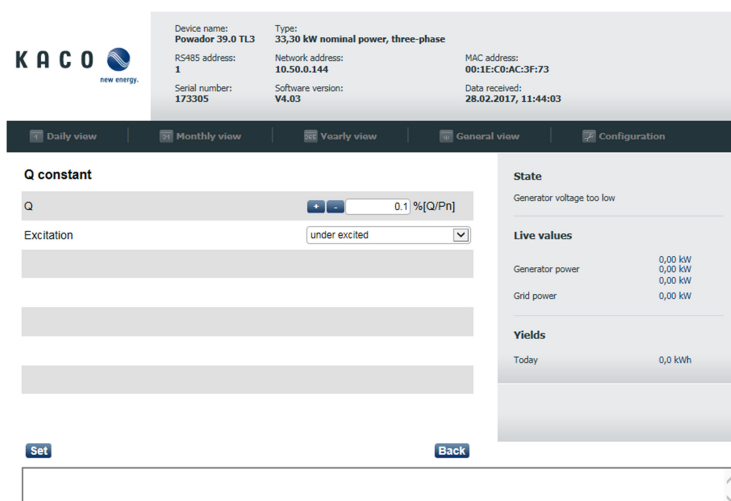


Figure 39. Configuring the “Q constant” reactive power mode

- ✓ Configure the Q value or set it using the “+/-” buttons.
- ✓ Select the excitation via the dropdown menu “√” field.
- ✓ Set the entries by clicking the “Set” button.

User Inverter input screen

Operation and navigation

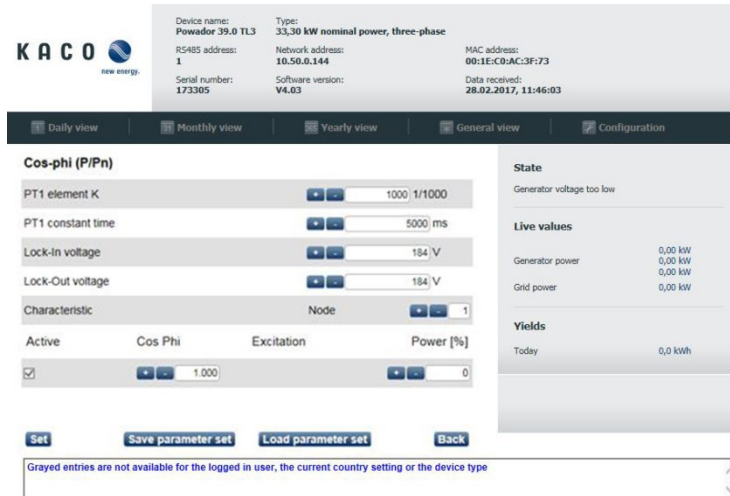


Figure 40. Configuring the “cos-phi (P/Pn)” reactive power mode

Configure the cos-phi (P/Pn)

- ✓ Enter the PT1 behaviour (constant K, time) or set it using the “+/-” buttons.
- ✓ Enter the lock-in/lock-out voltage or set it using the “+/-” buttons.
- ✓ Select the node of the characteristic or set it using the “+/-” buttons.
- ✓ If necessary, activate the node of the characteristic and specify other parameters.

Note: Only the last active node can be deactivated, or, only the first inactive node can be activated.

- ✓ Set the entries by clicking the “Set” button.

Note: Observe the further information in the comments box below.

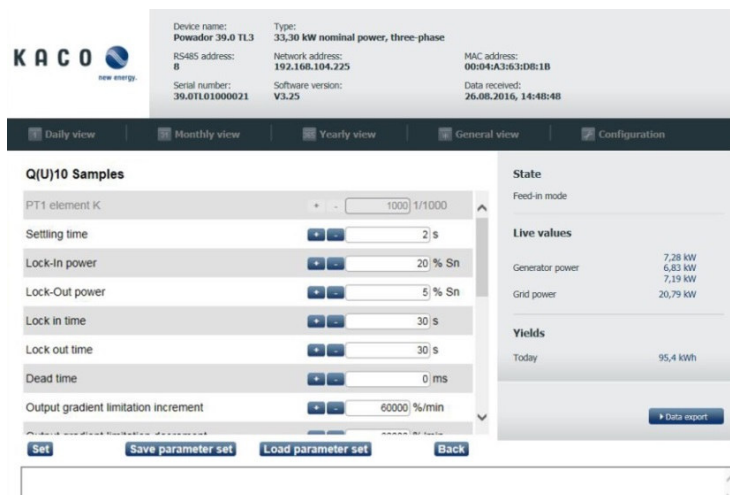


Figure 41. Configuring the “Q(U) 10 nodes” reactive power mode

- ✓ Enter the transmission and time constants or set them using the “+/-” buttons.
- ✓ Enter the lock-in/lock-out voltage or specify it using the “+/-” buttons.
- ✓ Enter the lock-in/lock-out time or set it using the “+/-” buttons.
- ✓ Enter the dead time or set it using the “+/-” buttons.
- ✓ Enter the limit for the rising output gradient in %/min or set it using the “+/-” buttons.

Installers & service partners



Figure 42. Configuring the “Q(U) 10 nodes” reactive power mode

- ✓ Enter the limitation for the falling output gradient in %/min or set it using the “+/-” buttons.
- ✓ Enter the minimum cos-phi factor for quadrants 1 or 4 or set it using the “+/-” buttons. (2-3 only available for bluestorage inverters)
- ✓ Set the priority mode (priority is given to either reactive power Q or active power P)

User Inverter input screen

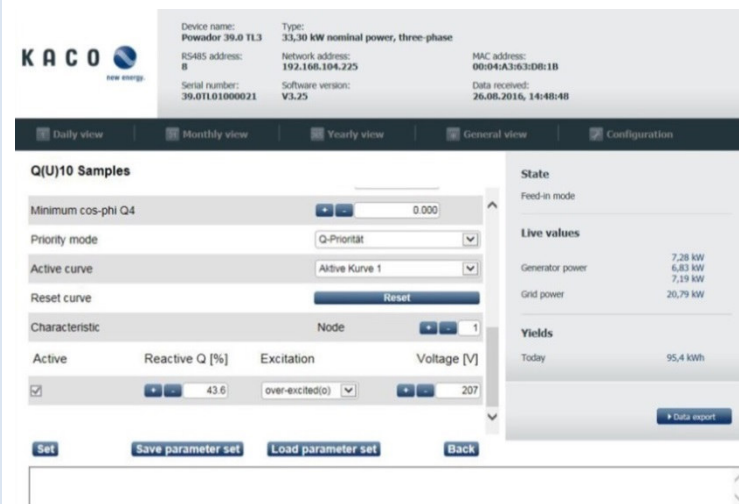


Figure 43. Configuring the "Q(U) 10 nodes" reactive power mode

Operation and navigation

- ✓ Select the active curve for Q(U) via the dropdown menu "√" field.

Note: The active curve configuration can be reset using the "Reset" button.

- ✓ Select the node of the characteristic or set it using the "+/-" buttons.
- ✓ If necessary, activate the node of the characteristic by ticking the checkbox and specify other parameters.

Note: Only the last active node can be deactivated, or, only the first inactive node can be activated.

- ✓ Export the Q(U) parameters to a file by clicking the "Save parameter set" button.

Note: Saved parameters can be imported from a file by clicking the "Load parameter set" button.

- ✓ Set the entries by clicking the "Set" button.

Installers & service partners

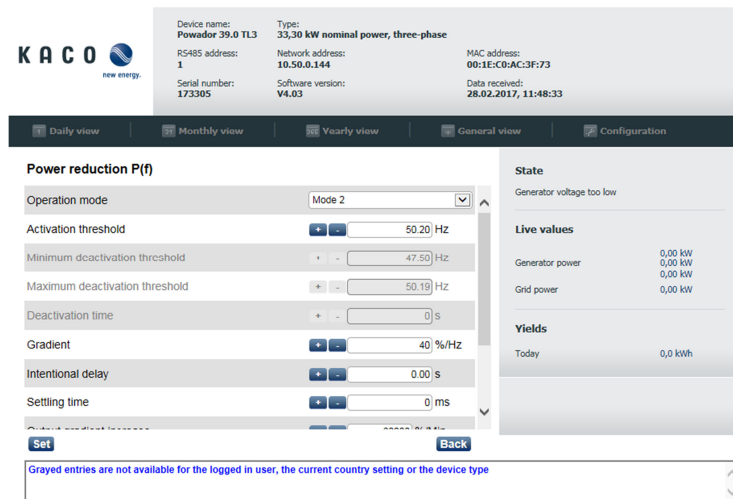
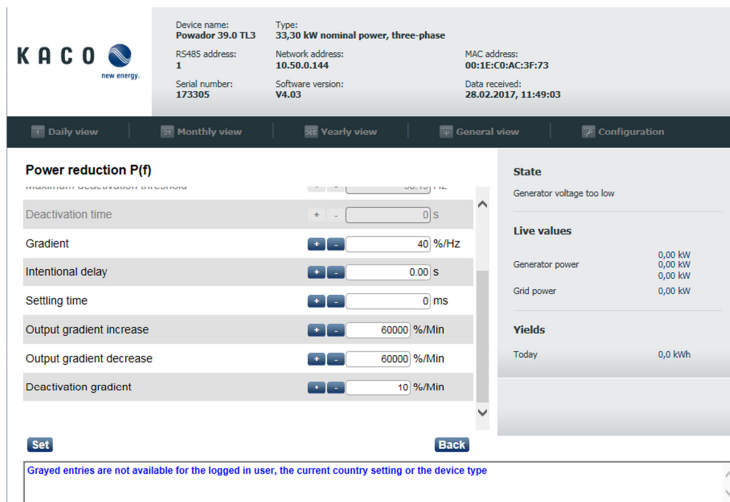


Figure 44. Configuring power reduction P(f)

- ✓ Select the operating mode via the dropdown menu "√" field.
- ✓ Enter the activation threshold or set it using the "+/-" buttons.
- ✓ Enter the minimum and maximum deactivation threshold or set them using the "+/-" buttons.
- ✓ Enter the deactivation time or set it using the "+/-" buttons.
- ✓ Specify the gradient in %/Hz or set it using the "+/-" buttons.
- ✓ Enter the intentional delay in sec. or set it using the "+/-" buttons.

User Inverter input screen

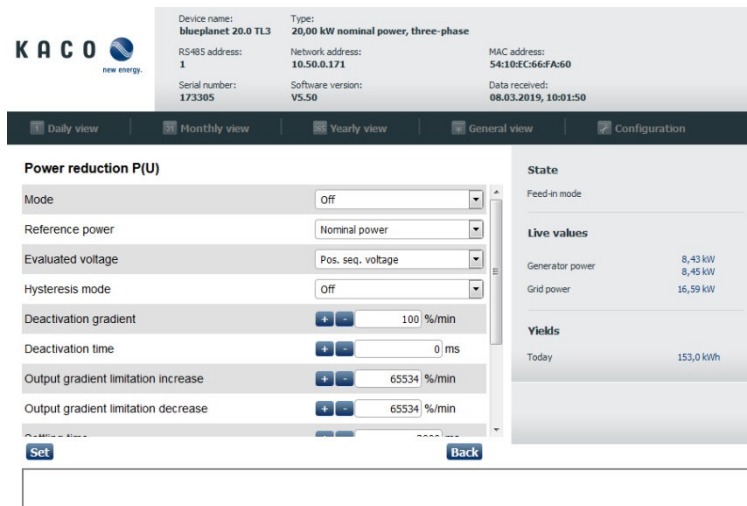
Operation and navigation



- ✓ Enter the transient time or set it using the “+/-” buttons.
- ✓ Enter the rising output gradient or set it using the “+/-” buttons.
- ✓ Enter the falling output gradient or set it using the “+/-” buttons.
- ✓ Enter the deactivation gradient or set it using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

Note: Observe the further information in the comments box below.

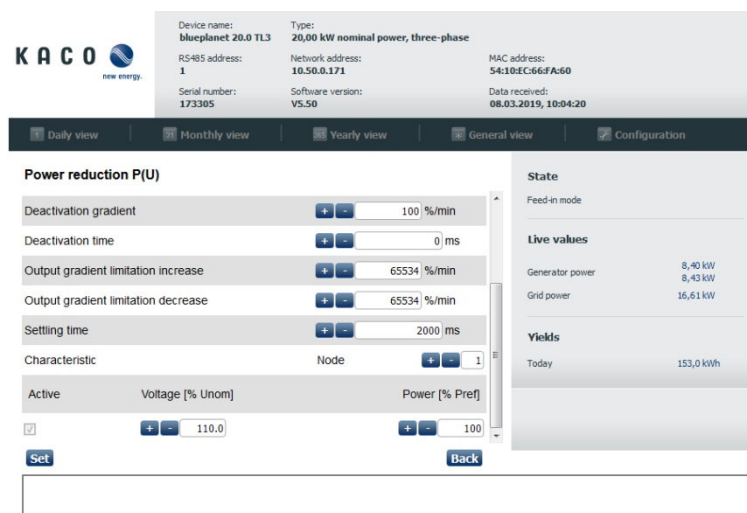
Figure 45. Configuring power reduction P(f)



- ✓ Select the operating mode via the dropdown menu “v” field.
- ✓ Select the reference power via the dropdown menu “v” field.
- ✓ Select the evaluated voltage mode via the dropdown menu “v” field.
- ✓ Select the Hysteresis mode via the dropdown menu “v” field.
- ✓ Enter the deactivation gradient or using the “+/-” buttons.
- ✓ Enter the deactivation time or using the “+/-” buttons.

Figure 46. Configuring power reduction P(U) I

Installers



- ✓ Enter the increase and decrease output gradient limitation or using the “+/-” buttons.
- ✓ Enter the setting time or using the “+/-” buttons.
- ✓ Select the characteristic node or using the “+/-” buttons.
- ✓ Activate curve and set voltage [% U_{nom}] and power limitation [% P_{ref}] by using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

Note: Observe the further information in the comments box below.

Figure 47. Configuring power reduction P(U) II

User Inverter input screen

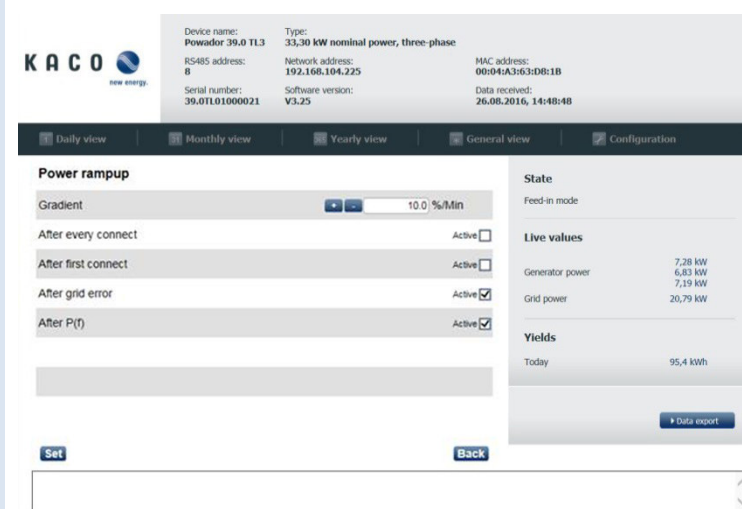


Figure 48. Configuring power rampup

Operation and navigation

- ✓ Specify the gradient in % /min or set it using the "+/-" buttons.
- ✓ Activate the enabling condition for the selected gradient.

Note: Multiple selections possible.

- ✓ Set the entries by clicking the "Set" button.

Grid parameters

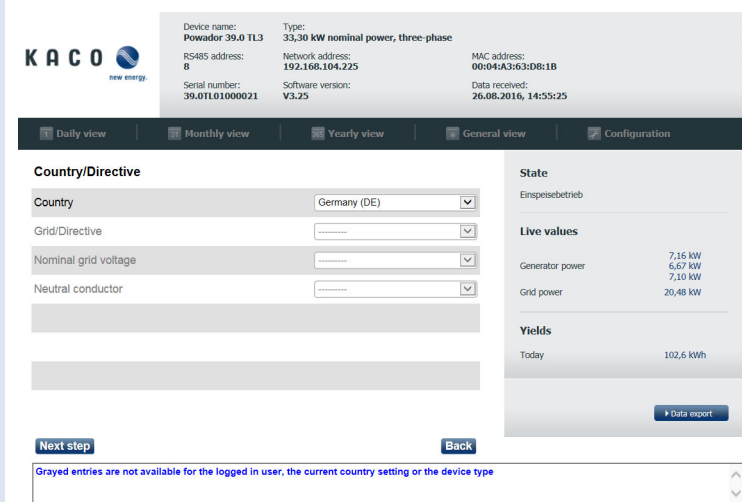


Figure 49. Configuring the country and grid type/directive

- ✓ Select the user country via the dropdown menu "v" field.
- ✓ Acknowledge by clicking the "Next step" button.
- ✓ Specify further selection via the dropdown fields and acknowledge them step-by-step by clicking the "Next step" button.

Installers

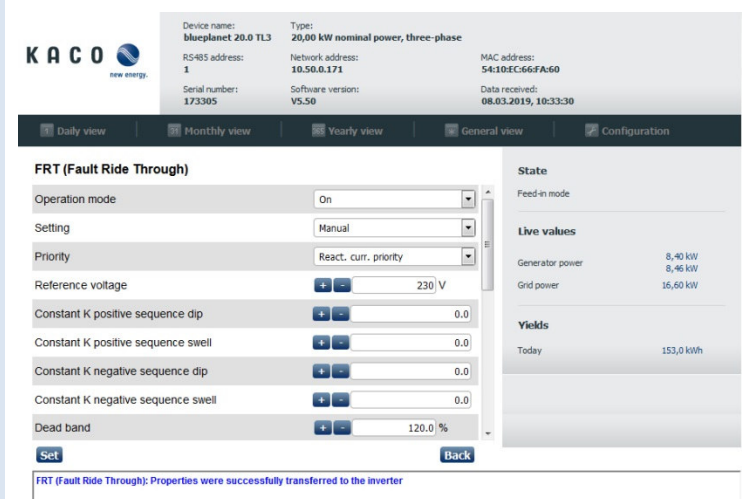


Figure 50. Configuring the FRT (Fault Ride Through)

Note: This function is available if the software package supports it.

- ✓ Select the operating mode via the dropdown menu "v" field.
- ✓ Select the mode via the dropdown menu "v" field.
- ✓ Select the priority the dropdown menu "v" field.
- ✓ Enter the reference voltage or set it using the "+/-" buttons.
- ✓ Enter constant K positive-phase system drop/increase or set it using the "+/-" buttons.
- ✓ Enter constant K negative-phase system drop/increase or set it using the "+/-" buttons.
- ✓ Enter the dead band in % or set it using the "+/-" buttons.

User Inverter input screen

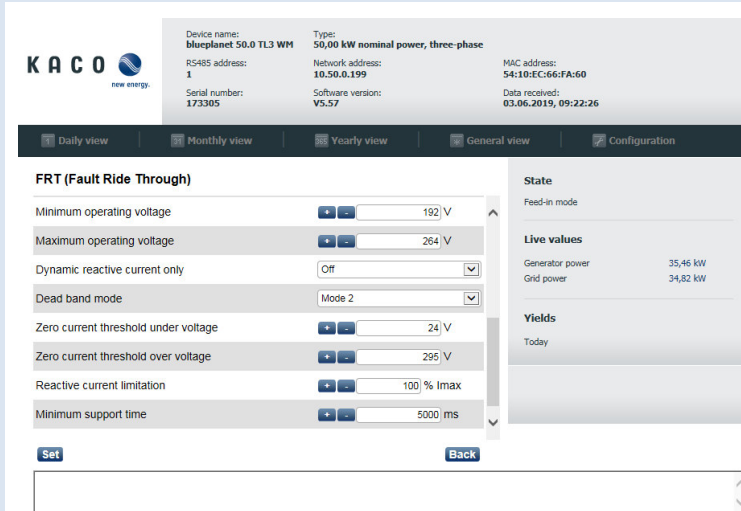


Figure 51. Configuring the FRT (Fault Ride Through)

Operation and navigation

- ✓ Enter the minimum/maximum operating voltage or set it using the "+/-" buttons.
- ✓ Switch "dynamic reactive power only" on or off via the dropdown menu "√" field.
- ✓ Select the dead band mode via the dropdown menu "√" field.
- ✓ Enter zero current threshold for under and over voltage or set it using the "+/-" buttons.
- ✓ Enter reactive current limitation in % I_{max} or set it using.
- ✓ Enter maximum support time or using the "+/-" buttons.
- ✓ Set the entries by clicking the "Set" button.

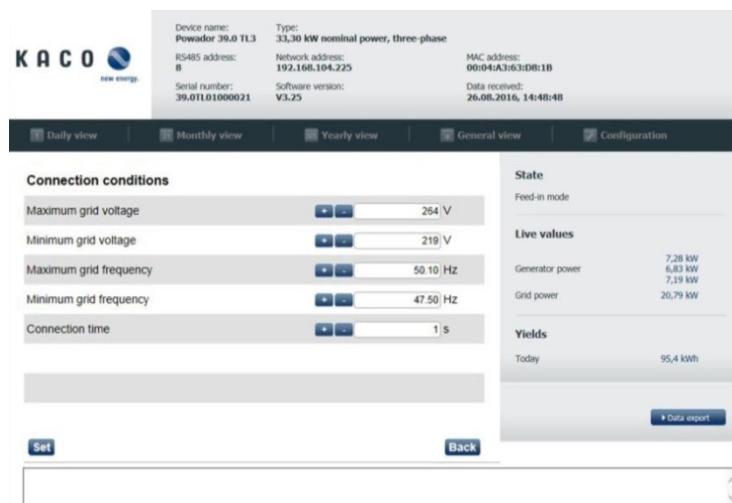


Figure 52. Configuring connection conditions

Note: The following screens can be configured to meet country-specific requirements.

- ✓ Enter the maximum and minimum restart voltage or set it using the "+/-" buttons.
- ✓ Enter the maximum and minimum restart frequency or set it using the "+/-" buttons.
- ✓ Enter the restart time in sec. or set it using the "+/-" buttons.
- ✓ Set the entries by clicking the "Set" -button.

Installers

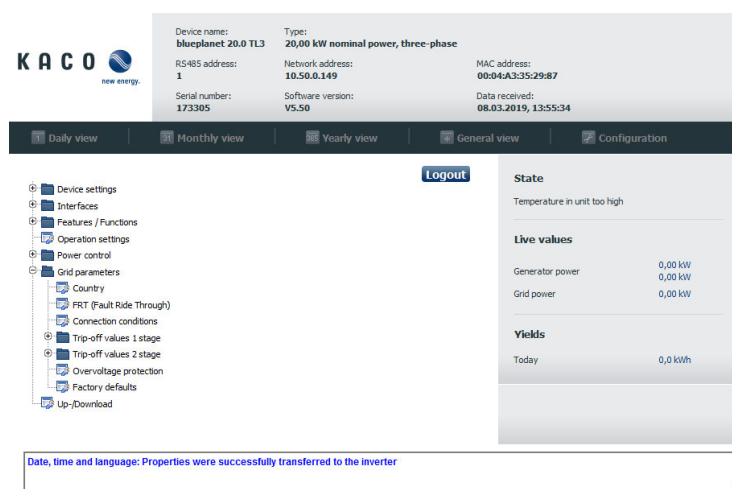


Figure 53. Device-priority für voltage and frequency trip limits

Note: The following screens for 1- or 2-stage trip limits are not displayed if Powador-protect are activated.

User Inverter input screen

Operation and navigation

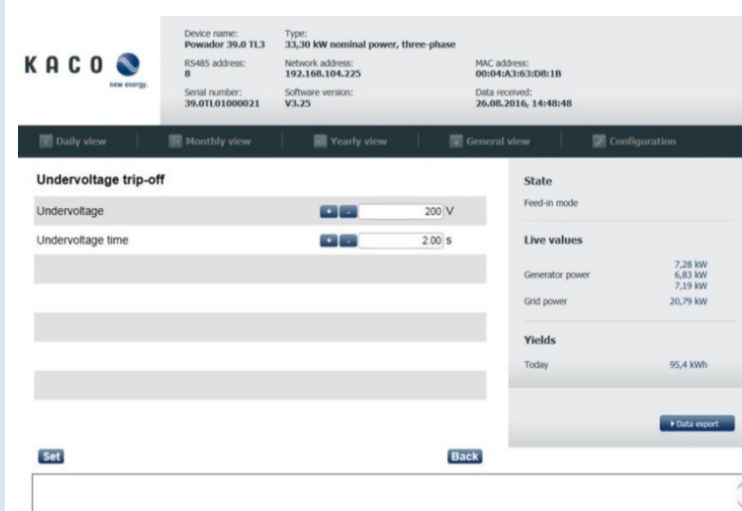


Figure 54. Configuring 1-stage undervoltage trip-off

- ✓ Configure the undervoltage trip-off value or set it using the “+/-” buttons.
- ✓ Configure the undervoltage trip-off time or set it using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

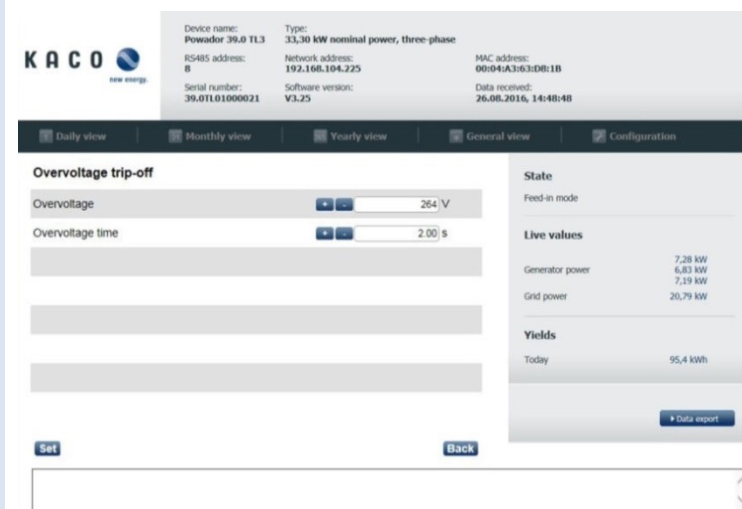


Figure 55. Configuring 1-stage overvoltage trip-off

- ✓ Configure the overvoltage trip-off value or set it using the “+/-” buttons.
- ✓ Configure the overvoltage trip-off time or set it using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

Installers

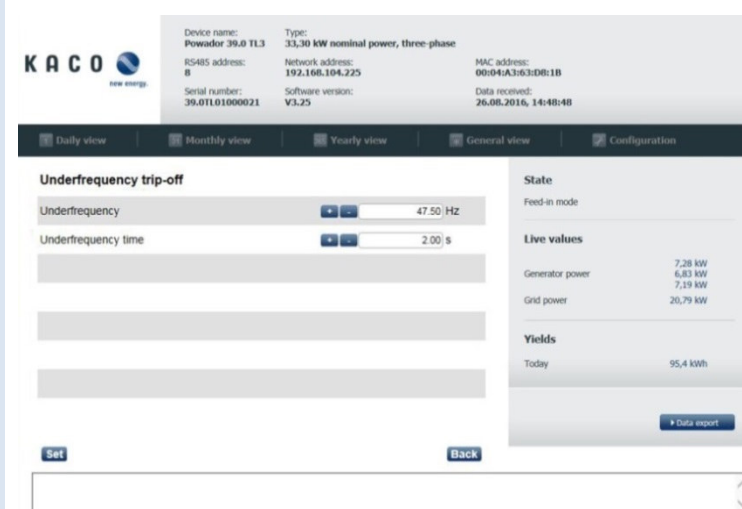


Figure 56. Configuring 1-stage underfrequency trip-off

- ✓ Configure the underfrequency trip-off value or set it using the “+/-” buttons.
- ✓ Configure the underfrequency trip-off time or set it using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

User Inverter input screen

Operation and navigation

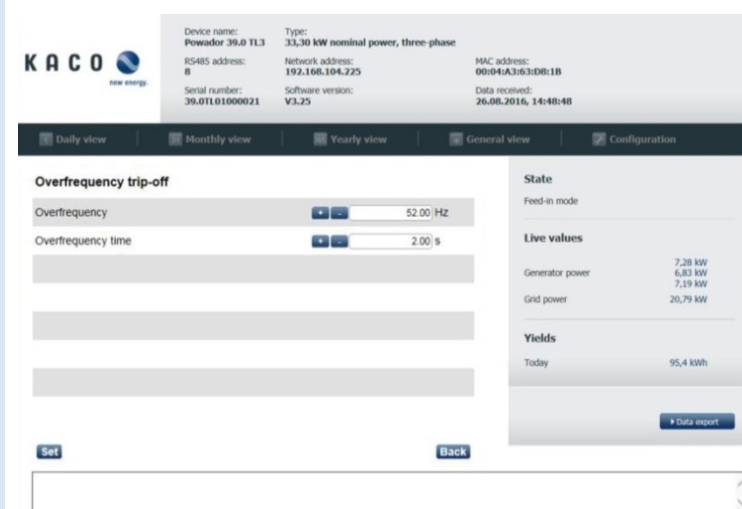


Figure 57. Configuring 1-stage overfrequency trip-off

- ✓ Configure the overfrequency trip-off value or set it using the “+/-” buttons.
- ✓ Configure the overfrequency trip-off time or set it using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

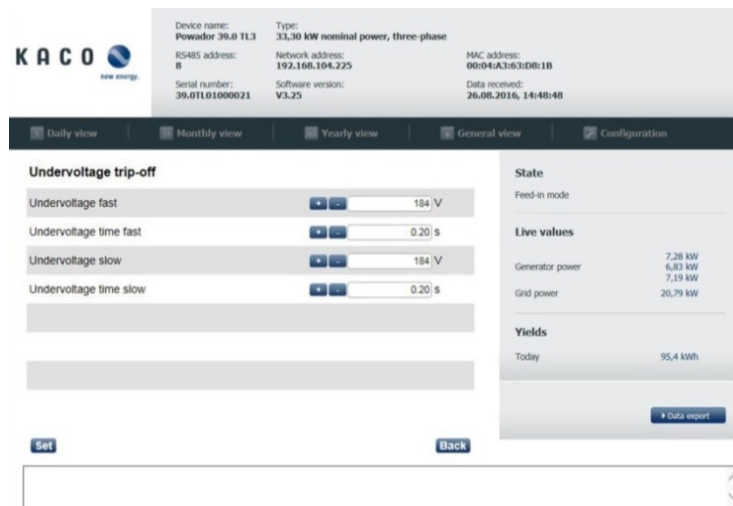


Figure 58. Configuring 2-stage undervoltage trip-off

- ✓ Enter the parameters for fast undervoltage trip-off or set it using the “+/-” buttons.
- ✓ Enter the parameters for slow undervoltage trip-off or set it using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

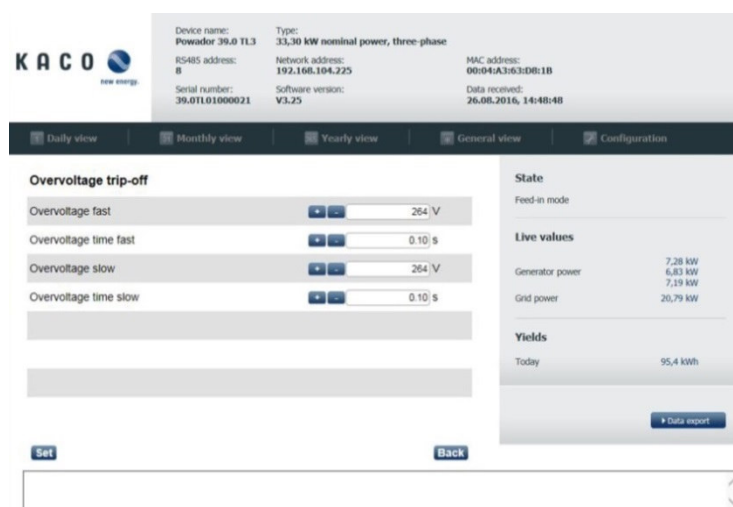


Figure 59. Configuring 2-stage overvoltage trip-off

- ✓ Enter the parameters for fast overvoltage trip-off or set it using the “+/-” buttons.
- ✓ Enter the parameters for slow overvoltage trip-off or set it using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

User Inverter input screen

Operation and navigation

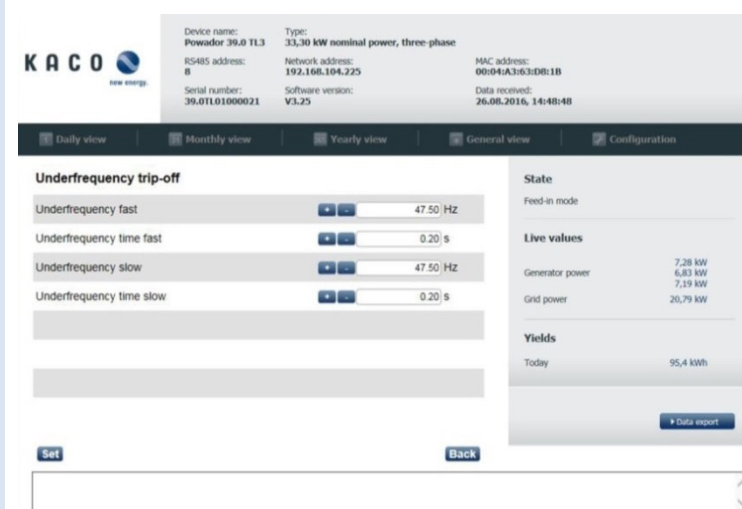


Figure 60. Configuring 2-stage underfrequency trip-off

- ✓ Enter the parameters for fast underfrequency trip-off or set it using the "+/-" buttons.
- ✓ Enter the parameters for slow underfrequency trip-off or set it using the "+/-" buttons.
- ✓ Set the entries by clicking the "Set" button.

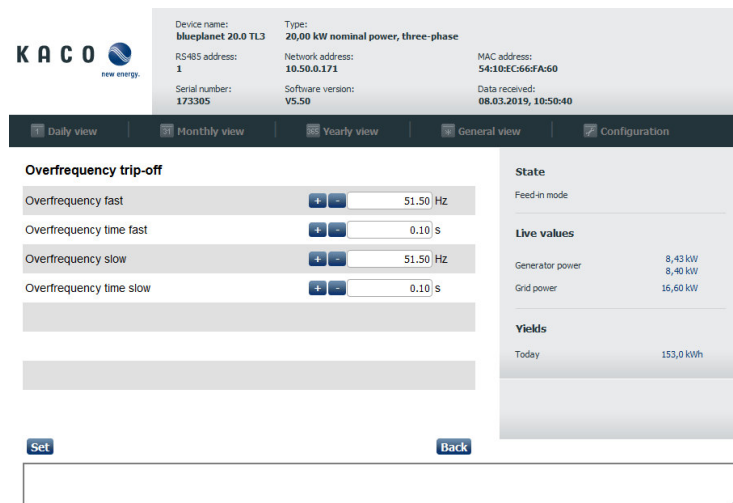


Figure 61. Configuring 2-stage overfrequency trip-off

- ✓ Enter the parameters for fast overfrequency trip-off or set it using the "+/-" buttons.
- ✓ Enter the parameters for fast time overfrequency trip-off or set it using the "+/-"-buttons.
- ✓ Enter the parameters for slow overfrequency trip-off or set it using the "+/-" buttons.
- ✓ Enter the parameters for slow time overfrequency trip-off or set it using the "+/-"-buttons.
- ✓ Set the entries by clicking the "Set" button.

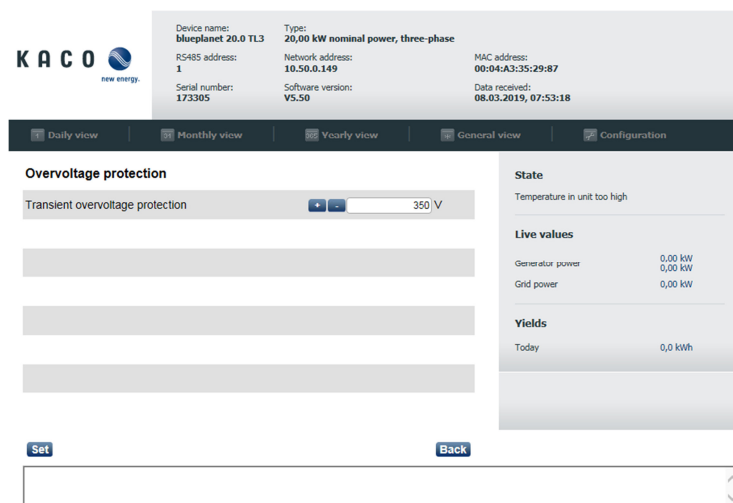
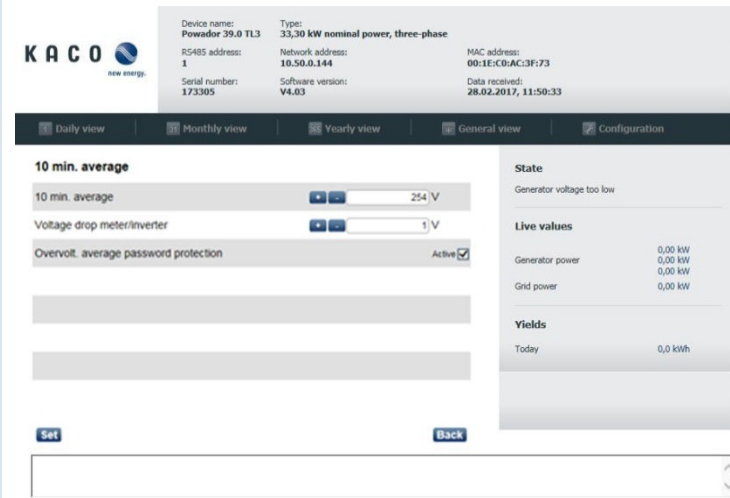


Figure 62. Configuring overvoltage protection

- ✓ Enter the parameter for transient overvoltage protection or set it using the "+/-" buttons.
- ✓ Set the entries by clicking the "Set" button.

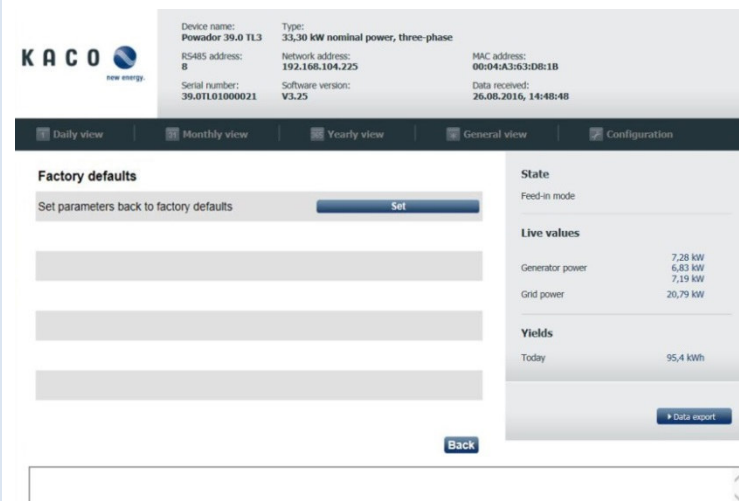
User Inverter input screen

Operation and navigation



- ✓ Enter the upper threshold for the 10 minute mean value or set it using the “+/-” buttons.
- ✓ Enter the shutdown value for the voltage drop between the inverter and the feed-in meter or set it using the “+/-” buttons.
- ✓ Set the entries by clicking the “Set” button.

Figure 63. Configuring the 10 minute mean value



Warning: This dialogue window is used to return all of the modified parameters to their factory defaults.

- ✓ Reset the parameters using the “Set” button.

Figure 64. Restoring the factory defaults

Installers

User Inverter input screen

Operation and navigation

Upload/download

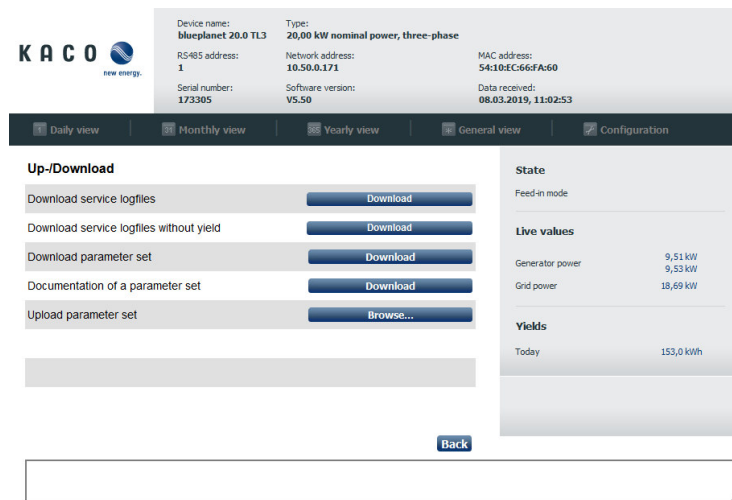


Figure 65. Performing an upload/download

Note: This feature allows you to save log files and parameters. In addition, parameters can also be imported.

- ✓ Download service log files by clicking the button.
- ✓ Download service log files without yield data by clicking the button.
- ✓ Download a parameter set by clicking the button.
- ✓ View Documentation of parameter for Print or PDF-Export by clicking the Button
- ✓ Load a parameter set by clicking the button.

Note: Before transferring the parameter set, the same country setting must be set on all devices.

- ✓ Parameters that affect each other during the first import can lead to an error message. In case of error repeat import.
- ✓ After importing a parameter set, the correctness of all parameters must be checked.

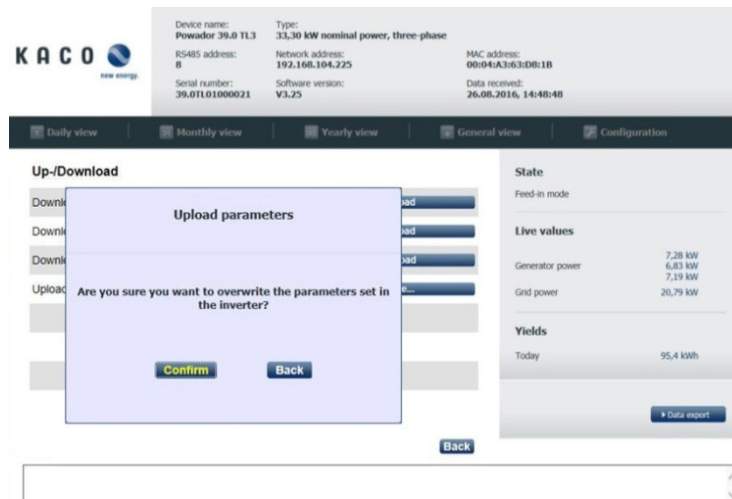


Figure 66. Upload/download – warning message

Warning: Parameters are overwritten during an upload process.

Note: Backup the active parameters before performing an upload.

- ✓ Confirm that you wish to upload the parameters by clicking the “Confirm” button.
- ✓ You can return to the previous selection screen by clicking the “Back” button.

Installers

Installers

User Inverter input screen

Operation and navigation

Software update

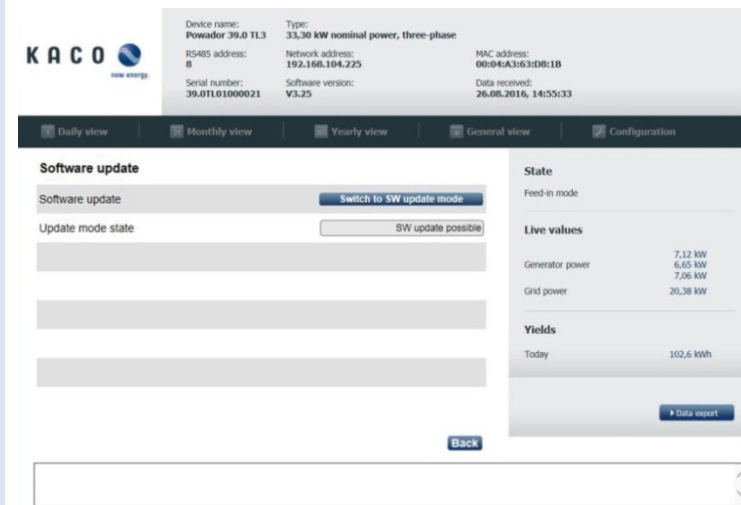


Figure 67. Performing the software update

Note: Please note the info to Software-Update package below V5.50 via Web-GUI*

- ✓ By activating “Switch to SW update mode”, the changeover to the inverter’s own update menu will take place.
- ✓ The update mode state message indicates whether a software update is currently possible.

Note: After updating the device, delete the browser cache and the Java cache and restart your web browser.

Note: Refer to the update steps detailed in chapter 4.

* In the Software update for packages < V5.50 via WEBGUI, the update with the Google Chrome browser from versions > V64 can be reported to the following error "Another user is logged to the system. Only one session is supported by the system.", in this case, another browser, such as Firefox, Microsoft Internet Explorer or the Microsoft Edge, should be used.

4 Carrying out a single update



NOTE

Ensure that the inverter has an active DC power supply when remote access is active. It is only possible to update all of the inverter’s components to the most current software version in this operating state. Furthermore, any USB storage media which may be connected to the unit must be removed.



Preparing for the software update

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



NOTE

The update can take several minutes. The "Operating" LED flashes during the update process. The inverter may restart several times. The following message appears if the DC power supply is too low: "DC power supply too low! Perform update anyway?".

	<h3>ACCESS DATA</h3> <p>For the remote update, use the user-dependent access data:</p> <p>User name: <input type="text" value="user"/></p> <p>Password: <input type="text" value="000000"/> (default setting)</p> <p>User name: <input type="text" value="admin"/></p>
	<p>Bootloader below V3.28: 4-digit, serial number dependent password*</p> <p>Bootloader V3.28 and higher: 8-digit, serial number dependent password*</p> <p>*) This password is required to reset the password for the user account "user" to 000000 (default).</p>

Inverter input screen **Operation and navigation**

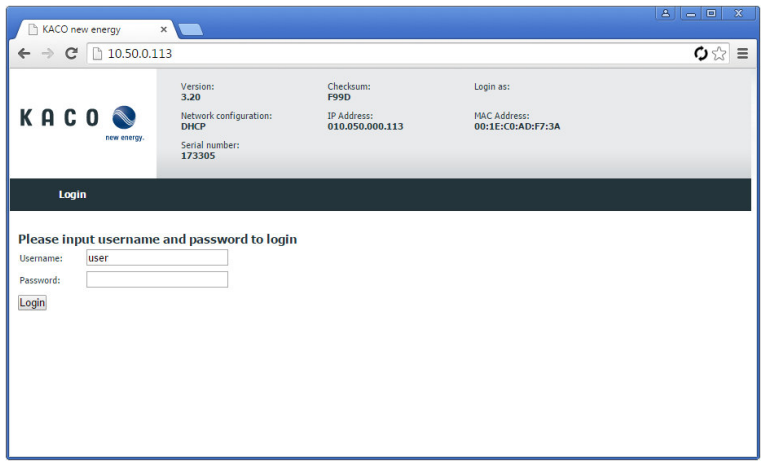


Figure 68. Authorisation dialogue

- ✓ The access data stated above: Enter user name and password into the *framed free-text sections*.
- ✓ Confirm the entry with the "Login" button.

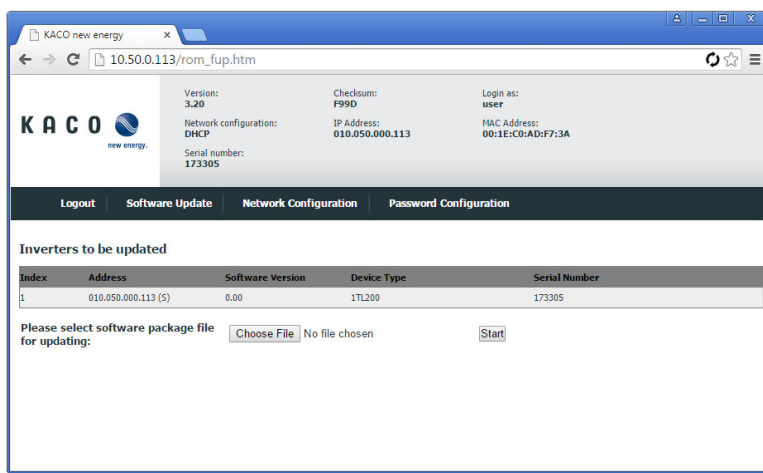
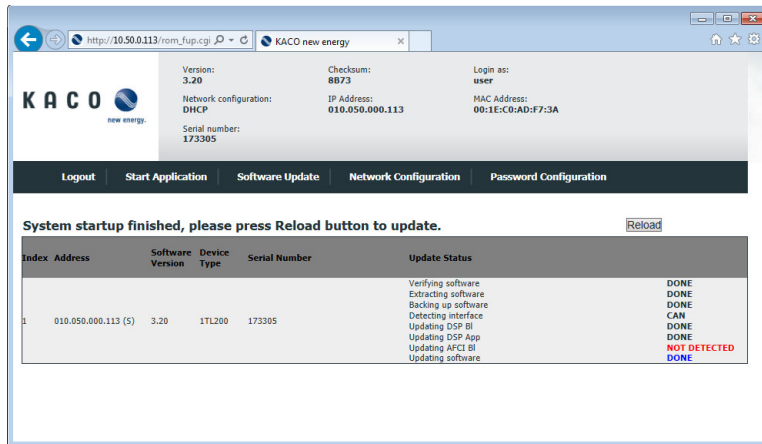


Figure 69. Select the software package

- ✓ Open the folder containing the saved software-update file by clicking the "Choose file" button.
- ✓ Run the update by clicking the "Start" button.

Inverter input screen

Operation and navigation



✓ Check the status display of the completed software update for each software component.

Note: Once the software update is complete, you can switch to the main page (inverter file view) by clicking the “Reload” button. This switch takes place automatically after a while.

Note: The error (red) displayed in the figure on the left is the rule for all units without an AFCI module.

Figure 70. Status display following successful software update

Check the software version

- Once the update has been completed successfully, check the current software version of all installed components.
 - » The inverter displays the version of the software that is currently loaded in the upper area of user interface.

5 More information



NOTE

Information concerning the specific functionality of menu entries can be found in the operation manuals on our homepage.

5.1 Available functions

Inverter - series	Available functions according to software package		
	WEBGUI2 Stage 2 Year 2019 - / -2018	Single update via web-interface	
Powador 6.0 - 20.0 TL3 blueplanet 15.0 - 20.0 TL3	V5.50	V4.00	-
Powador 30.0 -72.0 TL3	V5.54	V4.00	V3.25
blueplanet 50.0 TL3 WM	V5.54	V4.00	V3.34
blueplanet 3.0 -10.0 TL3	V5.50	V4.00	-

Table 1. KACO inverter series that support all of the functions described

Key		
V5.x	new Features	Features / Functions' / Password protection; Features / Functions' / Enhanced Island Detection /Up-/Download' / Documentation of a parameter set / Grid parameters / Overvoltage protection
x.yz	released	
-	in preparation	Single update Remote update of the inverter possible



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