



## Fronius Solar.service

DE

Bedienungsanleitung

Anlagenüberwachung

EN

Operating Instructions

System monitoring



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# General

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## General

Fronius Solar.service provides a whole range of useful information about your photovoltaic system. This information will help the installer and the Technical Support team during any troubleshooting activities.

Fronius Solar.Service is available on the Fronius homepage:

[www.fronius.com](http://www.fronius.com)

Solar Energy - Info & Support - Software-Downloads - Software - Fronius Solar.Service 1.2

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## System requirements

Operating system:  
min. Windows 7 (with .Net Framework 4)

Hardware requirements:  
1 GHz frequency or faster, 1 GB RAM or larger

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## Limitations

The following connections are not possible in this version of the program:

- Fronius Converter
- Analogue and GSM modems
- Fronius Personal Display

The Fronius Power Control Box / Card is not supported.

# Connecting to the photovoltaic system

## Connecting to the photovoltaic system

- 1 Connect the PC to the photovoltaic system:

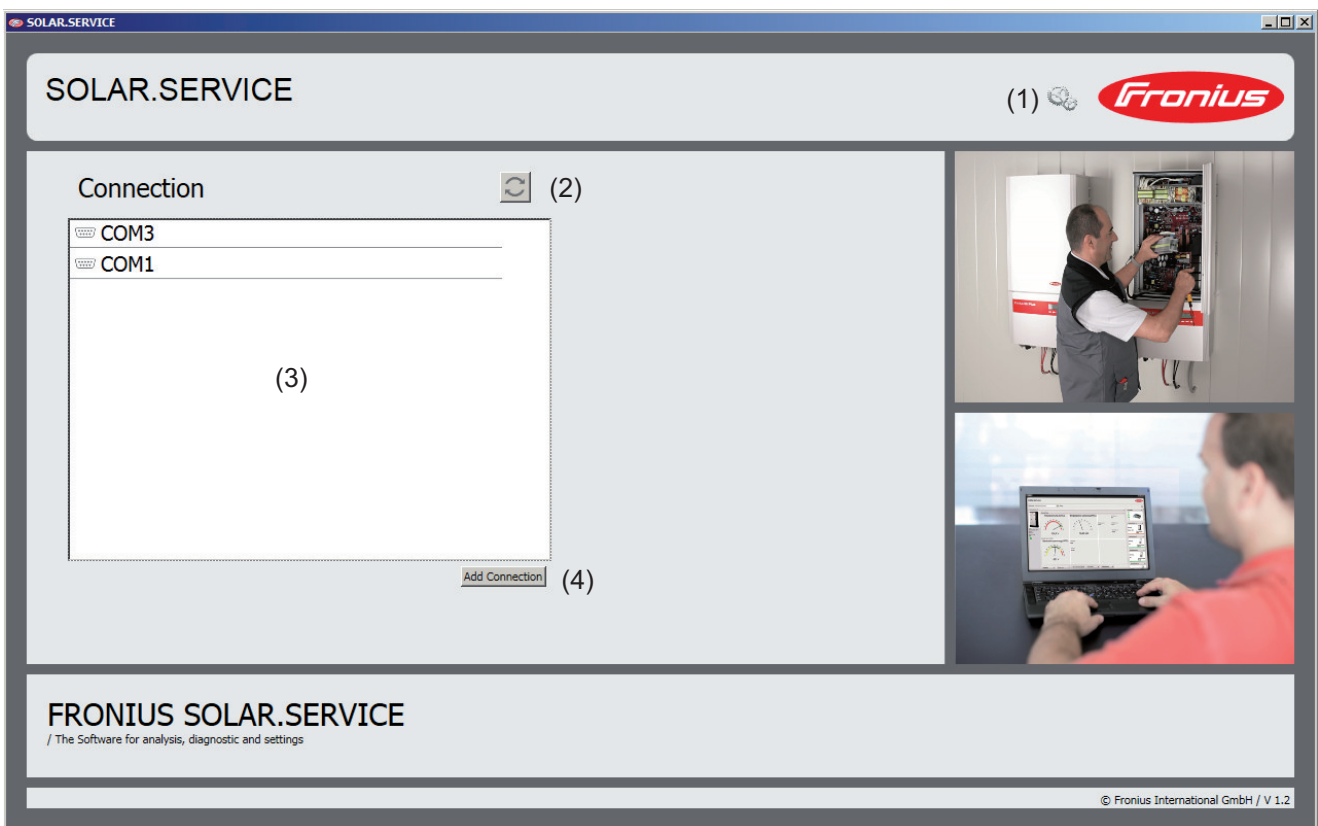
PV systems with Datalogger: Connection via USB or COM (RS232)

PV systems with Datalogger Web: Connection via LAN (or WLAN using a USB WLAN adapter)

PV systems with Datamanager: Connection via LAN or WLAN

- 2 Start Fronius Solar.service

The Fronius Solar.service homepage will be displayed.



- (1) "Setup Menu" button opens the setup menu
- (2) "Refresh" button updates the connection
- (3) Displays the current connections
- (4) "Add connection" button is used to add a connection

- 3 Click the "Refresh" button

The current connections will be displayed (3).

- 4 To establish a new connection (e.g. via WLAN), click the "Add connection" button (4)

The connection page will be displayed.

**Connection**

PV system name: (5)

Address: (6)

(7) (8)

Add Cancel

5 Enter the name (5) and address (6) of the photovoltaic system

Address = IP address or host name

6 Click the "Add" button (7)

The added connection will be displayed (3).

7 Click on the desired connection

The connection will be established. Once an active connection has been established, an overview of all of the components in the photovoltaic system will be displayed.

The screenshot shows the SOLAR.SERVICE web interface. At the top, it displays 'SOLAR.SERVICE' and the Fronius logo. Below this, the system name 'pettenbach-fassade' and 'Connected Clients: 1/10' are shown. On the right, the current power is 4.85 kW and total energy is 55.93 MWh. The main area is divided into several panels: a 'Datalogger' panel with login fields and a device image; five 'Inverter' panels (Inverter 1 to 5), each showing 'Running No Error' status and a device image. A scroll bar is visible on the right side of the inverter panels.

(9) Name or address of the photovoltaic system

(10) Overview of the components

(11) Current power in kW, total energy in MWh

(12) Scroll bar

A detailed view of a component can be opened by clicking on the component.



# Datalogger detailed view

## Datalogger detailed view

The Datalogger detailed view corresponds to the one shown on the website. More information on the Datalogger website can be found in the respective operating instructions of the Datalogger.

The screenshot displays the 'SOLAR.SERVICE' web interface. At the top, the 'SOLAR.SERVICE' logo is on the left and the 'Fronius' logo is on the right. Below the logo, a status bar shows 'Test (Connected Clients: 1/10)' on the left and 'Current Power: 5.98 kW' and 'Total energy: 55.93 MWh' on the right. The main content area is divided into three sections:

- Datalogger:** A window titled 'Datalogger' showing a 'Fronius' logo, a navigation menu with 'Aktuelle Gesamtansicht', 'Aktuelle Vergleichsansicht', and 'Einstellungen', and a main image of a house with solar panels. Overlaid on the image are data points: '21 °C', '6 IG', '5.98 kW', '4.71 kWh/d', and '55.93 MWh'.
- Inverter 1:** A window titled 'Inverter 1' showing 'Running' and 'No Error' in green text, a green progress bar, and an image of a 'Fronius IG Plus V/A 3.8-1 UNI' inverter.
- Inverter 2:** A window titled 'Inverter 2' showing 'Running' and 'No Error' in green text, a green progress bar, and an image of a 'Fronius IG Plus V/A 11.4-1 UNI' inverter.

At the bottom right of the interface, the copyright notice '© Fronius International GmbH / V 1.2' is visible.

# Inverter detailed view

## Inverter detailed view

In the inverter detailed view, the inverter type (1), current state (2) and state code (3) are displayed.

The inverter detailed view contains a number of submenus (4):

- Monitor
- Setup menu
- Versions Update
- Error counter
- Switch-off limits
- Power Modules
- Fan speed (display dependent on inverter)

Screenshot of the Solar.Service web interface showing the detailed view of Inverter 4. The interface includes a header with 'SOLAR.SERVICE' and the Fronius logo. A top right corner displays 'Current Power: 6.06 kW' and 'Total energy: 55.93 MWh'. The main content area is divided into several panels. On the left, there is a panel for 'Inverter 4' showing an image of the inverter, its type 'Fronius Galvo 3.1-1 208-240', state 'Running', and state code 'No Error'. A green indicator light is shown. To the right of this panel are two submenus: 'Monitor' and 'Setup menu'. The 'Monitor' submenu displays '734 W Power', '233 V AC Voltage', '236 V DC Voltage', and 'Backlight: Auto'. The 'Setup menu' submenu displays 'Permanent Service Codes' with a table of values: Calibration Factor (0%), Energy Offset (0 Wh), Payment (0.47 USD), and CO2 Factor (0.53 kg/kWh). On the right side of the interface, there are three status panels for 'Inverter 4', 'Inverter 5', and 'Inverter 6'. Each panel shows 'Running' status, 'No Error' in green text, and an image of the inverter. The 'Inverter 4' panel also shows 'Fronius IG TL 5.0'. The 'Inverter 5' panel shows 'Fronius Galvo 3.1-1 208-240'. The 'Inverter 6' panel is partially visible at the bottom. The footer of the interface reads '© Fronius International GmbH / V 1.2'.

To open one of the inverter's submenus, simply click on the desired submenu.



## Monitor

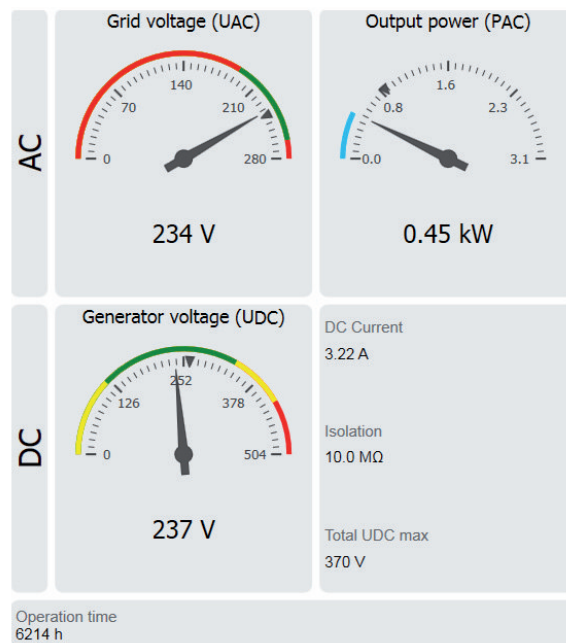
The following data is displayed under the "Monitor" area:

### AC

- Grid voltage ( $U_{AC}$ ) in V
- Output power ( $P_{AC}$ ) in kW
- AC current in A
- Grid frequency in Hz
- Total  $U_{AC}$  max. in V

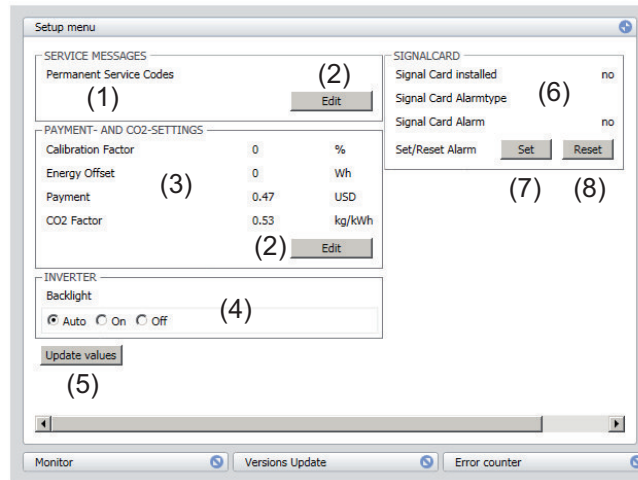
### DC

- Generator voltage ( $U_{DC}$ ) in V
  - DC current in A
  - Isolation in  $M\Omega$
  - Total UDC max. in V
- 
- Operation time in h



## Setup menu

The Setup menu is used to configure various inverter settings. More information about the various settings can be found in the chapter entitled "Setup menu" in the inverter operating instructions.



To change the setup parameters of the inverter, click the "Edit" button (2). The following parameters can be changed:

- (1) Service messages:
  - No service messages
  - Permanent service codes
  - All service codes
- (3) Payment and CO2 settings:
  - Calibration factor (%)
  - Energy offset in Wh / kWh / MWh
  - Earnings / Currency (Payment)
  - CO2 factor in kg / kWh

Click the "OK" button to apply the values.

- (4) Inverter - Backlighting:
  - Auto
  - On
  - Off
- (6) Signal Card:
  - Signal Card installed
  - Signal Card alarm type
  - Signal Card alarm
  - Set/Reset alarm

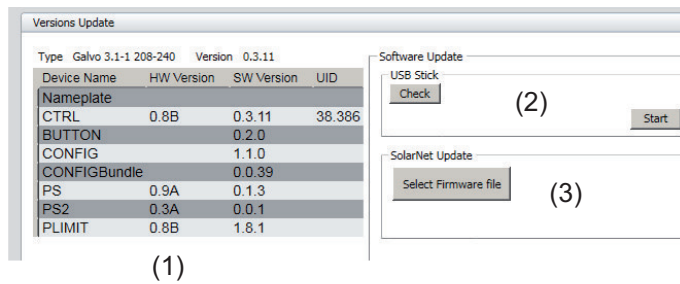
Apply the Signal Card settings using the "Set" (7) or "Reset" (8) buttons.

To apply modified values to the inverter, click the "Update values" (5) button.

## Versions Update

Shows the current hardware and software versions of the components installed in the inverter.

Firmware updates can be carried out on the Fronius IG TL, Fronius Symo, Fronius Galvo, Fronius Agilo, Fronius Primo and Fronius Eco inverters.



- (1) Component info  
Name of the PC board, hardware and software version, UID
- (2) Software update via USB flash drive
- (3) Software update via Fronius SolarNet

### Software update via USB flash drive

- 1 Save the update file to the USB flash drive
- 2 Insert the USB flash drive into the inverter  
Use the "Check" button to check if the inverter has recognised the USB flash drive
- 3 Click "Start" to begin the update process

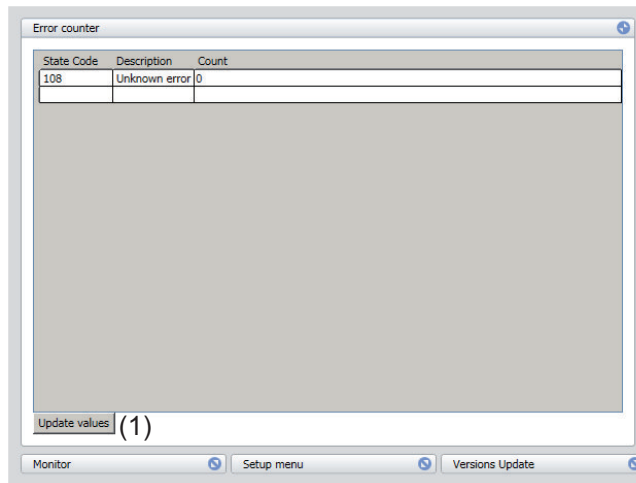
### Software update via Fronius SolarNet

- 1 Save the update file to the PC
- 2 Click the "Select Firmware file" button
- 3 Select update data and start the update process

**Error counter**

For any inverter faults that have occurred, the following are displayed:

- Status Code
- Description
- Number



Click the "Update values" button (1) to update the data

**Switch-off limits**

This menu contains an overview of the different switch-off limits of the inverter.

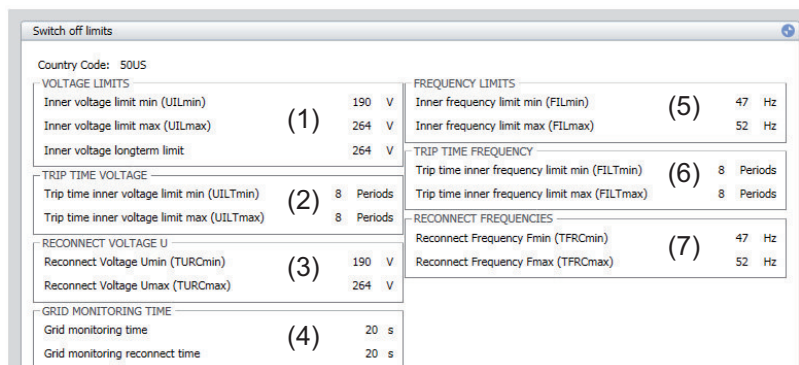
The text in brackets denotes the abbreviation of the switch-off limit that is displayed on the inverter display.

For example:

"Inner voltage limit min." is shown on the inverter as "UILmin".

The switch-off limit can only be changed by a Fronius service technician.

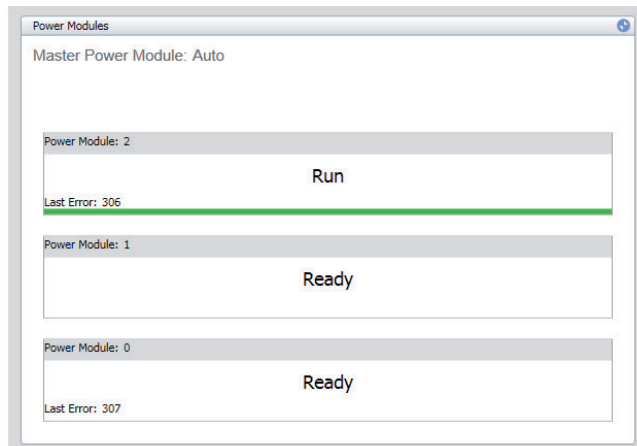
If a switch-off limit is changed, the set values can be displayed again by clicking "Refresh".



- (1) Voltage limits
- (2) Trip time voltage
- (3) Reconnect voltage
- (4) Grid monitoring time
- (5) Frequency limits
- (6) Trip time frequency
- (7) Reconnect frequencies

## Power Modules

This only applies to inverters with several power stage sets (e.g. Fronius CL, Fronius IG Plus): the installed power stage sets can be manually started and therefore tested.

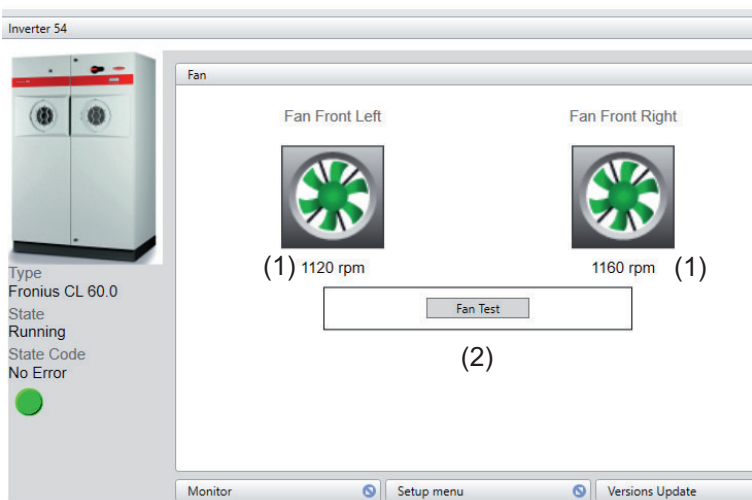


The master power module is set by clicking on a power stage set.

## Fan speed

The fan speed display depends on the inverter.

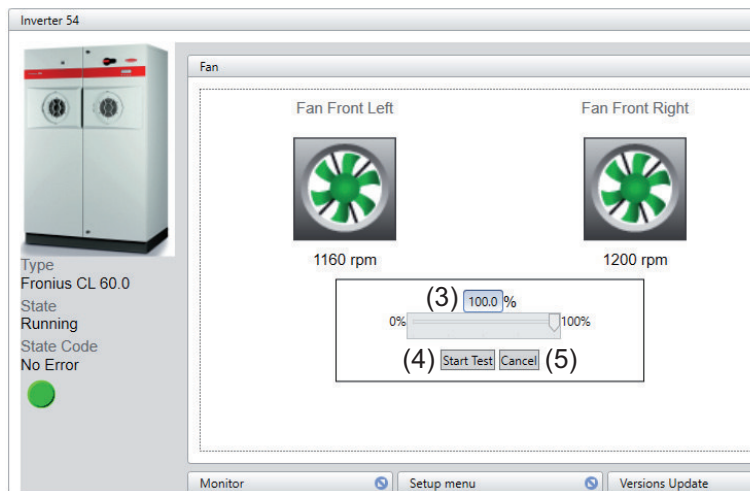
The current speed of the fan is displayed (1).



To carry out a fan test, click the "Fan test" button (2).

A fan test can currently be carried out on the following devices:

- Fronius IG 300 / 390 / 400 / 500
- Fronius CL
- Fronius Agilo



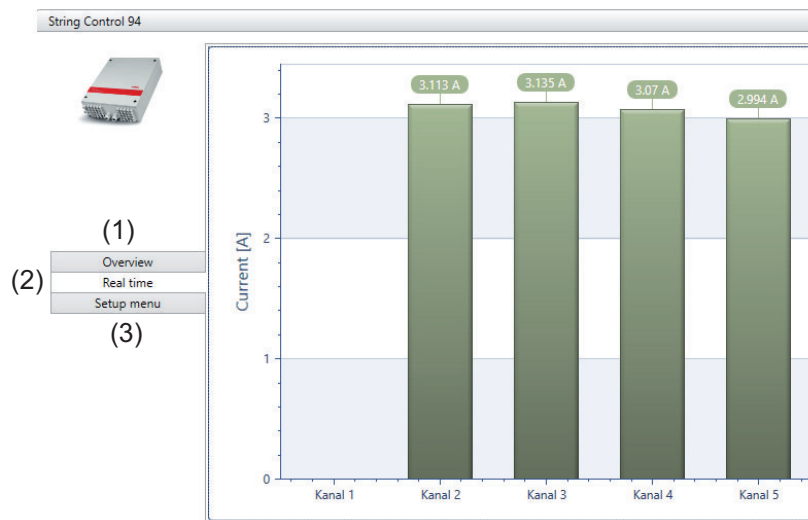
- (3) Field to input the fan speed (%)
- (4) The "Start Test" button starts the fan test
- (5) The "Cancel" button ends the fan test

After the "Start Test" button (4) has been clicked, the fan operates at the set speed. After approx. 30 seconds the fan test can be ended by pressing the "Cancel" button (5).

# String Control detailed view

## Overview

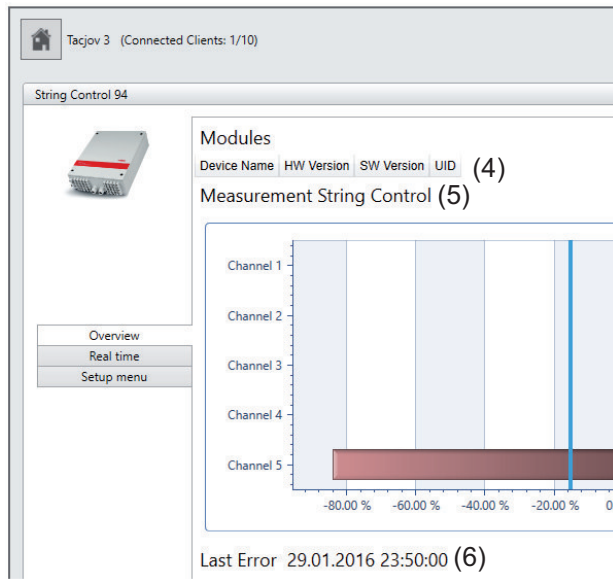
The current of the individual channels is graphically displayed in the overview.



- (1) "Overview" button
- (2) "Real time" button
- (3) "Setup menu" button

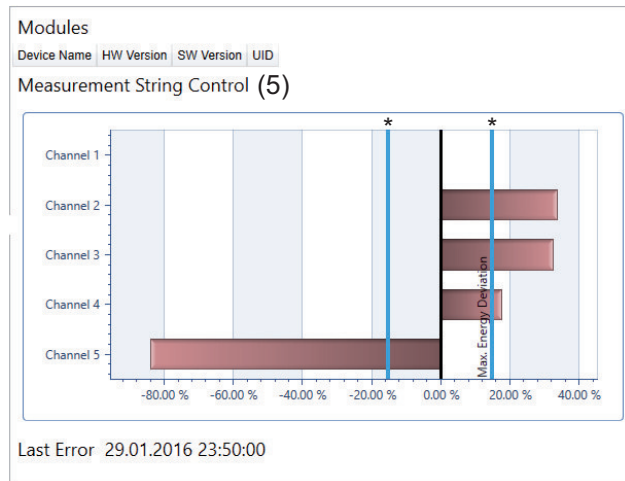
**Real time**

The following is displayed under "Real time":



- Modules  
Hardware and software versions of the components installed in the device, UID (4)
- Measurement String Control (5):  
Electrical charge, the unit and the deviation of the individual measuring channels compared with the average fed-in charge
- Date of last analysis for energy deviation (6)

String Control measurements:



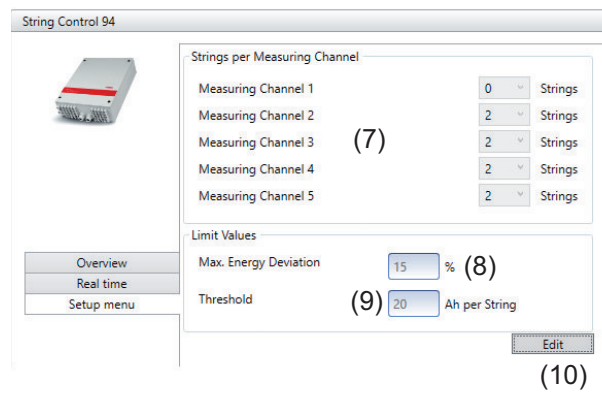
- \* max. energy deviation  
(to be set in the String Control detailed view)





## Setup menu

In the String Control setup menu, the number of strings per measuring channel and limit values can be set.



- (7) Strings per measuring channel selection
- (8) Field to input the max. energy deviation (%)
- (9) Field to input the threshold in Ah per string
- (10) "Edit" button (click to input the number of strings per measuring channel)

# Public Display detailed view

## Public Display detailed view

In the Public Display detailed view, miscellaneous parameters and the displayed text can be set.

### Parameters (General)

- (1) Display Type (A / B) selection
- (2) Field to input the energy offset in Wh / kWh / MWh
- (3) Field to input factors
- (4) Field to input earnings
- (5) Currency selection (EUR / USD / CHF / GBP)
- (6) Display energy meter data
- (7) Energy meter selection (e.g. Fronius Sensor Card)
- (8) Measuring channel selection (Disabled / Digital 1 / Digital 2)

- (9) "Save" button
- (10) "Default values" button
- (11) "Reset energy values" button
- (12) "Reload" button

### Text

- (13) "Display interval" selection (1 - 60 seconds)
- (14) Parameter selection:
  - AC Power
  - Total energy
  - Annual energy
  - Daily energy
  - Total CO2
  - Annual CO2
  - Daily CO2
  - Total earnings
  - Annual earnings
  - Daily earnings
  - Date/Time
  - Insolation
  - Ambient temperature
  - Module temperature
  - Disabled

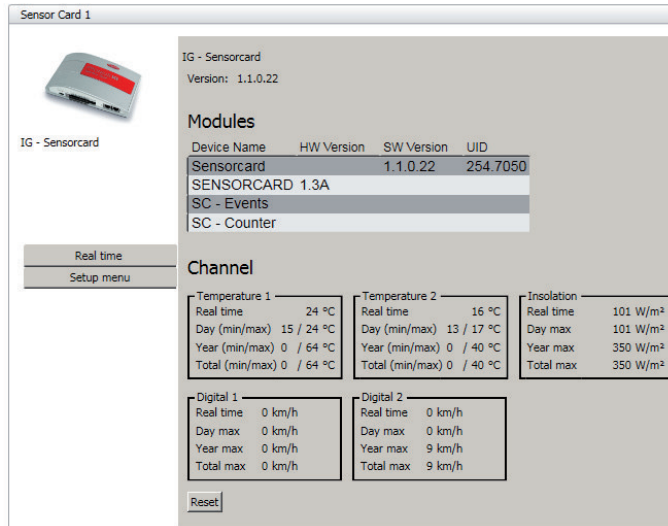
- (15) Field to input the displayed text
- (16) Favourite value



# Fronius Sensor Card / Box detailed view

## Real time

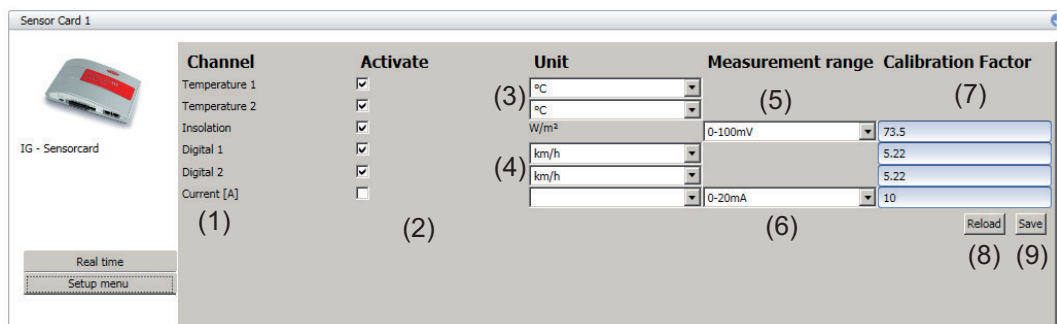
Shows the latest hardware version, software version and readings of the components installed in the device as well as the real time values of the measuring channels.



The readings can be reset to 0 by clicking on the "Reset" button.

## Setup menu

Individual measuring channels can be activated / deactivated or configured in the Setup menu of the Sensor Card / Box.



- (1) Measuring channels
- (2) Activation
- (3) Unit of temperature channel selection (° C / ° F)
- (4) Unit of digital channel selection (Wh / V / W/m² / A / ° C / ° F / kg CO2/kWh / km/h / mph / mbar / W / l / m³ / m/s / % / hPa / Ω / Hz / kg / t / Wh/m² / kWh/m² / h / min / s / rpm / Ah / VA / var)
- (5) Insolation measurement range selection (0 - 100 mV, 0 - 200 mV, 0 - 1 V)
- (6) Current measurement range selection (4 - 20 mA, 0 - 20 mA)
- (7) Fields to input the calibration factors
- (8) "Reload" button
- (9) "Save" button

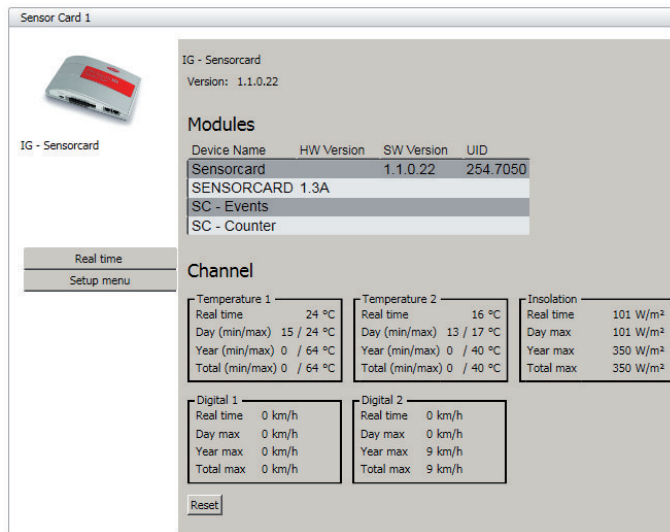
**Example: Setting up the Fronius Sensor Card / Box**

Requirement:

- Active link to the Datamanager in the inverter (LAN or WLAN)
- The Fronius Sensor Card / Box must be located with the other system components in the Fronius Solar Net

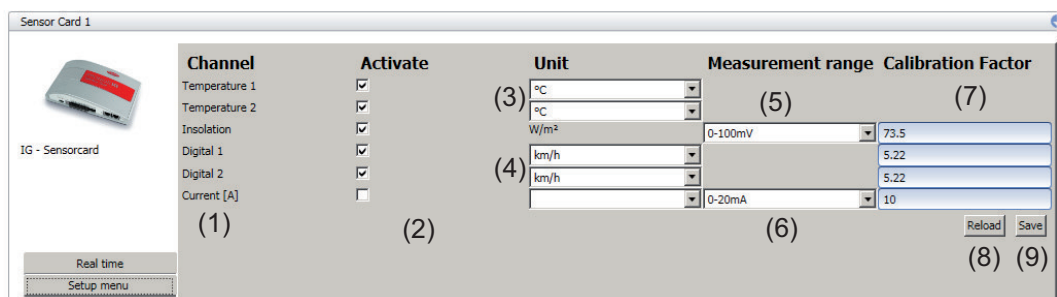
- 1 Start Fronius Solar.service
- 2 Connect to the photovoltaic system
- 3 Select the Fronius Sensor Card / Box to be configured

The hardware and software versions of the Fronius Sensor Card / Box and the current measuring channels will be displayed.



- 4 Click the "Setup menu" button

The available measuring channels (1) will be displayed.



- 5 Activate / deactivate the desired measuring channels (2)
- 6 Select the units for the measuring channels (3) and (4)
- 7 Select the measurement ranges (5) and (6)
- 8 Enter the calibration factors (7)
- 9 Close the entry by clicking the "Reload" (8) and "Save" (9) buttons

A detailed parameter description, the settings options and their meanings can be found on the Fronius homepage in the Fronius DATCOM Detail operating instructions:

[www.fronius.com](http://www.fronius.com)

Solar Energy - Info & Support - Document Downloads - Operating instructions - System monitoring - Fronius DATCOM - Fronius DATCOM Detail



# Fronius Solar.service Setup menu

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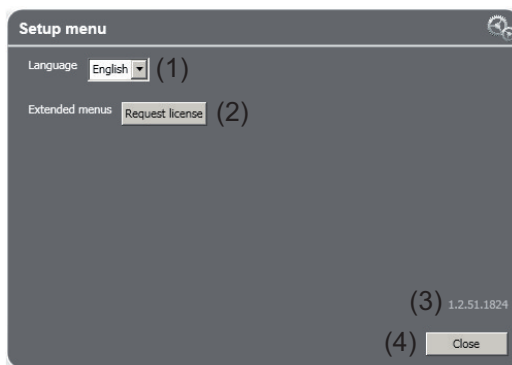
**Fronius Solar.service Setup menu** In the Setup menu of Fronius Solar.service:

- the language can be set,
- a licence can be requested.

**1** Click the "Setup menu" button to open the Setup menu



The Setup menu of Fronius Solar.service will open.

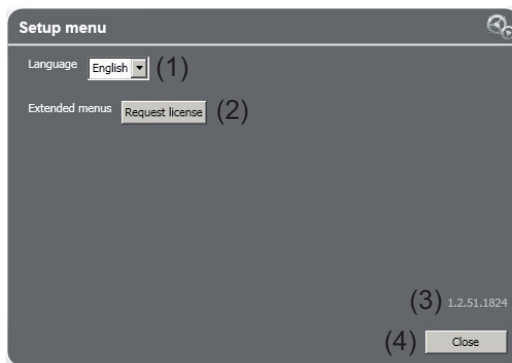


- (1) Language selection
- (2) "Request Licence" button
- (3) Software version number
- (4) "Close" button

**2** Click the "Setup menu" button (4) to close the Setup menu

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## Setting the language

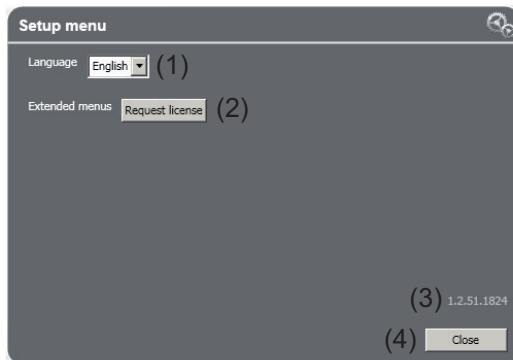


- 1** Click on "Language selection" (1)
- 2** Click on the desired language

The language will be changed immediately.

## Requesting a licence

For certain functions or settings, it is necessary to have a licence (activation codes). A licence can only be obtained from Fronius Service Partners and Fronius-trained installers. Technical Support verifies every request. A reason for the licence request must be given on the form.



- 1 Click the "Request Licence" button (2)

The request form will open.

- 2 Complete all fields (5)
- 3 Enter the reason for the request (6)
- 4 Click "Accept Agreement" (7)

To view the agreement click the "Show" button (8)

- 5 To request the licence, click the "Send email" button (9)

A message to <Pv-support@fronius.com> will be generated.

To save the entered data as an XML file, click the "Save" button (10)

- 6 Once the licence has been received from Fronius, save it to the PC

**IMPORTANT!** A licence only works on the computer that requested it!

- 7 To load the activation file, click the "..." button (11)
- 8 Select the desired licence file

If the licence has been applied successful, a corresponding message will be displayed.

- 9 Restart Fronius Solar.service
- 10 To close the request licence screen, click the "Cancel" button (12)







# Fronius Worldwide - [www.fronius.com/addresses](http://www.fronius.com/addresses)

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<http://www.fronius-usa.com>

Under <http://www.fronius.com/addresses> you will find all addresses of our sales branches and partner firms!