

Fronius Datalogger Web

Ⓜ GB Operating Instructions
Ⓜ USA Data Communication



Dear Fronius Customer,

Introduction

Thank you for choosing Fronius - and congratulations on your new, high-quality, high-tech Fronius product. This introduction should provide you with general information about the equipment. Please read it carefully to learn about the many great features of your new Fronius product. This is the best way to get the most out of all the advantages that it has to offer.

Please also note the safety information and the safety precautions for the product installation location. Following all product instructions will ensure long-lasting quality and reliability. And these are the essential ingredients for outstanding results.



Table of Contents

| | |
|---|----|
| General | 3 |
| General | 3 |
| Applicable DATCOM Components | 3 |
| Prerequisites for Operation | 3 |
| Scope of Supply | 3 |
| Controls, Connections and Indicators | 4 |
| Safety | 4 |
| Controls, Connections and Indicators | 4 |
| Installing 'Fronius Datalogger Web' | 6 |
| Safety | 6 |
| Configuration examples | 6 |
| Before Installing | 7 |
| Installing 'Fronius Datalogger Web' | 7 |
| 'Fronius Datalogger Web' Network Configuration | 8 |
| General | 8 |
| Requirements | 8 |
| 'Fronius Datalogger Web' Network Configuration | 8 |
| Network Settings for PC / Laptop | 11 |
| General | 11 |
| Network Settings for PC / Laptop | 11 |
| Internet Options for PC / Laptop | 13 |
| Connecting to 'Fronius Datalogger Web' via LAN and Internet Browser | 15 |
| General | 15 |
| Requirements | 15 |
| Connecting to 'Fronius Datalogger Web' via LAN and Internet Browser | 15 |
| For the Network Administrator | 15 |
| Connecting to 'Fronius Datalogger Web' via LAN and 'Fronius Solar.access' | 16 |
| General | 16 |
| Requirements | 16 |
| Connecting to 'Fronius Datalogger Web' via LAN and 'Fronius Solar.access' | 16 |
| For the Network Administrator | 17 |
| Connecting to 'Fronius Datalogger Web' via the Internet and 'Fronius Solar.web' | 18 |
| General | 18 |
| Function Overview | 18 |
| Requirements | 18 |
| Accessing Data from 'Fronius Datalogger Web' via the Internet and 'Fronius Solar.web' | 19 |
| For the Network Administrator | 19 |
| General Information for the Network Administrator | 20 |
| General Firewall Settings | 20 |
| Sending Service Messages via a DSL Internet Connection | 20 |
| Using 'Fronius Solar.web' and Sending Service Messages | 20 |
| 'Fronius Datalogger Web' Views | 21 |
| Overview | 21 |
| Current Total View | 21 |
| Current Comparison View | 22 |
| 'Fronius Datalogger Web' Settings | 23 |
| Overview | 23 |
| Accessing and Editing Selection Options | 23 |
| Passwords | 24 |
| General | 24 |
| Passwords | 24 |
| User Password | 24 |
| Administrator Password | 25 |
| Forgot Your Password? | 25 |



| | |
|---|----|
| Date/Time | 26 |
| General | 26 |
| Date/Time | 26 |
| Views | 28 |
| General | 28 |
| Views | 28 |
| Default Language | 28 |
| Earnings | 28 |
| CO2 Factor | 28 |
| Comparison View | 29 |
| Sensor Cards View | 30 |
| Logging | 31 |
| General | 31 |
| Logging | 31 |
| Memory Capacity | 31 |
| Calculating Memory Capacity | 31 |
| Calculation Example | 32 |
| Overwriting Data When Memory is Full | 32 |
| 'Delete Data' Button | 32 |
| Network | 33 |
| General | 33 |
| Network | 33 |
| Solar.web | 34 |
| General | 34 |
| Solar.web | 34 |
| Daily Data Transmission to Solar.web | 34 |
| Hourly Data Transmission to Solar.web | 34 |
| Service Messages | 35 |
| General | 35 |
| Service Messages | 35 |
| System Information | 38 |
| General | 38 |
| System Information | 38 |
| Network Diagnostics | 39 |
| General | 39 |
| Sending a 'Ping Command' | 39 |
| Sending a 'Trace Route Command' | 39 |
| Firmware Update | 40 |
| General | 40 |
| Automatic Update Search | 40 |
| Manual update search | 41 |
| Firmware Update via Web | 42 |
| Firmware Update via LAN | 43 |
| Technical Data | 44 |
| Technical Data | 44 |

General

General

The 'Fronius Datalogger Web' is a network-compatible Datalogger. The 'Fronius Datalogger Web' website provides a quick overview of the PV system. The website can be accessed via a direct connection from the Intranet or with the proper configuration via the Internet.

The 'Fronius Datalogger Web' is also equipped with an easy-to-configure system monitoring feature with an automatic alarm. The alarm can be signaled via SMS, e-mail, fax, relay contact or buzzer.

When connected to 'Fronius Solar.access,' current PV system data as well as archived data can be saved to a PC and analyzed. You can also make settings to all devices in 'Fronius Solar Net.'

When connected to 'Fronius Solar.web,' current PV system data as well as archived data can be easily accessed via the Internet - no difficult configuration required. Data is sent automatically from 'Fronius Datalogger Web' to 'Fronius Solar.web.'

Applicable DAT-COM Components

'Fronius Datalogger Web' can be used with the following DATCOM components:

- 100 x 'Fronius IG Plus' or 'Fronius IG' inverter
- 10 x 'Fronius Sensor Card' or 'Fronius Sensor Box'
- 10 x 'Fronius Public Display Card' or 'Fronius Public Display Box'
- 1 x 'Fronius Interface Card' or 'Fronius Interface Box'
- 200 x 'Fronius String Control'

Prerequisites for Operation

The inverter requires a 'Fronius Com Card' in order to operate 'Fronius Datalogger Web.'

Scope of Supply

- 1 x 'Fronius Datalogger Web' Datalogger with wall bracket
- 1 x 'Safety' insert
- 1 x 'Quick Installation' insert
- 1 x Ethernet cable 5 m, blue
- 1 x Solar Net cable 2 m, red
- 2 x Terminating plugs
- 2 x Installation anchors + screws
- 1 x 'Fronius Solar.access' CD
- 1 x Relay plug
- 1 x Relay connector housing
- 1 x Sticker set

Controls, Connections and Indicators

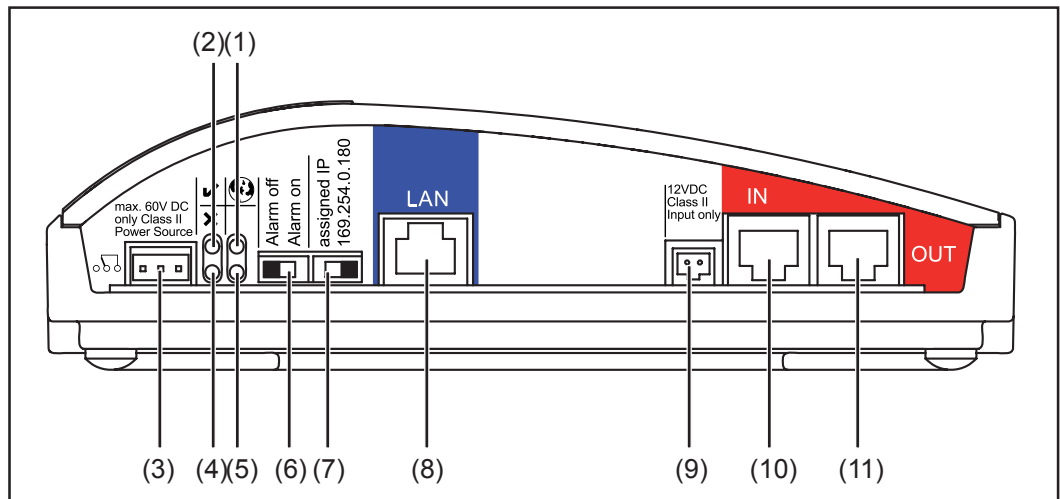
Safety



WARNING! Incorrect operation can cause serious injury and damage. The following documentation should be read and understood in its entirety before the described functions are carried out:

- These operating instructions
- all operating instructions for the system components, especially the “Safety Information”

Controls, Connections and Indicators



Controls, Connections and Indicators on Fronius Datalogger Web

No. Function

(1) Solar Web connection LED

- lights up green: when there is an existing connection to ‘Fronius Solar.web’
- lights up red: when there is no connection to ‘Fronius Solar.web’ but one is required
- does not light up: when no connection to ‘Fronius Solar.web’ is required

(2) Supply LED

- lights up green: when there is sufficient power coming from ‘Fronius Solar Net’ - ‘Fronius Datalogger Web’ is operational
- does not light up: when there is no power or not enough power coming from ‘Fronius Solar Net’ - an external power source for ‘Fronius Datalogger Web’ is required

(3) Relay connection

Equipped as a NCC (normally closed contact) and NOC (normally open contact), switches when there is an error

(4) Connection LED

- lights up green: when there is an active connection within ‘Fronius Solar Net’
- lights up red: when there is an interrupted connection within ‘Fronius Solar Net’

(5) LED

not assigned

(6) Alarm switch

for switching the alarm function on/off

Alarm off: Alarm function, relay and buzzer deactivated

Alarm on: Alarm function, relay and buzzer activated

when ‘Alarm on’ is selected, the buzzer and relay are briefly activated as a test of the alarm function

| No. | Function |
|------|--|
| (7) | IP address switch used to switch from an assigned IP address to a default IP address '169.254.0.180' Assigned IP: 'Fronius Datalogger Web' operates using an assigned IP address (factory setting 192.168.1.180). The IP address can be set at the 'Fronius Datalogger Web' website 169.254.0.180: 'Fronius Datalogger Web' operates using a fixed IP address 169.254.0.180 The fixed IP address is used for a direct connection to a PC without having to pre-configure the PC |
| (8) | LAN connection Ethernet interface colored in blue for connecting an Ethernet cable |
| (9) | External power supply connection for connecting an external power source when the power within 'Fronius Solar Net' is insufficient (e.g. when too many DATCOM components are installed in 'Fronius Solar Net'). Important! The external power supply unit for the Fronius Datalogger Web must have a secure disconnect between components supplying mains voltage (SELV or Class 2 for USA / Canada). The output of the power supply unit may not exceed a max. of 15 VA / 1.25 A. If the power supply is sufficient, the Supply LED lights up green (2). |
| (10) | Solar Net IN connection 'Fronius Solar Net' input colored red for connecting other DATCOM component (e.g. inverters, sensor cards, etc.) |
| (11) | Solar Net OUT connection 'Fronius Solar Net' output colored red for connecting other DATCOM component (e.g. inverters, sensor cards, etc.) |



Installing 'Fronius Datalogger Web'

Safety



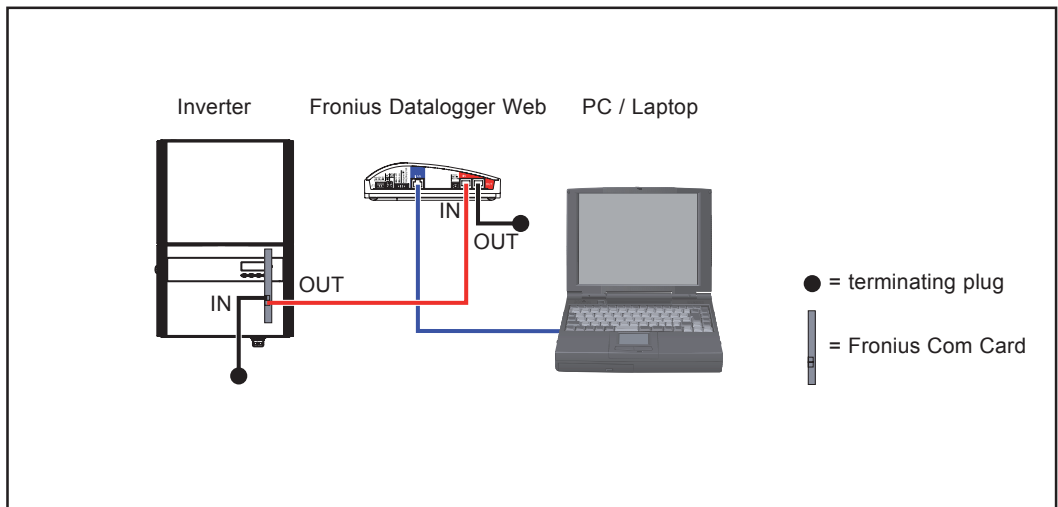
WARNING! Operating the device incorrectly can cause serious injury and damage. The following documentation should be read and understood in its entirety before the described functions are carried out:

- these Operating Instructions
- all system component operating instructions including safety instructions

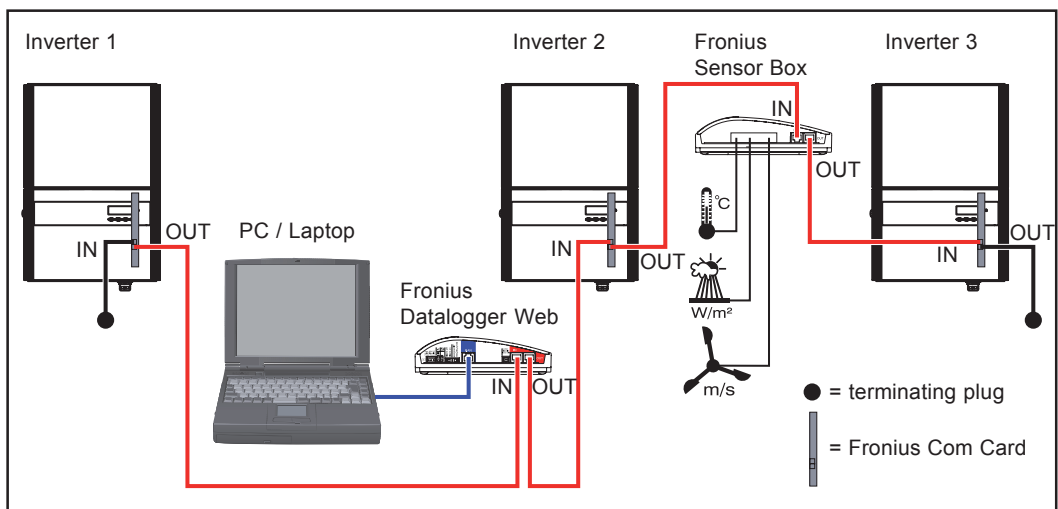


NOTE Installing the 'Fronius Datalogger Web' Datalogger requires knowledge of network technology.

Configuration examples



'Fronius Datalogger Web' networks with an inverter and a PC



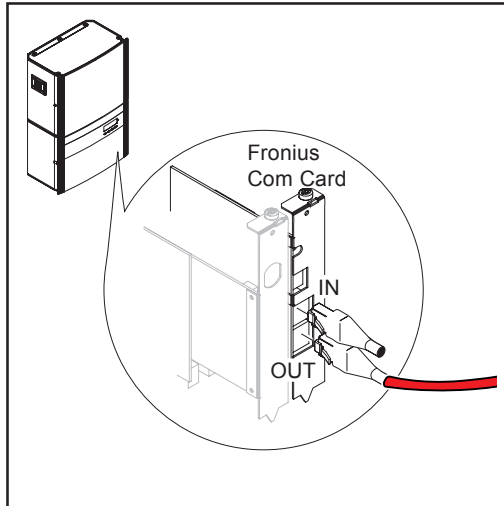
'Fronius Datalogger Web' networks with several inverters, a 'Fronius Sensor Box' and a PC



NOTE When networking several DatCom components, a terminating plug must be placed on each free IN and/or OUT connection of a DatCom component.

Before Installing

Important Please see the operating instructions for the inverter as well as the 'Fronius IG DATCOM Details' section.



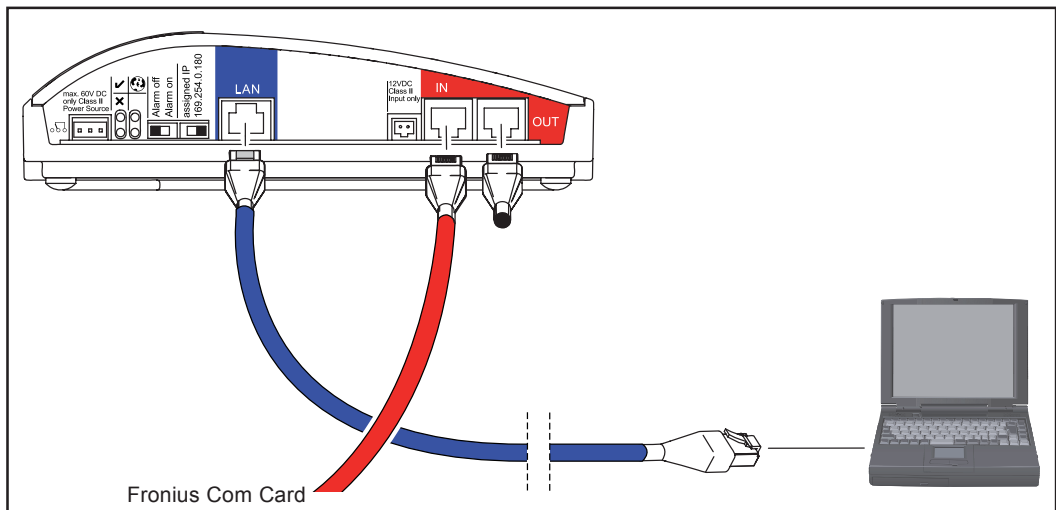
1. Install 'Fronius Datalogger Web' in the proper position using the screws and assembly dowels provided in the scope of delivery
2. Insert the red Solar Net cable into the Solar Net output (OUT) of the 'Fronius Com Card'
3. If the 'Fronius Com Card' is the last DATCOM component in the network: Insert a terminating plug into the Solar Net OUT connection



Installing 'Fronius Datalogger Web'

CAUTION! DATCOM components and/or the PC / laptop will be damaged if the Ethernet or Solar Net cables are connected incorrectly.

- The Ethernet cable should only be inserted into the LAN connection (marked in blue)
- The Solar Net cable should only be inserted into the Solar Net IN or Solar Net OUT connections (marked in red)



Installing 'Fronius Datalogger Web'

1. Insert the red Solar Net cable into the Solar Net IN connection
2. If the 'Fronius Datalogger Web' is the last DATCOM component in the network: Insert a terminating plug into the Solar Net OUT connection

If there are additional DATCOM components in the network after the 'Fronius Datalogger Web':

Insert an additional red Solar Net cable into the Solar Net OUT connection

3. Insert the blue Ethernet cable into the LAN connection
4. Insert the blue Ethernet cable into the PC/laptop or into a corresponding network connection

'Fronius Datalogger Web' Network Configuration

General

The network configuration function patented by Fronius enables the 'Fronius Datalogger Web' to:

- establish an easy connection between 'Fronius Datalogger Web' and the PC / laptop
- make settings
- display important system data

Requirements



NOTE The network configuration of the 'Fronius Datalogger Web' Datalogger requires knowledge of network technology.

If the 'Fronius Datalogger Web' is being integrated into an existing network, the 'Fronius Datalogger Web' address must be adapted to the network.

e.g.: Network address range = 192.168.1.x, subnet mask = 255.255.255.0

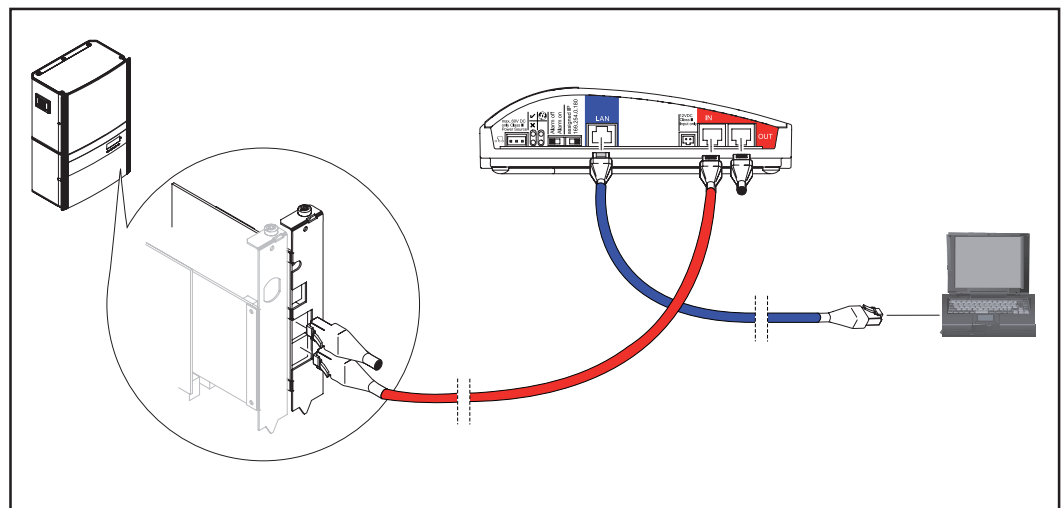
- An IP address between 192.168.1.1 and 192.168.1.254 must be assigned to the 'Fronius Datalogger Web.'
- The IP address selected may not be already assigned in the network.
- The subnet mask must correspond to the existing network (e.g. 255.255.255.0).

If the 'Fronius Datalogger Web' will be sending service messages and/or data to 'Fronius Solar.web,' then a gateway address and a DNS server address must also be entered. 'Fronius Datalogger Web' uses the gateway address to access the Internet. The IP address of the DSL router can be used as a gateway address, for example.

Important

- 'Fronius Datalogger Web' may not have the same IP address as the PC / laptop.
- 'Fronius Datalogger Web' cannot connect by itself to the Internet. A router must be used for a DSL connection to the Internet.

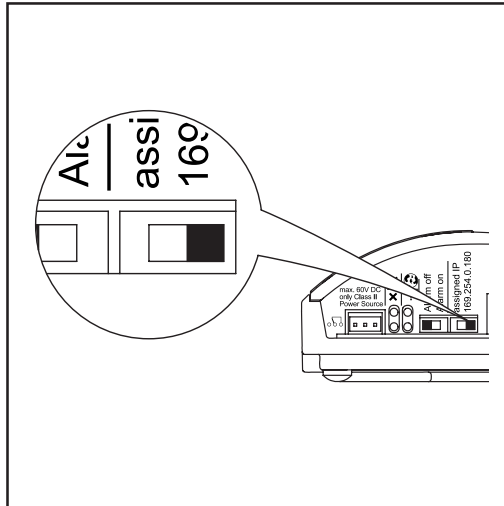
'Fronius Datalogger Web' Network Configuration



Install 'Fronius Datalogger Web'

1. Install 'Fronius Datalogger Web'

'Fronius Datalogger Web' Network Configuration
(continued)

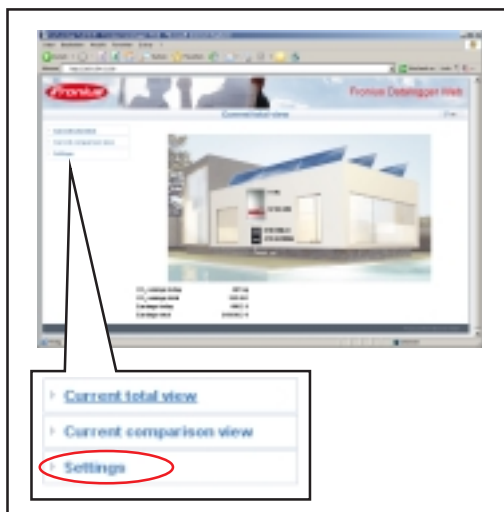


Set the IP address to '169.254.0.180'

2. Set the IP address switch on the 'Fronius Datalogger Web' to '169.254.0.180'
3. Wait approx. 1 minute until the 'Connectivity' icon appears in the PC / laptop taskbar.



4. Open the PC's / laptop's Internet browser (e.g. Microsoft Internet Explorer)
5. Enter 'http://169.254.0.180' in the address field



Website of 'Fronius Datalogger Web'

The 'Fronius Datalogger Web' website will appear.

6. Click on the 'Settings' menu item



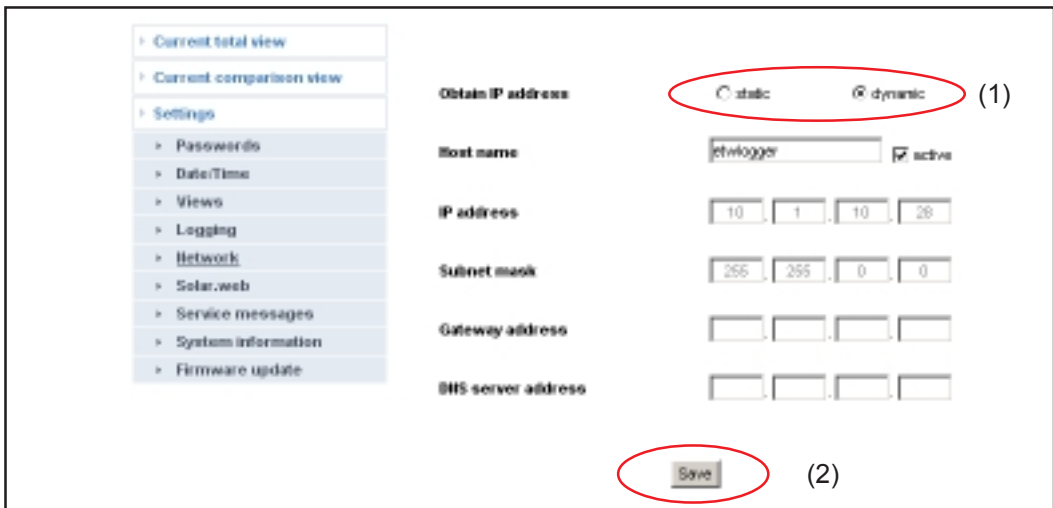
Selection options in the 'Settings' menu item

7. Click on 'Network'



'Fronius Datalogger Web' Network Configuration
(continued)

Network settings are displayed:



Network settings

8. Select either a static or dynamic IP address (1)

Obtain IP address static (factory setting):

- The user enters a fixed (static) IP address for the 'Fronius Datalogger Web' and also manually sets the subnet mask, gateway address and the DNS server address (from provider).

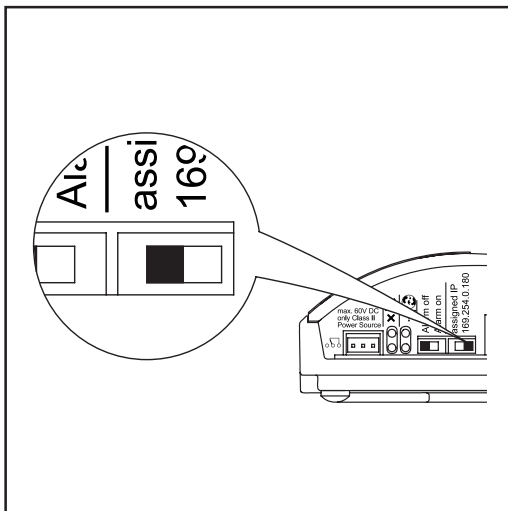
Obtain IP address dynamic:

- The 'Fronius Datalogger Web' obtains its IP address from a DHCP server (DHCP = dynamic host configuration protocol).
- The DHCP server must be configured so that the 'Fronius Datalogger Web' is always assigned the same IP address. This enables you to always know under which IP address the 'Fronius Datalogger Web' can be reached.
- If the DHCP server supports the 'DNS dynamic updates' function, a name can be entered for the 'Fronius Datalogger Web' in the 'Hostname' field. The connection to the 'Fronius Datalogger Web' can then take place via the name instead of the IP address.

e.g.: Hostname = samplesystem, Domain name = fronius.com

The 'Fronius Datalogger Web' can be accessed via the 'samplesystem.fronius.com' address

9. Click on the 'Save' button (2) to save your settings



Set the IP address switch to 'assigned IP'

10. Set the IP address switch on the 'Fronius Datalogger Web' to 'assigned IP'

The network settings are applied.

11. Connect 'Fronius Datalogger Web' to the respective network via the LAN connection

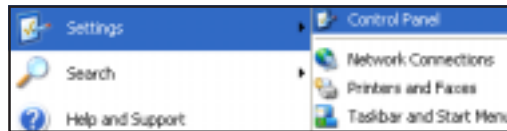
Network Settings for PC / Laptop

General

The PC / laptop is also a member of the network and must also be assigned a unique network address like the Datalogger.

If the PC is already integrated in the network, no further settings are required.

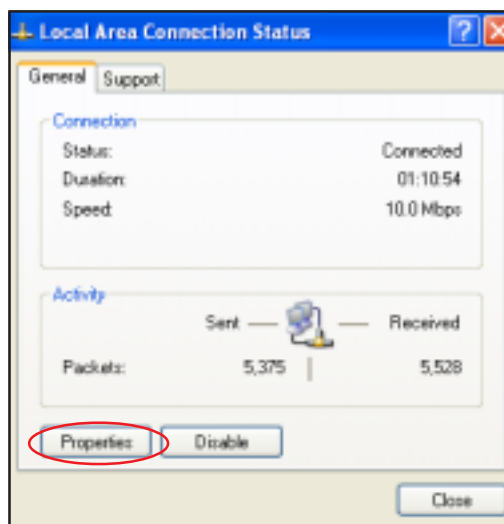
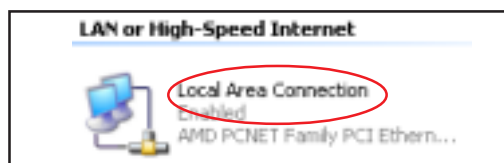
Network Settings for PC / Laptop



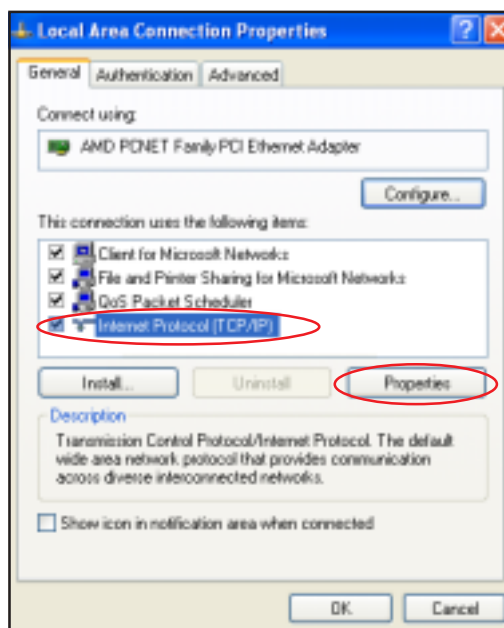
1. Start / Control Panel / Network and Internet Connections
2. Click on 'Network Connections'



3. Double-click on 'Local Area Connection'



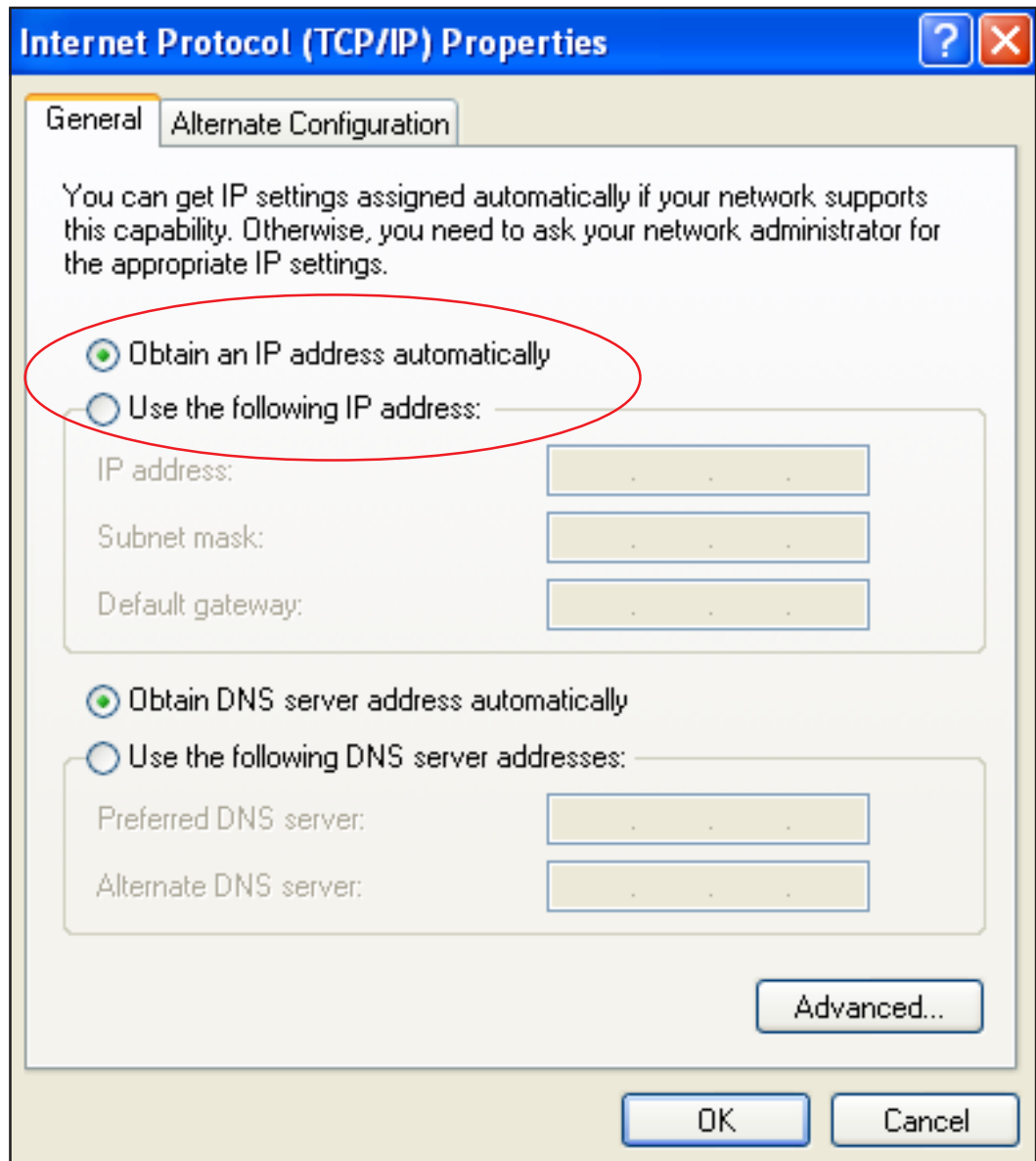
4. Click on the 'Properties' button in the 'General' tab



5. Click on 'Internet Protocol (TCP/IP)'
6. Click on the 'Properties' button



The 'Internet Protocol (TCP/IP) Properties' window will appear.



If a DHCP server is available in the network:

7. Select 'Obtain an IP address automatically'

If a DHCP server is not available in the network:

- 7a. Select 'Use the following IP address'
- 7b. Assign a unique IP address to the PC / laptop

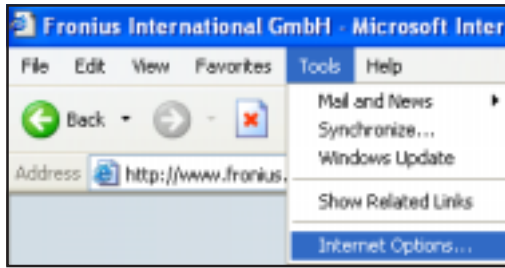
e.g.: Network address range = 192.168.1.x, subnet mask = 255.255.255.0

- An IP address between 192.168.1.1 and 192.168.1.254 must be assigned to the PC / laptop.
- The IP address selected may not be already assigned in the network.
- The subnet mask must correspond to the existing network (e.g. 255.255.255.0).
- The 'Default gateway' setting is not relevant for the 'Fronius Datalogger Web' connection.

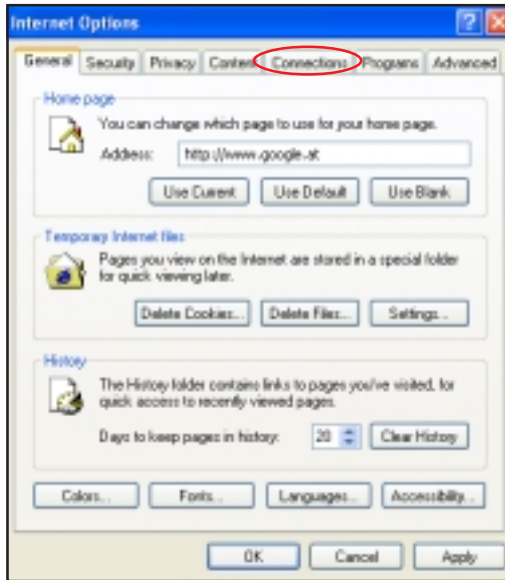
Important The PC / laptop may not have the same IP address as the 'Fronius Datalogger Web.'

8. Activate 'Obtain DNS server address automatically'

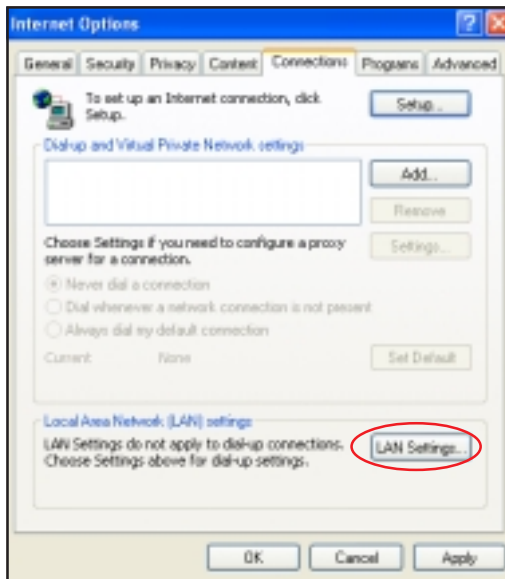
Internet Options for PC / Laptop



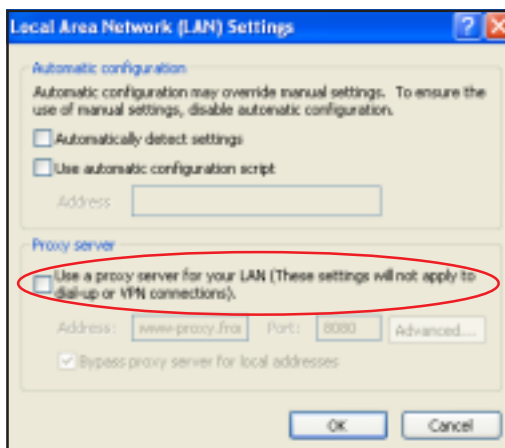
1. Open the Internet browser (e.g. Microsoft Internet Explorer)
2. Click on 'Tools'
3. Click on 'Internet Options'



4. Click on the 'Connections' tab



5. Click on the 'LAN settings' button at the bottom



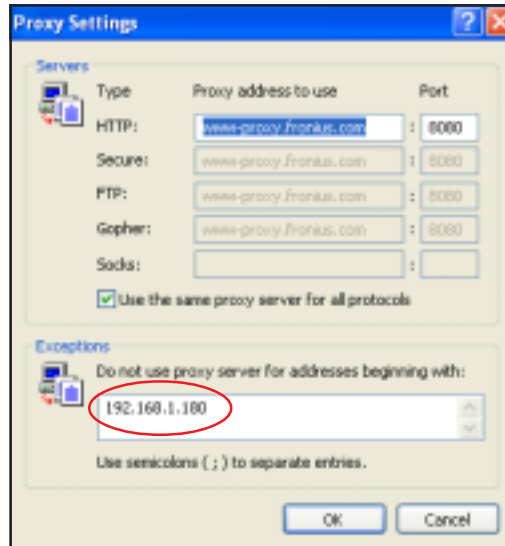
6. When the 'Use a proxy server for your LAN' option is not activated like in the picture, the setting options below it are grayed and not accessible.

When 'Use a proxy server for your LAN' is activated:

- Click on 'Advanced'



Internet Options for PC / Laptop (continued)



- Enter the IP address of the 'Fronius Datalogger Web' in the 'Exceptions' field, e.g. 192.168.1.180
- Click on the 'OK' button

Connecting to 'Fronius Datalogger Web' via LAN and Internet Browser



General

The connection to the 'Fronius Datalogger Web' via a LAN and Internet browser is suitable for accessing simple information by several PC users in a LAN (e.g. company networks, schools, etc.).

For example, total and daily earnings can be accessed and/or inverter comparisons can be made on the 'Fronius Datalogger Web' website.

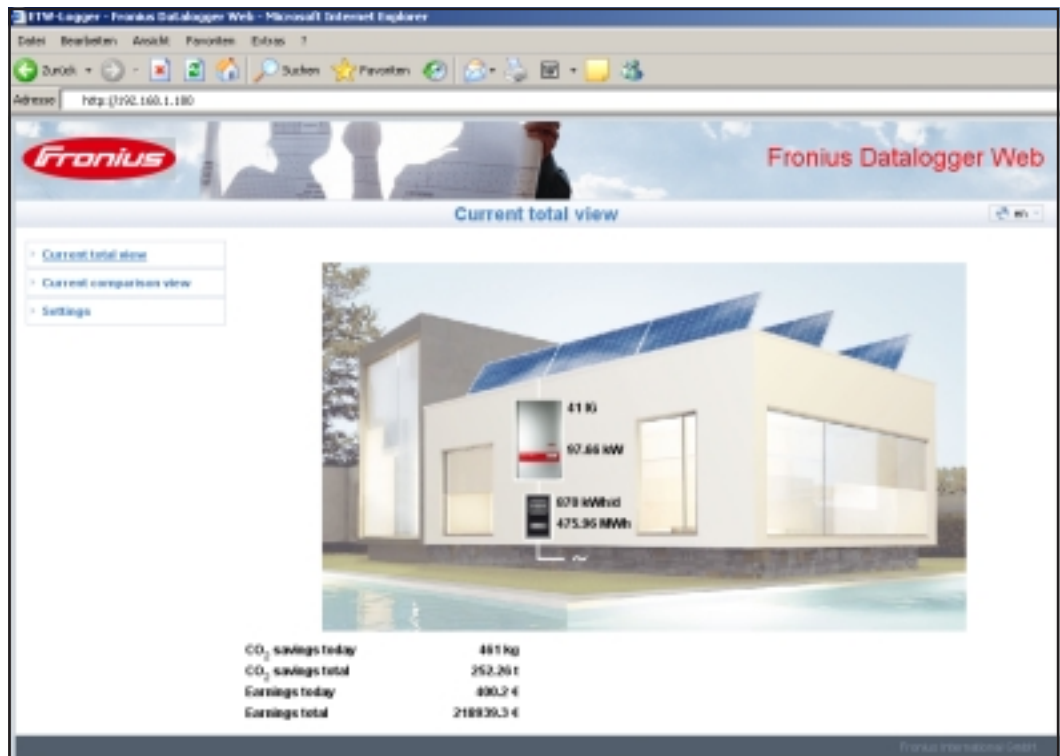
Requirements

- At least a LAN connection
- Internet browser (e.g. Microsoft Internet Explorer IE6.0, Firefox 2, etc.)
- PC / laptop in the same network segment as the 'Fronius Datalogger Web'

Connecting to 'Fronius Datalogger Web' via LAN and Internet Browser

1. Open Internet browser
2. Enter the IP address or the hostname and domain name of the 'Fronius Datalogger Web'

The 'Fronius Datalogger Web' website will appear.



Website of 'Fronius Datalogger Web'

Assign an IP address or hostname as per the section 'Fronius Datalogger Web' Network Configuration'

For the Network Administrator

To access the Datalogger website outside of the LAN:

- Configure the network router so that requests are forwarded to port 80 on the Datalogger

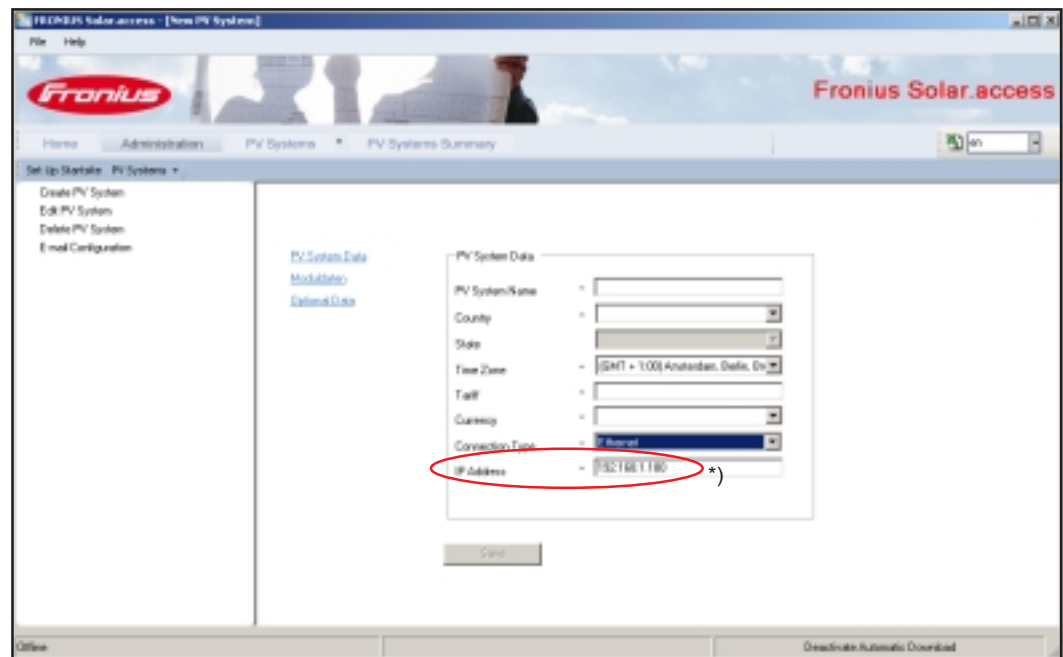
Connecting to 'Fronius Datalogger Web' via LAN and 'Fronius Solar.access'

General

The connection to the 'Fronius Datalogger Web' via a LAN and 'Fronius Solar.access' is suitable for detailed long-term data entry and offers full settings options and data preparation for the photovoltaic system.

Requirements

- At least a LAN connection
- Internet browser: Microsoft Internet Explorer IE6.0
- Network configuration of Datalogger as per section 'Fronius Datalogger Web Network Configuration'
- PC / laptop in the same network segment as the 'Fronius Datalogger Web'
- PC / Laptop operating system: Win 2000, Win XP or Win Vista
- 'Fronius Solar.access' software installed on PC / laptop
- 'Fronius Solar.access' software from the included CD
- Photovoltaic system created in 'Fronius Solar.access' as per 'Fronius Solar.access' online help (Open 'Fronius Solar.access' / Administration / PV Systems / Set up PV System)



'Fronius Solar.access': Set up PV system

*) Assigned IP address or assigned hostname for 'Fronius Datalogger Web'

Connecting to 'Fronius Datalogger Web' via LAN and 'Fronius Solar.access'

1. Open 'Fronius Solar.access' software
2. Select 'PV Systems'
3. Select the desired photovoltaic system

After a brief time, the connection is made to the selected photovoltaic system. 'Online' and the version of the Datalogger will be displayed in the bottom left status bar.

For the Network Administrator

To access the Datalogger outside of the LAN:

- Configure the network router so that requests are forwarded to port 80 and port 15015 on the Datalogger



Connecting to 'Fronius Datalogger Web' via the Internet and 'Fronius Solar.web'

General

Using the connection to the 'Fronius Datalogger Web' via the Internet and 'Fronius Solar.web,' you can access archived data and current PV system data from anywhere via the Internet.

In addition, you can also provide other users with guest access so that they can view your photovoltaic system as well as make a comparison of several systems.

Function Overview

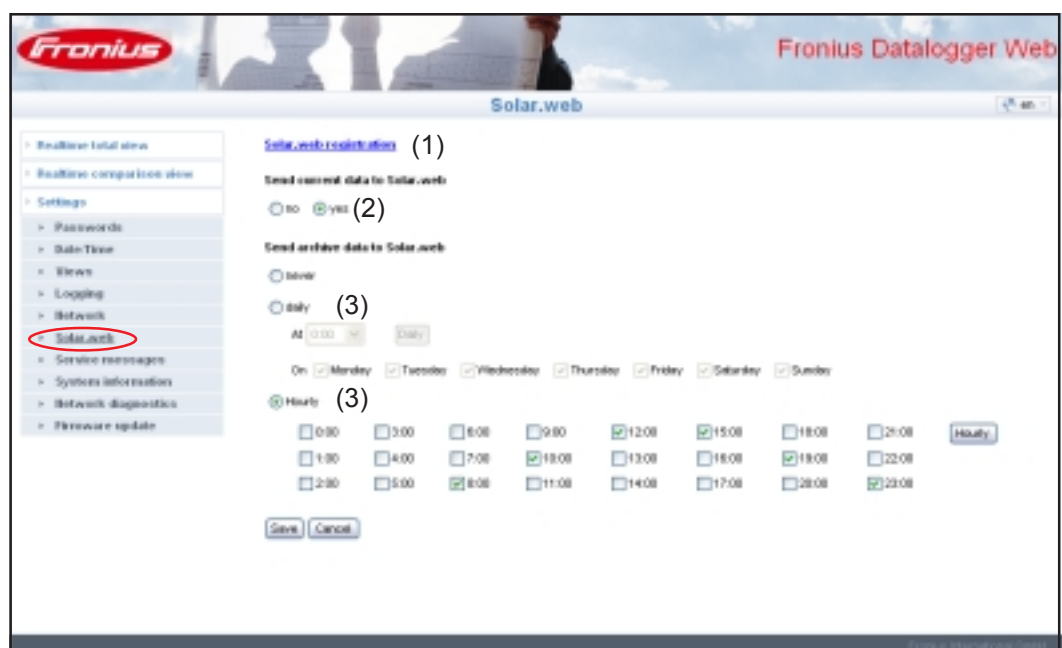
The Datalogger is connected to the Internet (e.g. via a DSL router). The Datalogger logs on to 'Fronius Solar.web' on a regular basis and sends its saved data every day. 'Fronius Solar.web' can establish an active contact with 'Fronius Datalogger Web' e.g. to display current data.

Requirements

- Internet access
- Internet browser

Important 'Fronius Datalogger Web' cannot connect by itself to the Internet. A router must be used for a DSL connection to the Internet.

- Registration of photovoltaic system with 'Fronius Solar.web' (1)
The Datalogger ID is required for the registration. The Datalogger ID is available in Settings / System Information.
- In order to access current data in 'Fronius Solar.web,' the 'Yes' selection option must be activated under 'Send current data to Solar.web' in 'Fronius Datalogger Web' (2).
- In order to access archived data in 'Fronius Solar.web,' the 'Daily at' selection option must be activated under 'Send archive data to Solar.web' in 'Fronius Datalogger Web' (3).



'Fronius Datalogger Web': 'Solar Web' in the 'Settings' menu

Accessing Data from 'Fronius Datalogger Web' via the Internet and 'Fronius Solar.web'

To access current and archived data from 'Fronius Datalogger Web' using 'Fronius Solar.web':

1. Open the 'Solar Electronics' heading on the Fronius website 'www.fronius.com'
2. Start 'Fronius Solar.web'

For more information about 'Fronius Solar.web' see the online help.

For the Network Administrator

Configure the firewall so that the IP address of the Datalogger can send data to port 49049/UDP from 'solarweb.fronius.com.'

DSL routers mostly enable you to send data to the Internet and, therefore, do not normally have to be configured.



General Information for the Network Administrator

General Firewall Settings

The firewall must be configured as follows in order to be able to use the different 'Fronius Datalogger Web' functions:

| | 49049/UDP | 15015/TCP | 80/TCP |
|---|-----------|-----------|--------|
| Sending service messages | x | - | - |
| Connection to Datalogger via 'Fronius Solar.web' | x | - | - |
| Connection to Datalogger via 'Fronius Solar.access' | - | x | x |
| Access to website of 'Fronius Datalogger Web' | - | - | x |

Sending Service Messages via a DSL Internet Connection

Normally, no additional router configuration is required for a regular DSL Internet connection for accessing 'Fronius Solar.web' and/or sending service messages because connections from the LAN to the Internet are open.

Using 'Fronius Solar.web' and Sending Service Messages

However, an Internet connection is required to use 'Fronius Solar.web' and send service messages.

'Fronius Datalogger Web' cannot connect by itself to the Internet. A router must be used for a DSL connection to the Internet.

'Fronius Datalogger Web' Views

Overview

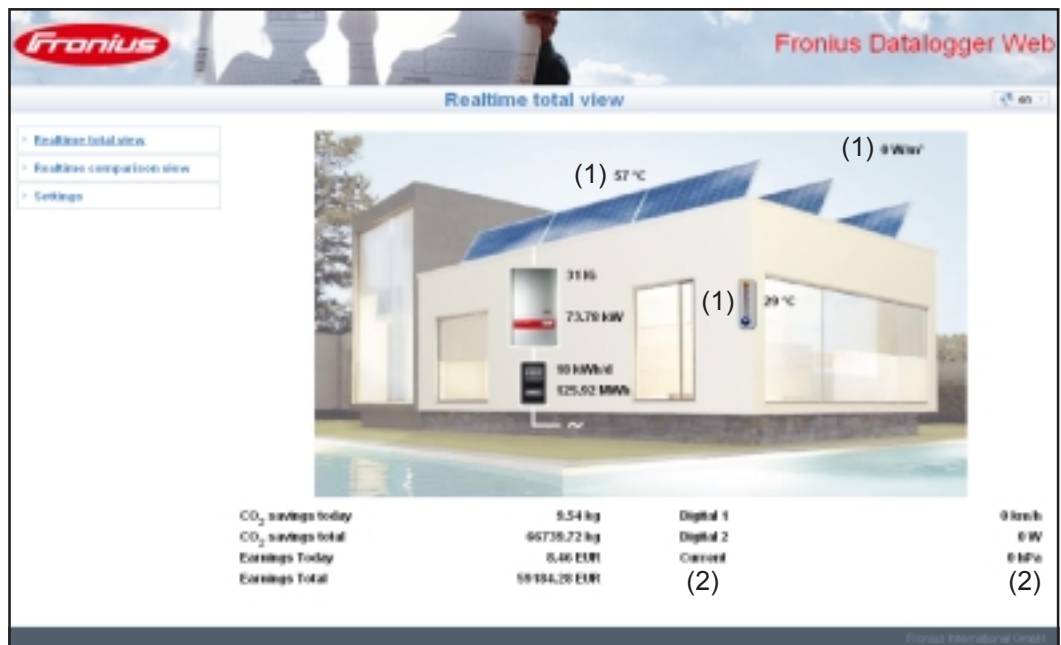
The following views are displayed on the 'Fronius Datalogger Web' website:

- Current total view
- Current comparison view

Current Total View

The Current total view contains:

- PV system power data
- CO₂ savings per day and total
- Earnings per day and total
- Sensor card data (if available)



Current Total View

Sensor card data in graphic display (1):

the first three measuring channels of 'sensor card 1' are displayed

Sensor card data under graphic display (2):

starting with sensor card 0, the first four active measuring channels of sensor cards available in the system are displayed



Current Comparison View

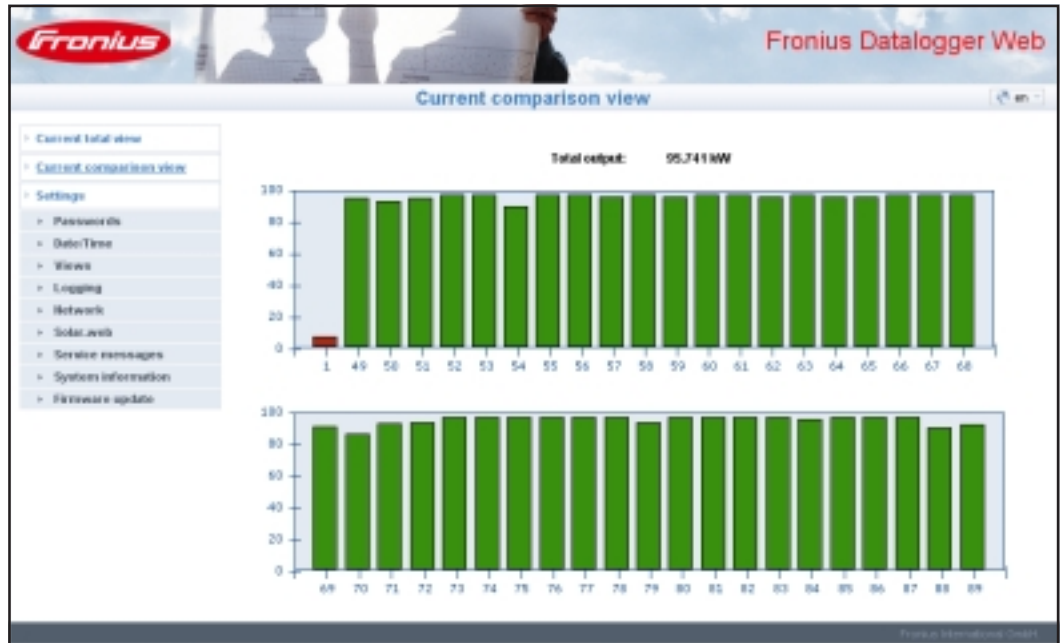
Several inverters in the same PV system can be compared to each other in the Current comparison view.

The current inverter AC power is displayed as a percentage of the power from the solar module connected to the respective inverter (shown in a bar diagram). A bar is displayed for each inverter. The bar color indicates the power range of the inverter:

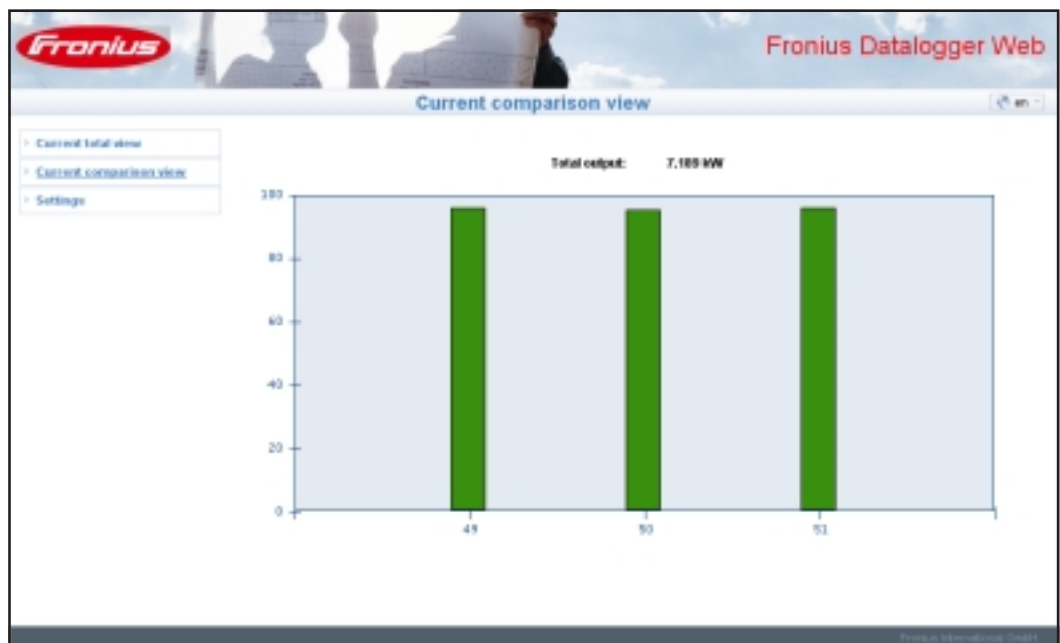
Green: the inverter power corresponds to the average power of all inverters

Yellow: the inverter power deviates slightly from the average power of all inverters

Red: the inverter power deviates strongly from the average power of all inverters or an error has occurred in the inverter



Current comparison view for 42 inverters (no. 1 and no. 49-89), inverter no. 1 is providing too little power



Current comparison view for 3 inverters (no. 49, 50 and 51)

'Fronius Datalogger Web' Settings

Overview

The following selection options are available in the 'Settings' menu of the 'Fronius Datalogger Web' website:

- Passwords
- Date / Time *)
- Views
- Logging
- Network
- Solar.web
- Service Messages
- System Information
- Network Diagnostics
- Firmware Update

*) The Date/Time setting is mandatory

The individual selection options will be explained in the following.

Accessing and Editing Selection Options



Selection options in the 'Settings' menu item

1. Connect to 'Fronius Datalogger Web'
2. Click on the 'Settings' menu item
3. Click on the desired selection option

The desired selection option will open

4. View/Edit selection option
5. If required, click on the respective button (e.g. Save, Synchronize, Update, etc.)

The changed data are applied



Passwords

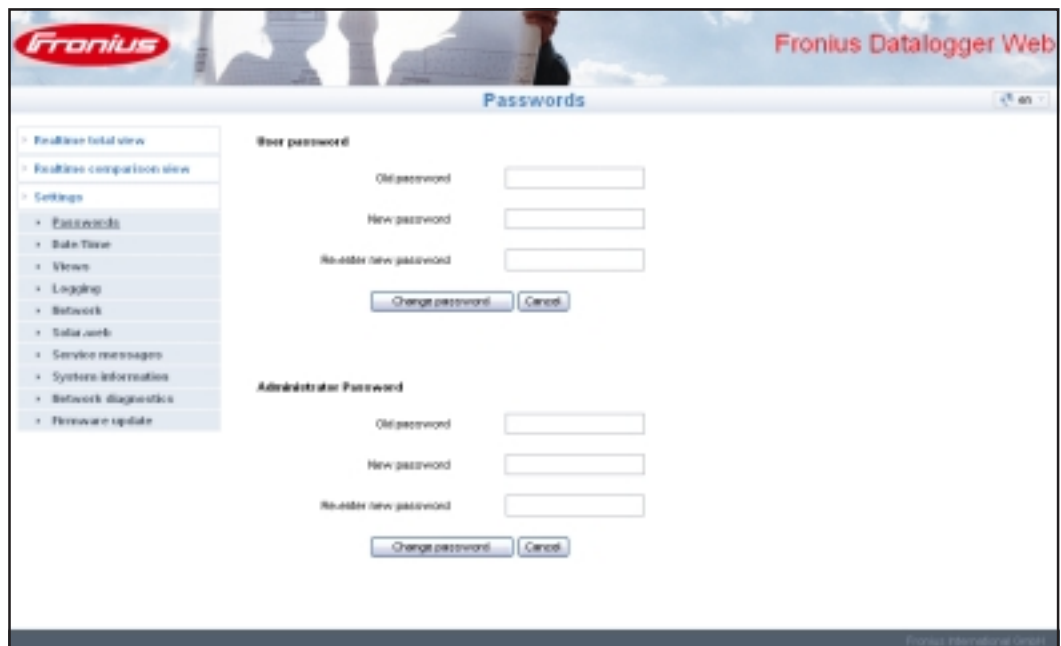
General

Access to 'Fronius Datalogger Web' is regulated by assigning passwords. There are 2 different password types available:

- The user password
- The administrator password

Important New passwords are only activated when the 'IP address' on the Datalogger is set to 'assigned IP.'

Passwords

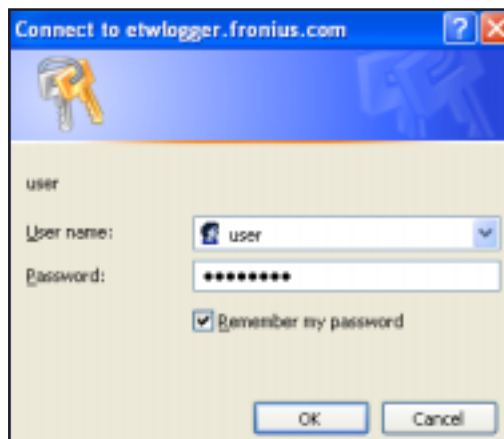


'Password' selection options

User Password

An assigned user password only gives the user read access to 'Fronius Datalogger Web.' The user cannot open the 'Settings' menu.

Users must enter their username and password every time they connect to 'Fronius Datalogger Web.'



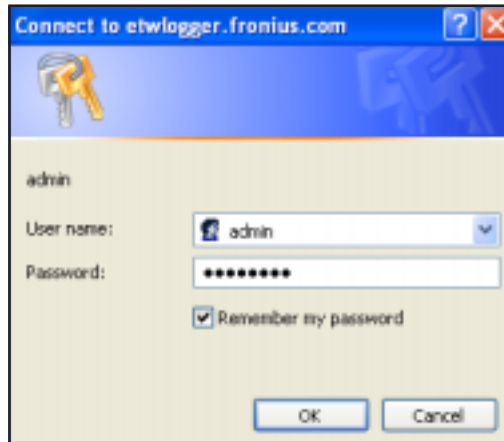
Username = user

Username and password entry for a user password

Administrator Password

An assigned administrator password gives the user both read and write access to 'Fronius Datalogger Web.' The user can then open the 'Settings' menu and make any changes as desired.

When assigning an administrator password, the user must enter username and password in 'Fronius Datalogger Web' to open the 'Settings' menu.



Username = admin

Username and password entry for an administrator password

Forgot Your Password?

1. Make a direct connection to 'Fronius Datalogger Web' as per the 'Quick Installation' insert


The 'Fronius Datalogger Web' website will appear (no request for passwords)

2. Enter new passwords

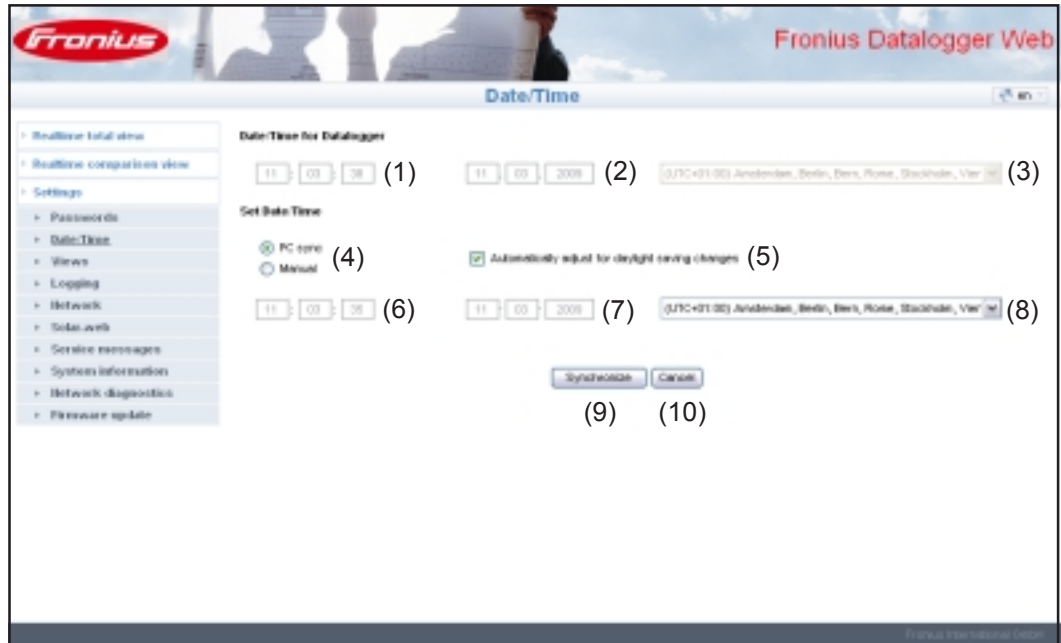
Date/Time

General

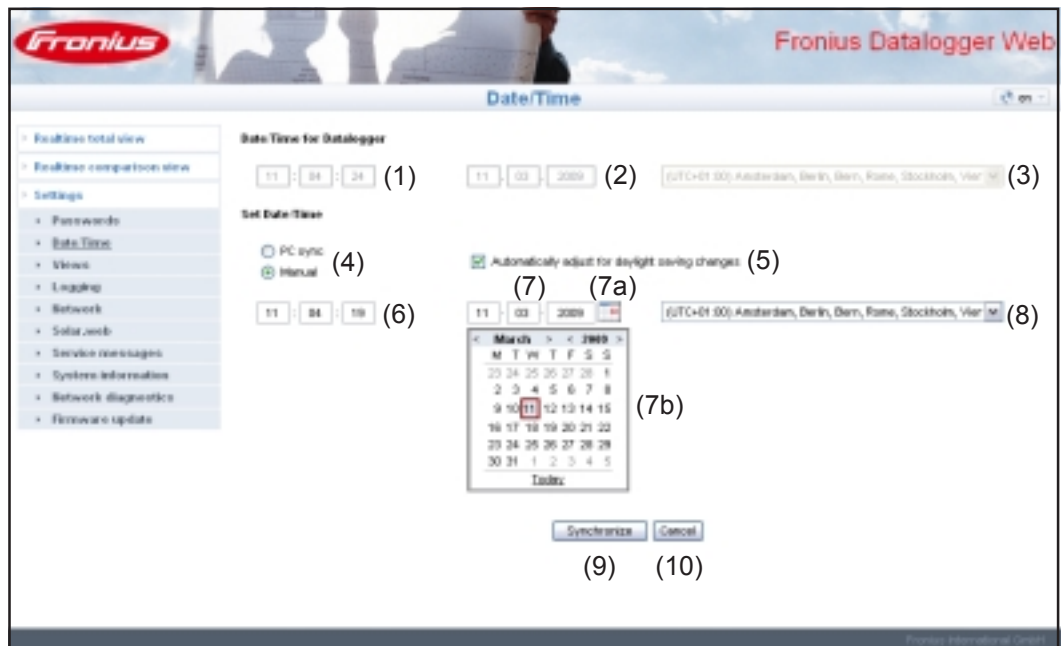
The date and time handles several tasks in the system.
The time and date are saved for every data record that is logged.

 **NOTE!** You must set the time and date in order to operate 'Fronius Datalogger Web.' This is the only way in which Datalogger data can be recorded.

Date/Time



'Date/Time' selection option, PC synchronization setting



'Date/Time' selection option, manual setting

Date/Time
(continued)

- (1) Datalogger time display
- (2) Datalogger date display
- (3) Datalogger time zone
- (4) Date/Time setting option: synchronize to PC / laptop or manual
- (5) Automatically adjust for daylight saving changes

Important For the automatic daylight saving time setting, the correct time zone must be selected.

- (6) Time from PC / laptop for PC synchronization setting
Field for setting the time for the manual setting
- (7) Date from PC / laptop for PC synchronization setting
Field for setting the date for the manual setting
- (7a) Calendar icon
- (7b) Calendar (opens when you click on the calendar icon)
- (8) Field for setting the time zone
- (9) 'Synchronization' button
- (10) 'Cancel' button

Views

General

Configuration of the 'Fronius Datalogger Web' website takes place in the views. The language, earnings and data for the Comparison and Total View can be set here. A sub-menu is available for settings related to inverters and sensor cards.

Views



'Views' selection options

Default Language

The 'Fronius Datalogger Web' website will appear in the set language.

For the duration of a connection, the language can be re-set in the Language selection field (1). The next time the website is accessed the default language set for the website will reappear.

Earnings

You can enter the charge rate per kWh and the currency for calculating the earnings in 'Earnings.' The earnings are shown in the Current total view.

CO₂ Factor

You can enter the CO₂ savings per kWh and the unit for calculating the CO₂ savings in 'CO₂ factor.'

The CO₂ savings is shown in the Current Total View.

Comparison View



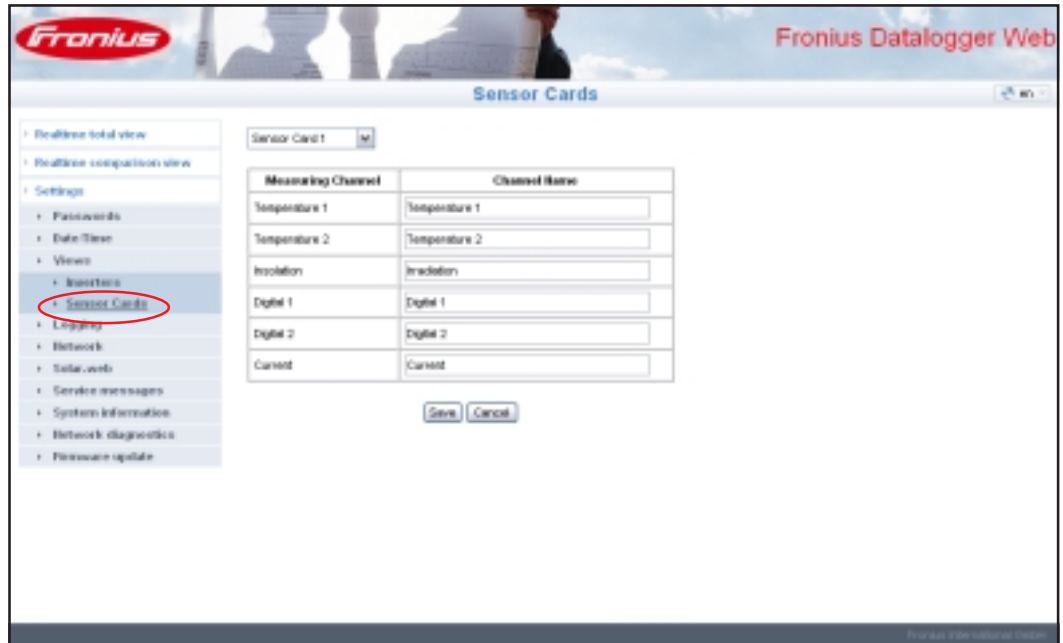
'Inverters' selection option

The data for the comparison view is defined in 'Inverters:'

1. Select an inverter to be displayed in the Comparison view
2. Enter the respective solar module for each inverter (the nominal output of the inverter is entered by default)
3. Assign PV power to the respective inverter using the 'Accept' button
4. Click on the 'Save' button

The settings for the Comparison view are applied.

Sensor Cards View



'Sensor cards' selection option

A specific channel name can be assigned to each sensor value of a sensor card in 'Sensor Cards' (e.g. wind speed).

1. Select sensor card for which the channel names are to be changed
2. Enter the desired channel name
3. Click on the 'Save' button

The settings for the Total View are applied.

Logging

General

The Datalogger saves the current data of all inverters as well as all sensor cards and Fronius sensor boxes integrated into the system at regular intervals. The save interval can be defined in a range of 5 - 30 minutes.

The data can be prepared, archived and viewed easily with a PC or laptop using the „Fronius Solar.access“ software.

Logging



'Logging' selection option

Memory Capacity

The Datalogger has a memory capacity of up to 3 years for a PV system with one inverter and a save interval of 15 minutes. However, the memory capacity is reduced accordingly depending on the number of inverters and/or Fronius sensor cards / boxes that are integrated into the system.

Calculating Memory Capacity

1. Determine logging points for inverters and Fronius sensor cards / boxes

$$\text{Logging points per day} = \frac{\text{Logging duration [min]}}{\text{Save interval [min]}}$$

Logging duration [min]

- for inverter: e.g. 14 hours = 840 minutes
- for Fronius sensor card / Fronius sensor box: 24 hours = 1440 minutes

2. Establish total of logging points

Total of logging points =

$$= (\text{number of inverters} \times \text{logging points per Tag}) + (\text{number of Fronius sensor cards / boxes} \times \text{logging points per day})$$

Calculating Memory Capacity
(continued)

- Determine memory sectors per day

$$\text{Memory sectors per day} = \frac{\text{Total of logging points}}{114}$$

- Round to whole numbers
- Determine memory capacity

$$\text{Memory capacity [days]} = \frac{2048}{\text{Memory sectors per day}}$$

Calculation Example

- 2 inverters, logging duration = 14 hours (840 minutes)
1 Fronius sensor card, logging duration = 24 hours (1440 minutes)

Save interval = 15 minutes

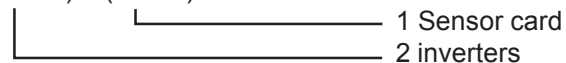
- Logging points per day:

$$\text{Inverter logging points} = \frac{840 \text{ min}}{15 \text{ min}} = 56$$

$$\text{Sensor card logging points} = \frac{1440 \text{ min}}{15 \text{ min}} = 96$$

- Total of logging points:

$$\text{Total of logging points} = (2 \times 56) + (1 \times 96) = 208$$



- Memory sectors per day:

$$\text{Memory sectors} = \frac{208}{114} = 1,825$$

- Rounded:

$$1,825 \Rightarrow 2$$

- Memory capacity [days]:

$$\text{Memory capacity} = \frac{2048}{2} = 1024 \text{ days} (= 2 \text{ years, } 9 \text{ months, } 18 \text{ days})$$

Overwriting Data When Memory is Full

When the Datalogger memory is full, the oldest data will be overwritten by the newest data.

'Delete Data' Button

All 'log data' saved to 'Datalogger Web' is deleted using the 'Delete Data' button.

Important The power supply to 'Datalogger Web' must not be interrupted during the deletion process.

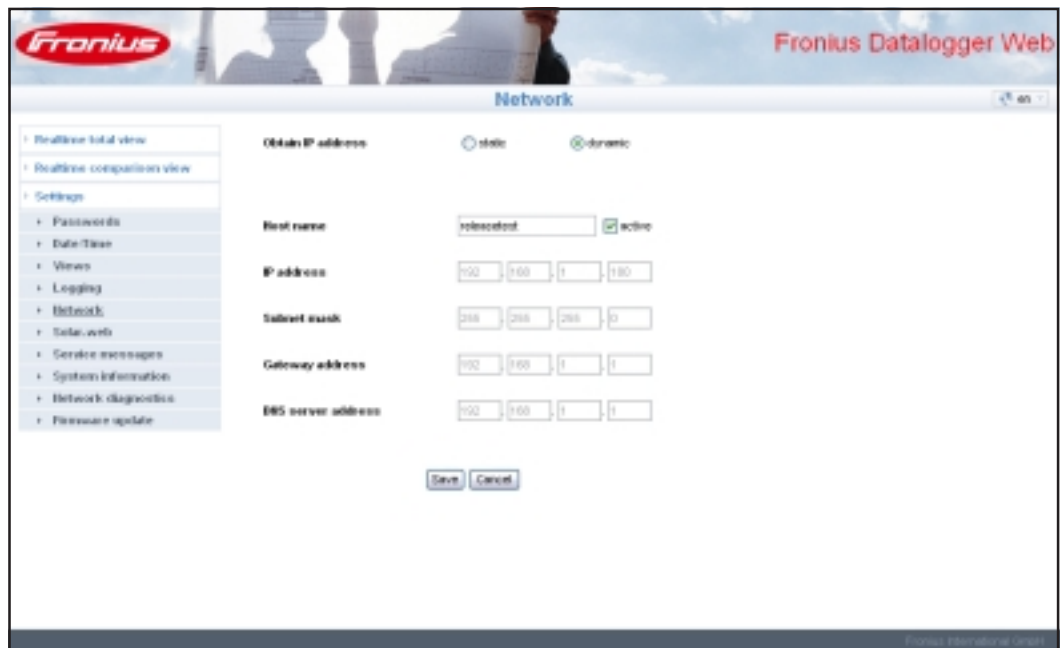
Network

General

The 'Network' selection option is used to configure 'Fronius Datalogger Web' for integration with an existing network.

For more information about network configuration for 'Fronius Datalogger Web,' please see section 'Fronius Datalogger Web Network Configuration.'

Network



The screenshot shows the 'Network' configuration page in the Fronius Datalogger Web interface. The page has a header with the 'Fronius' logo and 'Fronius Datalogger Web' text. Below the header is a navigation menu on the left with options like 'Realtime total view', 'Realtime comparison view', 'Settings', 'Passwords', 'Date/Time', 'Views', 'Logging', 'Network', 'Data web', 'Service messages', 'System information', 'Network diagnosis', and 'Firmware update'. The 'Network' section is active, showing a 'Network' title and a 'Get IP address' section with radio buttons for 'static' (selected) and 'dynamic'. Below this are input fields for 'Host name' (telescop), 'IP address' (192.168.1.180), 'Subnet mask' (255.255.255.0), 'Gateway address' (192.168.1.1), and 'DNS server address' (192.168.1.1). At the bottom are 'Save' and 'Cancel' buttons.

'Network' selection option

Solar.web

General

The 'Solar Web' selection option is used to make a direct connection to 'Fronius Solar.web' from 'Fronius Datalogger Web.'

For more information about 'Fronius Solar.web,' please see the section 'Connecting to Fronius Datalogger Web via the Internet and 'Fronius Solar.web' or the 'Fronius Solar.web' online help.

Solar.web



'Solar.web' selection option

Daily Data Transmission to Solar.web

If the 'daily' selection option is activated, you can select:

- The time of day when data is transmitted (1)
- Whether data is transmitted each day (2)
- Whether data is only transmitted on specific days (3)

Hourly Data Transmission to Solar.web

If the 'hourly' selection option is activated, you can select:

- The times of day when data is transmitted (4)
- Whether data is transmitted each day on the hour every hour (5)

Service Messages

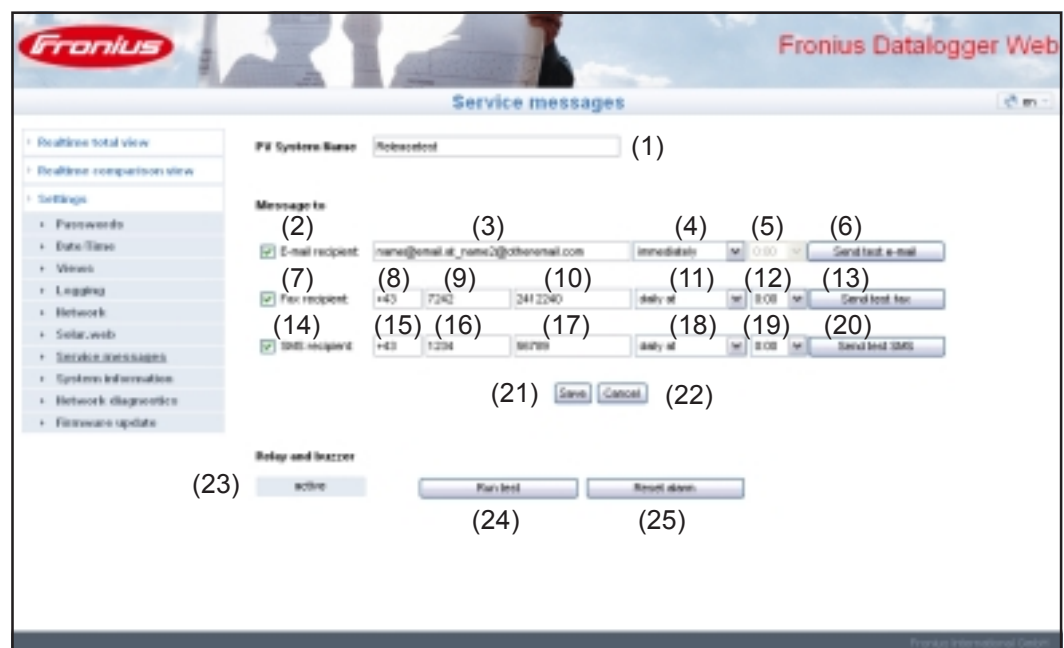
General

Service messages as well as errors from inverters, the 'Fronius String Control' etc. are sent to the Datalogger and saved. The 'Service messages' selection option is used to define how services messages are communicated. Communication can take place via:

- E-mail
- Fax
- SMS
- Relay contact
- Buzzer

Service messages can be analyzed further using 'Fronius Solar.web' or 'Fronius Solar.access.'

Service Messages



'Service messages' selection option

- (1) PV system name
Included in the service message text
- Important** The system name is used to identify the PV system that sent the message. Always enter a system name.
- (2) Message to e-mail recipient
Activate to send service messages to one or more e-mail addresses
 - (3) Field for up to a max. of 10 e-mail addresses
Separate e-mail addresses with ','
 - (4) Selection field to determined whether the service message will be sent immediately via e-mail or at a specific time
 - (5) Selection field for the time when a service message will be sent via e-mail
 - (6) 'Send test e-mail' button

Service Messages
(continued)

- (7) Message to fax recipient
Activate to send service messages to a fax number
- (8) Field to enter country code
e.g.: +43 = country code for Austria
- (9) Field to enter the fax area code
- (10) Field to enter the fax number
- (11) Field for sending daily
- (12) Selection field for the time when a service message will be sent via fax
- (13) 'Send test fax' button
- (14) Message to SMS recipient
Activate to send service messages as an SMS to a telephone number
- (15) Field to enter country code
e.g.: +43 = country code for Austria
- (16) Field to enter area code
- (17) Field to enter the telephone number
- (18) Field for sending daily
- (19) Selection field for the time when a service message will be sent via SMS
- (20) 'Send test SMS' button

Important Check you settings by sending a test message.

- (21) 'Save' button
- (22) 'Cancel' button
- (23) Relay and buzzer
For a direct warning onsite.

Along with the acoustical signal of the buzzer, additional warnings can also be triggered via the relay output (e.g. signal horn, warning light, etc.).
The relay contact is a NCC (normally closed contact) and NOC (normally open contact) and is designed for the following max. voltage/current values (only for pure ohmic load):

42 V AC / 6A
60 V DC / 400 mA
40 V DC / 1 A
30 V DC / 6 A

The buzzer and relay are activated or deactivated using the Alarm switch on the Datalogger. An alarm is acknowledged by switching it briefly to 'Alarm off.'

When 'Alarm on' is selected, the buzzer and relay are briefly activated as a test function.

**Service Mes-
sages**
(continued)

- (24) 'Run test' button
Switches the relay and buzzer on for 1 second when the 'Alarm on' switch is set
- (25) 'Reset alarm' button
Resets a triggered alarm, switches off the relay and buzzer



System Information

General

The following system information for 'Fronius Datalogger Web' can be viewed in the 'System information' selection option:

- Datalogger ID
- Circuit board version
- Software version
- IP address
- Subnet mask
- Gateway
- DNS server
- MAC address
- Uptime
- User agent

System Information

| Parameter | Value |
|-----------------------|---|
| Datalogger ID | 248.1824 |
| Circuit Board Version | 5.1A |
| Software Version | 1.2.0.0 |
| IP Address | 10.4.120.48 |
| Subnet mask | 255.255.255.0 |
| Gateway | 10.4.120.254 |
| DNS server | 10.1.1.68 10.1.1.2 |
| MAC address | 08:07:8E:0A:9B:C1 |
| Uptime | 11:13:12 up 19:30 |
| User agent | Mozilla/0 (compatible; MSIE 6.0; Windows NT 5.1; SV1; NET CLR 1.1.4332; NET CLR 2.0.50727; MSN CLR 3.0.0406.30; MSN CLR 3.0.0406.688) |
| LED status | |

Note: This device contains open source software. For detailed information about the software being used and the requirements of the corresponding source code, please contact Fronius Tech Support.

(1) (2) (3)

'System information' selection option

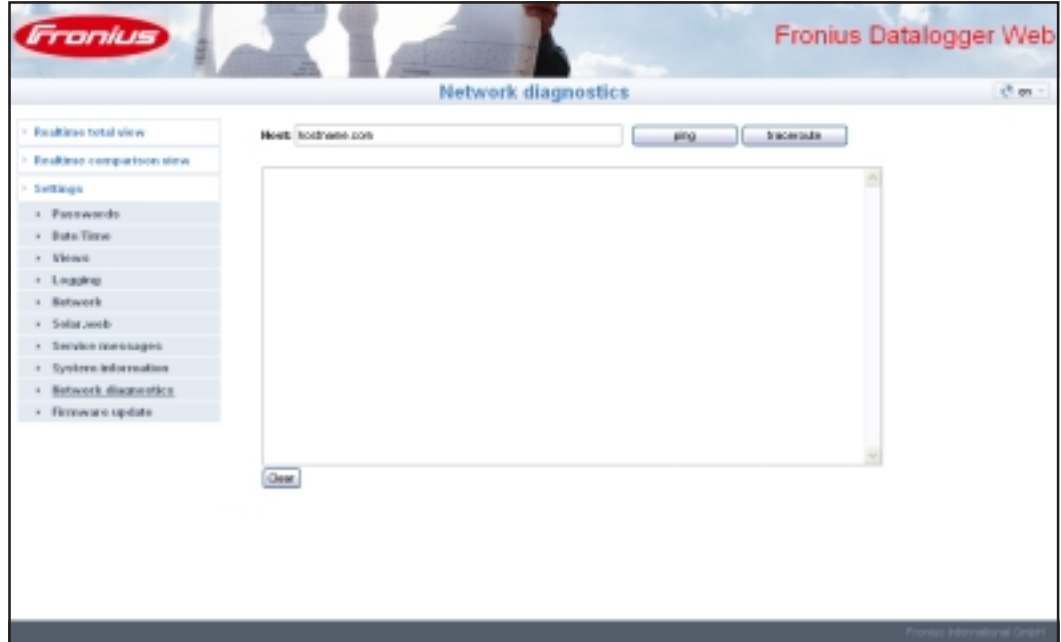
- (1) 'Datalogger restart' button
Used to restart 'Datalogger Web'
- (2) 'Reset to factory settings' button
Used to reset 'Datalogger Web' to factory settings. Network settings remain unchanged.
- (3) 'Reset to factory settings (incl. network)' button
Used to reset 'Datalogger Web' and network settings to factory settings

Important! Using the 'Reset to factory settings' button or the 'Reset to factory settings (incl. network)' button does not affect the time and date settings. When 'Datalogger Web' is reset to factory settings, the time and date settings must be checked.

Network Diagnostics

General

The 'Network diagnostics' selection option is used to enter 'ping' and 'trace route commands.'



'Network diagnostics' selection option

'Ping command'

The 'ping command' is used to determine whether or not a 'host' is available and how much time a data transmission will take.

'Trace route command'

A 'trace route command' is used to determine the intermediate stations the data takes to reach the 'host.'

Sending a 'Ping Command'

1. Enter a host name in the 'Host' field
2. Click on the 'Ping' button
 - 'Ping command' is sent
 - The resulting data is displayed

Sending a 'Trace Route Command'

1. Enter a host name in the 'Host' field
2. Click on the 'Trace route' button
 - 'Trace route command' is sent
 - The resulting data is displayed

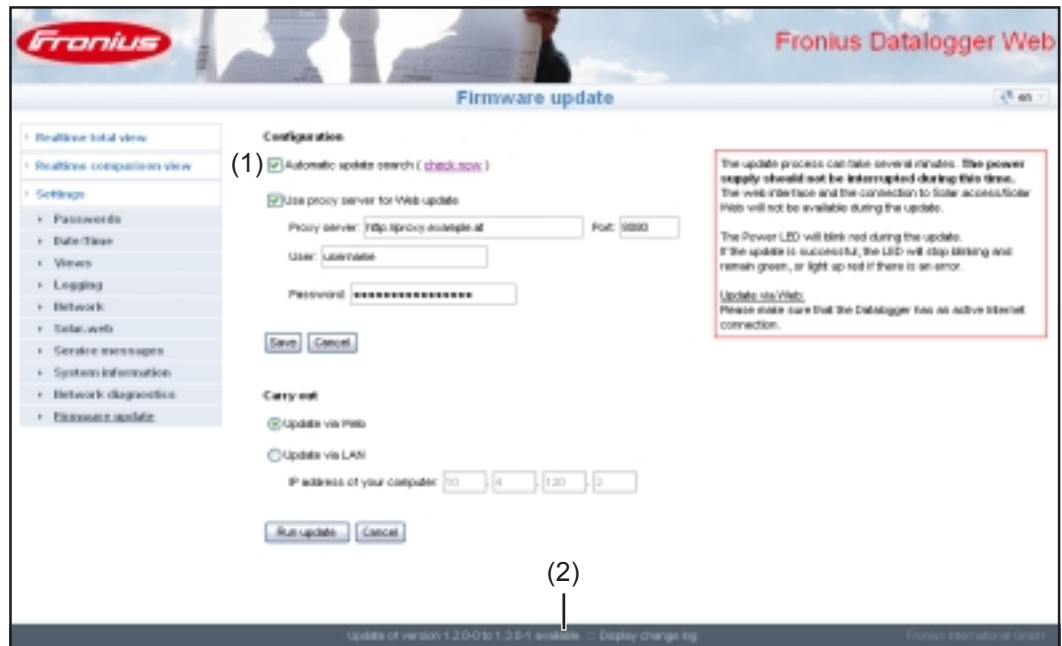
Firmware Update

General

You can update the 'Fronius Datalogger Web' firmware from the 'Firmware update' selection option. A 'firmware update' can be carried out via LAN or web.

Automatic Update Search

When the 'Automatic update search' option (1) is activated, 'Datalogger Web' will automatically search once per day for updates. If new updates are available, they will be shown in the grey display bar (2).

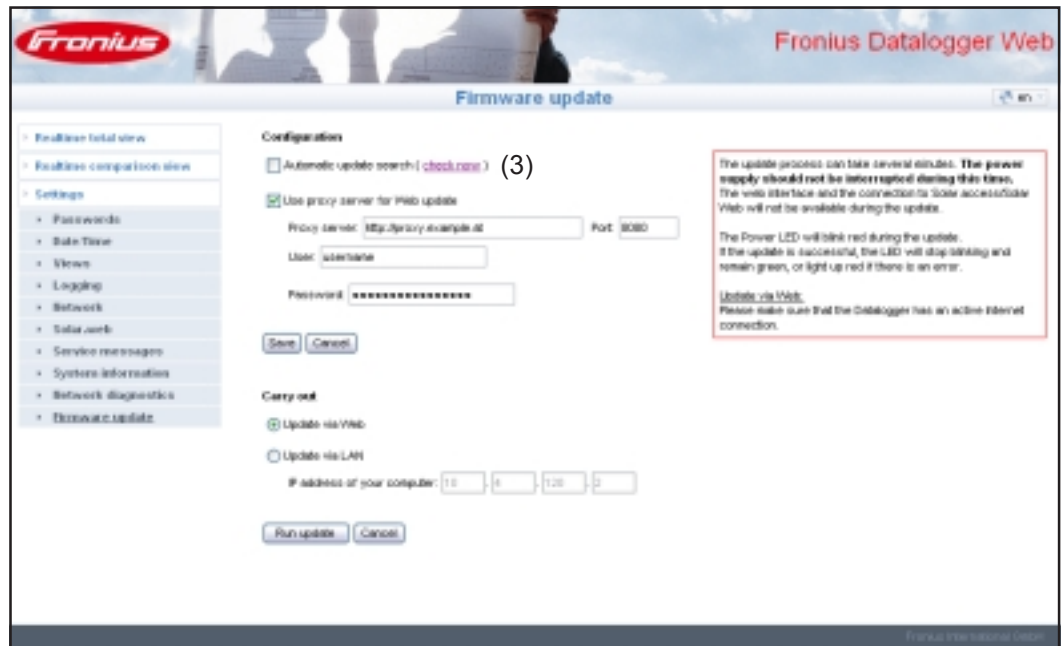


'Automatic update search' function activated

Manual update search

When the 'Automatic update search' function is deactivated, there will be no automatic update search.

1. To search manually for updates, use the 'Check now' button (3)



The screenshot shows the 'Firmware update' page of the Fronius Datalogger Web interface. On the left is a navigation menu with 'Firmware update' selected. The main content area is divided into 'Configuration' and 'Carry out' sections. In the 'Configuration' section, the 'Automatic update search (check now)' checkbox is unchecked and circled in red with the number 3. Below it, the 'Use proxy server for Web update' checkbox is checked, with fields for 'Proxy server', 'Port', 'User', and 'Password'. In the 'Carry out' section, the 'Update via Web' radio button is selected, and there are fields for 'IP address of your computer'. A warning box on the right contains the following text: 'The update process can take several minutes. The power supply should not be interrupted during this time. The web interface and the connection to Sole access/Scale Web will not be available during the update. The Power LED will blink red during the update. If the update is successful, the LED will stop blinking and remain green, or light up red if there is an error. Update via Web: Please make sure that the Datalogger has an active Internet connection.'

'Automatic update search' function deactivated

Firmware Update via Web

The screenshot shows the 'Firmware update' web interface. The 'Configuration' section has the following settings:
- Automatic update search ([check now](#))
- Use proxy server for Web update
- Proxy server:
- Port:
- User:
- Password:
- Buttons:
- Copy with:
- Update via Web
- Update via LAN
- IP address of your computer:
- Buttons:
- Footer: Update of version 1.2.0-0 to 1.2.8-1 available ... Display charge log ... Fronius International GmbH

Warning Box:
The update process can take several minutes. The power supply should not be interrupted during this time. The web interface and the connection to Solar.access/Solar.Web will not be available during the update.
The Power LED will blink red during the update. If the update is successful, the LED will stop blinking and remain green, or light up red if there is an error.
[Update via Web](#)
Please make sure that the Datalogger has an active Internet connection.

'Firmware update' via web

Procedure:

1. Use your Internet browser to open the 'Fronius Datalogger Web' website
2. Open Settings / Firmware update
3. Click on the 'Run update' button



NOTE! The update process can take several minutes. The power supply to the 'Fronius Datalogger Web' and the internet connection should not be interrupted during this time.

The web interface and the connection to 'Fronius Solar.access' or 'Fronius Solar.web' will not be available during the update process.

The update is complete when all LEDs are green or blinking.

If the connection to the server should fail:

- deactivate the firewall for the duration of the update
- retry the update

Important! A proxy server is used to connect to the Internet:

- The 'Use proxy server for Web update' selection option must be activated
- The required data must be entered

Firmware Update via LAN

The update process can take several minutes. The power supply should not be interrupted during this time. The web interface and the connection to Solar.access/Solar.web will not be available during the update.

The Power LED will blink red during the update. If the update is successful, the LED will stop blinking and remain green, or light up red if there is an error.

Update via LAN
First, please run the downloaded update archive on your computer. This will start a server on your computer from which the Datalogger can download the necessary files. If there is a firewall between your computer and the Datalogger, please deactivate it for the duration of the update.


'Firmware update' via LAN

Procedure:

1. Download the current firmware from the Fronius homepage
2. Run the downloaded update file on the PC / laptop

This will start a web server from which 'Fronius Datalogger Web' will download the required files.

3. Use your Internet browser to open the 'Fronius Datalogger Web' website
4. Open Settings / Firmware update
5. Enter the IP address of PC / laptop
6. Click on the 'Run update' button

 **NOTE!** The update process can take several minutes. The power supply to the 'Fronius Datalogger Web' and the internet connection should not be interrupted during this time. The web interface and the connection to 'Fronius Solar.access' or 'Fronius Solar.web' will not be available during the update process.

The update is complete when all LEDs are green or blinking.

If the connection to the server should fail:

- deactivate the firewall for the duration of the update
- retry the update

Technical Data

| | | |
|-----------------------|--|--|
| Technical Data | Memory Capacity | 16 MB |
| | Supply voltage | 12 V DC |
| | Power consumption | typ. 1.43 W |
| | Protection class | IP 20 |
| | Dimensions | 190 x 114 x 53 mm 4.69 x 4.49 x 2.09 in. |
| | Relay output* | 42 V AC / 6 A 60 V DC / 400 mA, 40 V DC / 1 A, 30 V DC / 6A |
| | Maximum cable cross section for the relay output | 1,5 mm ² AWG 28 (USA / Canada) |
| | Ethernet (LAN) | RJ 45, 100 MBit |
| | RS 485 (Solar Net) | RJ 45 |

* Values are only valid for pure ohmic load



Fronius Worldwide - www.fronius.com/addresses

A **Fronius International GmbH**
4600 Wels-Thalheim, Günter-Fronius-Straße 1, Austria
E-Mail: pv@fronius.com
<http://www.fronius.com>

USA **Fronius USA LLC Solar Electronics Division**
10421 Citation Drive, Suite 1100, Brighton, MI 48116
E-Mail: pv-us@fronius.com
<http://www.fronius-usa.com>

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