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Fronius Datamanager Galvo - Symo



Operating Instructions

System monitoring



42,0426,0173,EA 003-10122014

Introduction Thank you for the trust you have placed in our company and congratulations on buying this high-quality Fronius product. These instructions will help you familiarize yourself with the product. Reading the instructions carefully will enable you to learn about the many different features it has to offer. This will allow you to make full use of its advantages.

Please also note the safety rules to ensure greater safety when using the product. Careful handling of the product will repay you with years of safe and reliable operation. These are essential prerequisites for excellent results.

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General Information

General

General	Fronius Datamar ity of the Fronius The Fronius Data tem. The web interfac configured, via th Fronius Datamar with an automatic When connected chived data can b in Fronius Solar I When connected system can be ea configuration is re Solar.web.	nager i Com amana e can l ne Inte nager i c alarn to Fro De save Net. I to Fro asily a equire	is a network-compatible datalogger which combines the functional- Card and Fronius Datalogger Web on a plug-in card. ger web interface provides a quick overview of the photovoltaic sys- be accessed via a direct connection from the Intranet or, if properly rnet. is equipped with an easy-to-configure system monitoring feature n. The alarm can be signaled via SMS, e-mail, or fax. onius Solar.access, real-time photovoltaic system data as well as ar- ed to a PC and analyzed. You can also make settings to all devices onius Solar.web, the real-time and archived data of a photovoltaic ccessed via the Internet or the Fronius Solar.web App. No difficult d. Data is sent automatically from Fronius Datamanager to Fronius	
Available Ver- sions of Fronius Datamanager	 The following versions of Fronius Datamanager are available for the Fronius Galvo and Fronius Symo inverters: Without Fronius Com Card function Without Fronius Com Card function and with WLAN Provided that the inverter is not fitted as standard with the Fronius Datamanager, existing inverters can be upgraded with the Fronius Datamanager. 			
Applicable DAT- COM Compo- nents	The Fronius Data following DATCC	amana)M cor	iger plug-in card installed in the inverter can be operated with the mponents:	
	- up to 100	х	Fronius inverters	
			(incl. the inverter in which the Fronius Datamanager is installed)	
	- up to 10	X	Fronius Sensor Card of Fronius Sensor Box	
	- up to 1	×	Fronius Interface Card or Fronius Interface Box	
	- up to 200	x	Fronius String Control	
Prerequisites for Operation	In order to ensur ternet connectior - For cabled ir KB/s and an at least 256 - For solutions sion of at leas	e flawl n: uploa KB/s. s with r ast 3 G	less data exchange online, it is essential to use an appropriate in- t solutions, Fronius recommends a download speed of at least 512 Id speed of mobile internet services, Fronius recommends a standard transmis- 6 with reliable signal strength.	

These specifications do not provide an absolute guarantee of flawless operation. High error rates in the transmission, fluctuating receptions or misfires can have an adverse effect on Fronius Datamanager's online operation.

Fronius recommends on-site testing to ensure that the connections meet the minimum requirements.

Since Fronius Datamanager acts as a data logger, no other data logger may be present in the Fronius Solar Net ring. Only have one Fronius Datamanager for each Fronius Solar Net ring.

The following DATCOM components may not be operated together with the Fronius Datamanager in a Fronius Solar Net ring:

- Fronius Power Control Card/Box
- Fronius Modbus Card
- Fronius Datalogger Web
- Fronius Personal Display DL Box
- Fronius Datalogger easy/pro

To use "Fronius Datamanager", the plug-in card must be installed in one inverter. The "Fronius Datamanager" plug-in card and the "Fronius Com Card" must not be used together in one inverter.

Notes regarding Radio Certification Fronius Datamanager plug-in cards with WLAN are equipped with a wireless module.

Wireless modules in the USA require FCC certification:



FCC

This device conforms to the limits for a Class B digital device, pursuant to Part 15 of the FCC regulations. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates and uses high frequency energy and, if not used in accordance with the instructions, may interfere with radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the device and the receiver.
- Connect the device to a different circuit than the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

FCC ID: PV7-WIBEAR11N-DF1

Industry Canada RSS

This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions:

(1) this device is not permitted to cause harmful interference, and(2) this device must accept any interference, including interference that may cause undesired operation of the device.

IC ID: 7738A-WB11NDF1

Unless otherwise expressly permitted by the manufacturer, changes or modifications to the wireless module are not allowed and lead to a loss of the right of use of the device by the user.

Scope of Supply Basic equipment:

- 1 x Fronius Datamanager plug-in card
- 1 x Ethernet cable 5 m, blue
- 2 x Terminating plugs
- 1 x 12-pin plug

In addition for Fronius Datamanager with WLAN:

1 x WLAN antenna

Configuration Ex- Linking inverters with Fronius Datamanager to a PC: amples



- (1) Inverter
 - +
- (2) Fronius Datamanager
- (3) Terminating plug (2x)
- (4) PC/Laptop



NOTE! When linking an inverter with Fronius Datamanager to a PC, a terminating plug must be connected to both of the Fronius Solar Net In and Fronius Solar Net OUT connection sockets.

Inverter (Fronius Galvo or Fronius Symo) linked to Fronius Datamanager with additional inverters (Fronius IG Plus V), a Fronius Sensor Box and a PC:



- Inverter
 (e.g: Fronius Galvo or Fronius Symo)
 +
- (2) Fronius Datamanager
- (3) PC/Laptop
- (4) Inverter

(e.g., Fronius IG Plus V) +

(5) Fronius Com Card

- (6) Fronius Sensor Box
 - Inverter (e.g., Fronius IG Plus V) +
- (8) Fronius Com Card
- (9) Terminating plug

NOTE! When linking several DATCOM components in connection with an inverter with Fronius Datamanager:

(7)

Connect the Fronius Solar Net IN connection socket of the inverter, for example, with the OUT connection socket of the next DATACOM component. A terminating plug must be inserted into empty Fronius Solar Net connection sockets of the last DATACOM component.

Calculating the data volume

General	When operating the Fronius online. In order to select a suitable in The following data volume c ated when operating Fronius	Datamanager, data is generated and Iternet connection it is necessary to c alculation provides an overview of th Datamanager.	needs to be transmitted alculate the data volume. e amount of data gener-
Firmware ver- sions for calculat- ing the data volume	The data volume calculation x and lower. Higher firmware versions car range.	is based on Fronius Datamanager Fi n cause a higher data volume due to t	rmware versions V 2.3.x- heir increased functional
Calculating Data Volumes	The data volume calculation vated.	depends on which Fronius Datamar	ager functions are acti-
	Function	Data volume	
	Make real-time data avail- able in Fronius Solar.web	Once ¹⁾	150 bytes 32 KB/h
	View real-time data in Fronius Solar.web	Current Total View per sensor card/sensor box	42 KB/h + 300 KB/h
		Current Comparison View per inverter	13 KB/h + 4 KB/h
		Home	0 KB/h
		System Comparison View	0 KB/h
	Send archived data/log-	(Memory sectors pe	er day ²⁾ x 4 KB) + 8 KB
	ging data to Fronius Solar.web	Transmission time ³⁾	600 bytes/min
	Sending service messag- es or errors	For daily sending per service message or error	1 KB/day + 300 bytes
		For immediate sending per service message or error	1 KB
	 Only after a restart o Calculation of memory "Calculating Memory Depending on the question of the second second	r if the internet connection has been ry sectors per day according to Chap Capacity" ality of the internet connection	disconnected oter "Logging," Section

IMPORTANT: Since the values listed in the table are "rough data" for Fronius Datamanager and the provider's bill may show discrepancies as a result of the various ways of calculating the transfer volume, the total values should be increased by 10–20%.

If the functions have been deactivated, no data volume is generated.

A certain data volume is also required to update the Fronius Datamanager firmware. This data volume depends on the size of the relevant update package and cannot therefore be taken into account for any advance calculation of the data volume.

IMPORTANT: Fronius recommends a flat rate in order to avoid unforeseeable data volumes.

Calculation exam- ples	Example 1 - Home System	
	1 inverter;	+ 0.15 KB
	No Fronius Sensor Card/Box; Fronius Datamanager has a 24-hour internet connection;	+ 32 KB/h x 24 h = 768 KB
	Archived data is sent to Fronius So- lar.web;	
	30 minutes transfer time; inverters operate 14 h/dav:	+ 0.6 KB/min x 30 min = 18 KB
	15 minutes storage interval; (This results in 1 memory sector per day in accordance with the section "Calculating memory capacity")	+ (1 memory sector/day x 4 KB) + 8 KB = 12 KB
	Real-time data is viewed over a 15-minute period every day	+ 42 KB/h x 0.25 h = 10.5 KB
	1 service message sent each day to con- firm average error rate	+ 1 service message x 1 KB = 1 KB
	Subtotal without safety	0.15 KB 768.00 KB 18.00 KB 12.00 KB 10.50 KB 1.00 KB
		809.65 KB
	A 10% safety factor is added to the calcu- lation	809.65 KB + 10%
	Final result	890.615 KB/day

Example 2 - Large System

100 inverters;	+ 0.15 KB
Fronius Datamanager has a	+ 32 KB/h x 24 h = 768 KB
Arehived details contraction,	
lar.web; 120 minutes transfer time;	+ 0.6 KB/min x 120 min = 72 KB
inverters operate 14 h/day; 5 minutes storage interval; (This results in 173 memory sectors per day in accordance with the section "Calcu- lating memory capacity")	+ (173 memory sectors/day x 4 KB) + 8 KB = 700 KB
The current Total View and the current	+ 42 KB/h x 2 h
Comparison View are viewed over a two- hour period every day	+ 300 KB/h x 10 x 2 h + (13 KB/h + 100 x 4 KB/h) x 2 h = 6910 KB
50 service messages sent each day to confirm average error rate	+ 50 service messages x 1 KB = 50 KB
Subtotal without safety	0.15 KB 768.00 KB 72.00 KB 700.00 KB 6910.00 KB 50.00 KB
-	8,500.15 KB
A 10% safety factor is added to the calculation	8,500.15 KB + 10%
Final result	9,350.165 KB/day (approx. 9.35 MB/day)

General information for the network administrator

Requirements

Requirements	NOTE! Configuring a network for Fronius Datamanager requires knowledge of network technology.					
	If Fronius Datamanager is being integ nager address must be adapted to the	rated into an exis e network.	sting network, the	Fronius Datama-		
	Example: Network address range = 19	92.168.1.x, subn	et mask = 255.255	.255.0		
	 An IP address between 192.168.1 Datamanager. The IP address selected may not The subnet mask must correspond 	l.1 and 192.168. be already assig d to the existing	1.254 must be ass gned in the network network (e.g. 255.	igned to Fronius ‹. 255.255.0).		
	If Fronius Datamanager will be sending service messages and/or data to Fronius So- lar.web, then a gateway address and a DNS server address must also be entered. Fronius Datamanager 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 Datamanager may not ha Fronius Datamanager cannot consused for a DSL connection to the 	ive the same IP nect to the Intern Internet.	address as the PC et spontaneously.	/laptop! A router must be		
	If you are using the WLAN network co equipped with a WLAN function and a	nnection, the Fro WLAN antenna	onius Datamanage suitable for the inv	er must be verter.		
General Firewall Settings	The firewall must be configured as foll ager functions:	ows in order to u	use the different Fr	onius Dataman-		
		49049/UDP	15015/TCP	80/TCP		
		output	input	input		
	Sending service messages	X	-	-		
	Connecting to datalogger via 'Fro- nius Solar.web'	х	-	-		
	Connecting to datalogger via 'Fro- nius Solar.access' or 'Fronius Solar.service'	-	х	х		
	Access to the Fronius Dataman- ager web interface	-	-	x		
	Service messages are sent via Froniu	s Solar.web.				
	Configure the firewall so that the IP add 49049/UDP from "fdmp.solarweb.com	dress of Fronius ."	Datamanager can	send data to port		

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

To access the Fronius Datamanager web interface outside of the LAN:

Configure the network router so that requests are forwarded to port 80/TCP on Fronius _ Datamanager

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

EN-US

Using Fronius So- lar.web and send- ing service	However, an internet connection is required to use Fronius Solar.web and send service messages.
messages	Fronius Datamanager cannot connect to the Internet spontaneously. A router must be used for a DSL connection to the Internet.

Sending service messages via a DSL Internet con-

nection

Controls, connections and indicators

Safety

WARNING! Operating the device incorrectly can cause serious injury and damage. Do not use the functions described until you have thoroughly read and understood the following documents:
 these operating instructions

all operating instructions for system components, especially the safety rules

Controls, Connections and Indicators



No. Function

(1) Supply LED

- Lights up green: When sufficient power is coming from Fronius Solar Net; Fronius Datamanager is operational
- Does not light up: When no power or not enough power is coming from Fronius Solar Net; an external power supply is required
- Flashes red: During an update process

IMPORTANT! Do not interrupt the power supply during an update process. Lights up red: the update process failed

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No. Function

- (2) 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
- (3) IP switch

for changing the IP address:

- A Default IP address "169.254.0.180" Fronius Datamanager uses the fixed IP address 169.254.0.180; the fixed IP address is used for a direct connection to a PC via LAN without first having to pre-configure the PC
- B Assigned IP address
 Fronius Datamanager operates using an assigned IP address (factory setting 192.168.1.180);
 The IP address can be set on the Fronius Datamanager web interface.

(4) WLAN LED

- Flashes green: Fronius Datamanager is in service mode (IP switch on the Fronius Datamanager plug-in card is in position A)
- Lights up green: When there is an existing network connection
- Lights up red: When there is no existing network connection
- Does not light up: Plug-in card without WLAN

(5) Solar Web LED connection

- 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

(6) LAN connection socket

- Ethernet interface colored blue for connecting the Ethernet cable
- (7) I/Os

digital inputs and outputs

Digital inputs: I/O 0 – I/O 3, I 4 – I 9

voltage level: low = min. 0 V – max. 1.8 V; high = min. 3 V – max. 30 V input currents: dependent on input voltage; input resistance = 46 kOhm

Digital outputs: I/O 0 - I/O 3

Switching capacity when supplied by the Datamanager plug-in card: 3.2 W, 10.7 V in total for all 4 digital outputs

Switching capacity when supplied by an external power supply with min. 10.7 - max. 24 V DC, connected to Uint / Uext and GND: 1 A, 10.7 - 24 V DC (depending on the external power supply) per digital output

The connection to the I/Os is made via the supplied mating connector.

(8) WLAN Antenna Socket with WLAN antenna (only for versions with WLAN) for connecting the WLAN antenna

Schematic Connection of I/Os



Supply via Datamanager plug-in card:

- (1) Power supply
- (2) Current limit

Supply via external power supply:

- (3) External power supply
- (4) Load



NOTE! When the supply is via an external power supply, the external power supply must be galvanically isolated.

Installing Fronius Datamanager

Inserting Fronius Datamanager into an inverter

General Provided the Fronius Datamanager plug-in card is not fitted as standard in the inverter, the plug-in card must be inserted into the inverter in accordance with the operating or installation instructions of the inverter in question. Please note the safety and warning information in your inverter's operating instructions.

IMPORTANT! Before inserting the Fronius Datamanager plug-in card, remove any existing Fronius Power Control Card, or Fronius Modbus Card!

Safety

WARNING! An electric shock can be fatal. Danger from grid voltage and DC voltage from solar modules.

- The connection area should only be opened by a licensed electrician.
- The separate power stage set area should only be disconnected from the connection area after first being disconnected from the grid power.
- The separate power stage set area should only be opened by Fronius-trained service personnel.

Before making any connections, make sure that the AC and DC sides are disconnected from the inverter, e.g.:

- Switch off the AC automatic circuit breaker for the inverter
- Cover solar modules

Please observe the 5 safety rules.



WARNING! An electric shock can be fatal. Danger from residual voltage from capacitors. You must wait until the capacitors have discharged.



NOTE! Follow general ESD precautions when handling plug-in cards.

Installing Fronius Datamanager in Fronius Solar Net

Installing Inverters with Fronius Datamanager in Fronius Solar Net

CAUTION! DATCOM components and/or the PC/laptop may be seriously damaged if the Ethernet or Solar Net cables are connected incorrectly to the Fronius Datamanager.

- The Ethernet cable should only be inserted into the LAN connection socket (colored blue).
- The Solar Net cable should only be inserted into the inverter Solar Net IN or Solar Net OUT connection sockets.



- * Terminating plug, if only one inverter with Fronius Datamanager is linked to a PC or if there is no further Solar Net subscriber on the Solar Net connection socket.
- ** Solar Net Cable, if an inverter with Fronius Datamanager is linked to a PC and other DATCOM components
- Insert and lay the Ethernet cable in the inverter like a data communication cable in accordance with the operating instructions for the inverter.
- **2** Insert the Ethernet cable into the LAN connection socket.
- 3 Insert the Ethernet cable into the PC/laptop or into a suitable network connection socket.
- If only one inverter with Fronius Datamanager is being linked to a PC: Insert a terminating plug into the Solar Net IN connection socket and the Solar Net OUT connection socket

If other DATCOM components are connected to the network, besides the inverter with Fronius Datamanager:

Insert the Solar Net cable into the Solar Net IN connection socket and the Solar Net OUT connection socket.

5 Connect the other DATCOM components.

IMPORTANT! A terminating plug must be inserted into every empty Solar Net connection socket of the last DATACOM component.

Cabling

Fronius Solar Net clients	Inverters with Fronius Datamana ternal housing or other DATCON lar Net.	ager or Fronius Com Card, / components will hereinaf	DATCOM components with ex- ter be referred to as Fronius So-	
Fronius Solar Net Client Cabling	The data connection for the Fro cables and RJ-45 plugs. The overall line length in a Fron	nius Solar Net client is a 1 ius Solar Net ring must no	:1 connection using 8-pin data t exceed 1000 m.	
Requirements for the Solar Net Data Cables	quirements for Solar Net DataShielded CAT5 (new) and CAT5e (old) cables compliant with ISO 11801 and EN 50 must be used for the Fronius Solar Net client cabling. Other cables are not permitted blesIMPORTANT! Do not use ISO/IEC-11801 U/UTP cables!			
	Permitted cables:			
	- S/STP - - F/STP - - S/FTP -	F/FTP SF/FTP S/UTP	- F/UTP - U/FTP - U/STP	
	The shield must be crimped onto a CAT5-compatible shielded plug.			
	Due to the fact that the wires in ed pairs of wires are assigned of	Ethernet cables are twisted orrectly for cabling in acco	d, you must make sure the twist- ordance with TIA/EIA-568B:	
	Fronius Solar Net contact	Pair no. Color		
	1 +12 V	3	white/orange line	

1	+12 V	3	0	white/orange line
2	GND	3		orange/white line or orange
3	TX+ IN, RX+ OUT	2	0	white/green line
4	RX+ IN, TX+ OUT	1	0	blue/white line or blue
5	RX- IN, TX- OUT	1	0	white/blue line
6	TX- IN, RX- OUT	2		green/white line or green
7	GND	4	•	white/brown line
8	+12 V	4	•	brown/white line or brown

Cabling compliant with TIA/EIA-568B

- Make sure that the wires are assigned correctly.

- When setting up an independent ground connection (e.g., in patch panels), make sure that the shield is grounded on one side of the cable only.

The following structured cabling standards must generally be observed:

- EN 50173-1 for Europe
- ISO/IEC 11801:2002 internationally
- TIA/EIA 568 for North America

Rules for use of copper cables apply.

Preassembled data cables	 The following preassembled data cables are available from Fronius: CAT5 cable 1 m 43,0004,2435 CAT5 cable 20 m 43,0004,2434 CAT5 cable 60 m 43,0004,2436 	

The cables listed above are 8-pin, 1:1 LAN network cables, shielded and twisted, including RJ 45 plugs.

IMPORTANT! Data cables are not UV resistant. They should be protected from sunlight when laid outdoors.

Installing Fronius Datamanager – Overview

Safety

Starting Up for the First Time

WARNING! Operating the device incorrectly can cause serious injury and damage. Do not use the functions described until you have thoroughly read and understood the following documents: these operating instructions all operating instructions for system components, especially the safety rules NOTE! Installing Fronius Datamanager requires knowledge of network technology. Insert Fronius Datamanager into the inverter

See section "Inserting Fronius Datamanager into an inverter"

- Insert blue Ethernet cable into Fronius Datamanager (LAN connection socket) 2
- Insert terminating plug into Fronius Datamanager (Solar Net IN connection socket) 3
- Insert blue Ethernet cable into the PC/laptop 4

See section "Installing Fronius Datamanager in Fronius Solar Net"

- Turn off WLAN on PC/laptop (to avoid network conflicts) 5
- Adjust network settings for Fronius Datamanager on PC/laptop: 6
- "Obtain an IP address automatically (DHCP)" must be activated
- Switch IP switch on Fronius Datamanager to position A -7



- 8 Close the inverter and switch it on
- After about 1 minute, open the browser on the PC/laptop and enter the following ad-9 dress (web server works with Internet Explorer 9 or higher, Chrome or Firefox): http://169.254.0.180

The start page of the Commissioning Wizard appears.



The Technician Wizard is designed for the installer and includes standard-specific settings. If the Technician Wizard is run, it is essential to note down the assigned service password. This service password is required to configure the UC Editor and Counter menu items. If the Technician Wizard is not run, no specifications for power reduction are set.

The Solar Web Wizard must be run.

[6] If necessary, run the Technician Wizard and follow the instructions

[7] Run the Solar Web Wizard and follow the instructions

The Fronius Solar.web start page appears or

The Fronius Datamanager website opens.

IMPORTANT: To establish a connection to Fronius Datamanager, the end device in question (e.g., laptop, tablet) must be configured as follows:

- "Obtain an IP address automatically (DHCP)" must be activated

Connect to Fronius Datamanager

Connecting to Fronius Datamanager via a Web Browser

General	The connection to Fronius Datamanager via an internet browser is suitable for accessing current values with several PC users in a LAN (e.g., company networks, schools, etc.). For example, total and daily yields can be accessed and/or inverter comparisons can be made on the Fronius Datamanager website.
Requirements	 At least a LAN or WLAN connection Web browser (e.g., Microsoft Internet Explorer IE ≥ 9.0, Firefox 4, Google Chrome 27.0) PC/laptop in the same network segment as Fronius Datamanager

Establishing a Connection to Fronius Datamanager via a Web Browser 1 Open the web browser

2 Enter the IP address or the host name and the domain name for Fronius Datamanager in the address field

The Fronius Datamanager web page appears.



Connecting to Fronius Datamanager via the Internet and Fronius Solar.web

General	By connecting to Fronius Datamanager via the Internet and Fronius Solar.web, you can access archived data and real-time photovoltaic system data online from anywhere in the world. You can also provide other users with guest access so that they can view your photovoltaic system, or you can make a comparison of several systems.
Function over- view	Fronius Datamanager is connected to the Internet (e.g. via a DSL router). Fronius Data- manager regularly logs on to Fronius Solar.web and sends its saved data every day. Fronius Solar.web can actively contact Fronius Datamanager, e.g. to display real-time da- ta.
Requirements	 Internet access Web browser IMPORTANT! Fronius Datamanager cannot connect itself to the Internet. A router must be used for a DSL connection to the Internet. Registration of photovoltaic system with Fronius Solar.web. In order to access real-time data in Fronius Solar.web, the "Yes" option must be activated under "Send real-time data to Solar.web" in Fronius Datamanager. In order to access archived data in Fronius Solar.web, the "Daily" or "Hourly" option must be activated under "Send archived data to Solar.web" in Fronius Datamanager.
Accessing data from Fronius Datamanager via the Internet and Fronius So- lar.web	To access real-time and archived data from Fronius Datamanager using Fronius So- lar.web: Start Fronius Solar.web: http://www.solarweb.com For more information about Fronius Solar.web, see the online help.

Current Data, Services, and Settings on Fronius Datamanager

The Fronius Datamanager Website

Fronius Datamanager Website – Overview The following data is displayed on the Fronius Datamanager website:

- (1) Current comparison view of all inverters in the Fronius Solar Net ring
- (2) System overview: Current/Day/Year/Total
- (3) Inverter
- (4) Sensors
 (5) Services System information, Network diagnostics, Firmware update
- (6) The Settings Menu
- (7) Other Setting Options



The SettingsAfter clicking on "Settings," the Settings menu is opened on the Fronius Datamanager webMenupage.Fronius Datamanager is configured in the Settings menu.

GENERAL *	General Adjustment and Viewing of Menu Items
PASSWORDS	 Connect to Fronius Datamanager Click on "Settings" Click on the desired menu item
FRONIUS SENSOR CARDS	The desired menu item is opened.
FRONIUS SOLAR.WEB SERVICE MESSAGES NETWORK	 4 View menu item or edit accordingly. 5 If there is one, click on the relevant button (e.g, Save, Synchronize)
ENERGY MANAGER	The amended data is accepted.
PUSH SERVICE MODBUS METER ** UC EDITOR **	 * Selected menu item ** The Counter and UC Editor menu items are protected by the service password.
Menu items in Settings menu	

Other setting op- Other settings options are shown in the top right corner of the Fronius Datamanager web interface:



	Display notifications
0	System information: Datalogger ID, software version, hardware version, Solar Net connection, So- lar.web connection
?	Help: Fronius Datamanager operating instructions, available in both English and Ger- man
	Language: For setting the language (English or German)
	The Fronius Datamanager web interface will appear in the language set in the browser or in the last language selected.
22	Expand contents: The Real-time Data/Settings menu is hidden
Current Data in Fronius Datamanager



Several inverters in the same photovoltaic system can be compared in the current Comparison View.

The real-time 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:

Blue:	the inverter power corresponds to the average power of all inverters.
Yellow:	the inverter power deviates slightly from the average power of all inverters (50–90% from the average).
Red:	the inverter power deviates significantly from the average power of all inverters or an error has occurred in the inverter (< 50% from the average).

System Overview



The system overview contains:

- the real-time power data of a photovoltaic system
- the active devices
- the energy generated per day, per year, and in total
- the yield per day, per year, and in total
- *) The values for consumption and energy fed into the grid are only displayed when a counter is configured on the inverter and the counter sends valid data.

Inverter/Sensors Inve View

Inverter View

System overview	
 Inverter 	
	6
Inverter 50	
Fronius IG 30	
Inverter 51	Ξ
Fronius IG 30	
Inverter 52	
Fronius IG 30	-
Inverter 53 ^{*)}	
Fronius IG 30	
Inverter 54	
Fronius IG 30	_
Inverter 55	
Fronius IG 30	
Inverter 56	
Fronius IG 30	
Inverter 57	
Fronius IG 30	

The Inverter View displays all the inverters present in the system.

*) Clicking on an inverter or the corresponding bar in the Comparison View displays the inverter's realtime data:

Inverter 53

Fronius IG Plus 150 V-3

Running
8413 W
80 kWh
12 MWh
36 MWh

Sensor View

 System overview 	
Inverter	
 Sensors 	
Sensor Card 1	
Temperature 1	56 °C
Temperature 2	30 °C
Irradiation	0 W/m²
D L L A	
Digital 1	0 m/s

The Sensor View displays all the sensor cards/boxes present in the system.

Services – System Information

System Information

			S	syster	m inf	orma	tion -							
D. (1. 10)	242.424	25												
Datalogger ID	240.424	35												
Circuit board version	2.4A													
Software version	3.3.5-22													
System time	Oct 21 2	014, 1	12:00	6: 29 C	EST									
Uptime	3 d, 23 l	n, 48 n	nin, S	34 seo										
User agent	Mozilla/ CLR 2.0 .NET4.0	5.0 (cd .5072 C; .NE	ompa 7; .N ET4.	atible; IET CI 0E)	MSIE _R 3.5	9.0; V 5.3072	/indow 9; .NE	/s NT (T CLR	6.1; W 3.0.3	OW64; Tri 0729; Med	dent/5.0 ia Cente	; SLCC er PC 6.	2; .NET 0;	Г
Gateway														
DNS server														
LED states	×.	×		9	° 1 °									
				LA	N inte	erface								
IP address														
Subnet mask	255.255	.255.0)											
MAC address	00:03:A	C:01:E	3F:49	9										
				WL	AN int	terfac	e							
IP address														
Subnet mask														
MAC address	00:06:C	6:41:2	27:D3	3										
					GPI	0								
IO-Name	1/O0 1/	01 I/	/02	I/O3	14	15	16	17	18	19				
IO-Direction	OUT C	UT	IN	IN	IN	IN	IN	IN	IN	IN				
IO-State	off	off	off	off	off	off	off	off	off	off				

(4)

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

Datalogger restart (1)

Reset to factory settings (2) All settings except for the network

C All settings

- (1) "Datalogger restart" button used to restart Fronius Datamanager
- "Reset to factory settings" button (2)
- (3) Option "All settings except for the network" is used to reset Fronius Datamanager to factory settings. The network settings and all items protected by the service user (UC Editor, counter settings, and the service password) are retained.
 - **Option "Settings"** is used to reset Fronius Datamanager and the network settings to factory settings. All items protected by the service user (UC Editor, counter settings, and the service password) are retained.

IMPORTANT: When Fronius Datamanager is reset to factory settings, the time and date settings must be checked.

Services – Network Diagnostics

Network Diagnos-
ticsThe Services / Network diagnostics option contains functions that are useful for diagnosing
and correcting network problems. Ping and traceroute commands can be executed.

Host: solarweb.fronius.com (1)	ping	traceroute
	(2)	(3) 🔺
		~
Clear Screen		

The ping command

is used to determine whether or not a host is available and how much time a data transfer will take.

Sending a ping command:

1 Enter a host name or IP address in the "Host:" field (1)

2 Click on "ping" (2)

- Ping command is sent
- The resulting data is displayed

A traceroute command

is used to determine the intermediate stations via which the data reaches the host.

Sending a traceroute command:

Enter a host name or IP address in the "Host:" field (1)



Click on "traceroute" (3)

- Traceroute command is sent
- The resulting data is displayed

Services – Firmware Update

General

You can update the Fronius Datamanager firmware under Services / Firmware Update. A firmware update can be performed via LAN or web.

Firmware Update	
Configuration	$(7) \qquad (8)$
(1) → Automatic update search ch (3) → Use proxy server for Web update	teck now (2)
Update (5) (4) Update via Web Update	te via LAN
Run update (6)	
(1) (2) (3)	Automatic update search "Check now" button (to search for updates manually) Use proxy server for Web update
	(3) I Use proxy server for Web update (3a) Proxy server: http:// (3b) Port: 8080 (3c) User:
(3a) (3b) (3c) (3d)	Field to enter the proxy server Field to enter the port Field to enter the user Field to enter the password
(4) (5)	Carry out update via web Carry out update via LAN
	C Update via Web C Update via LAN (5)
(5a)	Field to enter the IP address
(6)	"Run update" button to launch update process
(7) (8)	"Apply/Save" button "Cancel/Discard entries" button

Automatic Update	IMPORTANT: An internet connection is required for the	e automatic update search.
	When the "Automatic update search" option (1) is activation tomatically search for updates once a day. If new update played under the other setting options for the Fronius D	ated, Fronius Datamanager will au- tes are available, a message is dis- Datamanager website.
Firmware Update		✓ ×
Configuration		
(1) Automatic update sear	check now	
Manual Update Search	When the "Automatic update search" function is deactive search for updates.	vated, there will be no automatic
	To search manually for updates, use the "check no	ow" button (2)
Firmware Update		✓ ×
Configuration		
Automatic update sear	ch check now (2)	
Firmware update via web	 Open the Fronius Datamanager web page via a we Open "Firmware update" under "Service" Select "Update via web" Click on the "Run update" button The confirmation prompt for the update appears: 	eb browser
Are you sure you want	to run the update?	1
The update process can The power supply me hardware. The web interface and	n take several minutes. ust not be disconnected during the update. A disconnection may the connection to other Fronius services are not available during the upo	damage your monitoring
The Power LED will flas	h red during the update. sful, the LED will stop flashing and remain green, or light up red if there	is an error.
After a successful upda	te, the web browser cache must be emptied in order to avoid possible d	isplay errors!
<u>Update via Web:</u> Please make sure that	the Datalogger has an active Internet connection.	
		Yes No

5 Click on the "Yes" button

The update starts. The update progress is displayed as a bar and a percentage.

EN-US

	If the connection to the server fails: - Deactivate the firewall for the duration of the update - Retry the update
	 IMPORTANT: If a proxy server is used to connect to the internet: The "Use proxy server for Web update" option must be activated The required data must be entered
Firmware Update via LAN	 Establish LAN connection between PC/laptop and Fronius Datamanager Download the current firmware from the Fronius homepage Run the downloaded update file on the PC/laptop This will start a web server from which Fronius Datamanager will download the required files. Open the Fronius Datamanager web page via a web browser Open settings/firmware update Select "Update via LAN"
	 B Click on the "Run update" button The confirmation prompt for the update appears:
Are you sure you w	 Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update?
Are you sure you w	Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes.
Are you sure you w The update process The power supply hardware.	 Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. must not be disconnected during the update. A disconnection may damage your monitoring
Are you sure you w The update process The power supply hardware. The web interface a	Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. rmust not be disconnected during the update. A disconnection may damage your monitoring nd the connection to other Fronius services are not available during the update process.
Are you sure you we The update process The power supply hardware. The web interface a The Power LED will	Click on the "Run update" button Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. must not be disconnected during the update. A disconnection may damage your monitoring and the connection to other Fronius services are not available during the update process. flash red during the update.
Are you sure you we The update process The power supply hardware. The web interface a The Power LED will If the update is suc	Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. must not be disconnected during the update. A disconnection may damage your monitoring nd the connection to other Fronius services are not available during the update process. flash red during the update. cessful, the LED will stop flashing and remain green, or light up red if there is an error.
Are you sure you w The update process The power supply hardware. The web interface a The Power LED will If the update is suc After a successful u	Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. must not be disconnected during the update. A disconnection may damage your monitoring nd the connection to other Fronius services are not available during the update process. flash red during the update. cessful, the LED will stop flashing and remain green, or light up red if there is an error. pdate, the web browser cache must be emptied in order to avoid possible display errors!
Are you sure you we The update process The power supply hardware. The web interface a The Power LED will If the update is suc After a successful u Update via LAN:	 [7] Enter the in address of the Fohaptop [8] Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. must not be disconnected during the update. A disconnection may damage your monitoring nd the connection to other Fronius services are not available during the update process. flash red during the update. cessful, the LED will stop flashing and remain green, or light up red if there is an error. ppdate, the web browser cache must be emptied in order to avoid possible display errors!
Are you sure you w The update process The power supply hardware. The web interface a The Power LED will If the update is suc After a successful u Update via LAN: First, please run the	Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. must not be disconnected during the update. A disconnection may damage your monitoring nd the connection to other Fronius services are not available during the update process. flash red during the update. cessful, the LED will stop flashing and remain green, or light up red if there is an error. pdate, the web browser cache must be emptied in order to avoid possible display errors! e downloaded update archive on your computer.
Are you sure you we The update process The power supply hardware. The web interface a The Power LED will If the update is suc After a successful u Update via LAN: First, please run the This will start a sen	Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. must not be disconnected during the update. A disconnection may damage your monitoring nd the connection to other Fronius services are not available during the update process. flash red during the update. cessful, the LED will stop flashing and remain green, or light up red if there is an error. pdate, the web browser cache must be emptied in order to avoid possible display errors! e downloaded update archive on your computer. rer on your computer from which the Datalogger can download the necessary files.
Are you sure you we The update process The power supply hardware. The web interface a The Power LED will If the update is suc After a successful u Update via LAN: First, please run the This will start a serv If there is a firew	Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. must not be disconnected during the update. A disconnection may damage your monitoring nd the connection to other Fronius services are not available during the update process. flash red during the update. cessful, the LED will stop flashing and remain green, or light up red if there is an error. pdate, the web browser cache must be emptied in order to avoid possible display errors! e downloaded update archive on your computer. rer on your computer from which the Datalogger can download the necessary files. all between your computer and the Datalogger, please deactivate it for the duration of the update.
Are you sure you we The update process The power supply hardware. The web interface a The Power LED will If the update is such After a successful u Update via LAN: First, please run the This will start a sen If there is a firew	Click on the "Run update" button The confirmation prompt for the update appears: ant to run the update? can take several minutes. must not be disconnected during the update. A disconnection may damage your monitoring nd the connection to other Fronius services are not available during the update process. flash red during the update. cessful, the LED will stop flashing and remain green, or light up red if there is an error. pdate, the web browser cache must be emptied in order to avoid possible display errors! e downloaded update archive on your computer. rer on your computer from which the Datalogger can download the necessary files. all between your computer and the Datalogger, please deactivate it for the duration of the update.

9 Click on the "Yes" button

The update starts. The update progress is displayed as a bar and a percentage.

10 Once the update has been carried out successfully, click on the "Apply/Save" button

The update is complete when the "Supply LED" lights up green.

If the connection to the server fails:

- Deactivate the firewall for the duration of the update Retry the update
- -

Services – Opening Wizards

Opening Wizards The Commissioning Wizard can be opened again and run under "Open Wizards."



Settings – General

General

General



You can enter the charge rate per kWh (1), the currency (2) and the expenses per kWh (3) to calculate the yield under "Feed-in payment." The yield is shown in the current Total View.

The date (4), hour (5), and minutes (6) can be entered under "System time." Click "Synchronize" (7) to adapt the displayed time in the entry fields of the Fronius Datamanager web page to the time set on the computer operating system. Click the "Apply/Save" button (10) to apply the time.

The region (8) and location (9) for the time zone can be set under "Time zone settings."

- (10) "Apply/Save" button
- (11) "Cancel/Discard entries" button
- * Fields marked with * are mandatory fields.

Settings – Passwords

General	 Access to Fronius Datamanager is regulated by assigning passwords. 3 different password types are available: the administrator password the service password the user password 	
Passwords	Passwords (4) User name admin (1) Old password Password Repeat password	
	(4)	

The administrator password set during commissioning assigns the user read and write (configuration) access to Fronius Datamanager. The user can then open the "Settings" menu item and define any settings as desired, with the exception of the UC Editor and counter settings.

When an administrator password is set, the user must enter the user name and password in Fronius Datamanager to open the "Settings" menu item.

(2) Service password, user name = service

The service password is usually assigned in the Commissioning Wizard by the service technician or system installer and provides access to system-specific parameters. The service password is required to define counter settings and settings in the UC Editor. If no service password has been assigned, the Counter and UC Editor menu items cannot be accessed.

(3) After activating the selection field, the user password is displayed, user name = user.

Protect your system (3)	monitoring from unautho	rized read access.		
			\checkmark	(4)
User name	user			
Password *				
Repeat password *				

An assigned user password only gives the user read access to Fronius Datamanager. The user cannot open the "Settings" menu item.

When assigning a user password, users must enter their username and password every time they connect to Fronius Datamanager.

(4) "Apply/Save" button

Settings – Inverter

Views – Inverter

Inverters

				\checkmark	×
ystem na	(1) ame • My System	1		(7)	(8)
No	visible	Device type	Device name	PV[Wp] 😋
11	V	Symo 4.5-3-M	 Symo left side 	• 50	000
(2)	(3)	(4)	(5)	(6)

The data for the Comparison View is defined in "Inverter."

- (1) Field for assigning a system name *
- (2) Number of the inverter in Fronius Solar Net
- (3) If the selection field is chosen, the inverter is displayed in the Comparison View
- (4) Display of device type
- (5) Field for assigning a device name *
- (6) Field for entering the solar module power in W *
- (7) "Apply/Save" button
- (8) "Cancel/Discard entries" button
- * Fields marked with * are mandatory fields.

Settings – Fronius Sensor Cards

Sensor Cards

Fronius Sensor Cards



A specific channel name can be assigned to each sensor value of a Fronius Sensor Card/ Box in "Sensor Cards" (e.g., wind speed).

- (1) Sensor Card selection
- (2) Displayed measuring channel
- (3) Fields for assigning the channel name
- (4) "Apply/Save" button
- (5) "Cancel/Discard entries" button

Settings – Fronius Solar.web

Solar.web The Solar.web menu item can be used to make a direct connection between Fronius Datamanager and Fronius Solar.web.

Fronius Solar.web		
	~	×
	(9)	(10)
Datalogging settings		
Query cycle inverter 5 Minutes (1)		
Query cycle Fronius Sensor Cards 5 Minutes . (2)		
logged delete logged data (3)		
Send actual data to Fronius Solar.web		
C No C Yes (4)		
Send archive data to Fronius Solar.web		
C never C daily C hourly		
(5) (6) (7) register at Solar.web		
(8)		

Datalogging settings

- (1) Selection of query cycle for the inverter: Data queries every 5/10/15/20/30 minutes
- (2) Selection of query cycle for Fronius Sensor Cards: Data queries every 5/10/15/20/30 minutes
- (3) "Delete log data" button After clicking the "Delete log data" link, a security prompt appears to confirm the deletion of the log data.
- (4) Selection of whether current data is sent to Fronius Solar.web

Send archived data to Fronius Solar.web

- (5) Never
- (6) Daily After the selection field is activated the setting options are displayed:

Onever (6) daily O hourly		
at 07:00 • (6a)		
on 🗹 Monday 🔽 Tuesday 🔽 Wednesday 🗹 Thursday	🗹 Friday	🗹 Satturday 🗹 Sunday
(6b)		

- (6a) Field for entering the time (hour)
- (6b) Fields for selecting the weekdays
- (7) Hourly After the selection field is activated the setting options are displayed:

○ never ○ daily ● hourly

 (7)
 □ 00:00 □ 01:00 □ 02:00 □ 03:00 □ 04:00 □ 05:00 ☑ 06:00 ☑ 07:00

 (7a) ☑ 08:00 ☑ 09:00 ☑ 10:00 ☑ 11:00 ☑ 12:00 ☑ 13:00 ☑ 14:00 ☑ 15:00
 ☑ 16:00 ☑ 17:00 ☑ 18:00 ☑ 19:00 ☑ 20:00 ☑ 21:00 □ 22:00 □ 23:00

- (7a) Fields for selecting the time (hour)
- (8) "Register Solar.web" button Clicking this link opens the Fronius Solar.web start page; data relevant for Fronius Solar.web is automatically sent as well.
- (9) "Apply/Save" button
- (10) "Cancel/Discard entries" button

Settings – Service Messages

General Service messages, inverter errors, the Fronius String Control, etc., are sent to Fronius Datamanager and saved. The "Service messages" selection option is used to define how service messages are communicated. They can be communicated via:

- E-mail - SMS

- 3103

Service messages can be analyzed further using Fronius Solar.web.

Service Messag- es	Serv	vice messages
		✓ ×
		(13) (14)
		Message on
	(1)	E-Mail receiver: test@email.com (2)
		immediately (3) send test email (4)
	(5)	$ \frac{\text{daily at}}{(6) - (7)} = (8) $
	(0)	(9) daily at • 0:00 • (10) send test sms (11)
		Language DE (12)
	(1)	Message to e-mail recipient Activate to send service messages to one or more e-mail addresses
	(2)	Field for up to a max. of 10 e-mail addresses Separate e-mail addresses with ";"
	(3)	Selection field to determine whether the service message will be sent immediately via e-mail or at a specific time If "daily" is selected, the selection options for the time (hour) are also displayed.
	(4)	"Send test e-mail" button Sending a test e-mail may take several minutes.
	(5)	Message to SMS recipient Activate to send service messages as an SMS to a telephone number
	(6)	Field to enter the country code e.g.: +43 = country code for Austria
	(7)	Field to enter area code
	(8)	Field to enter the telephone number
	(9)	Field for sending daily
	(10)	Selection field for the time (hour) at which a service message is to be sent via SMS

- (11) "Send test SMS" button Sending a test SMS may take several minutes.
- (12) Selection field for the language in which the service message will be sent
- (13) "Apply/Save" button
- (14) "Cancel/Discard entries" button

Settings – Network

General The "Network" menu item is used to determine the type of internet connection (LAN or WLAN).

IMPORTANT! If the IP address is obtained statically, a gateway and a DNS server must be entered for the selected network interface.

Network Network interfaces × \checkmark (21)(22) Internet connection L_____ --- () (1) 💿 (2) 0 LAN (3) (4) C static @ dynamic Get address dm2-2 Host name (5) **IP-Address** (6)Subnet-mask 255.255.255.0 (7)(8) Gateway (9)**DNS-Server** WLAN (11) 🕄 Home Network Open, Channel:52 (12) (13)Local HotSpot d. Protected WPA2, Channel:52 (14)(10)StonisNetwork . Open, Channel:64 Add WLAN (15) Configure IP (16)(17)(18)

EN-US

- (1) Internet connection via LAN
- (2) Internet connection via WLAN

LAN

(3) Obtain IP address statically The user enters a fixed IP address for Fronius Datamanager and also manually sets the subnet mask, gateway address, and DNS server address (from the provider).

(4) Obtain IP address dynamically Fronius Datamanager obtains its IP address from a DHCP server (DHCP = dynamic host configuration protocol). The DHCP server must be configured as that Exercise Determoneger is elucive as

The DHCP server must be configured so that Fronius Datamanager is always assigned the same IP address. You will then always know the IP address at which Fronius Datamanager can be found.

If the DHCP server supports the "DNS dynamic updates" function, a name can be entered for Fronius Datamanager in the "Host name" field. The connection to Fronius Datamanager can then be established using the name instead of the IP address.

For example: Host name = sample_system, Domain name = fronius.com. The Fronius Datamanager can be reached via the address "sample_system.fronius.com".

- (5) Field for entering a host name for dynamically obtained IP address
- (6) Field for entering the IP address for static IP address
- (7) Field for entering the subnet mask for static IP address
- (8) Field for entering the gateway for static IP address
- (9) Field for entering the DNS server for static IP address

WLAN

- (10) Display of detected WLAN networks
- (11) "Refresh" button Used to search again for available WLAN networks
- (12) Display of signal qualityOne bar = low signal strengthThree bars = high signal strength
- (13) Network status Open/secured/saved (after pressing the "Setup" button (16))
- (14) Display of encryption WPA / WPA2 / WEP
- Add WLAN
 Used to display hidden networks
 Clicking this option opens the "WLAN connection" window

WLAN Connection	
Network: (15a)	My hidden network
Security:	WPA1/2 - (15b)
Enter password:	•••••• (15c)
Show password:	🔲 (15d)
(15e)	Save Cancel
	(15f)

- (15a) Name of hidden WLAN network
- (15b) Selection field for encrypting the hidden WLAN network
- (15c) Field for entering the password for the hidden WLAN network
- (15d) Selection field for whether the password is displayed
- (15e) "Save" button
- (15f) "Cancel" button
- (16) "Setup" button Used to save a selected WLAN network; Clicking this option opens the "WLAN connection" window

Home Netwo	rk (16a)
good (16b)
WPA2 (16c)	
•••••	(16d)
🔳 (16e)	
Save	Cancel
	Home Netwo good (16b WPA2 (16c) •••••• (16e) Save

- (16a) Name of selected WLAN network
- (16b) Signal strength of selected WLAN network
- (16c) Encryption of selected WLAN network
- (16d) Field for entering the password for the WLAN network
- (16e) Selection field for whether the password is displayed
- (16f) "Save" button
- (16 g) "Cancel" button
- (17) "Remove" button Used to delete a saved WLAN network
- (18) "Configure IP" button Clicking this option opens the "Configure IP" window

Configure IP	(3) (4)	
Get address	C static C dynamic	
Host name	meineanlage	(5)
IP-Address		(6)
Subnet-mask	255.255.255.0	(7)
Gateway		(8)
DNS-Server		(9)
	(19) ОК Салс (20)	el)

- (19) "OK" button
- (20) "Cancel" button
- (21) "Apply/Save" button
- (22) "Cancel/Discard entries" button

Settings – Energy Manager

General

The output I/O 1 can be used to control an actuator (e.g., relay, contactor) via the "Energy Manager" function. A load connected to I/O 1 can thus be controlled by assigning a power feed-dependent switch-on or switch-off point.

				~	×	
			((14)	(15)	
• Output IO-1				S	State: on	(16)
Controlling						
2010 x 2010 x 2008	(1) C deactivated					
	(2) • by power production					
	(3) by power surplus (in case of	feed-in I	imits)			
Thresholds						
	on:	(4)	1000	W		
	off:	(5)	500	W		
Duration		(-)				
and the second second	(6) 🔽 Minimum duration per on-sig	gnal:	1	minutes	(7)	
	(8) 🔽 Maximum duration per day:		60	minutes	(9)	
Desired du	ration					
(10)	per day:	(11)	10	minutes		
	is to finish until:	(12)	18 :	00	(13)	

Control

- (1) Control via Energy Manager is deactivated.
- (2) Control via Energy Manager is effected by the power generated.
- (3) Control via Energy Manager is effected by excess power (given feed limits). This option can only be selected if a counter has been connected. Control via Energy Manager is effected using the actual power of feeding in with respect to the grid.

Thresholds

(4) On:

For entering an effective power limit, at which the I/O 1 output is activated.

(5) Off: For entering an effective power limit, at which the I/O 1 output is deactivated.

Runtimes

(6) Field for activating the minimum runtime for each switch-on process

- (7) Field for entering a minimum time for which the output I/O 1 is to be activated for each switch-on process
- (8) Field for activating the maximum runtime per day
- (9) Field for entering a maximum time for which the output I/O 1 is to be activated in total per day (several switch-on processes are included).

Target runtime

- (10) Field for activating a target runtime
- (11) Field for entering a minimum time for which the output I/O 1 is to be activated in total per day (several switch-on processes are included)
- (12) Field for selecting the hour, if the target runtime is to be achieved by a certain time
- (13) Field for selecting the minute, if the target runtime is to be achieved by a certain time
- (14) "Apply/Save" button
- (15) "Cancel/Discard entries" button
- (16) Status display

If the mouse pointer is moved over the status, the reason for the current status is displayed.

If "by excess power" is selected under "Control", additional selection fields for Feed (3a) and Reference (3b) are displayed under "Thresholds":

Thresholds	(3) [©] by po	wer surplus (in case of feed-in limits)
in conordo	on:	(3a) Feed in 💽 1000 w (4)
	off:	(3b) Consumption - 500 w (5)

Settings – Push Service

Push Service

This function can be used to export current and log data in different formats or with different protocols to an external server.

			~	×
Add (3)			(1)	(2)
New FTP Service	o (5)		(4)	State: -
Name:	New FTP Service 0	- K		
Data format:	Demo Content	• by	FTP uploa	d 🕶 (
Interval:	10 sec 💽 activated 🔽			
Server:Port:	MyServer:21			
Upload file name:	/anypath/anyfile{DATE}{TIME}.any			(
Proxy	2			
Server:Port:	http://anyserver:8080			(
User:	anyuser			(
Password:	********			

- (1) "Apply/Save" button
- (2) "Cancel/Discard entries" button
- "Add" button
 Clicking this button adds a new push service job. The new job is saved by clicking the "Apply/Save" button (1).
- (4) Status Displays the current status of the push service job in question
- (5) Displayed name of push service job
- Area for entering general data: Name (name of push service job)
 File format
 Protocol type (FTP upload/HTTP POST)
 Interval
 Activation status
- Area for entering the target data: Server port Upload file name Login (user/password)

- (8) Area for entering the proxy data: Server port User Password
- (9) "Delete" button Clicking this button deletes the selected push service job

Further Information about the Push Service Function Further information about the push service function can be found in the following operating instructions:



http://www.fronius.com/QR-link/4204102152

42.0410.2152 Fronius Push Service

Modbus Settings

General

From your web browser, you can use the Fronius Datamanager web page to apply the Modbus connection settings which cannot be accessed via the Modbus protocol.

Additional Information on the Modbus Function For additional information on the Modbus function, please see the following operating instructions:



http://www.fronius.com/QR-link/4204101885

42,0410,1885 Fronius Modbus Card register tables



http://www.fronius.com/QR-link/4204102049

42,0410,2049 Fronius Datamanager Modbus connection



Data Output via Modbus

Activation of the Modbus service and selection of the transmission protocol. If the Modbus service is activated, additional entry fields are available.

The Modbus RTU transmission protocol is only available for Fronius Datamanager.

(1) **off** No data output via Modbus

(2) tcp

Data output via Modbus TCP

	(2)	
Data export via Modbus	O off [⊙] tcp	
Modbus port	502	(2a)
String control address offset	101	(2b)
Demo mode	□ (2c)	
Inverter control via Modbus	🗖 (2d)	

(2a) Modbus port

Number of the TCP port which must be used for Modbus communication.

(2b) Fronius String Control address offset

Offset value used to assign addresses to Fronius String Controls via Modbus. For further details, see the section entitled "Modbus Device ID for Fronius String Controls."

(2c) Demo mode

The demo mode is used to implement or validate a Modbus master. It enables you to read inverter and Fronius String Control data without actually connecting or activating a device. The same data is always sent back for all the registers.

(2d) Inverter control via Modbus

If this option is activated, the inverter can be controlled via Modbus. The "Limit Control" selection field is displayed.

Inverter control includes the following functions:

- On/off
- Power reduction
- Setting a constant power factor (cos phi)
- Setting a constant reactive power

(3) **Control priorities**

Used to specify which service is given priority by the inverter control unit.

1 = highest priority, 3 = lowest priority

The control priorities can only be changed in the UC EDITOR menu item.

(4) "Apply/Save" button

(5) "Cancel/Discard entries" button

Limit Control

The "Limit Control" option is only available for the TCP transmission protocols. It is used to block inverter control commands from unauthorized users by only permitting control for specific devices.

Inverter control via Modbus	\checkmark	
Restrict the control	\checkmark	(1)
IP adress	10.5.34.1 ×	(2)

(1) Limit Control

If this option is activated, only certain devices will be able to send control commands.

(2) IP address

To limit inverter control to one or more devices, enter the IP addresses of the devices which are permitted to send commands to Fronius Datamanager in this field. Multiple entries are separated by commas.

Examples:

- one IP address: 98.7.65.4
 - Control only permitted by IP address 98.7.65.4
- Several IP addresses: 98.7.65.4, 222.44.33.1
 - Control only permitted by IP addresses 98.7.65.4 and 222.44.33.1
- IP address range, e.g., from 98.7.65.1 to 98.7.65.254 (CIDR notation): 98.7.65.0/24
 - Control only permitted through IP addresses 98.7.65.1 to 98.7.65.254

Save	or	Rej	ect
Chan	ge	s	

Saves the changes and displays a message confirming this. If you exit the "Modbus" section without saving your changes, all the changes you have made will be rejected.



 \checkmark

Prompts you to confirm whether or not you wish to reject the changes you have made and then reinstates the most recently saved values.

Settings – Counter

General

IMPORTANT! Settings in the "Counter" menu item may only be entered by staff trained to do so!

The service password must be entered for the "Counter" menu item.

Counter

met	ersetungs		
		~	X
		(3)	(4)
Me	ter None selected (1)		
Cli	ck here for circuit diagrams of the meter installation (2)		
(1)	Field for selecting a counter: - None selected - S0 inverter (for Fronius Galvo,		
	Fronius Symo, and Fronius Primo inverters or	niy)	
(2)	Link to counter circuit diagrams		
(0)			

(3) "Apply/Save" button

Motor ootting

(4) "Cancel/Discard entries" button

(1)
Meter: S0 inverter 1 Impulses/kWh: 10000 (1c)
Location of the meter: [•] Feed-in point [•] Consumption path (1a) (1b)
Click here for circuit diagrams of the meter installation (2)

- (1a) Counter position at feed-in point The power of feeding in and energy are measured. The consumption is determined using these values and the system data. An S0 counter must be configured at this position in order to count the fed-in energy.
- (1b) Counter position in consumption branch The power consumed and energy are measured directly. The power of feeding in and energy are determined using these values and the system data. An S0 counter must be configured at this position in order to count the energy consumed.
- (1c) Field for entering the impulse per kWh



A counter for recording self-consumption per S0 can be connected directly to the inverter (Fronius Galvo and Fronius Symo only).

IMPORTANT! An S0 counter is connected to the switchable multifunctional current interface of the inverter. Connecting an S0 counter to the inverter may require an inverter firmware update.



Requirements for the S0 counter:

- Must meet standard IEC 62053-31 Class B
- Max. voltage: 15 V DC
- Max. current when ON: 15 mA
- Min. current when ON: 2 mA
- Max. current when OFF: 0.15 mA

Recommended max. impulse rate of S0 counter:

PV power kWp [kW]	Max. impulse rate per kWp
30	1000
30	2000
10	5000
≤ 5.5	10000

Settings – UC Editor

General

In the "UC Editor" menu item, settings relevant to a utility company are made. An effective power limit in % and/or a power factor limit can be set.

IMPORTANT! Settings in the "UC Editor" menu item may only be made by staff trained to do so!

The service password must be entered for the "UC Editor" menu item.

UC Editor – Ripple Control Signal Receiver

					(11) 🗸	×	(12
(1) Ripple cor	(2) ntrol signal receiver	(3)	(4)	(5)	(6)	(7)	
unlocked	Input pattern	Active power	Power factor coso	UC output	excluded inverter(s)		
00	<u>222</u> <u></u>			1/0 0			
		IN 100 %	D 1 C ind C cap			0	
N		₩ 60 %	□ 1 [©] ind [©] cap			0	
N		☑ 30 %	□ □ [©] ind [©] cap			0	
N		☑ 0 %	□ □			•	
		• %	C ind C cap			0	

UC Editor – Factory setting with 100%, 60%, 30%, and 0% effective power. The settings can be changed at any time.

- (1) Activating the rule
- (2) Input pattern (assignment of individual I/Os)
 - 1 click = white
 - 2 clicks = blue
 - 3 clicks = gray
- (3) First activate effective power, then enter the desired effective power as a %

(4) First activate power factor cos phi, then enter the desired power factor and select "ind" or "cap"

> ind = inductive cap = capacitive

- UC Output (feedback output)
 When the rule is activated, the I/O 0 output will be activated (e.g., for operating a signal device)
- (6) Excluded inverters Enter the numbers of inverters here that are to be excluded from control. Separate multiple inverters with commas.
- (7) Delete/Add a Rule
 + = add a new rule
 = delete selected rule
- (8) Legend for use of colors
- (9) Click "Import" button to import rules in *.fpc format

The function of the "Import" button depends on the browser used, e.g., Firefox and Google Chrome support the function.

- (10) Click "Export" button to save the rules separately in *.fpc format
- (11) "Apply/Save" button
- (12) "Cancel/Discard entries" button



NOTE! The print function of the web browser can be used to save the UC Editor settings as a PDF or print them out (e.g., as a commissioning report).

Connection Example

- (1) Ripple control signal receiver with 3 relays for effective power limitation
- (2) Ripple control signal receiver with 3 relays for power factor limitation
- (3) I/Os on Fronius Datamanager
- (4) Loads (e.g., signal light, signal relay)



The ripple control signal receiver and the Fronius Datamanager plug are connected to one another using a 4-pin cable in accordance with the connection diagram. For distances of greater than 10 m between Fronius Datamanager and the ripple control signal receiver, a shielded cable is recommended.

PSC C ind Cap 60 % 1 ~ 0 (1) 30 % C ind C cap ~ 0 C ind Cap ~ 0 % ~ 0 1 100 % 0.95 C ind o cap 0 ~ ~ ~ 100 % 0.9 C ind 🖲 cap ~ 0 (2) 🗹 0.85 C ind 🖲 cap 100 % ~ 0 ○ ind [©] cap 0 % ... contact open not usable ... not considered ... contact closed

Settings on the UC Editor:

UC Editor – Dy-
namic Power Re-
ductionUCs or utility companies can prescribe feed-in limits for an inverter (e.g., max. 70% of the
kWp or max. 5 kW).
Dynamic power reduction takes into account self-consumption in the household before the
power of an inverter is reduced:

- An individual limit can be set.
- A counter for determining self-consumption per S0 can be connected directly to the inverter (Fronius Galvo and Fronius Symo only).

Х (7) (6)Dynamic power reduction (1) (2) Power limit: O No limit O limit for entire system total DC power of the system: 1000 Wp (3) max. production power of entire system: 20 % 🔻 (4) (5) Power limit Option to define the maximum output power of the photovoltaic system. No limit (1) The photovoltaic system converts all available PV energy and feeds it into the grid. (2) Dynamic power reduction limit for the entire system The entire photovoltaic system is limited to a fixed power limit. (3) Field for entering the total DC system power in Wp This value is used as a control reference and also in case of errors (e.g., counter failure). (4) Field for entering the max. power in W or % If no counter has been selected in the "Counter" menu item: Max. power generated for the entire system If S0 inverter has been selected in "Counter" menu item: Max. energy fed into the grid (5) Selection field % or W (6) "Apply/Save" button "Cancel/Discard entries" button (7)


Controlling priority

	1	2	3	
Ripple control signal receiver	•	0	C	(1)
Dynamic power reduction	O	6	0	(2)
Controlling via Modbus	0	o	⊙	(3)

1 = highest priority, 3 = lowest priority

- (1) Used to set control priorities for the ripple control signal receiver
- (2) Used to set control priorities for dynamic power reduction
- (3) Used to set control priorities for control via Modbus
- (4) "Apply/Save" button
- (5) "Cancel/Discard entries" button

Appendix

Technical Data

Technical Data

Memory capacity	16 MB
Supply voltage	230 V AC
Energy consumption	typ. 1.4 W (without WiFi) typ. 2.2 W (with WiFi)
Dimensions	132 x 103 x 22 mm 5.2 x 4.1 x 0.9 in.
Ethernet (LAN)	RJ 45, 100 MB
WiFi	IEEE 802.11b/g Client
RS 485 (Fronius Solar Net)	RJ 45
Ambient temperature	-20 – +65°C -4 – +149°F
Solar Net power	approx. 3 W max. 3 DATCOM components *
I/O Connection Specifications	
Voltage level of digital inputs	low = min. 0 V – max. 1.8 V high = min. 3 V – max. 30 V
Input currents of digital inputs	depending on the input voltage; input resistance = 46 kOhm
Switching capacity of digital outputs when supplied by the Datamanager plug-in card	3.2 W, 10.7 V in total for all 4 digital outputs (minus other Solar Net participants)
Switching capacity of digital outputs when supplied by an external power supply with min. 10.7 – max. 24 V DC	1 A, 10.7 – 24 V DC (depending on the external power supply) per digital output
Max. switchable energy of digital outputs	76 mJ (per output)

When sufficient power is coming from Fronius Solar Net, the green LED lights up on every DATCOM component.

If the green LED does not light up, the power pack available from Fronius should be inserted into the 12 V power pack connection socket of the DATCOM component.

Check the cable and plug connections if necessary.

Fronius Worldwide - www.fronius.com/addresses

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