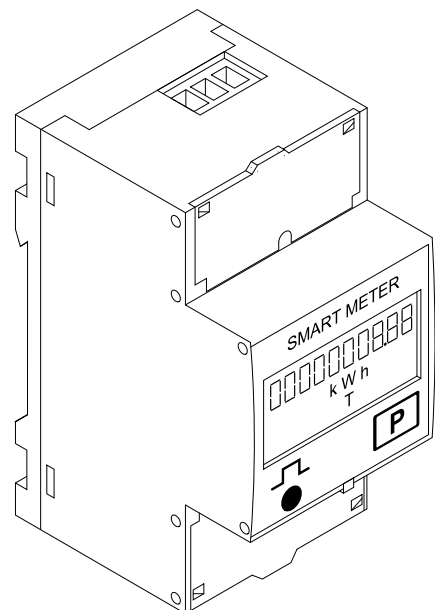


# Operating Instructions

## Fronius Smart Meter 63A-1



EN | Operating Instructions



42,0426,0294,EA

018-17062026



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# **General information**



# Safety information

---

## Explanation of warnings and safety instructions

**Warnings** are intended to warn people of possible injuries and to avoid personal injury and damage to the product. They relate to individual actions with and on the product.



### **DANGER!**

**Indicates an immediately dangerous situation.**

Serious injury or death will result if the danger is not avoided.

- Action step to escape the situation.



### **WARNING!**

**Indicates a potentially dangerous situation.**

Serious injury or death may result if the danger is not avoided.

- Action step to escape the situation.



### **CAUTION!**

**Indicates a potentially dangerous situation.**

Minor or moderate injury may result if the danger is not avoided.

- Action step to escape the situation.

### **NOTE!**

**Indicates a situation that may result in property damage.**

If the situation is not avoided, impaired work results, material damage to the product or other property are the possible consequences.

- Action step to avoid the situation.

**Safety instructions** are designed to ensure safe product use. They are preventive and help to inform users about the fundamental risks involved when dealing with the product. They do not refer specifically to individual actions with and on the product.

---

## Safety instructions and important information

The device has been manufactured in line with the state of the art and according to recognized safety standards.



### **WARNING!**

**Incorrect operation or misuse**

Serious to fatal injuries to the operator or third parties as well as damage to the device and other property of the operator may result.

- All persons involved in the commissioning, maintenance, and servicing of the device must be appropriately qualified and have knowledge of working with electrical installations.
- Read these operating instructions in full and follow them carefully and precisely.
- The operating instructions must always be kept to hand wherever the device is being used.

**IMPORTANT!**

In addition to the operating instructions, observe the following general and local rules:

- Accident prevention
- Fire protection
- Environmental protection

**IMPORTANT!**

Labels, warning notices, and safety symbols are located on the device. A description can be found in these operating instructions.

**IMPORTANT!**

All safety and danger notices on the device:

- Must be kept in a legible state
- Must not be damaged/marked
- Must not be removed
- Must not be covered, have anything stuck on them, or painted over

**WARNING!****Tampered-with and non-functioning protection devices**

Serious to fatal injuries as well as damage to the device and other property of the operator may result.

- ▶ Never bypass or disable protection devices.
- ▶ Any protection devices that are not fully functional must be repaired by an authorized specialist before the device is switched on.

**WARNING!****Loose, damaged, or under-dimensioned cables**

An electric shock can be fatal.

- ▶ Use undamaged, insulated, and adequately dimensioned cables.
- ▶ Fasten the cables according to the specifications in the operating instructions.
- ▶ Loose, damaged, or under-dimensioned cables must be repaired or replaced immediately by an authorized specialist.

**NOTE!****Installations or modifications to the device**

The device may be damaged

- ▶ Do not carry out any alterations, installations, or modifications to the device without first obtaining the manufacturer's permission.
- ▶ Damaged components must be replaced.
- ▶ Only use original spare parts.

---

**Environmental conditions**

Operation or storage of the machine outside the stipulated area will be deemed as not in accordance with the intended purpose.

For exact information on permitted environmental conditions, please refer to the technical data.



# General

---

## Device description

The Fronius Smart Meter is a bidirectional electricity meter for optimizing self-consumption and recording a household's load characteristic curve. Together with a Fronius inverter or Fronius Datamanager 2.0 and a Fronius data interface, the Fronius Smart Meter allows you to view your own power consumption. The meter measures the energy flow to the loads or to the public grid and forwards the information to the Fronius inverter or Fronius Datamanager 2.0 via the Modbus RTU/RS485 interface.



### CAUTION!

#### **Danger due to non-compliance with the safety instructions**

Risk of injury and damage to the device as a result.

- ▶ Follow all safety instructions.
- ▶ Switch off the power supply before establishing the mains connection.

---

## Information on the device

Technical data, labels, and safety symbols are located on the Fronius Smart Meter. This information must be kept in a legible condition and must not be removed, covered, painted over, or concealed by stickers or labels. The notices and symbols warn against incorrect operation that may result in serious injury and damage.

### **Symbols on the rating plate:**



#### **CE label**

The equipment complies with all the requisite and relevant standards and directives that form part of the relevant EU directive, and therefore is permitted to display the CE label.



#### **RCM (Regulatory Compliance Mark)**

All relevant regulatory requirements in Australia and New Zealand are complied with in terms of safety and electromagnetic compatibility, as well as special requirements for radio equipment.



#### **WEEE label**

To comply with European Directive 2012/19/EU on Waste Electrical and Electronic Equipment and its implementation as national law, electrical equipment that has reached the end of its life must be collected separately and returned to an approved recycling facility. Any device that you no longer require must be returned to your distributor, or you must locate the approved collection and recycling facilities in your area. Ignoring this European Directive may have potentially adverse effects on the environment and your health.

---

## How information is presented in the document

The conventions regarding how information is presented in the document, which are set out below, have been defined in order to increase the readability and comprehensibility of the document.

### **Application notes**

**IMPORTANT!** Indicates application notes and other useful information. It does not indicate a harmful or dangerous situation.

## Software

Software functions and elements of a graphical user interface (e.g., buttons, menu items) are highlighted in the text with this **mark up**.

Example: Click **Save**.

## Instructions for action

**1** Action steps are displayed with consecutive numbering.

- ✓ *This symbol indicates the result of the action step or the entire instruction.*

---

## Target group

This document provides detailed information and instructions to ensure that people can use the machine safely and efficiently.

The information is intended for the following groups of people:

- **Technical specialists:** People with appropriate qualifications and fundamental knowledge of electronics and mechanics. The activities of a technical specialist include installation, operation, maintenance, and service work.
- **User:** People that use the machine in daily operation and want to understand its basic functions.

Regardless of any qualifications, only perform the activities listed in this document.

The definition of professional qualifications and their applicability are subject to national law.

---

## Data security

With regard to data security, the user is responsible for:

- Backing up any changes made to the factory settings
- Saving and storing personal settings

### NOTE!

#### Data security for network and Internet connection

Unsecured networks and a lack of safeguards can result in data loss and unauthorized access. Observe the following points for safe operation:

- ▶ Operate inverters and system components on a private, secure network. A WiFi network is considered secure if security standard WPA 2 is satisfied as a minimum.
- ▶ Keep the network devices (e.g., WiFi routers) up to date with the latest technology.
- ▶ Keep the software and/or firmware updated.
- ▶ Use a wired network to ensure a stable data connection.
- ▶ For security reasons, do not make inverters and system components accessible from the Internet via port forwarding or Port Address Translation (PAT).
- ▶ Use the solutions provided by Fronius for monitoring and remote configuration.
- ▶ The optional communication protocol Modbus TCP/IP<sup>1)</sup> is an unsecured interface. Only use Modbus TCP/IP if no other secured data communication protocol (MQTT<sup>2)</sup>) is possible (e.g., compatibility with older Smart Meters).

- 1) TCP/IP - Transmission Control Protocol/Internet Protocol  
2) MQTT - Message Queuing Telemetry Protocol
- 

## Privacy policy

When you connect your device (and any associated devices) to the internet, the following device and operating data (device ID/identifier, device IP address, device time, configuration settings, hardware and software information, device status log files, serial number) is sent automatically to

Fronius International GmbH, Froniusstraße 1, 4643 Pettenbach, Austria, telephone +43(0) 7242241-0, email: [contact@fronius.com](mailto:contact@fronius.com) (controller)

and stored.

The processing of this device and operating data is carried out for the purpose of ensuring the operational safety of the device (time synchronization, provision of updates). This processing is therefore necessary for the functionality of the device and thus for the fulfillment of the contract (Art. 6 (1) (b) GDPR).

If you do not wish to have such data processed, you must manually disable the device's internet connection.

In addition, the device and operating data is also processed for the purpose of providing services as part of a supplementary digital service for your device (such as solar.web or similar) as soon as you have registered your device with such a digital service (identification). This data is processed to provide the requested digital services and is therefore necessary for the fulfillment of the contract (Art. 6 (1) (b) GDPR).

Furthermore, this data processing is also carried out for maintenance and support purposes and for handling customer concerns as well as in warranty and guarantee cases (only in individual cases and given connection between device and internet). In this context, the device and operating data may also be passed on to our cooperation partners (third-party providers and suppliers). The processing of this data is necessary for maintenance and support purposes or for processing warranty and guarantee cases and thus for the fulfillment of the contract (Art. 6 (1) (b) GDPR).

Device and operating data are also processed for analysis and diagnostic purposes in order to gain insights into the functionality of the devices and improve them accordingly. This data processing is based on our legitimate interest (Art. 6 (1) (f) GDPR).

We store this data for as long as it is necessary to fulfill the existing contract with you. Any storage beyond this is carried out for legal reasons or if we have a legitimate interest in doing so. For more information on data processing for the solar.web-digital service, as well as our general privacy policy and your rights as a data subject, please visit <https://www.fronius.com>.

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## Copyright

Fronius International GmbH retains the copyrights of these operating instructions.

Text, illustrations, and other media correspond to the technical state of the art at the time of publication. Fronius reserves the right to make changes. If you have any suggestions for improvement or have found a mistake in this document, we would be most grateful for your comments.

# Installation

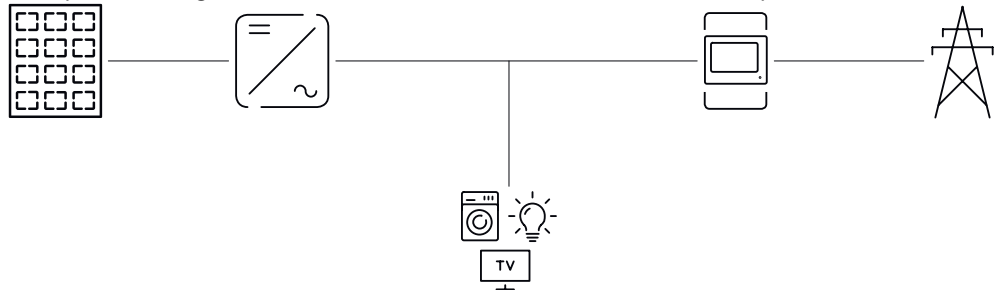
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## Positioning

The Fronius Smart Meter can be installed at two possible locations in the system, at the feed-in point and at the consumption point.

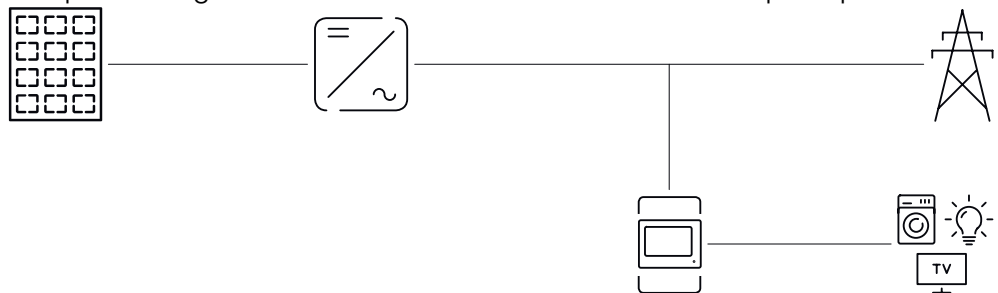
### Positioning at the feed-in point

The positioning of the Fronius Smart Meter at the feed-in point.



### Positioning at the consumption point

The positioning of the Fronius Smart Meter at the consumption point.



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## Checklist for installation

For installation information, see the following chapters:

- 1** Switch off the power supply before establishing a grid connection.
- 2** Mount the Fronius Smart Meter (see [Mounting](#) on page 13).
- 3** Connect automatic circuit breakers or automatic circuit breakers and disconnectors (see [Protective circuit](#) on page 13).
- 4** Connect the mains cable to the Fronius Smart Meter (see [Cabling](#) on page 13).
- 5** Connect the output terminals of the Fronius Smart Meter to the Fronius inverter (see [Connecting the data communication cable to the inverter](#) on page 14).
- 6** If necessary, set terminating resistors (see [Terminating resistors](#) on page 15).
- 7** Tug on each wire and plug to make sure that they are securely connected to the terminal blocks.

- 8** Switch on the power supply to the Fronius Smart Meter.
- 9** Check the firmware version of the Fronius inverter. To ensure compatibility between the inverter and the Fronius Smart Meter, the software must always be kept up to date. The update can be started via the inverter web page or using Solar.web.
- 10** If several Fronius Smart Meters are installed in the system, set the address (see "Setting the address" under [Setting the address of the Fronius Smart Meter](#) on page 21).
- 11** Configure and commission the meter (see [Commissioning](#) on page 25).

---

## Mounting

The Fronius Smart Meter can be mounted on a 35 mm DIN rail. The housing comprises two modules according to DIN 43880.

---

## Protective circuit

The Fronius Smart Meter is a hard-wired device and requires a disconnecting device (circuit breaker, switch, or disconnecter) and overcurrent protection (automatic circuit breaker).

The Fronius Smart Meter consumes just 10-30 mA, so that the nominal capacity of all switches, disconnectors, fuses, and/or automatic circuit breakers is determined by the wire gauge, mains voltage, and required breaking capacity.

- Switches, disconnectors, and circuit breakers must be within sight and located as close as possible to the Fronius Smart Meter; they must also be easy to use.
- Use automatic circuit breakers that are rated for max. 63 A.
- To monitor more than one mains voltage, use connected automatic circuit breakers.
- The automatic circuit breakers must protect the grid terminal, which is marked L1. In rare cases where the neutral conductor has overcurrent protection, the overcurrent protection device must interrupt both neutral and non-grounded cables concurrently.
- The circuit protection/disconnecting device must satisfy the requirements of IEC 60947-1 and IEC 60947-3, as well as all national and local regulations for electrical systems.

---

## Cabling



### WARNING!

#### **Danger from mains voltage.**

An electric shock can be fatal.

- Switch off the power supply before connecting the mains voltage inputs to the Fronius Smart Meter.

### **IMPORTANT!**

Do not install more than one cable per screw terminal. If necessary, use terminal blocks.

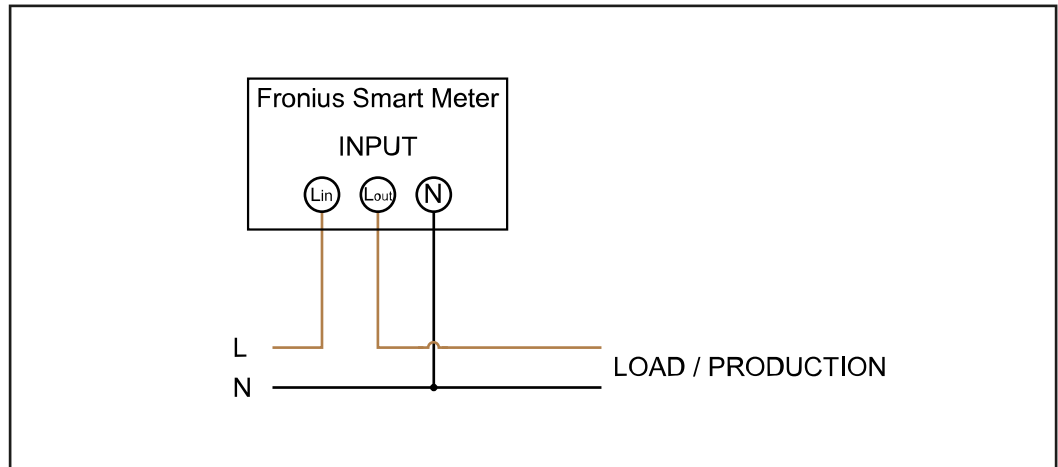
Current path connection cross-section:

- Wire (rigid): min. 1 mm<sup>2</sup> / max. 16 mm<sup>2</sup>
- Wire (flexible): min. 1 mm<sup>2</sup> / max. 10 mm<sup>2</sup>
- Recommended torque: 1.2 Nm / max. 1.4 Nm

Data communication and neutral conductor connection cross-section:

- Wire (rigid): min. 0.05 mm<sup>2</sup> / max. 4 mm<sup>2</sup>
- Wire (flexible): min. 0.05 mm<sup>2</sup> / max. 2.5 mm<sup>2</sup>
- Recommended torque: 0.5 Nm / max. 0.8 Nm

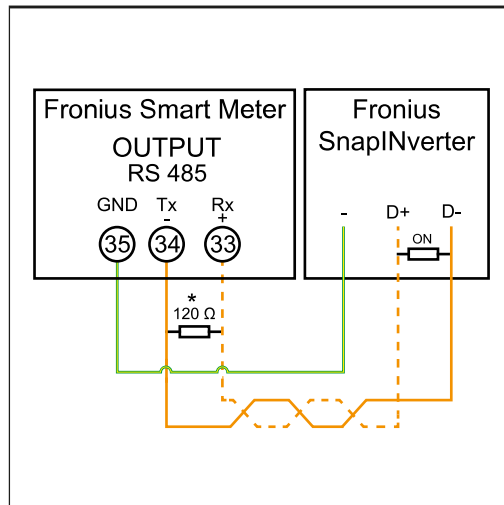
Connect each voltage cable to the terminal strip as shown in the graphic below.



#### Connecting the data communication cable to the inverter

##### Fronius SnapINverter:

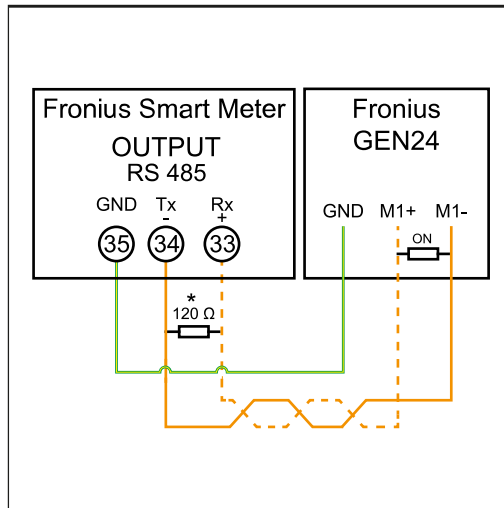
Connect the data communication connections of the Fronius Smart Meter to the Fronius system monitoring in the inverter. Several Smart Meters can be installed in the system, see chapter [Multi meter system—Fronius SnapINverter](#) on page 18.



- 1 Connect **35** to **-**.
- 2 Connect **34** to **D+**.
- 3 Connect **33** to **D+**.

##### Fronius GEN24 inverter:

Connect the data communication connections of the Fronius Smart Meter to the Modbus interface of the Fronius GEN24 inverter. Several Smart Meters can be installed in the system, see chapter [Multi meter system - Fronius GEN24 inverter](#) on page 20.



- 1 Connect **35** to **GND**.
- 2 Connect **34** to **M1-**.
- 3 Connect **33** to **M1+**.

### IMPORTANT!

#### More information on successful commissioning.

Note the following information about connecting the data communication cable to the inverter.

- ▶ Use cables of type CAT5 or higher.
- ▶ The maximum cable length between the Fronius inverter and Fronius Smart Meter is 300 meters.
- ▶ Use a mutual twisted cable pair for data lines that belong together (D+, D- and M1+, M1-).
- ▶ If the output cables are close to the grid cabling, use wires or cables that are designed for 300 V to 600 V (never less than the operating voltage).
- ▶ Use double-insulated or sheathed output cables when they are close to bare conductors.
- ▶ Use shielded twisted pair cables to avoid faults.
- ▶ The outputs of the Fronius Smart Meter are electrically isolated from hazardous voltages.

#### Terminating resistors - explanation of symbols



#### Inverter in the system

z. e.g., Fronius Symo



#### Meter - Fronius Smart Meter

Terminating resistor R 120 Ohm is included in the scope of supply.



#### Fronius or third-party device, connection via Modbus RTU

e.g., Fronius Ohmpilot, battery, etc.



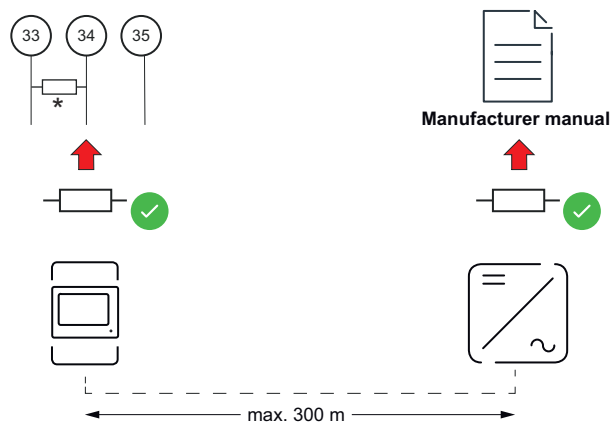
#### Terminating resistor

R 120 Ohm

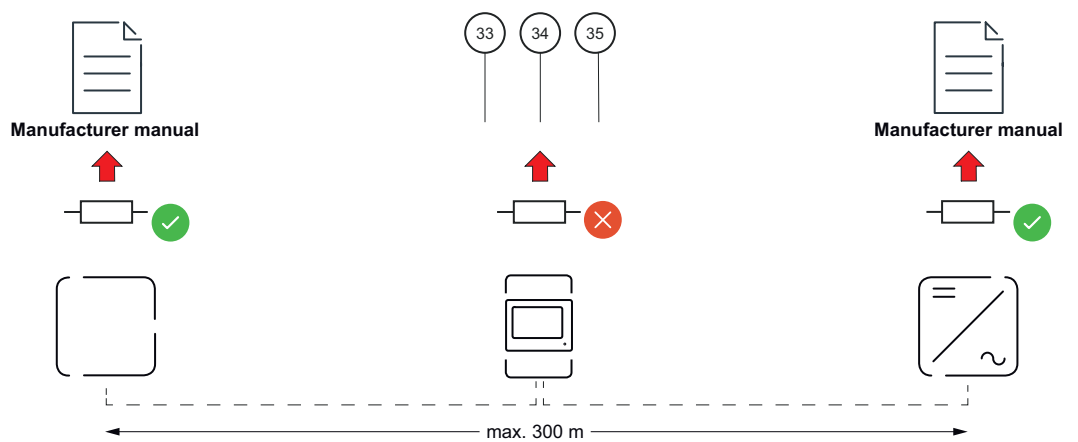
#### Terminating resistors

Due to interference, the use of terminating resistors according to the following overview is recommended for flawless operation.

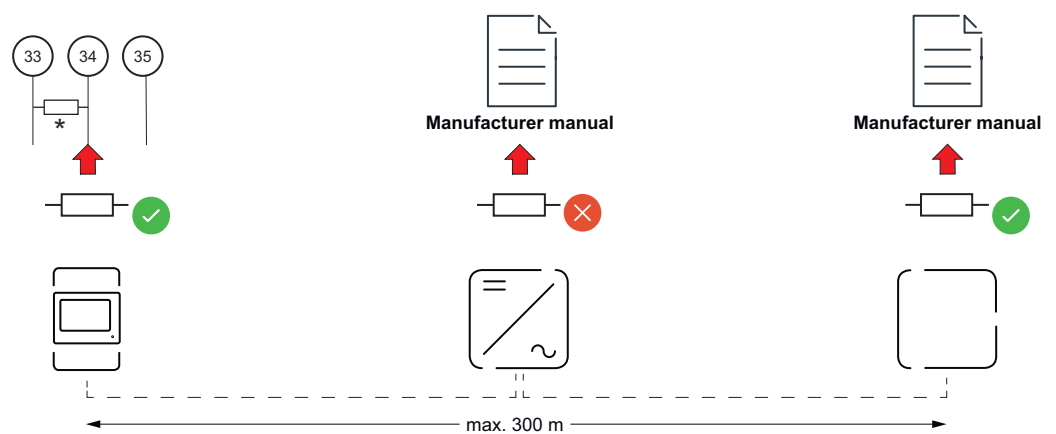
**OPTION 1**



**OPTION 2**

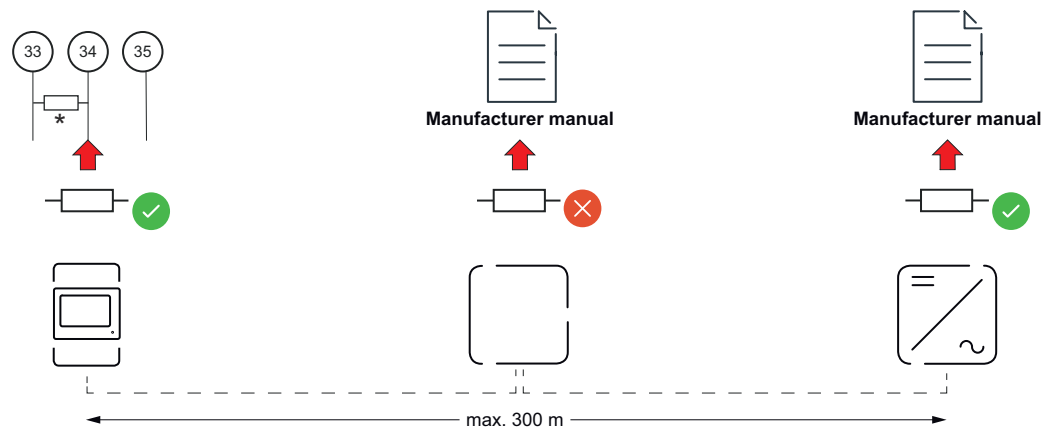


**OPTION 3**





#### OPTION 4



\* The terminating resistor on the Fronius Smart Meter is installed between **33** and **34**. The terminating resistor R 120 Ohm is included with the Fronius Smart Meter.

#### Multi meter system - Explanation of symbols



##### Grid

supplies the loads in the system if insufficient power is being generated by the PV modules or supplied by the battery.



##### Inverter in the system

e.g., Fronius Primo, Fronius Symo, etc.



##### Fronius Smart Meter

measures the metering data relevant for the billing of electricity quantities (grid consumption and grid feed-in). Based on the relevant billing data the electricity retailer will invoice for the energy sourced from the grid and the purchaser of the surplus energy will reimburse the energy fed into the grid.



##### Primary meter

records the load curve of the system and makes the measured data available for energy profiling in Fronius Solar.web. The primary meter controls the dynamic power of feeding in.



##### Secondary meter

records the load curve of individual generators and loads in the consumption branch and makes the measured data available for energy profiling in Fronius Solar.web.



##### Modbus RTU, third-party device

e.g., Fronius Ohmpilot, battery, etc.



##### Loads in the system

e.g., washing machine, lights, television, etc.



##### Additional loads in the system

e.g., heat pump



##### Additional producers in the system

e.g., wind power plant



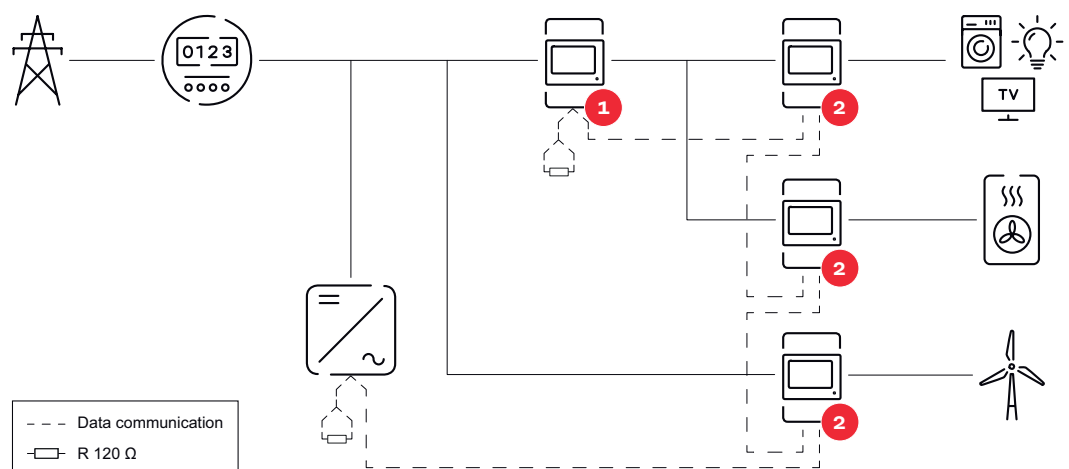
A maximum of 4 Modbus stations can be connected to the Modbus connection terminal.

Only one primary meter, one battery and one Ohmpilot can be connected per inverter. Due to the high data transfer of the battery, the battery occupies 2 subscribers.

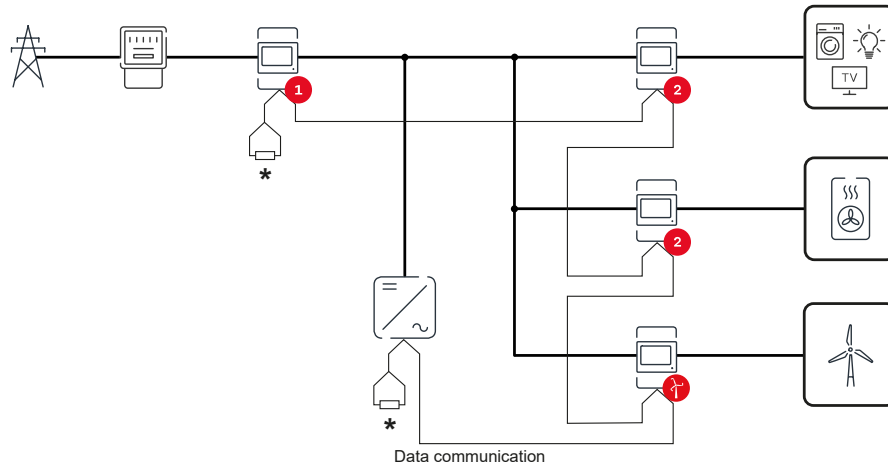
| Input  | Battery                                                                           | Fronius Ohmpilot                                                                  | Number of primary meters | Number of secondary meters |
|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|----------------------------|
| Modbus |  |  | 1                        | 0                          |
|        |  |  | 1                        | 1                          |
|        |  |  | 1                        | 2                          |
|        |  |  | 1                        | 3                          |

If several Fronius Smart Meters are installed, set a separate address for each Smart Meter. The primary meter always receives the address 1. Number all other meters consecutively in the address range from 2 to 14. Different Fronius Smart Meter power categories can be used together.

To avoid interference, install the terminating resistors as described in chapter [Terminating resistors](#).



Position of the primary meter in the consumption branch. \*Terminating resistor R 120 Ohm



Position of the primary meter at the feed-in point. \*Terminating resistor R 120 Ohm

**Observe the following in a multi meter system:**

- Each Modbus address is assigned only once.
- Place the terminating resistors individually for each channel.

**Modbus participant - Fronius GEN24**

The inputs M0 and M1 can be freely selected. A maximum of 4 Modbus participants can be connected to the Modbus terminal on the inputs M0 and M1.

**IMPORTANT!**

Only one primary meter, one battery and one Ohmpilot can be connected per inverter. Due to the high data transfer of the battery, the battery occupies 2 subscribers.

**Example 1:**

| Input         | Battery | Fronius Ohmpilot | Number of primary meters | Number of secondary meters |
|---------------|---------|------------------|--------------------------|----------------------------|
| Modbus 0 (M0) | ✗       | ✗                | 0                        | 4                          |
|               | ✓       | ✗                | 0                        | 2                          |
|               | ✓       | ✓                | 0                        | 1                          |
| Modbus 1 (M1) | ✗       | ✗                | 1                        | 3                          |

**Example 2:**

| Input         | Battery | Fronius Ohmpilot | Number of primary meters | Number of secondary meters |
|---------------|---------|------------------|--------------------------|----------------------------|
| Modbus 0 (M0) | ✗       | ✗                | 1                        | 3                          |

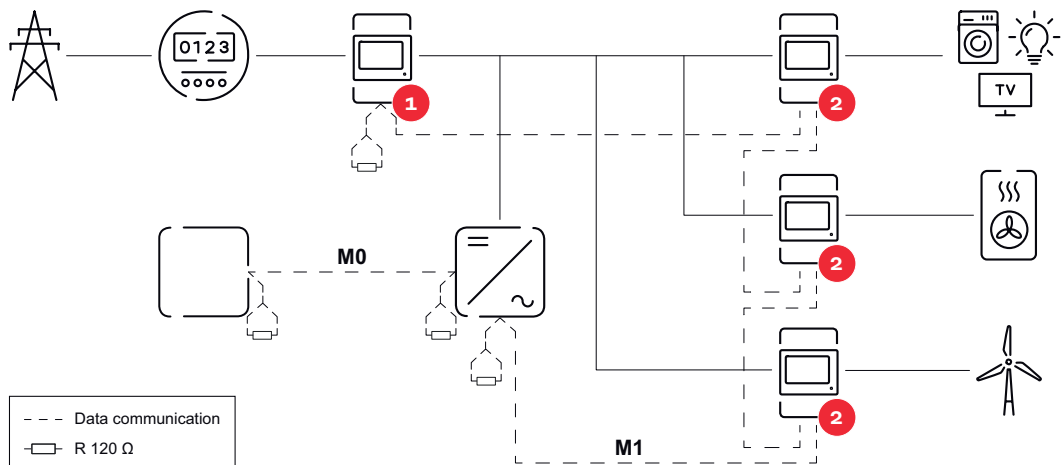
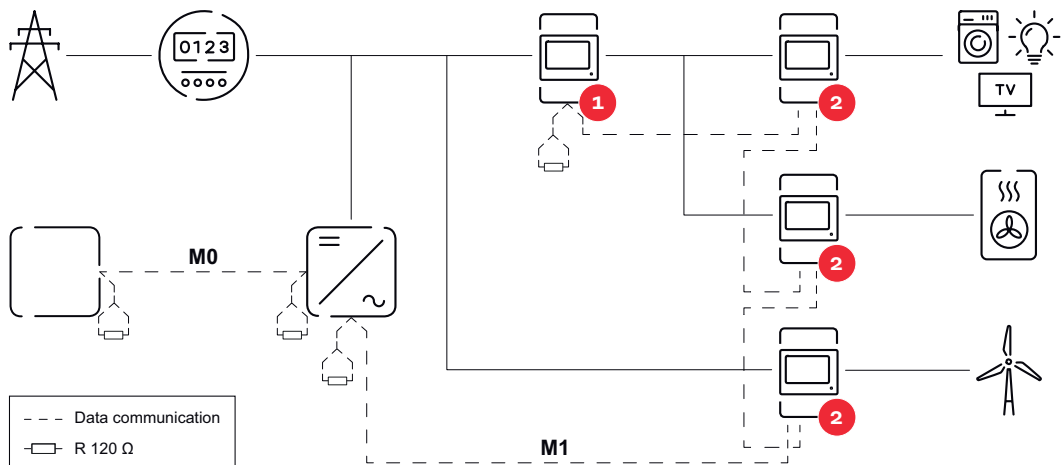
| Input         | Battery | Fronius Ohmpilot | Number of primary meters | Number of secondary meters |
|---------------|---------|------------------|--------------------------|----------------------------|
| Modbus 1 (M1) | ✗       | ✗                | 0                        | 4                          |
|               | ✓       | ✗                | 0                        | 2                          |
|               | ✓       | ✓                | 0                        | 1                          |

### Multi meter system - Fronius GEN24 inverter

If several Fronius Smart Meters are installed, a separate address must be set for each one (see [Setting the address of the Fronius Smart Meter](#) on page 21). The primary meter always receives the address 1. All other meters are numbered consecutively in the address range from 2 to 14. Different Fronius Smart Meter power categories can be used together.

#### IMPORTANT!

Use no more than 7 secondary meters in the system. To avoid interference, it is recommended to install the terminating resistors according to the chapter [Terminating resistors](#) on page 15.



**The following must be observed in a multi meter system:**

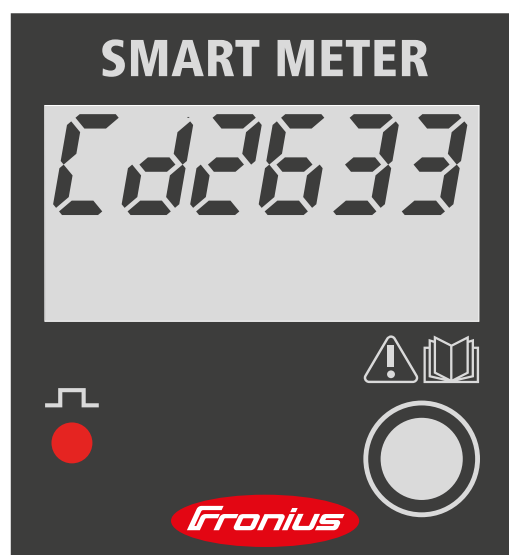
- Connect the primary meter and the battery to different channels (recommended).
- Distribute the remaining Modbus participants evenly.
- Each Modbus address is assigned only once.
- Place the terminating resistors individually for each channel.

**Menu structure**

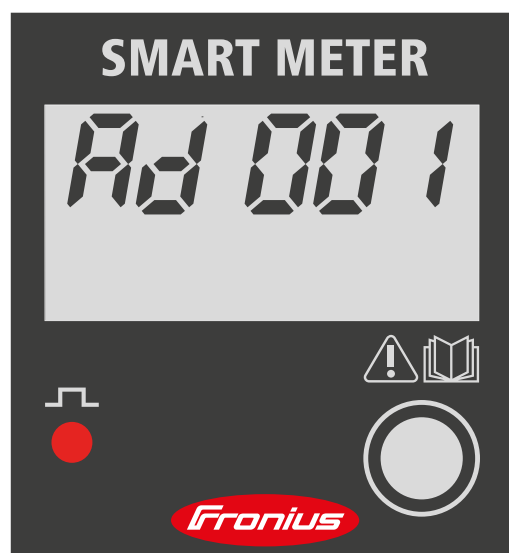
A graphic view of the menu structure can be found in the User Information that is supplied as standard.

**Setting the address of the Fronius Smart Meter**

| Symbol                                                                            | Name | Event                                                                                       | Function                       |
|-----------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------|--------------------------------|
|  | Prog | 1 x        | Increases the set value        |
|  | Prog | 2 seconds  | Proceeds to the next menu item |



- 1 Press "Prog" for 2 seconds to call up code entry.
- 2 Enter the password "2633". Increase the value with "Prog".



- 3 Press "Prog" for 2 seconds to change to the menu item "Ad" (address).
- 4 Set the relevant address.
  - Permissible values: 1 - 14

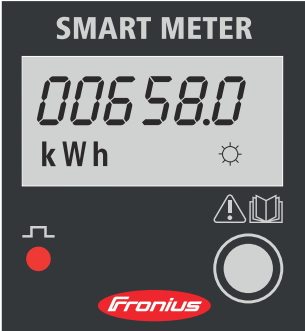
**IMPORTANT!**

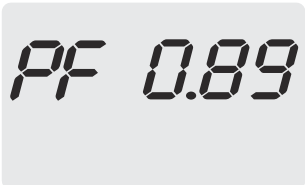
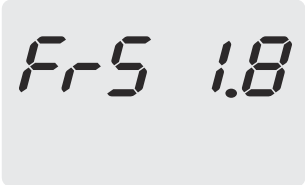
Skip all other settings and leave them unchanged.

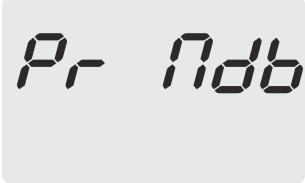
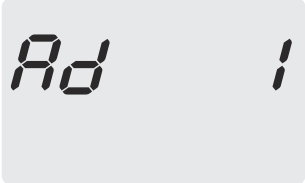
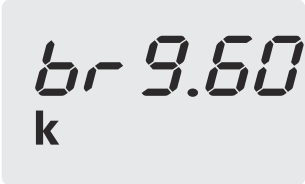
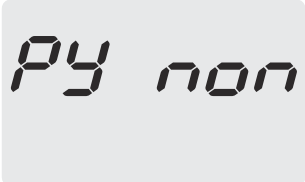
Reading the  
Fronius Smart  
Meter operating  
parameters

| Symbol                                                                            | Name | Event                                                                                       | Function                               |
|-----------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------|----------------------------------------|
|  | Prog | 1 x        | Continue to the next screen            |
|  | Prog | 2 seconds  | Reset value / switch to basic settings |

The following illustrations are symbolic representations. The values displayed vary for each individual unit.

| Display                                                                             | Description                                                                |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
|    | Total active energy consumed                                               |
|   | Total active energy produced<br><br>Press for 2 seconds to reset the value |
|  | Total reactive energy                                                      |
|  | Partial reactive energy                                                    |
|  | Current<br><br>Press for 2 seconds to reset the value                      |
|  | Voltage                                                                    |

| Display                                                                             | Description                                                                                                                                          |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Effective power                                                                                                                                      |
|    | Reactive power                                                                                                                                       |
|    | Apparent power                                                                                                                                       |
|   | Frequency                                                                                                                                            |
|  | Power factor                                                                                                                                         |
|  | Operating hours<br><br>Press for 2 seconds to reset the value                                                                                        |
| Display                                                                             | Description                                                                                                                                          |
|  | Internal operating data<br><br>Press to return to the "Total active energy consumed" display.<br><br>Press for 2 seconds to go to the basic settings |

| Display                                                                             | Description            |
|-------------------------------------------------------------------------------------|------------------------|
|    | Protocol communication |
|    | Address RS485          |
|    | Speed RS485            |
|   | Parity bit             |
|  | Version                |



# **Commissioning**



# Fronius SnapInverter

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## General

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

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

Three-phase or one-phase Fronius Smart Meters may be used. In both cases, selection is made via the "Fronius Smart Meter" item. The Fronius Datamanager automatically detects the meter type.

One primary meter and several secondary meters can be selected. The primary meter must be configured before a secondary meter can be chosen.

---

## Connect to Fronius Datamanager 2.0

### Access Point:

Activate the WiFi access point of the inverter:

- 1** Select the **Setup** menu on the inverter display.
- 2** Navigate to **WiFi Access Point**.
  - ✓ Network (**SS**) and password (**PW**) are displayed.
- 3** Activate the **WiFi Access Point** with the Enter ↵ key.

Establish the connection from the inverter's WiFi access point to the PC:

- 1** Establish the connection to the inverter in the network settings (the inverter is displayed with the name "Fronius\_240.XXXXXX").
  - 2** Enter and confirm the password from the inverter display.
  - 3** In the browser's address bar, enter the IP address <http://192.168.250.181> and confirm.
- ✓ The Fronius Datamanager 2.0 start page is displayed.
- 

### LAN:

- 1** Connect the Fronius Datamanager and computer with a LAN cable.
  - 2** Place the Fronius Datamanager 2.0 IP switch in the "A" position.
  - 3** In the browser's address bar, enter the IP address <http://169.254.0.180> and confirm.
- 

## Configuring the Fronius Smart Meter as the primary meter

- 1** Go to the Fronius Datamanager website.
  - Open the web browser.
  - In the address bar of the browser, enter the IP address (IP address for WLAN: 192.168.250.181, IP address for LAN: 169.254.0.180) or the host and domain name of the Fronius Datamanager and confirm.
  - The Fronius Datamanager website will be displayed.
- 2** Click the **"Settings"** button.
- 3** Log in to the login area with the **"service"** user and the service password.
- 4** Open the **"Meter"** menu area.
- 5** Select the primary meter from the drop-down list.
- 6** Click the **"Settings"** button.

- 7 In the pop-up window, set the position of the meter (feed-in point or consumption point). For more information on the position of the Fronius Smart Meter, see [Positioning](#) on page 12.
- 8 Click the **"Ok"** button when the OK status is displayed. If the *Timeout* status is displayed, try again.
- 9 Click the ☒ button to save the settings.

The Fronius Smart Meter is configured as a primary meter.

The **"Current general view"** menu area displays the power of the PV modules, self-consumption, the energy fed into the grid, and the battery charge (if available).

---

### Configuring the Fronius Smart Meter as a secondary meter

- 1 Go to the Fronius Datamanager website.
  - Open the web browser.
  - In the address bar of the browser, enter the IP address (IP address for WLAN: 192.168.250.181, IP address for LAN: 169.254.0.180) or the host and domain name of the Fronius Datamanager and confirm.
  - The Fronius Datamanager website will be displayed.
- 2 Click the **"Settings"** button.
- 3 Log in to the login area with the **"service"** user and the service password.
- 4 Open the **"Meter"** menu area.
- 5 Select the secondary meter from the drop-down list.
- 6 Click the **"Add"** button.
- 7 Enter the name of the secondary meter in the **"Name"** input field.
- 8 Enter the previously assigned address in the **"Modbus address"** input field.
- 9 Add meter description.
- 10 Click the ☒ button to save the settings.

The Fronius Smart Meter is configured as a secondary meter.

# Fronius GEN24 inverter

## General

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

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

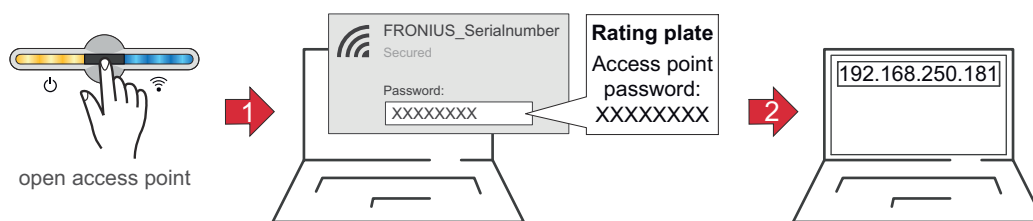
Three-phase or one-phase Fronius Smart Meters may be used. In both cases, selection is made via the "Components" menu area. The meter type is determined automatically.

One primary meter and several secondary meters can be selected. The primary meter must be configured before a secondary meter can be chosen.

## Installation with the browser

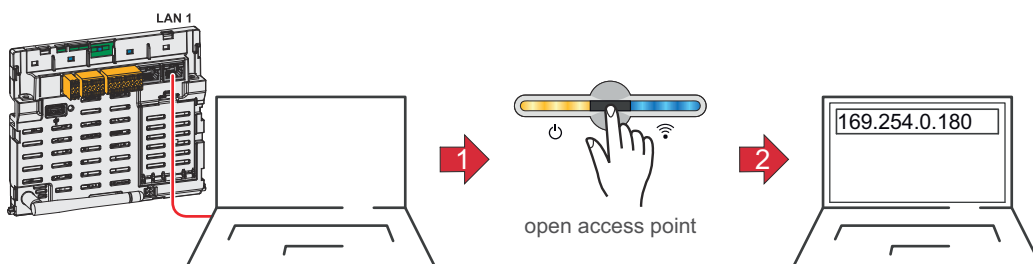
The network wizard and product setup can be performed independently. A network connection is required for the Fronius Solar.web installation wizard.

### WiFi:



- 1 Open the access point by touching the sensor .  
✓ *Communication LED flashes blue.*
- 2 Establish the connection to the inverter in the network settings (the inverter is displayed with the name "FRONIUS\_" and the serial number of the device).
- 3 Enter the password from the rating plate and confirm.  
**IMPORTANT!**  
To enter the password, first select the **Connect using a security key instead** link in order to establish the connection with the password.
- 4 Enter the IP address 192.168.250.181 in the address bar of the browser and confirm. The installation wizard opens.
- 5 Follow the installation wizard and complete the installation in the individual areas.
- 6 Add the system components in Fronius Solar.web and commission the PV system.

### Ethernet:



- 1 Establish a connection to the inverter (LAN1) using a network cable (min. CAT5 STP).
- 2 Open the access point by touching the sensor once .  
✓ *Communication LED flashes blue.*
- 3 Enter the IP address 169.254.0.180 in the address bar of the browser and confirm. The installation wizard opens.
- 4 Follow the installation wizard and complete the installation in the individual areas.
- 5 Add the system components in Fronius Solar.web and commission the PV system.

---

### Configuring the Fronius Smart Meter as the primary meter

- 1 Access the inverter website.
  - Open the web browser.
  - In the address bar of the browser, enter the IP address (IP address for WLAN: 192.168.250.181, IP address for LAN: 169.254.0.180) or the host and domain name of the inverter and confirm.
  - The inverter website is displayed.
- 2 Click the **"Device configuration"** button.
- 3 Log in to the login area with the **"Technician"** user and the technician password.
- 4 Access the **"Components"** menu area.
- 5 Click the **"Add component"** button.
- 6 In the **"Position"** drop-down list, set the position of the meter (feed-in point or consumption point). For more information on the position of the Fronius Smart Meter, see [Positioning](#) on page 12.
- 7 Click the **"Add"** button.
- 8 Click the **"Save"** button to save the settings.

The Fronius Smart Meter is configured as a primary meter.

---

### Configuring the Fronius Smart Meter as a secondary meter

- 1 Access the inverter website.
  - Open the web browser.
  - In the address bar of the browser, enter the IP address (IP address for WLAN: 192.168.250.181, IP address for LAN: 169.254.0.180) or the host and domain name of the inverter and confirm.
  - The inverter website is displayed.
- 2 Click the **"Device configuration"** button.
- 3 Log in to the login area with the **"Technician"** user and the technician password.
- 4 Access the **"Components"** menu area.
- 5 Click the **"Add component"** button.
- 6 In the **"Position"** drop-down list, select the meter type (producer/load meter).
- 7 Enter the previously assigned address in the **"Modbus address"** input field.
- 8 Enter the name of the meter in the **"Name"** input field.
- 9 In the **"Category"** drop-down list, select the category (producer or load).
- 10 Click the **"Add"** button.
- 11 Click the **"Save"** button to save the settings.

The Fronius Smart Meter is configured as a secondary meter.

# Technical data

## Technical data

**Modbus transmission speed:** 9600 baud

**Parity bit:** None

**Software version:** Datamanager 3.7.2 / Energypackage 1.3.3

| Input                                                              |                             |
|--------------------------------------------------------------------|-----------------------------|
| Nominal voltage (1-phase)<br>Operating range                       | 230 V<br>±10%               |
| Self-consumption - voltage path (max. voltage)                     | 4 VA (1.9 W) for 264 V      |
| Nominal frequency<br>Tolerance                                     | 50 - 60 Hz<br>47 to 61 Hz   |
| Nominal current, I <sub>b</sub>                                    | 10 A                        |
| Maximum current, I <sub>max</sub>                                  | 63 A                        |
| Starting current                                                   | 40 mA                       |
| Short-time overload (EN/IEC 62053-21, EN/IEC 62053-23)             | 30 I <sub>max</sub> / 0.5 s |
| Self-consumption - current path (max. current)                     | 1.5 W                       |
| Power factor<br>Operating range (EN/IEC 62053-21, EN/IEC 62053-23) | cosφ 0.5 ind to 0.8 cap     |
| Current total harmonic distortion                                  | In acc. with EN 62053-21    |

| Output                                          |                                           |
|-------------------------------------------------|-------------------------------------------|
| <b>Pulse output</b>                             |                                           |
| Optical relay with NO contact SPST-NO, floating |                                           |
| Contact load                                    | 110 V DC/AC - 50 mA                       |
| <b>Pulse value</b> (programmable)               | 1 imp/Wh - 10 Wh - 100 Wh - 1 kWh         |
| <b>Pulse duration</b> (programmable)            | 50 - 100 - 150 - 200 - 300 - 400 - 500 ms |
| <b>RS485 communication</b>                      |                                           |
| Electrically isolated from measuring input      |                                           |
| Standard                                        | RS485 - 3 conductors                      |
| Transmission                                    | Serial, asynchronous                      |
| Protocol                                        | Compatible with Modbus RTU                |
| <b>Addresses</b>                                | 1 to 255                                  |
| Number of bits                                  | 8                                         |
| Stop bit                                        | 1                                         |
| <b>Parity bit</b>                               | None - odd - even                         |
| <b>Baud rate</b>                                | 2400 - 4800 - 9600 - 19200 bit/s          |
| Response time                                   | ≤ 200 ms                                  |

| Insulation (EN/IEC 62052-11, 62053-21) |       |
|----------------------------------------|-------|
| Installation category                  | III   |
| Pollution degree                       | 2     |
| Insulation voltage                     | 300 V |

| Electromagnetic compatibility |                                        |
|-------------------------------|----------------------------------------|
| Emission test                 | In acc. with EN/IEC 62052-11, EN 50470 |
| Immunity test                 | In acc. with EN/IEC 62052-11, EN 50470 |

| Operating conditions                                             |              |
|------------------------------------------------------------------|--------------|
| Reference temperature                                            | 23°C (±2°C)  |
| Operating range                                                  | -25 to 55 °C |
| Temperature limit for storage and transport                      | -40 to 70 °C |
| Tropical model                                                   |              |
| Max. power loss (for thermal dimensioning of the switch cabinet) | ≤ 4 W        |
| Mechanical environment<br>Electromechanical environment          | M1<br>E2     |

| Housing                           |                                    |
|-----------------------------------|------------------------------------|
| Housing                           | 2 modules according to DIN 43880   |
| Sealable front and terminal cover |                                    |
| Connection                        | Screw connection                   |
| Mounting                          | Can be snapped onto 35 mm DIN rail |
| Housing material                  | Polycarbonate, self-extinguishing  |
| Degree of protection (EN 60529)   | IP51 front, IP20 connections       |
| Weight                            | 250 grams                          |

| Screw terminals        |                              |
|------------------------|------------------------------|
| <b>Measuring input</b> |                              |
| Wire (rigid)           | Min. 1 mm² / max. 16 mm²     |
| Wire (flexible)        | Min. 1 mm² / max. 10 mm²     |
| Recommended torque     | 1.2 Nm / max. 1.4 Nm         |
| <b>Output</b>          |                              |
| Wire (rigid)           | Min. 0.05 mm² / max. 4 mm²   |
| Wire (flexible)        | Min. 0.05 mm² / max. 2.5 mm² |
| Recommended torque     | 0.5 Nm / max. 0.8 Nm         |

## Warranty

Detailed warranty conditions specific to your country can be found at <https://www.fronius.com/en/download-center?searchword=Warranty+conditions>.



If there is a warranty for the relevant product, register the product at <https://warranty.fronius.com/> and activate or extend the warranty.







[fronius.com/en/solar-energy/installers-partners/products-solutions/monitoring-digital-tools](https://fronius.com/en/solar-energy/installers-partners/products-solutions/monitoring-digital-tools)

MONITORING &  
DIGITAL TOOLS

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