SIEMENS

SINAMICS

SINAMICS G120 Smart Access

Operating Instructions

06/2019

A5E43332487-003

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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℗ 07/2019 Subject to change

Preface

Product maintenance

The components are subject to continuous further development within the scope of product maintenance (improvements to robustness, discontinuations of components, etc).

These further developments are "spare parts-compatible" and do not change the article number.

In the scope of such spare parts-compatible further developments, connector positions are sometimes changed slightly. This does not cause any problems with proper use of the components. Please take this fact into consideration in special installation situations (e.g. allow sufficient clearance for the cable length).

Use of third-party products

This document contains recommendations relating to third-party products. Siemens accepts the fundamental suitability of these third-party products.

You can use equivalent products from other manufacturers.

Siemens does not accept any warranty for the properties of third-party products.

Compliance with the General Data Protection Regulation

Siemens respects the principles of data protection, in particular the data minimization rules (privacy by design).

For this product, this means:
The product does not process neither store any person-related data, only technical function data (e.g. time stamps). If the user links these data with other data (e.g. shift plans) or if he stores person-related data on the same data medium (e.g. hard disk), thus personalizing these data, he has to ensure compliance with the applicable data protection stipulations.

Table of contents

Fundamental safety instructions 1

1.1 General safety instructions

WARNING

Danger to life if the safety instructions and residual risks are not observed

If the safety instructions and residual risks in the associated hardware documentation are not observed, accidents involving severe injuries or death can occur.

- Observe the safety instructions given in the hardware documentation.
- Consider the residual risks for the risk evaluation.

WARNING

Malfunctions of the machine as a result of incorrect or changed parameter settings

As a result of incorrect or changed parameterization, machines can malfunction, which in turn can lead to injuries or death.

- Protect the parameterization against unauthorized access.
- Handle possible malfunctions by taking suitable measures, e.g. emergency stop or emergency off.

1.2 Warranty and liability for application examples

Application examples are not binding and do not claim to be complete regarding configuration, equipment or any eventuality which may arise. Application examples do not represent specific customer solutions, but are only intended to provide support for typical tasks.

As the user you yourself are responsible for ensuring that the products described are operated correctly. Application examples do not relieve you of your responsibility for safe handling when using, installing, operating and maintaining the equipment.

1.3 Industrial security

Note

Industrial security

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Products and solutions from Siemens constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the Internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. using firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that can be implemented, please visit:

Industrial security (https://www.siemens.com/industrialsecurity)

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they become available, and that only the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed at:

Industrial security (https://www.siemens.com/industrialsecurity)

Further information is provided on the Internet:

Industrial Security Configuration Manual
(https://support.industry.siemens.com/cs/ww/en/view/108862708)

⚠ WARNING

Unsafe operating states resulting from software manipulation

Software manipulations, e.g. viruses, Trojans, or worms, can cause unsafe operating states in your system that may lead to death, serious injury, and property damage.

- Keep the software up to date.
- Incorporate the automation and drive components into a holistic, state-of-the-art industrial security concept for the installation or machine.
- Make sure that you include all installed products into the holistic industrial security concept.
- Protect files stored on exchangeable storage media from malicious software by with suitable protection measures, e.g. virus scanners.
- On completion of commissioning, check all security-related settings.
- Protect the drive against unauthorized changes by activating the "Know-how protection" converter function.

Product overview

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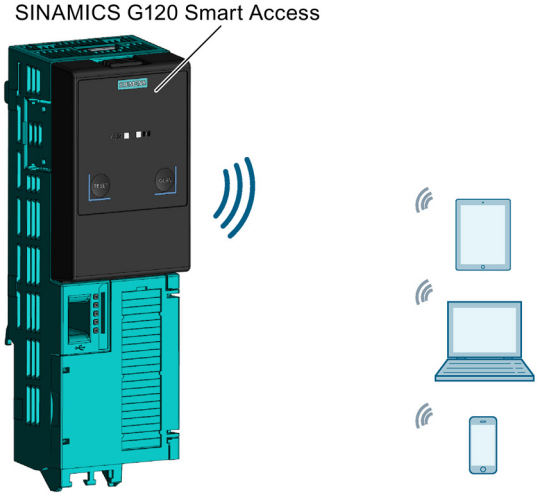
2.1 Introduction

The SINAMICS G120 Smart Access is a Wi-Fi based Web server module and an engineering tool. It has been designed for quick setup, parameterization, and diagnostics of the supported SINAMICS G120 converters.

The SINAMICS G120 Smart Access connects to the SINAMICS G120 converter through an RS232 interface and allows Web-based access to the converter from a connected device (a conventional PC with a wireless network adapter installed, a tablet, a laptop, or a smart phone).



Note

SINAMICS G120 Smart Access is only for commissioning and thus cannot be used with the converter permanently.

Supported devices

The SINAMICS G120 Smart Access automatically recognizes the following devices from the SINAMICS range:

- G120X
- G120XA
- G120C [1)]
- G120 CU230P-2 [1)]
- G120 CU240E-2 [1)]
- G120 CU250S-2 [1)]

[1)] The supported converter firmware version must be 4.7 SP6 or later.

System requirements

Device with wireless network adapter installed	Operating system	Recommended Web browser [1]
PC	Windows 7	• Google Chrome version 64.0.3239 or later • IE version 11.0.9600 or later • Firefox version 50.0.2 or later
	Windows 10	• Google Chrome version 65.0 or later • Edge version 38.14393.1066 or later • Firefox version 50.0.2 or later
Smart phone/tablet	Apple iOS 10.2 or later	• Google Chrome version 65.0 or later • Firefox version 10.6 or later • Safari
	Android 6.0.1 or later	• Google Chrome version 64.0.3202.84 or later • Firefox version 50.0.2 or later

[1] Siemens recommends that you use the Web browsers listed above to achieve optimum Web browsing performance.

Note

Commissioning and/or diagnostic failure resulting from unsafe mobile devices

Using unsafe mobile devices to commission and/or diagnose the converter through the SINAMICS G120 Smart Access can cause system failure, for example, no response from the converter.

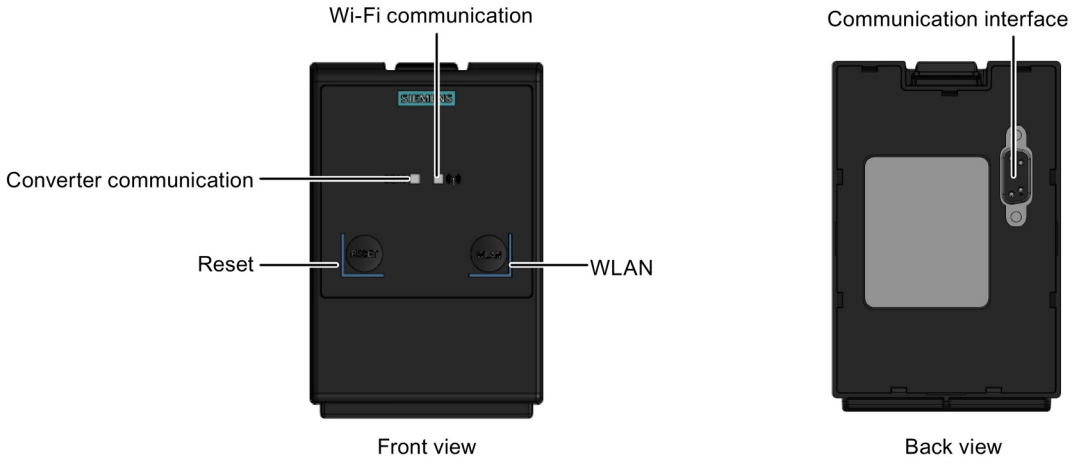
- Maintain the mobile devices for commissioning and diagnostics according to the security guidelines, for example, by deploying the patches for the operating system, activating firewalls, or using a virus scanner.

Supported minimum resolution

The SINAMICS G120 Smart Access displays the pages in a format and size compatible with the device you use to access the Web pages. It supports a minimum resolution of 360 x 640 pixels.

2.2 Layout and functions

Layout



Button functions

Button	Function
Reset	• Holding down the button for more than three seconds when the SINAMICS G120 Smart Access is in power-on state resets the Wi-Fi configuration of the SINAMICS G120 Smart Access to factory defaults. • Holding down the button when the SINAMICS G120 Smart Access is in power-off state and powering on the module enters basic upgrading mode.
WLAN	Holding down the button for more than three seconds enables/disables the Wi-Fi connection of the SINAMICS G120 Smart Access.

LED status

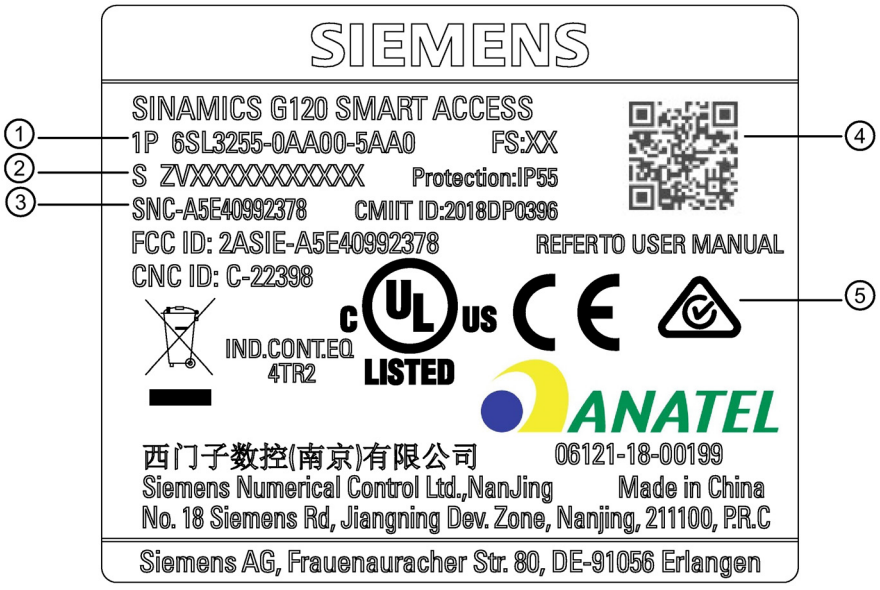
LED	Color	Description
Converter communication	Solid red	The communication between the module and the converter is not established.
	Solid green	The communication between the module and the converter is established.
Wi-Fi communication	Solid red	The network communication is initializing.
	Solid yellow	The network initialization completes but the module is not connected to a PC or mobile device.
	Solid green	The connection between the module and the PC or mobile device is set up and you can open the Web pages now.
	Flashing green	The connection between the module and the PC or mobile device is set up and the Web page is open.
	Flashing yellow	The module requires a restart because an upgrade is completed or the Wi-Fi configuration is modified.
	Alternating flashing red and yellow	The module is upgrading.

2.3 Scope of delivery

The delivery includes at least the following components:

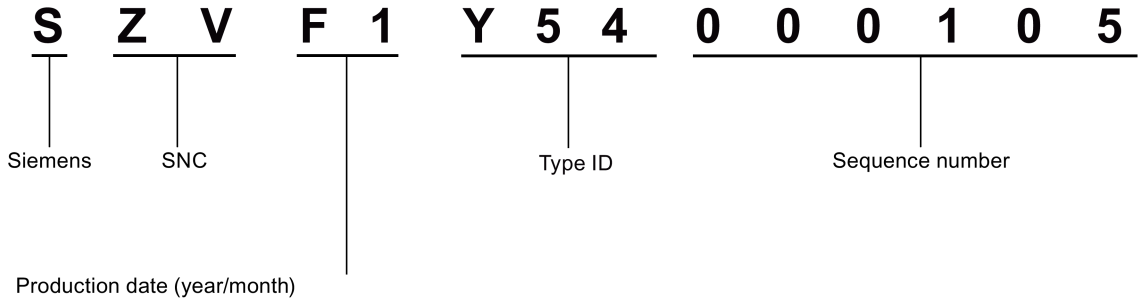
- A SINAMICS G120 Smart Access module with loaded firmware
- Product Information in Chinese and English

Rating plate example



①	Article number	④	QR code
②	Serial number	⑤	Certificates
③	Product part number		

Serial number explanation (example)



Production date (year/month)

Code *	Calendar year	Code *	Month
A	2010	1	Janauary
B	2011	2	February
C	2012	3	March
D	2013	4	April
E	2014	5	May
F	2015	6	June
H	2016	7	July
J	2017	8	Auguest
K	2018	9	September
L	2019	0	October
M	2020	N	November
N	2021	D	December
P	2022	* In accordance with DIN EN 60062	
R	2023		
S	2024		
T	2025		
U	2026		
V	2027		
W	2028		
X	2029		

2.4 Device disposal

Recycling and disposal

For environmentally-friendly recycling and disposal of your old device, please contact a company certified for the disposal of waste electrical and electronic equipment, and dispose of the old device as prescribed in the respective country of use.

Installing

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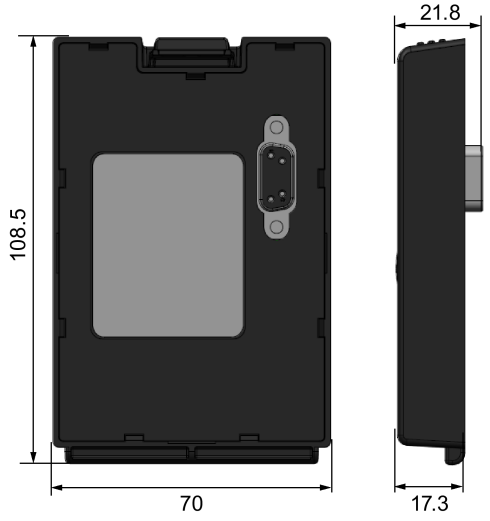
Note

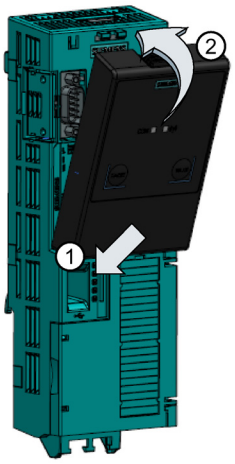
SINAMICS G120 Smart Access power supply

The SINAMICS G120 Smart Access has no internal power supply and derives its power directly from the converter through the RS232 interface. Any configuration data stored on the SINAMICS G120 Smart Access is saved to its memory which does not require power to retain the data.

Outline dimensions (unit: mm)



Fitting the SINAMICS G120 Smart Access to the converter



Note

Before fitting the SINAMICS G120 Smart Access to the converter, make sure that the converter has been installed correctly, in accordance with relevant requirements in the Operating Instructions.

Note

SINAMICS G120 Smart Access is suitable for cabinet installation. To ensure good signal transmission, make sure that you leave the cabinet door open when the module is operational.

Note

SINAMICS G120 Smart Access does not support door mounting.

Note

To reduce human exposure to radio frequency electromagnetic fields, maintain a minimum distance of 2 cm between your body and the SINAMICS G120 Smart Access when it is operational.

Note

To prevent unauthorized access to SINAMICS G120 Smart Access, regular control is required, for example, continuous control during operation, stored in a locked cabinet.

Note

Portal devices (e.g. mobile devices) used to connect with SINAMICS G120 Smart Access must be protected against unauthorized usage.

Accessing the Web pages

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You can access the SINAMICS G120 Web pages from a PC or a mobile device that connects to the SINAMICS G120 Smart Access.

4.1 Establishing the wireless network connection

NOTICE
Equipment malfunctions as a result of unauthorized access to the converter Hacker attack can result in unauthorized access to the converter through the SINAMICS G120 Smart Access. This can cause equipment malfunctions. • Before logging on to the SINAMICS G120 Web pages, make sure that there is no network security risk. – If the Wi-Fi communication LED lights solid green or flashes green, make sure that no unauthorized access to the converter exists. – If an unauthorized access to the converter does exist, remove the SINAMICS G120 Smart Access, and then fit it to the converter again. Then power on the SINAMICS G120 Smart Access to re-establish the wireless network connection.

SINAMICS G120 Web site

- http://192.168.1.1
- https://192.168.1.1 (requires download and installation of SSL certificates)

Establishing initial wireless network connection

1. After you have fitted the SINAMICS G120 Smart Access to the converter, power on the converter and then hold down the WLAN button (> 3 s) to enable the Wi-Fi connection of the module.
2. Activate the Wi-Fi interface inside your PC or mobile device. If you desire to establish the wireless network connection on your PC, make sure that you have previously enabled the automatic IP settings.
3. Search the wireless network SSID of the SINAMICS G120 Smart Access: G120 smart access_xxxxxx ("xxxxxx" stands for the last six characters of the module MAC address of the SINAMICS G120 Smart Access.).
4. Enter the wireless network password to launch the connection (default password: 12345678).

5. Enter the SINAMICS G120 Web site (http://192.168.1.1 or https://192.168.1.1) in the supported browser.

Note

After the establishment of the wireless network connection for the first time, it may take some time for the Web browser to open the SINAMICS G120 Web page.

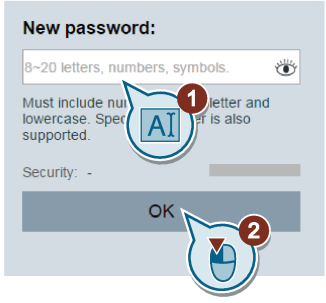
Note

When you use https:// to access the SINAMICS G120 Web page, if you see an error message prompting that your connection is not private because the security certificate is not trusted by your device's operating system, ignore it and proceed with the Web page access.

Note

After opening the SINAMICS G120 Web page with https:// in Windows 10, if you see the message “certificate error”, ignore it and proceed with the Web page access.

6. After the Web page for password change opens, enter a new password of 8 to 20 characters. The minimum requirement for the new password is 8 characters including numbers, uppercase and lowercase letters. To achieve better network access security, enter a new password of 10 to 20 characters that includes all of the following four categories of password characters: ① numbers: 0 ... 9; ② uppercase letters: A ... Z; ③ lowercase letters: a ... z; ④ special characters: _, -, ~, ! , @, #, $, %, ^, &, and *; the space character is not allowed.



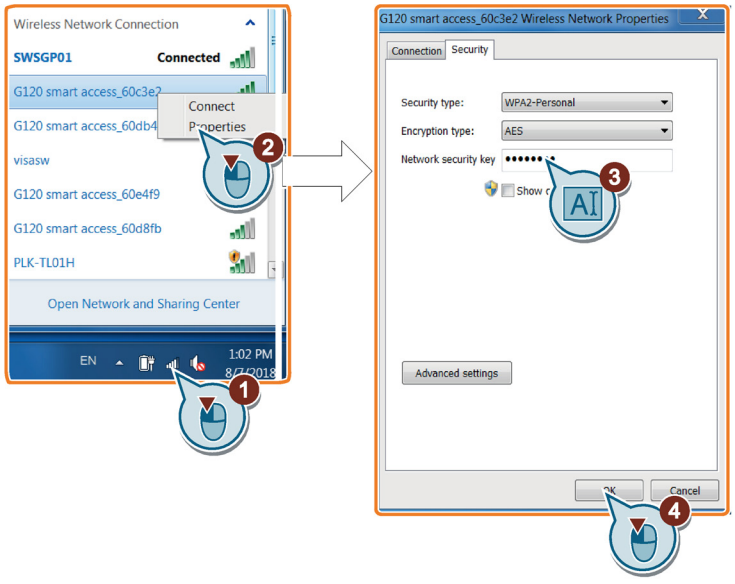
To display/hide the password, click .

Note that this password change page includes a security level indicator. The indicator uses different colors to indicate the security strength of your current password. For detailed information, see the table below:

Password security level		Description
	Low	The password includes 8 or 9 characters and is a mixture of numbers, uppercase and lowercase letters.
	Medium	The password meets one of the following two requirements: • The password includes 10 to 20 characters and is a mixture of numbers, uppercase and lowercase letters. • The password includes 8 or 9 characters and is a mixture of numbers, uppercase and lowercase letters, and special characters.
	High	The password contains 10 to 20 characters and is a mixture of numbers, uppercase letters, lowercase letters, and special characters.

After your confirmation of the new password entry, the module restarts automatically.

7. Select the wireless network SSID of the SINAMICS G120 Smart Access and then enter the new Wi-Fi password to launch the connection.



8. Enter the SINAMICS G120 Web site (http://192.168.1.1 or https://192.168.1.1) to open the home page.

Note

If you forget the Wi-Fi password, use the reset button to reset the Wi-Fi configuration to factory defaults.

Note

If your PC or mobile device that you use to access the SINAMCS G120 Web pages gets lost, you must change the wireless network password as soon as possible to prevent unauthorized access.

Installing SSL certificates (only for access with https://)

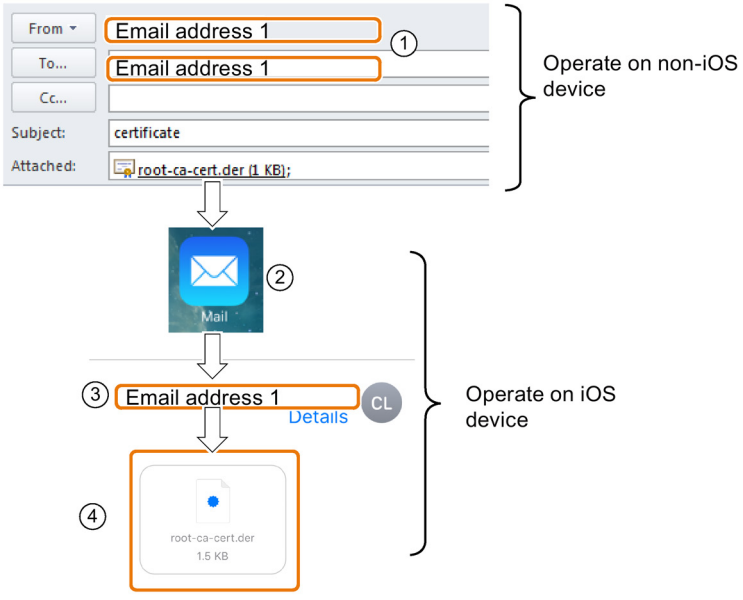
To access the SINAMICS G120 Web pages with https:// from a Windows 10-based PC or iOS-based mobile devices, you need to install SSL certificates.

Installing on Windows 10-based PCs

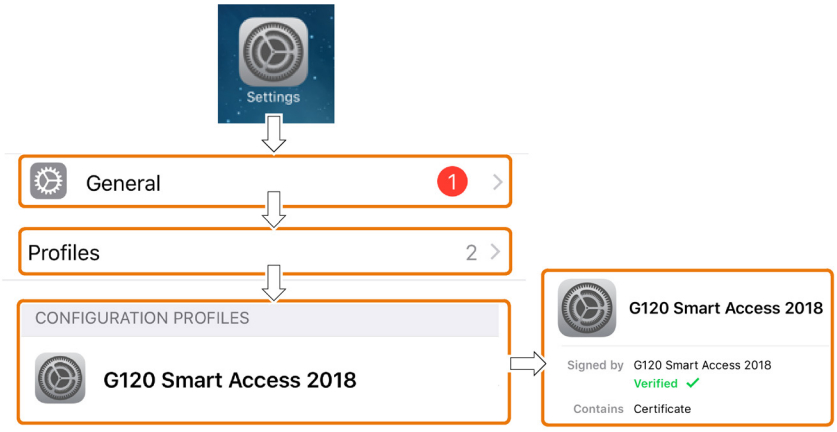
1. Enter the certificate download Web site (https://support.industry.siemens.com/cs/ww/en/ps/13225/dl) and download "G120 smart access certificates.zip". Extract the certificate file "root-ca-cert.der" to your local drive.
2. Double-click the file “root-ca-cert.der” and then select “Install certificate > Next” to open the certificate store.
3. Select “Places all certificates in the following store” and then browse to “Trusted Root Certification Authorities”.
4. Select "OK > Next > Finish" to complete the certificate installation. Now you are able to access the SINAMICS G120 Web pages via the SINAMICS G120 Smart Access.

Installing on iOS-based mobile devices

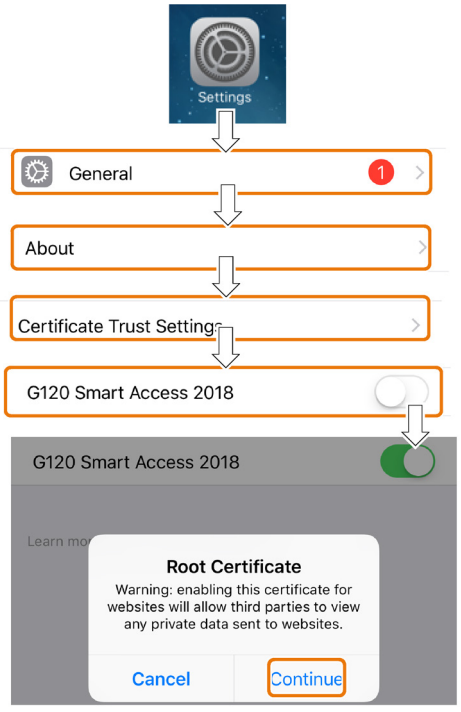
1. As iOS devices do not support directly downloading files, use a non-iOS device to enter the certificate download Web site (https://support.industry.siemens.com/cs/ww/en/ps/13225/dl) and download the file "G120 smart access certificates.zip ". Extract the certificate file "root-ca-cert.der" to your local drive of this non-iOS device.
2. Send the attached certificate file to an E-mail account of your choice ("①"). Use the built-in mail application ("②") of your iOS-based mobile device to log in to your E-mail account ("③"), receive the attachment, and tap the attachment to install the certificate ("④").



3. Select "Settings > General > Profiles" to view configuration profiles in your mobile device and make sure that the certificate has been issued to "G120 Smart Access 2018".

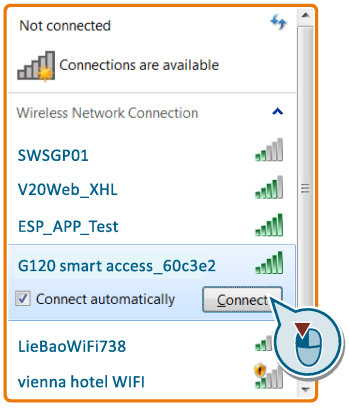


4. Select "Settings > General > About > Certificate Trust Settings" to enable full trust for the root certificate "G120 Smart Access 2018". Now you are able to access the SINAMICS G120 Web pages via the SINAMICS G120 Smart Access.



Wireless network connection examples

Precondition: Your mobile device must be wireless-enabled.

For Windows 7/Windows 10 (on PCs)	For Android and iOS (on tablets/smart phones)
1. Click on the taskbar on your PC. 2. Select the target network and enter the wireless password to launch the connection. 	Go to the Wi-Fi setting window on your tablet or smart phone, select the target network, and then enter the wireless password to launch the connection. 

Note

Depending on environmental conditions, the maximum wireless communication distance (without barrier) can reach 100 m.

4.2 Accessing the Web pages

If you have previously established the wireless network connection (Page 15) between your supported device and the converter via the SINAMICS G120 Smart Access, open a supported Web browser (Page 8) from your PC or mobile device and then enter the Web site (http://192.168.1.1 or https://192.168.1.1) to open the SINAMICS G120 Web page (home page).

Constraint

Some features of SINAMICS G120 Smart Access are restricted if you do not observe the following:

- The standard Web pages use JavaScript. If your Web browser settings have disabled JavaScript, enable them first.
- When accessing the SINAMICS G120 Web pages from a mobile device, do not use the landscape mode.

Standard Web pages

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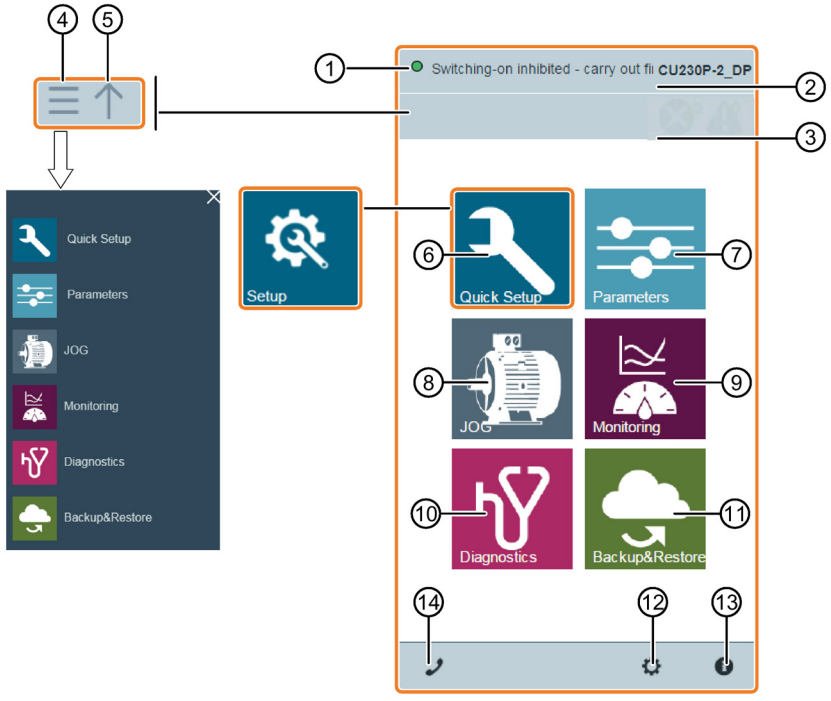
5.1 Home page

5.1.1 Overview of the Web pages



① Connection status indication (Page 22)
② Connected converter (Page 31)
③ Fault/alarm indication (Page 59)
④ Navigation sidebar (visible only on lower-level pages)
⑤ Advancing backward (visible only on lower-level pages)
⑥ Quick setup (Page 32) or Setup (G120X/G120XA only) (Page 38)
⑦ Parameter settings (Page 47)
⑧ Motor test run in JOG/HAND mode (Page 55)
⑨ Converter status monitoring (Page 59)
⑩ Diagnostics (Page 59)
⑪ Backup and restore (Page 62)
⑫ Optional Web access settings (Page 22)
⑬ Converter data identification (Page 31)
⑭ Support information (Page 71)

Note

The Web page illustrations from this chapter forward represent only the standard PC Web page appearance.

5.1.2 Viewing connection status

You can view the connection status in the upper-left corner of the Web pages.

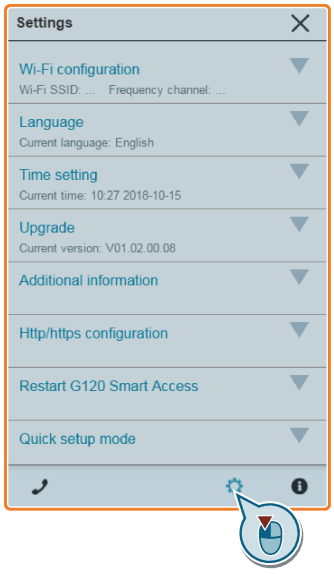
Icon	Status	Description
	Connected	Communication between the PC/mobile device and the converter is established. Note that the green status icon indicates one of the following converter states (see r0002): • Converter is in normal operation • Converter is ready for operation • Converter is ready for switching on • Converter switching-on is inhibited • Converter is initializing • Converter is waiting for booting/partial booting
	Disconnected	Communication between the PC/mobile device and the converter is not established.

5.2 Optional settings page

You can make the following optional Web access settings:

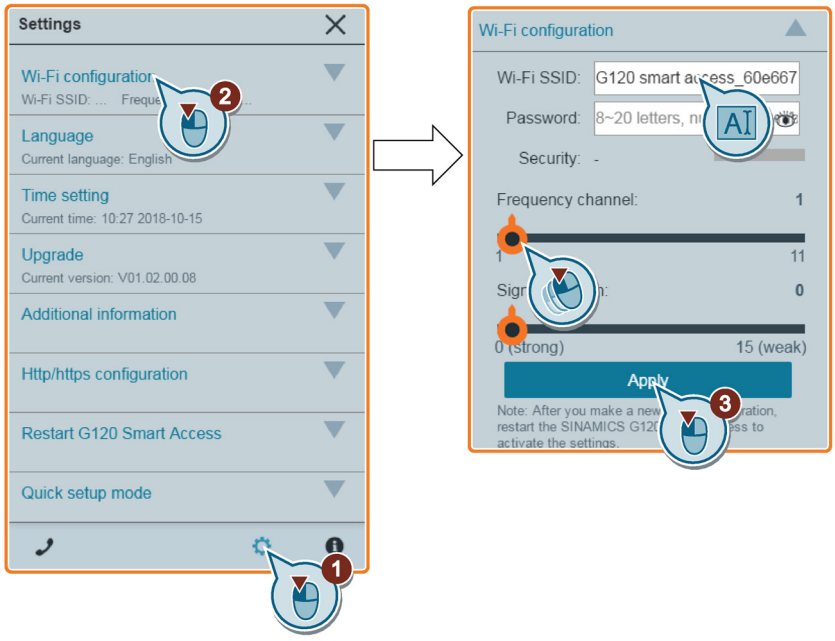
- Configuring Wi-Fi (Page 23)
- Changing the display language (Page 25)
- Synchronizing the time (Page 26)
- Upgrading (Page 26)
- Viewing additional information (Page 27)
- Configuring communication protocol (Page 28)
- Restarting the SINAMICS G120 Smart Access (Page 29)
- Selecting quick setup mode (G120X/G120XA converters only) (Page 30) [1)]

[1)] This setting is displayed only when G120X/G120XA converter is connected.



5.2.1 Configuring Wi-Fi

If you do not want to use the factory default Wi-Fi settings, you can change Wi-Fi configuration in the following dialog box:



The new Wi-Fi configuration takes effect only after the SINAMICS G120 Smart Access is restarted.

Wi-Fi SSID (Service Set Identifier)

Default SSID: G120 smart access_xxxxxx ("xxxxxx" stands for the last six characters of the MAC address of the SINAMICS G120 Smart Access)

Example SSID: G120 smart access_60c3e2

SSID character restrictions: maximum 20 characters which are limited to A-Z, a-z, 0-9, _, -, ~, ! , @, #, $, %, ^, &, *, and space. The first and the last character must not be a space.

Wi-Fi password

Default password: 12345678

For detailed information about the password requirements, see Section "Establishing the wireless network connection (Page 15)".

Frequency channel

Default channel: channel 1.

Total channels: 11. Each channel stands for a transmitting frequency. The frequency difference between two adjacent channels is 5 MHz. You can select a desired channel with the slider. Sliding right increases the transmitting frequency.

Signal strength

Default signal strength: 0 (strong)

The wireless network signal transmission distance may vary with environmental conditions. When selecting the desired signal strength, consider both the acceptable signal transmission distance and the corresponding wireless network security. You can select a desired strength with the slider.

Resetting Wi-Fi configuration

When the SINAMICS G120 Smart Access is in power-on state, holding down the reset button for more than three seconds resets the Wi-Fi configuration of the SINAMICS G120 Smart Access to factory defaults.

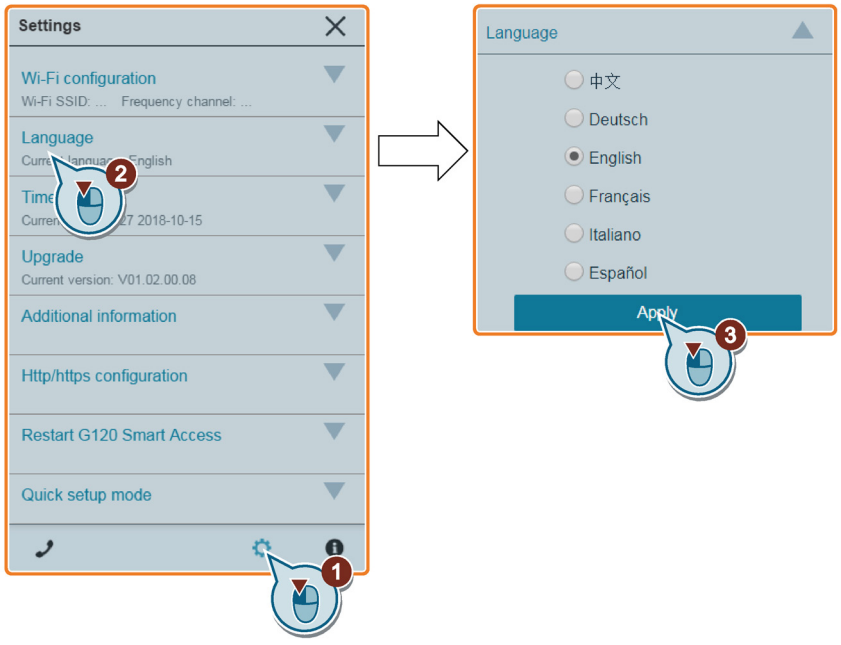
Description	Factory defaults
Wi-Fi name	G120 smart access_xxxxxx
Wi-Fi password	12345678
Wi-Fi frequency channel	1
Communication protocol	http enabled

Note

Before pressing the reset button to reset the Wi-Fi configuration, make sure that the Wi-Fi communication LED on the SINAMICS G120 Smart Access lights up solid green/solid yellow or flashes green. The Wi-Fi configuration is reset successfully when the status of the Wi-Fi communication LED flashes yellow. After resetting Wi-Fi configuration, restart SINAMICS G120 Smart Access.

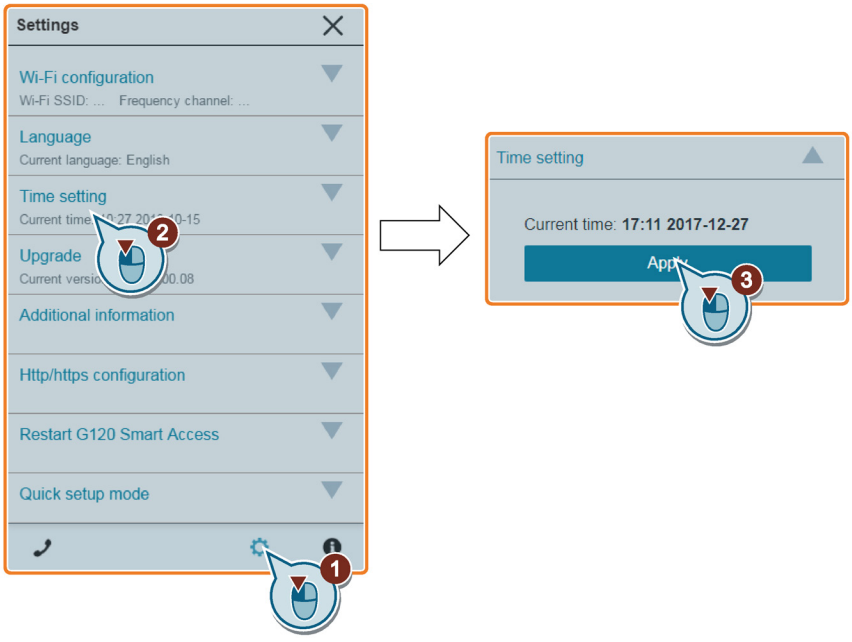
5.2.2 Changing the display language

The SINAMICS G120 Web pages support the following user interface languages: English (default), Chinese, German, Italian, Spanish, and French. Proceed as follows to select the desired language:



5.2.3 Synchronizing the time

When the connection between the converter and the PC/mobile device is established, the Web page can display the current time and date information of the connected PC/mobile device (see below). You can enable time synchronization between the converter and the connected PC/mobile device to record the occurrence time of converter faults/alarms. After you enable synchronization, the converter receives the time of the day from the connected PC/mobile device.



Note

Only SINAMICS G120 CU230P-2, SINAMICS G120X and SINAMICS G120XA support this function.

5.2.4 Upgrading

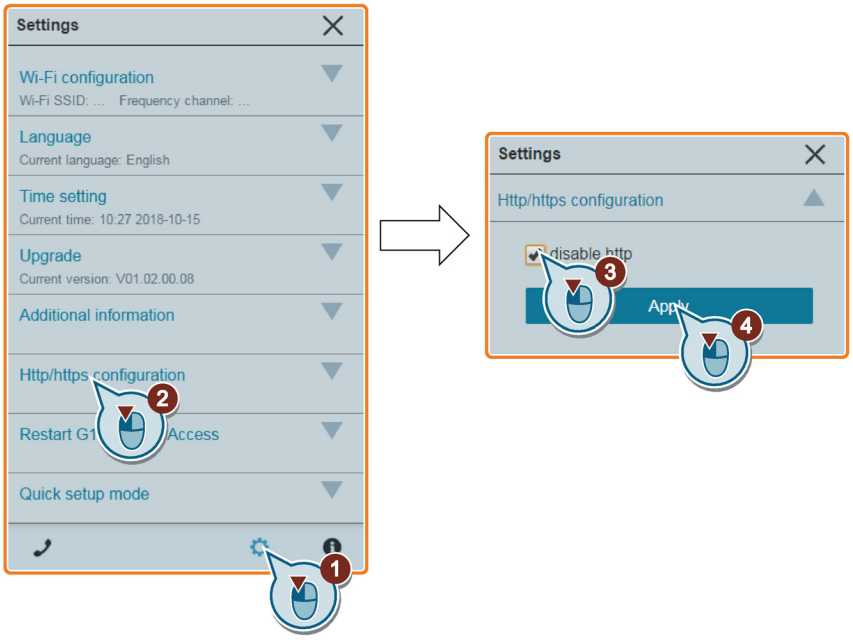
Upgrading includes conventional upgrading and basic upgrading. For detailed information, see Section "Upgrading (Page 73)".

5.2.5 Viewing additional information

The following window provides additional information about the SINAMICS G120 Smart Access:

5.2.6 Configuring communication protocol

The SINAMICS G120 Web pages support two communication protocols: http (enabled by default) and https. To access the Web pages by using the "https" protocol only, proceed as follows:



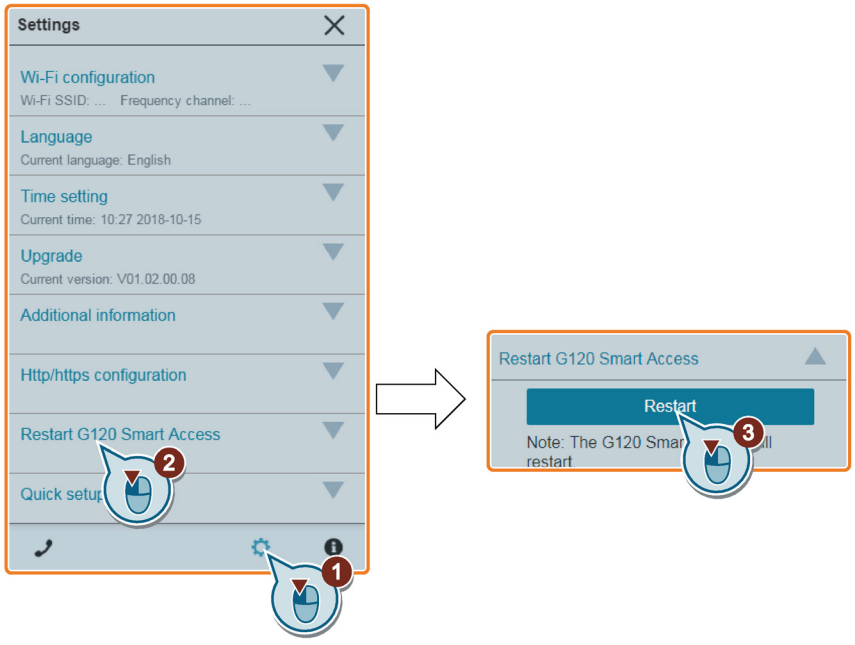
Note

Installing SSL certificates

To access the SINAMICS G120 Web pages with https:// from a Windows 10-based PC or iOS-based mobile devices, you must install SSL certificates. For more information about how to install SSL certificates, see Section "Establishing the wireless network connection (Page 15)".

5.2.7 Restarting the SINAMICS G120 Smart Access

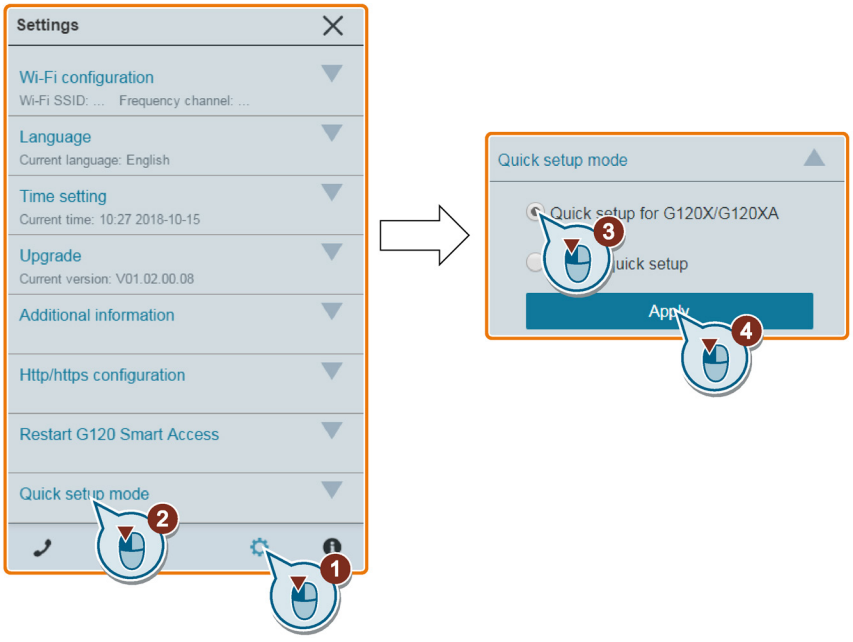
You can use this function to restart the SINAMICS G120 Smart Access. After the SINAMICS G120 Smart Access is restarted, reconnect your PC/mobile device to the module and refresh the Web application.



5.2.8 Selecting quick setup mode (G120X/G120XA converters only)

This option is visible only when your SINAMICS G120 Smart Access is connected to G120X/G120XA converter. Two quick setup modes are available for choice:

- Quick setup for G120X/G120XA (Page 38): used only for the G120X/G120XA converter
- Classic quick setup (Page 32): used for all the converters supported by the SINAMICS G120 Smart Access but not recommended for the G120X/G120XA converter



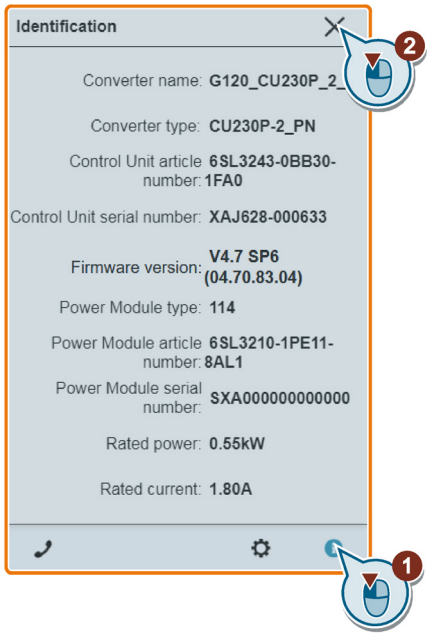
The quick setup menu icon displayed on the home page may vary depending on the currently active quick setup mode:

Quick setup for G120X/G120XA is active.

Classic quick setup is active.

5.3 Converter identification

The converter identification Web page displays detailed information of the currently connected converter:



Note

For G120X and G120XA converters, the converter identification Web page will not display the Control Unit article number and the Control Unit serial number.

Note

For G120C converters, the converter identification Web page will not display information about Power Module.

5.4 Classic quick setup

The classic quick setup is applicable to all the converters supported by SINAMICS G120 Smart Access. For G120X/G120XA converters, it is recommended to use the setup mode (Page 38) which is specific for the G120X/G120XA converters.

The classic quick setup Web page allows you to set the following data for the connected converter:

- Application class
- Motor data
- I/O configuration
- Important parameters
- Technological application
- Motor identification

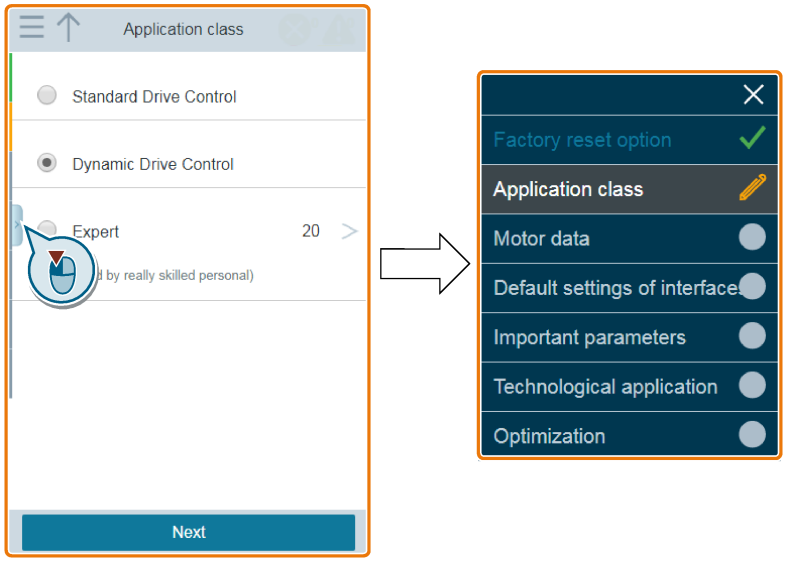
Expanded page for classic quick setup

When you see the Expand sidebar on the far left of the classic quick setup page, click the sidebar and an expanded quick setup page opens. You can do the following on this page:

- View the status of individual quick setup steps based on the symbols given below:

	Completed step
	Current step
	To-be-completed step

- Go back to a completed step. Once you open a completed step, all the changes done in subsequent steps become invalid and require new settings.



Operating sequence

1. Open the classic quick setup Web page by selecting the quick setup icon from either the home page or the navigation sidebar.

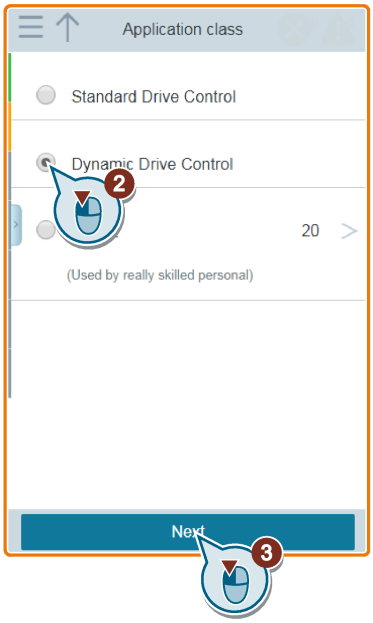
   Note

   For G120X/G120XA converters, if you want to use this quick setup mode, you must select "classic quick setup (Page 30)" first.

2. Reset to factory settings (recommended) or modify existing settings.

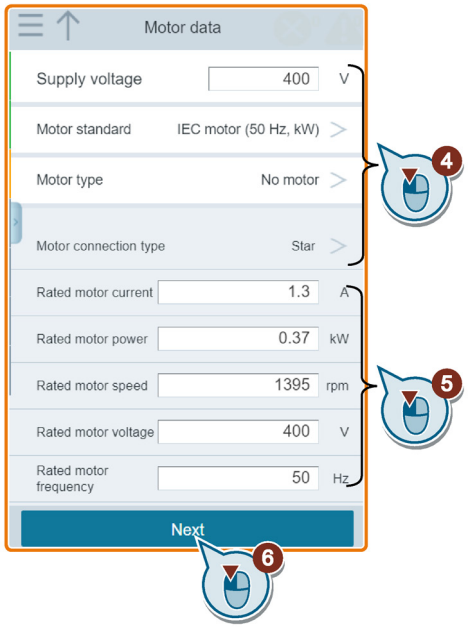
3. Select an application class according to the particular converter connected. If required, click relevant application class to expand the detailed description.

   If "Expert" is selected, you can select your control mode of the converter.

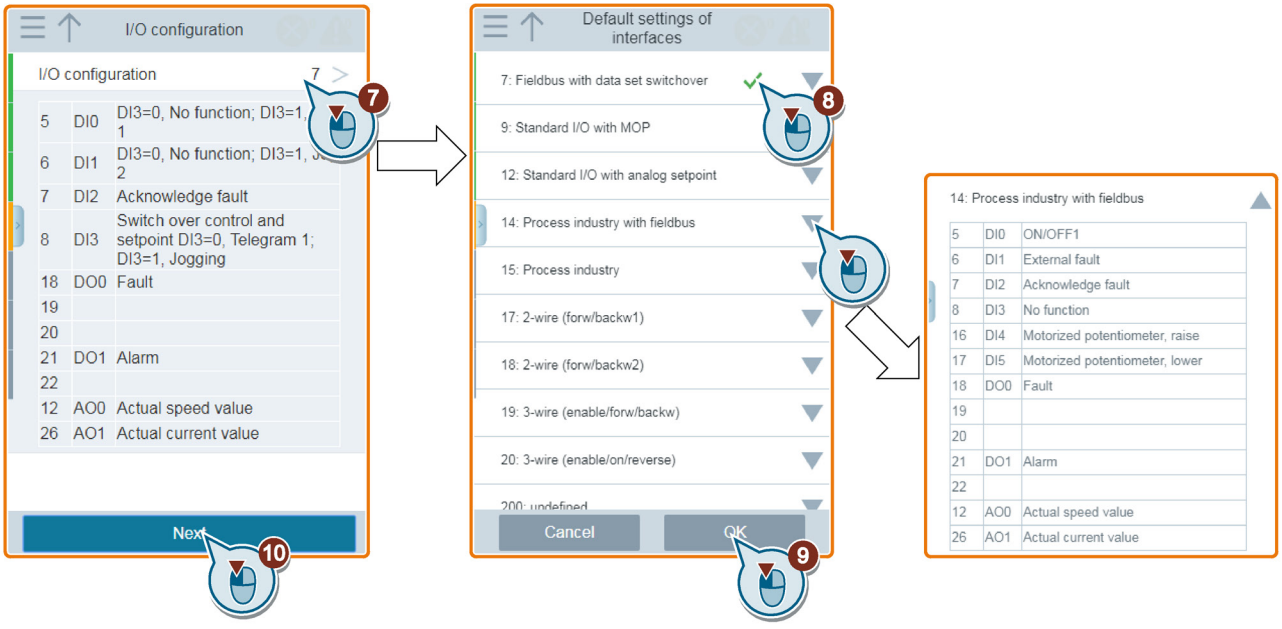


4. Set the required motor data.

   For Siemens motors, enter only the motor data as shown in ④ and the SINAMICS G120 Smart Access will automatically identify the rest of the motor data.



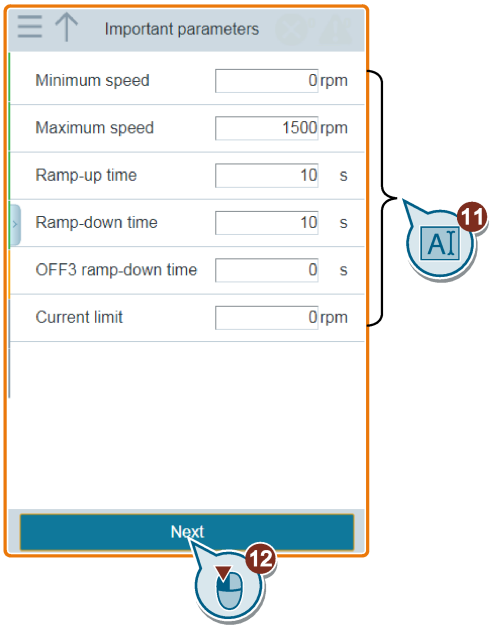
5. Select the factory interface settings for the converter based on your particular application. Note that the factory interface settings vary depending on the connected converter.



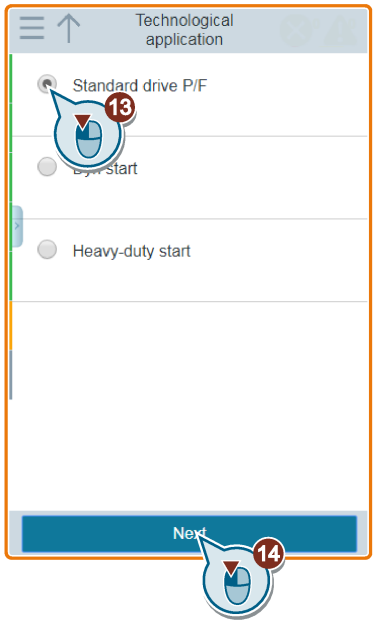
6. Set the following parameters based on your particular application.
   - Minimum speed - factory setting 0 [rpm]

     The minimum speed is the lowest speed of the motor independent of the speed setpoint.
   - Maximum speed - factory setting 1500 [rpm]

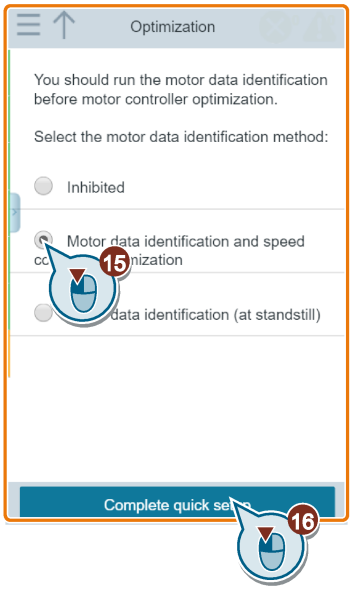
     The converter limits the motor speed to the maximum speed.
   - The ramp-up and ramp-down times define the maximum motor acceleration when the speed setpoint changes. The ramp-up and ramp-down times are derived from the time between motor standstill and the maximum speed, or between the maximum speed and motor standstill.
   - OFF3 ramp-down time sets the ramp-down time from the maximum speed down to zero speed for the OFF3 command.



7. Select the desired technological application. Depending on the selected application class, the available technological applications may vary.



8. Select the method which the converter uses to measure the data of the connected motor.

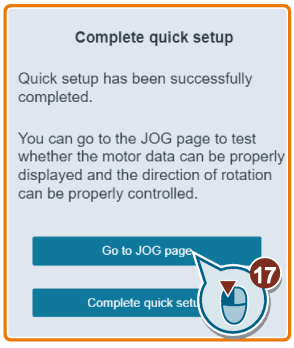


Depending on the selected application class and technological application, the available methods for motor identification may vary:

- Inhibited: p1900 = 0
- Motor data identification and speed controller optimization: p1900 = 1
- Motor identification at standstill: p1900 = 2

If you choose to identify the motor data, go to the JOG page after you have finished classic quick setup. For information about motor identification, see Section "JOG (Page 55)".

9. Complete quick setup. You can select to go to the JOG page immediately or later.



5.5 Setup (G120X/G120XA converters only)

The setup Web page allows you to configure a more comprehensive range of settings to meet the specific requirements of the G120X/G120XA converters. You can perform the following two setups:

- Quick setup for G120X/G120XA (Page 38)
- Application setup (Page 46)

Note

If the quick setup icon on the home page shows that you are currently still in classic quick setup mode, you must first change the mode to quick setup for the G120X/G120XA (Page 30).

5.5.1 Quick setup

The quick setup Web page allows you to set the following data for the connected G120X/G120XA converter:

- Application
- Motor data
- I/O configuration
- Important parameters
- Motor identification

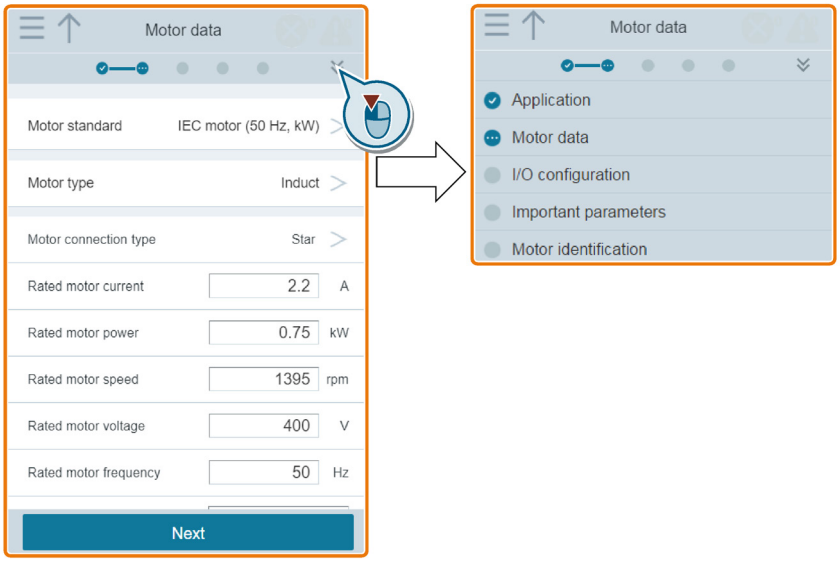
Expanded page for quick setup

When you see the Expand symbol on the top right of the quick setup page, click the symbol and an expanded quick setup page opens. You can do the following on this page:

- View the status of individual quick setup steps based on the symbols given below:

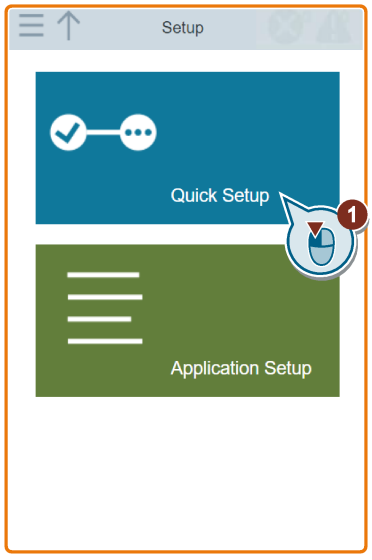
	Completed step
	Current step
	To-be-completed step

- Go back to a completed step. Once you open a completed step, all the changes done in subsequent steps become invalid and require new settings.

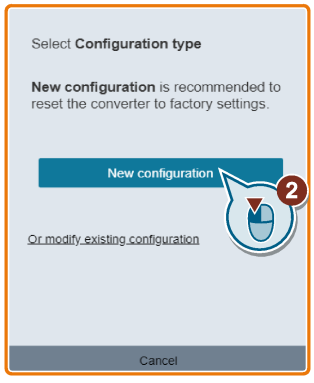


Operating sequence

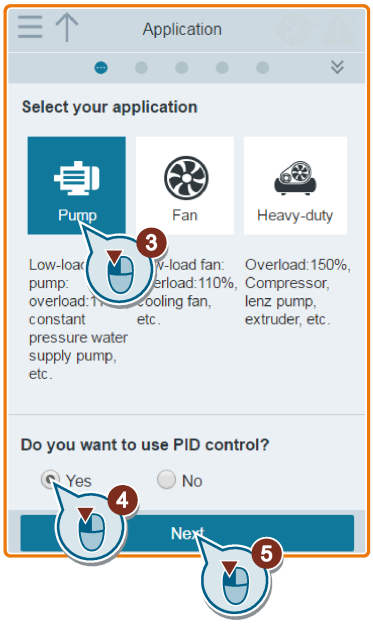
1. Open the setup Web page by selecting the setup icon from either the home page or the navigation sidebar.
2. Open the quick setup Web page by selecting the quick setup icon.



3. Start a new configuration (recommended) or modify the existing configuration.
   - If you select to start a new configuration, factory reset is performed automatically. After you confirm that the factory resetting is successfully complete, the Web page advances to the application selection subpage automatically.
   - If you select to modify the existing configuration, the Web page directly advances to the motor data subpage.



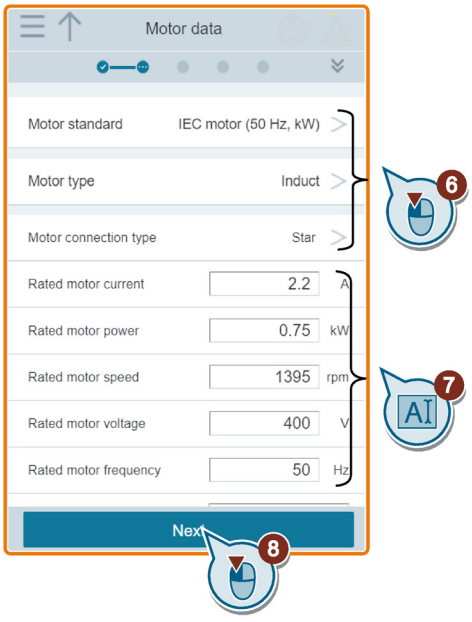
4. If you have selected to start a new configuration, select an application according to the particular converter connected.



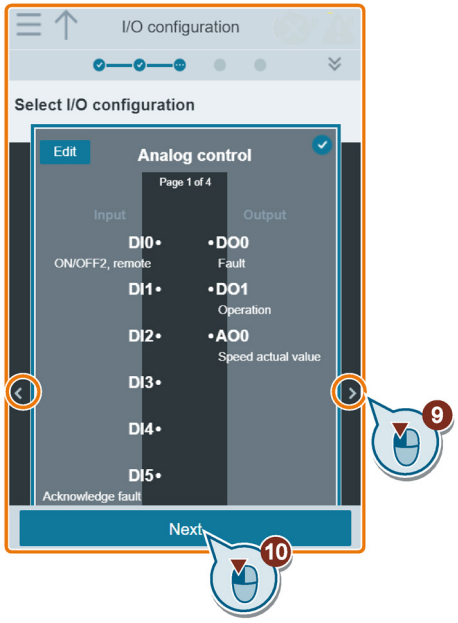
If PID control is selected, factory interface settings that are relevant to PID control will be displayed in the I/O configuration Web page.

5. Set the required motor data.

For Siemens motors, enter only the motor data as shown in ⑥ and the SINAMICS G120 Smart Access will automatically identify the rest of the motor data.



6. Select the factory interface settings for the converter based on your particular application. Note that the factory interface settings vary depending on the connected converter.



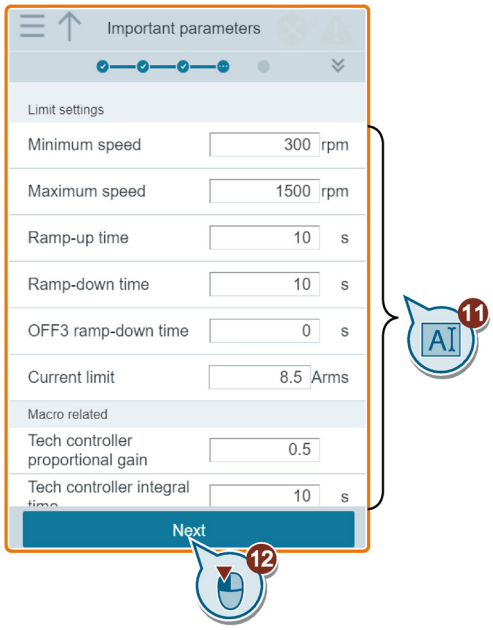
Edit the selected factory interface settings, if desired. You can do the following on the editing page:

– Add AI/DI function
– Edit AI/DI function
– Edit AI scaling
– Change fieldbus settings

Note that in the editing page, the numbers below the DI, AI, or Fieldbus refer to terminals on the Control Unit.

I/O terminals marked with superscript "ext" represent the terminals on the I/O Extension Module.

7. Set the following parameters based on your particular application. Note that the available parameters vary depending on the connected converter.



Limit settings			
Minimum frequency	P1080	Maximum frequency	P1082
Ramp-up time	P1120	Ramp-down time	P1121
OFF3 ramp-down time	P1135	Current limit	P0640
Macro related parameters			
Internal setpoint (0...n)	P2201...P2215	Technology controller proportional gain	P2280
Technology controller integral time	P2285		
Communication parameters			
Profibus address	P0918	Telegram	P0922
Speed setpoint selection	P1000	Fieldbus interface baud rate	P2020
Fieldbus interface address	P2021	PZD number	P2022
PKW number	P2023	Fieldbus interface time	P2024
Fieldbus interface BACnet settings/BACnet setting	P2025	Fieldbus interface BACnet COV increment	P2026
Fieldbus interface BACnet language selection	P2027	Fieldbus interface MODBUS parity	P2031
Fieldbus interface BACnet device name	P7610	PN IP address	P8921
PN Subnet Mask	P8923		

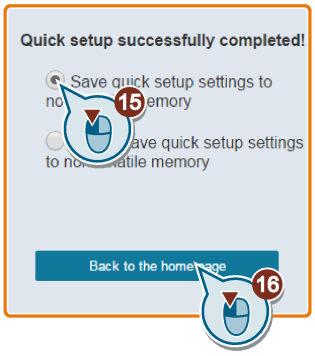
8. Select the method which the converter uses to measure the data of the connected motor.

Depending on the configuration type and selected application, the available methods for motor identification may vary:

– Inhibited: p1900 = 0
– Motor data identification and speed controller optimization: p1900 = 1
– Motor identification at standstill: p1900 = 2

If you choose to identify the motor data, go to the JOG page after you have finished quick setup. For information about motor identification, see Section "JOG (Page 55)".

9. Complete quick setup.

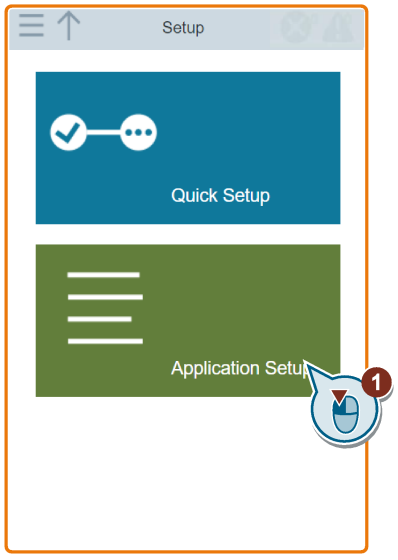


5.5.2 Application setup

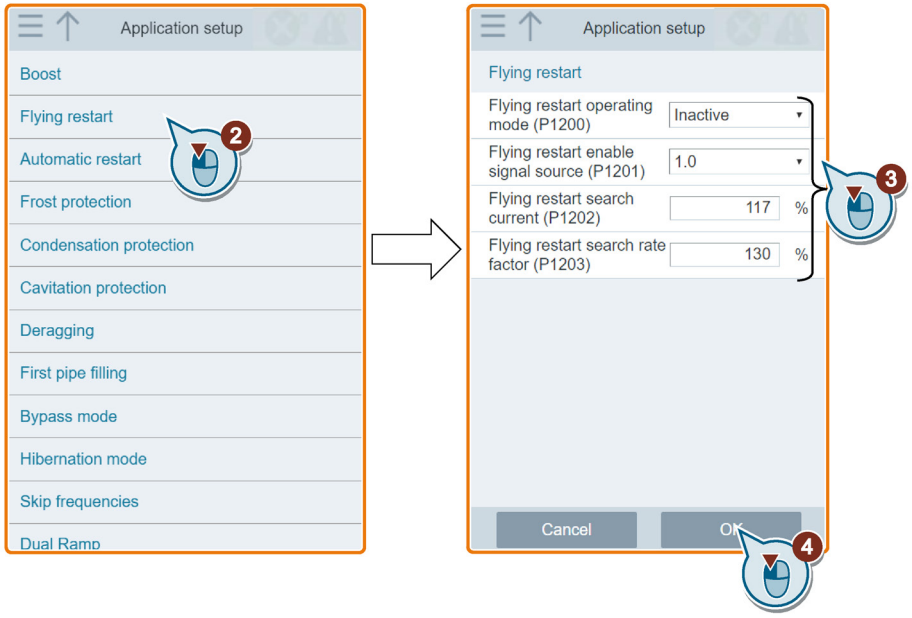
The application setup Web page allows you to set applications for the G120X/G120XA converter.

Operating sequence

1. Open the setup Web page by selecting the quick setup icon from either the home page or the navigation sidebar.
2. Open the application setup Web page by selecting the application setup icon.

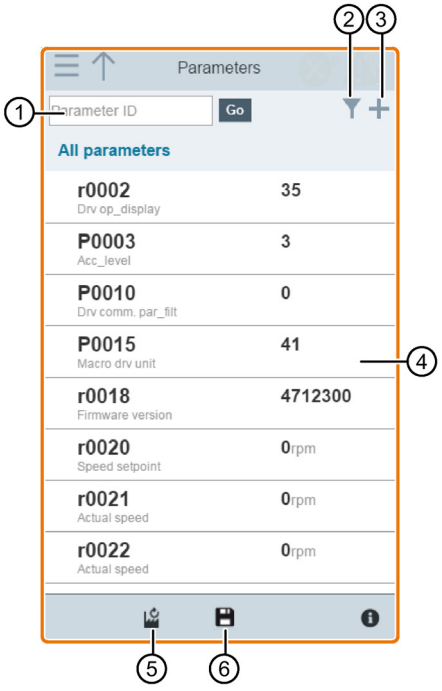


3. Set the desired application as the example shown below. If necessary, repeat this step to set other applications.



5.6 Parameters

You can open the parameters Web page by selecting the parameters icon from either the home page or the navigation sidebar.



① Searching parameters
② Filtering parameters by group
③ Editing "My parameters"
④ Modifying parameters
⑤ Resetting parameters
⑥ Saving parameters

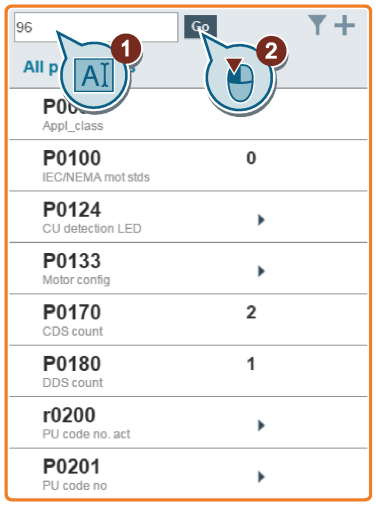
After successfully modifying parameters, a red point appears on ⑥ reminding you to save the changed parameters to non-volatile memory.

Modifying parameters

The figure below shows different methods for modifying parameters. Note that when modifying a BICO parameter (example: P0771[0]), you can use the on-screen numeric keypad or your native keyboard to quickly navigate to the parameter values that start with the number(s) you enter.

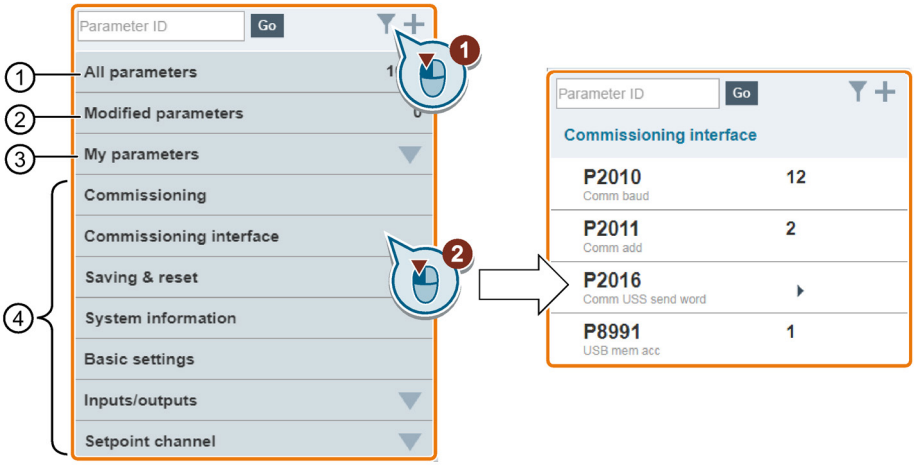
Searching parameters

You can search parameters by entering parameter ID. If you do not enter any parameter ID and then select the Go icon, the page shows the list of all parameters visible on the Web page.



Filtering parameters

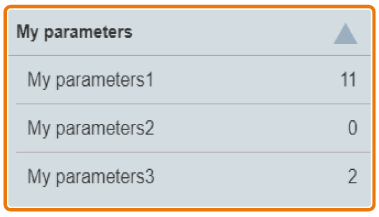
You can view and set parameters in the target parameter group.



① Complete list of all visible parameters
② List of all modified parameters
③ User-defined parameters
④ Other parameter groups

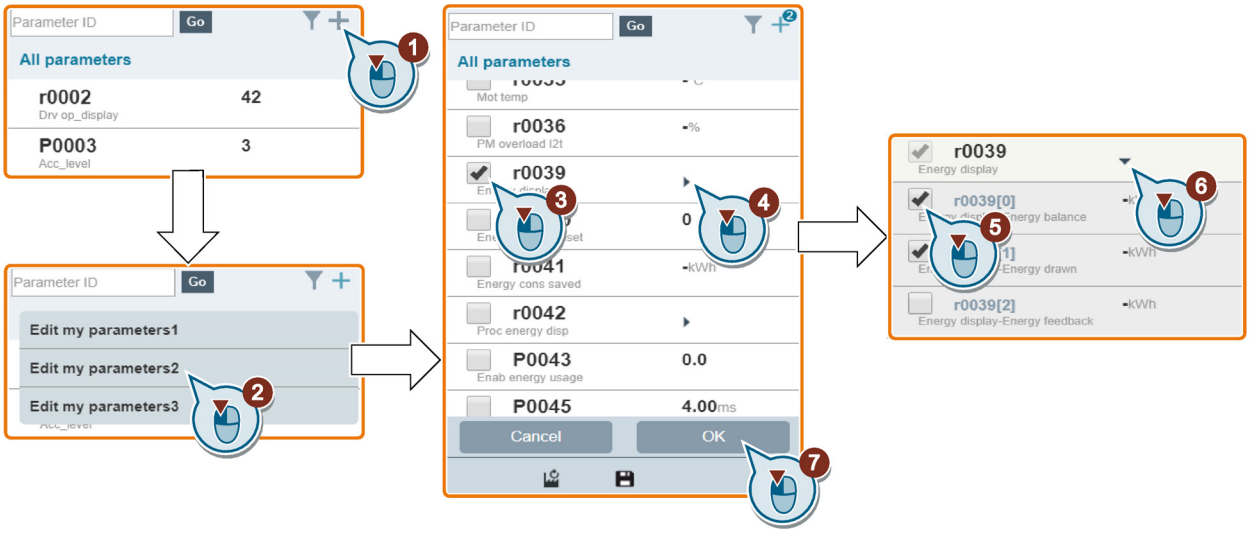
Editing "My parameters"

You can edit the parameters under "My parameters", such as adding, deleting, importing and exporting. Three groups are available under "My parameters" and the numbers on the right indicate the number of the parameters in each group. See example below:



- Adding "My parameters"

  Proceed as the example below to add certain parameters (including any specific indexed parameters) to "My parameters" (My parameters2 is selected in the example):



- Deleting "My parameters"

  If you desire to delete any parameters under "My parameters", deselect the checkbox before the parameter and confirm with "OK".

All successfully saved parameters will go to the corresponding parameter group. Proceed as follows to view these parameters:

If desired, you can also import or export "My parameters" (recommended on PC). Continue as follows:

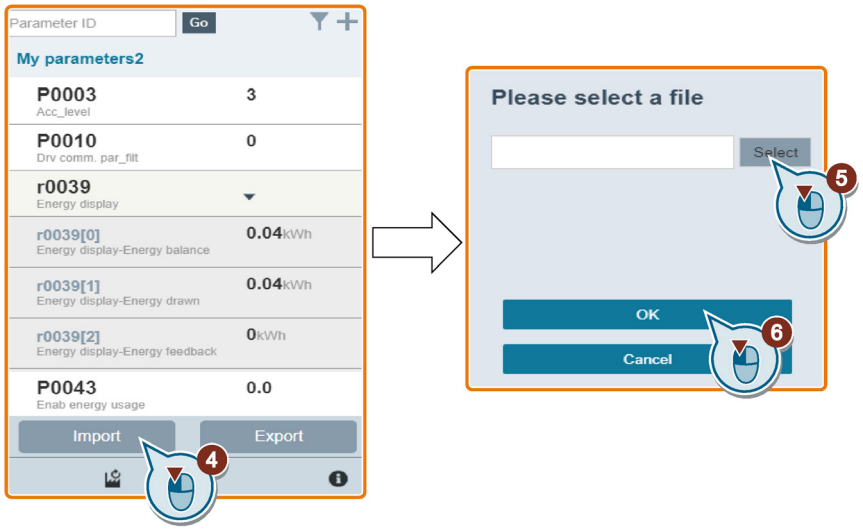
Note

Precondition

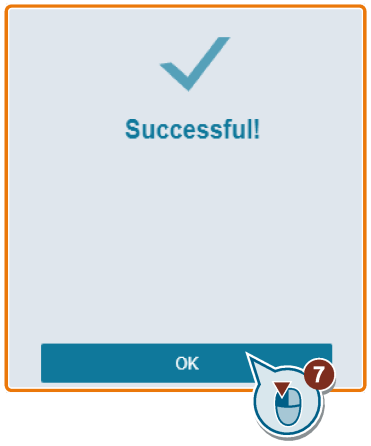
You have navigated to the desired parameter group under "My parameters" shown as the image above.

The softkeys "Import" and "Export" are not available if you are under the state of "Editing my parameters".

- Importing "My parameters"



The importing process completes when the following window appears. Note that the imported parameters will overwrite the old parameters in your specified parameter group.

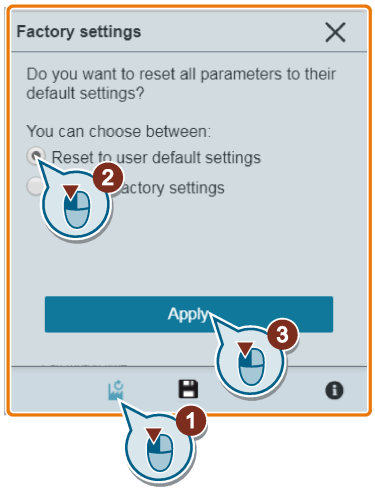


- Exporting "My parameters"

The exporting process completes with a .xml file saved under your specified path. You can open the file to view the exported parameters. Note that the exported .xml file only shows the parameter numbers. The corresponding parameter values are not shown.

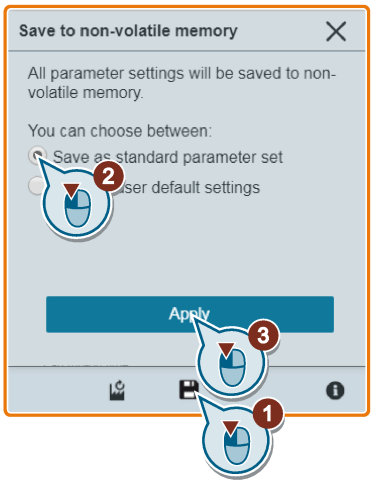
Resetting parameters

You can select to reset all parameters to either user default settings or factory settings.



Saving parameters to non-volatile memory

You can select to save all parameter settings to the non-volatile memory as either standard parameter set or user default settings.

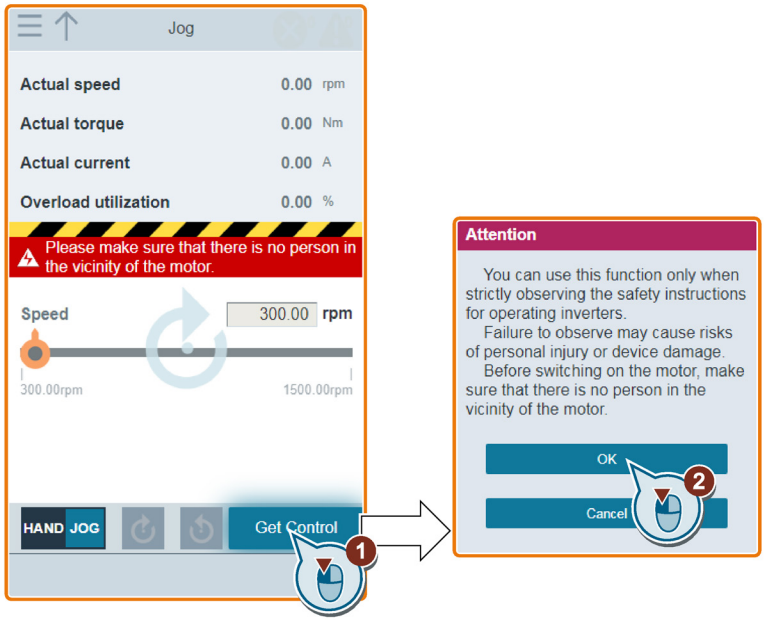


5.7 JOG

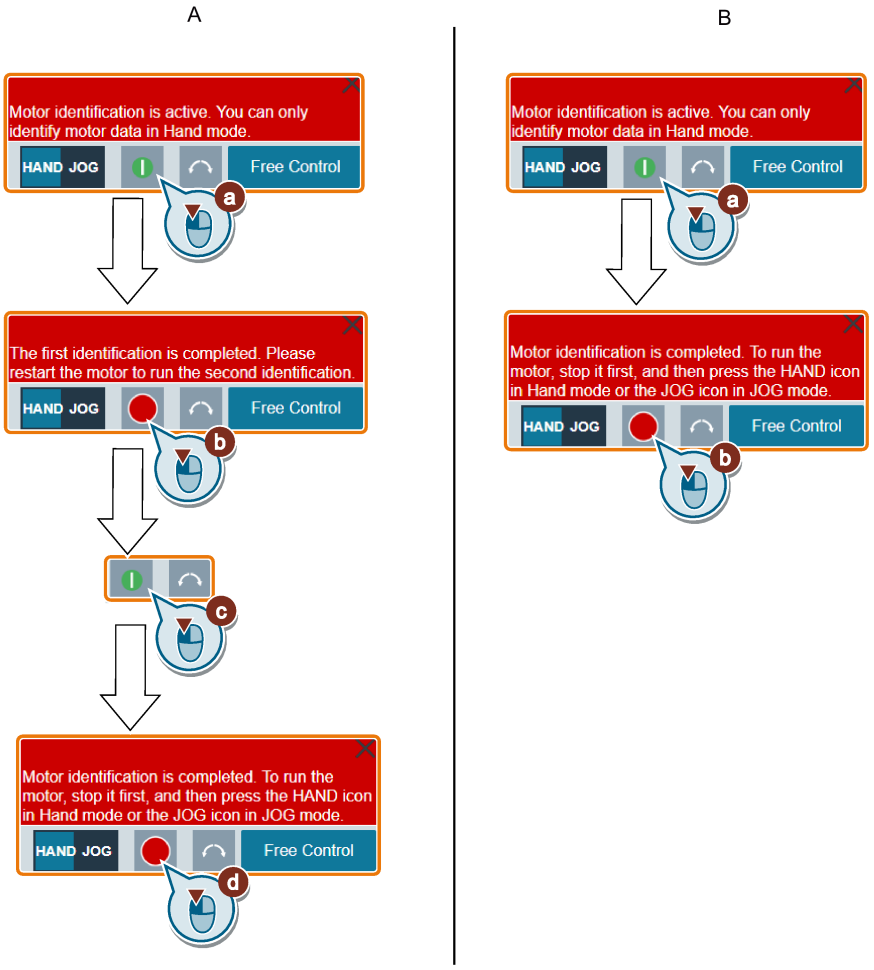
You use this Web page to start the motor test run in JOG or HAND mode.

Operating sequence

1. Open the JOG Web page by selecting the JOG icon from either the home page or the navigation sidebar.
2. Proceed as follows to get control of the motor.

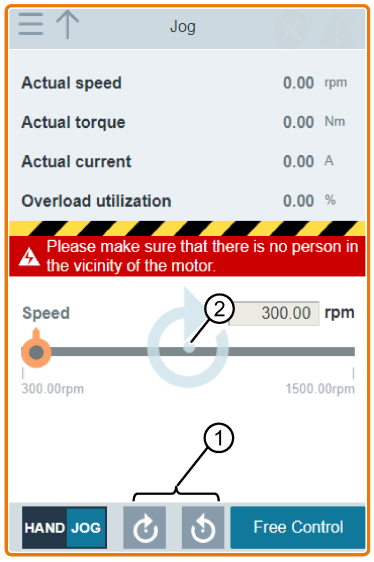


3. Identify the motor data. This step varies depending on the setting of the parameter p1900 in quick setup page or in parameter page.
   - p1900 = 0: Do not measure the motor data. Proceed to the next step to perform the motor test run.
   - p1900 = 1: Measure the motor data at standstill and with the motor rotating. You must do motor data identification twice (See A).
   - p1900 = 2: Measure the motor data at standstill. You must do motor data identification only once (See B).

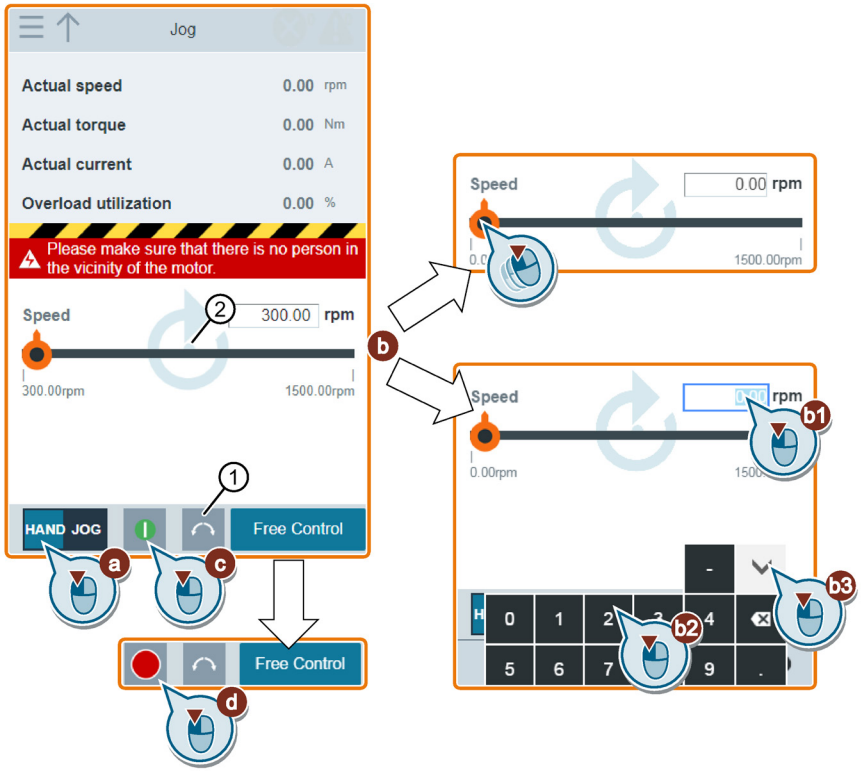

A
B
Motor identification is active. You can only identify motor data in Hand mode.
HAND JOG
Free Control
a
The first identification is completed. Please restart the motor to run the second identification.
b
c
Motor identification is completed. To run the motor, stop it first, and then press the HAND icon in Hand mode or the JOG icon in JOG mode.
d

4. Run the motor in JOG or HAND mode (default mode: JOG).
   Note that if desired, you can also test the motor rotation direction with the corresponding button ("①"). The page shows the currently selected rotation direction ("②").

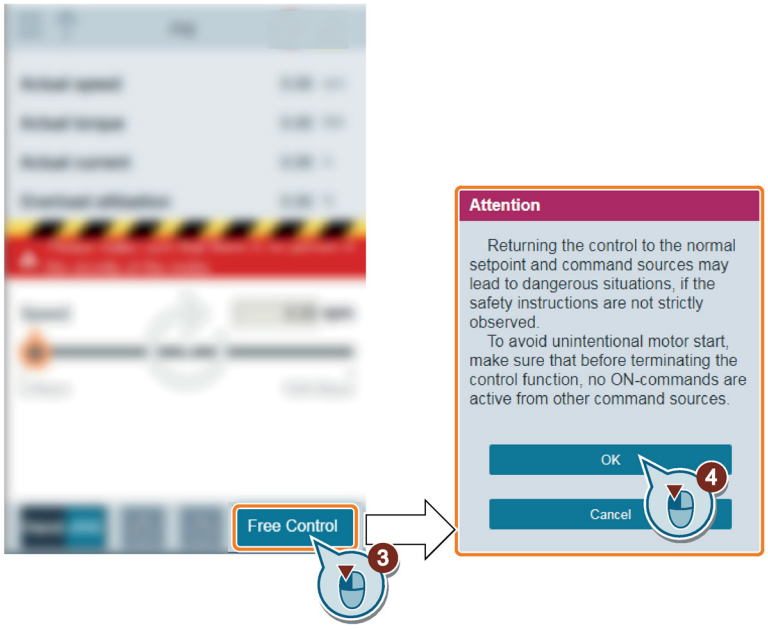
   - Press the desired button ("①") to run the motor in JOG mode:



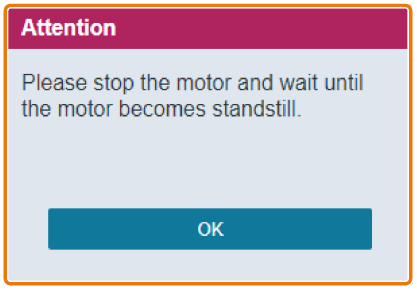
   - Proceed as follows to run the motor in HAND mode:



5. After you finish the motor test run, proceed as follows to return the control of the motor:



Before returning the control, make sure that there is no converter output and the motor has stopped. If the motor is still running, the following message appears:

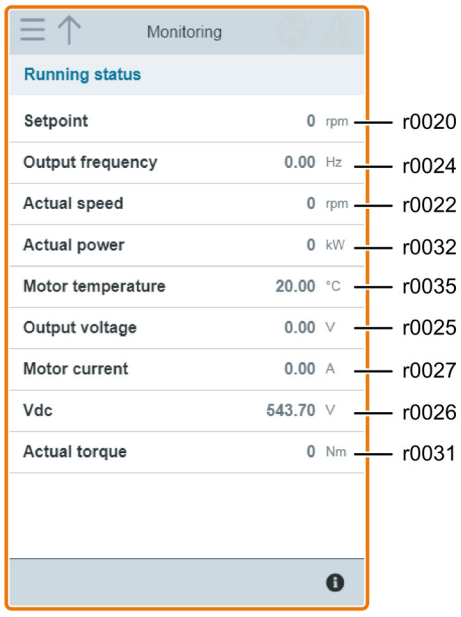


Note

If the Wi-Fi connection is lost during motor test run, you must re-establish the wireless network connection.

5.8 Monitoring

You can open the converter status monitoring Web page by selecting the monitoring icon from either the home page or the navigation sidebar.



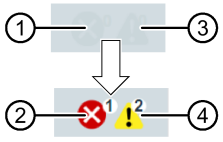
5.9 Diagnostics

You can open the diagnostics Web page by selecting the diagnostics icon from either the home page or the navigation sidebar. This page includes the following three subpages:

- Faults/alarms
- I/O status
- Status bits

Meaning of fault/alarm icons

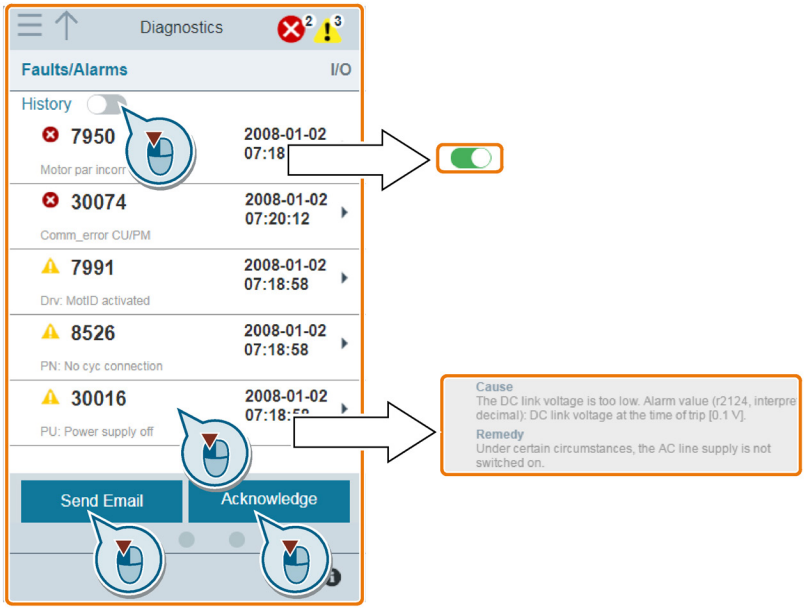
Fault and alarm icons are shown in the upper-right corner of the SINAMICS G120 Web page. See the following example for possible icon display:



Fault icons	
①	No active faults
②	Active faults (in this example: one active fault)
Alarm icons	
③	No active alarms
④	Active alarms (in this example: two active alarms)

Faults/Alarms

On this subpage, you can view the detailed fault/alarm information, acknowledge all faults, or send all faults by e-mail (recommended on PC). Note that when sending faults by email, make sure that your mobile device is connected to the internet.



You can use the filter button to display all faults and alarms or the active ones only.

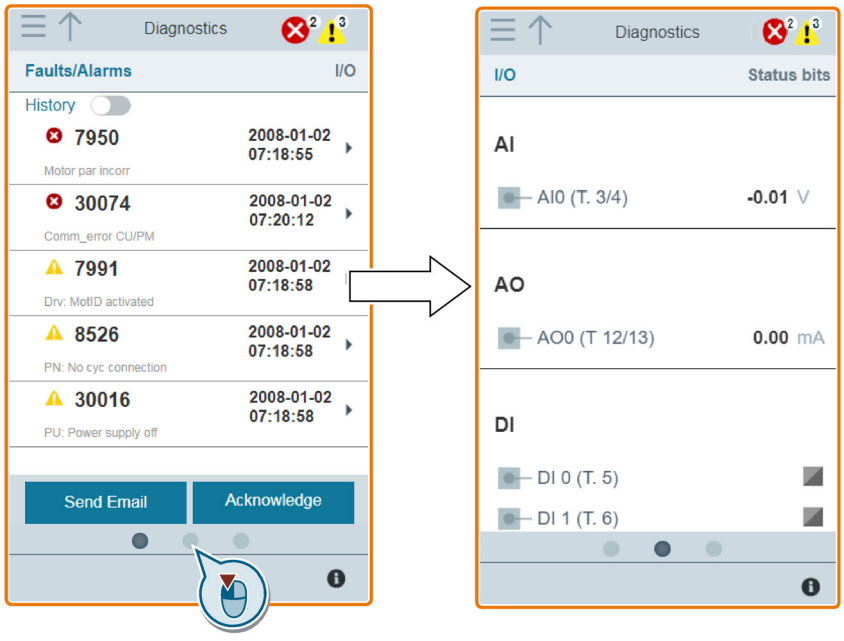
Button status	Description
	Displays the active faults and alarms only
	Displays all faults and alarms

Note: SINAMICS G120 Smart Access does not read the updates of active faults or alarms from the converter until you collapse the currently expanded fault/alarm.

For more information about the maximum number of faults/alarms that can be recorded, see r0947/r2110.

I/O status

This subpage displays the detailed I/O status information.

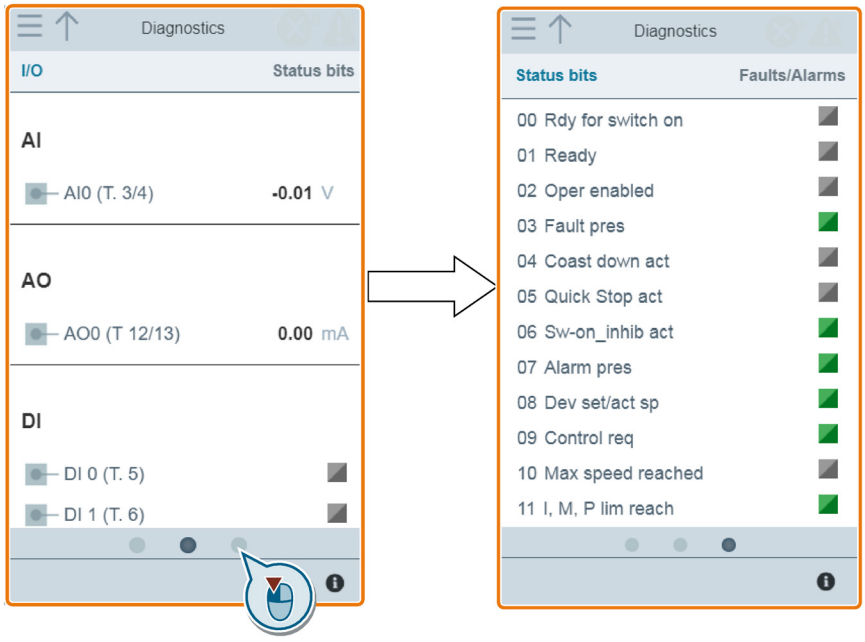


Parameters

Parameter	Function
r0722.0...n	CO/BO: CU digital input status
r0747.0...n	CO/BO: CU digital output status
r0752[0...n]	Actual analog input value [V] or [mA]
r0774[0...n]	Actual analog output value [V] or [mA]
P0756[0...n]	Type of analog input
P0776[0...n]	Type of analog output

Status bit

This subpage displays the detailed status bit information.



Parameters

Parameter	Function
r0052.0...15	CO / BO: Active status word 1
r0053.0...11	CO / BO: Active status word 2

5.10 Backup and restore

5.10.1 Backing up

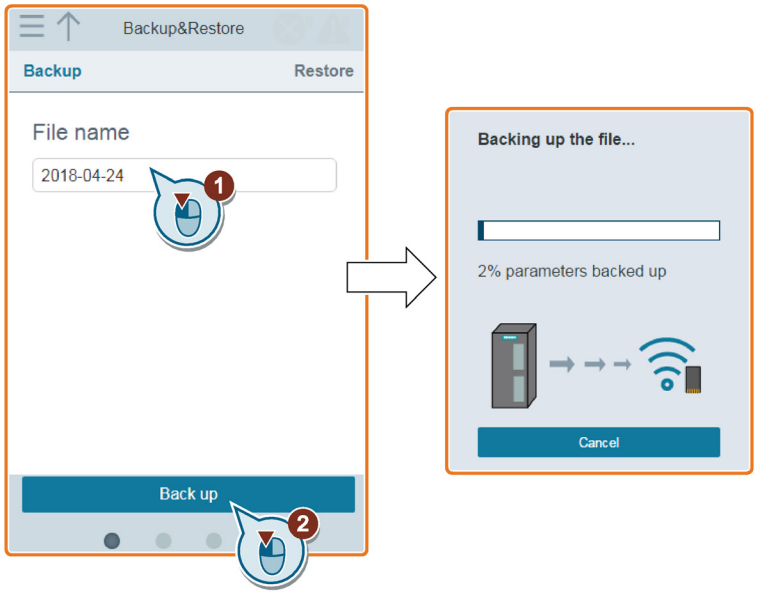
You can use the backup Web page to back up parameters to SINAMICS G120 Smart Access and download the backup file (*.bin file) to your local drive (recommended on PC).

Note

The backup process backs up all the changed parameters and allows you to back up a maximum of 20 files to SINAMICS G120 Smart Access. In case of any further backup attempt, a message appears prompting you to delete some of the existing backup files.

Operating sequence

1. Proceed as follows to back up the parameter file to SINAMICS G120 Smart Access.



   Character restrictions for the file name: maximum 30 characters which are limited to A-Z, a-z, 0-9, _, -, (,), dot, or space. If the name for the new backup file already exists, a message prompts asking you whether you want to overwrite the existing file or cancel the backup process.

2. The backup process completes when the following window appears. If the Web page indicates that the backup fails, you can select to back up again.

   Note that it is optional to download the backup file to your local drive (recommended on PC).

Note

When you perform the backup operation on a mobile device, if the menus and buttons on the Web page disappear after you finish editing the backup file name, then you can tap in the blank area of the Web page to restore them.

Note

Backup files must be protected against unauthorized operation, e.g. by implementing access control.

Note

When transferring important files (e.g. backup files and/or upgrade files) through email, email must be encrypted or signed.

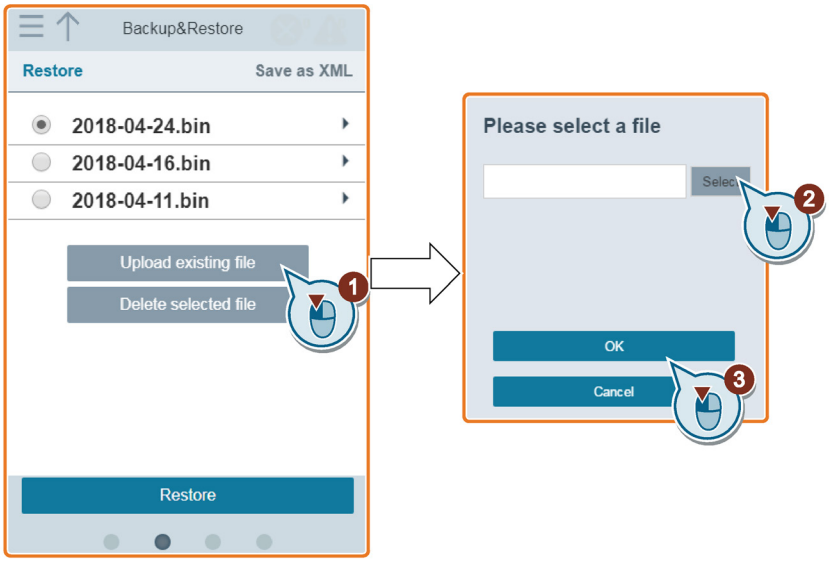
5.10.2 Restoring

You can use the restore Web page to upload, download, delete, and/or restore the selected file (*.bin file).

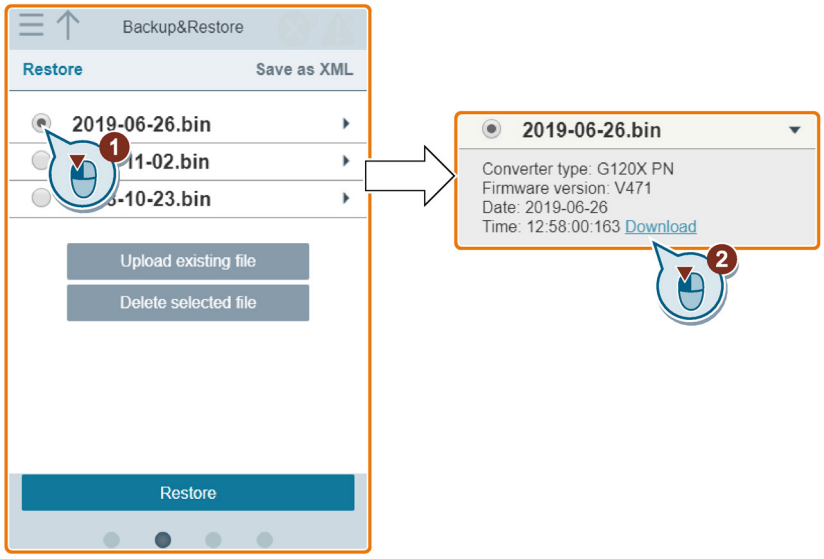
Note

The restoring process restores all parameters of access levels up to 3.

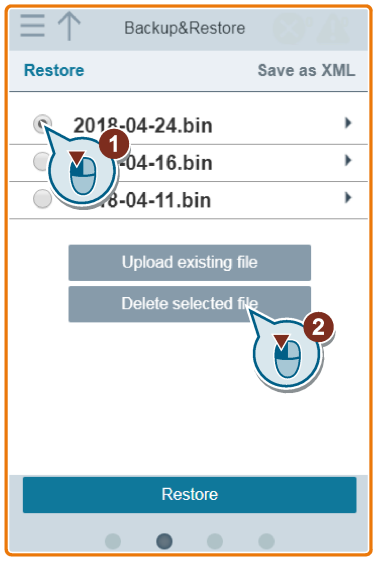
Uploading an existing file (recommended on PC)



Downloading an existing file (recommended on PC)

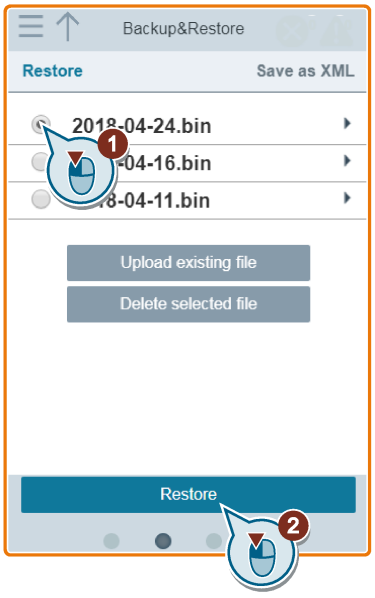


Deleting the selected file



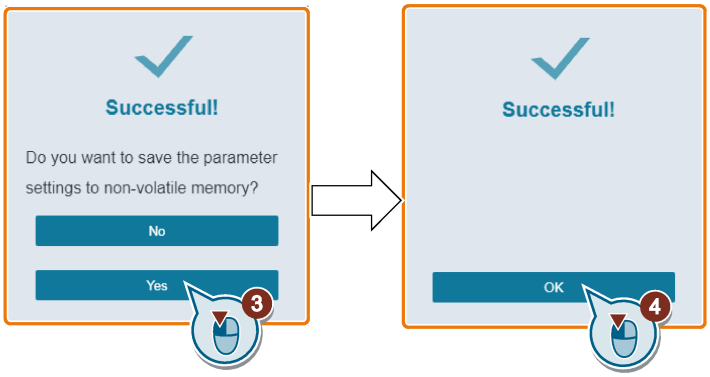
Restoring the selected file

1. Proceed as follows to start restoring process.



2. The restoring process completes when the following window appears. If the Web page indicates that the restoring fails, you can select to restore again.

   If required, proceed as follows to save the parameter settings to the non-volatile memory:



Note

Make sure that the selected file for restoring is specific to the connected converter.

Note

After restoring the parameters, acceptance test is required to check whether the safety-relevant functions in the plant or machine function correctly.

5.10.3 Saving as XML

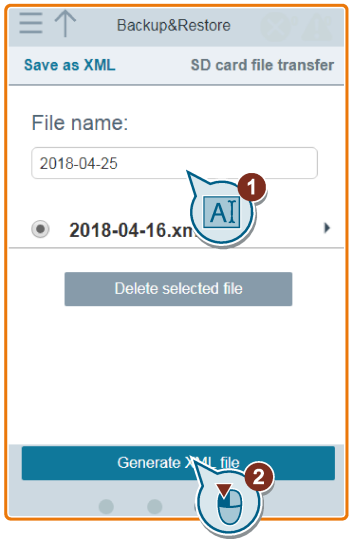
You can use the saving Web page to save the parameters as XML and download the XML file to your local drive so that you can open and see the parameters.

Note

The saving process saves all parameters of access levels up to 3 and allows you to save a maximum of 20 files to SINAMICS G120 Smart Access. In case of any further saving attempt, a message appears prompting you to delete some of the existing XML files.

Generating an XML file

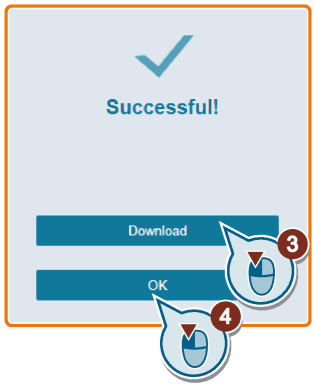
1. Proceed as follows to save the parameters as XML.



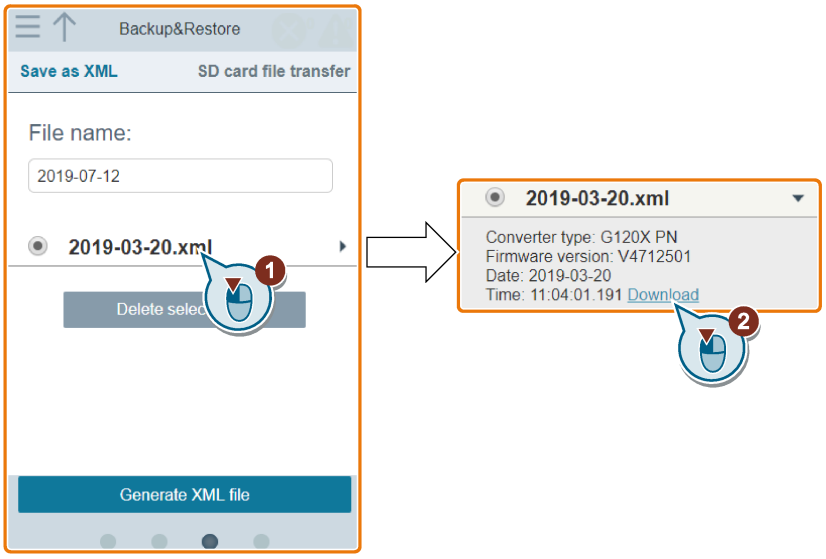
   Character restrictions for the file name: maximum 30 characters which are limited to A-Z, a-z, 0-9, _, -, (,), dot, or space. If the name for the file already exists, a message prompts asking you whether you want to overwrite the existing file or cancel the generating process.

2. The generating process completes when the following window appears. If the Web page indicates that the generation fails, you can select to generate again.

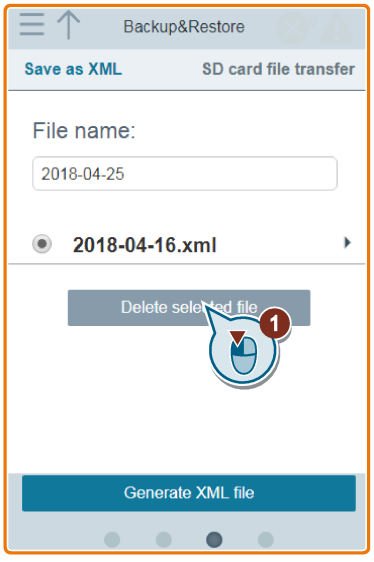
   Note that you can select to download the file to your local drive (recommended on PC).



Downloading an existing file (recommended on PC)



Deleting the selected file



5.10.4 Transferring

You can open the transfer Web page by selecting the backup&restore icon from either the home page or the navigation sidebar.

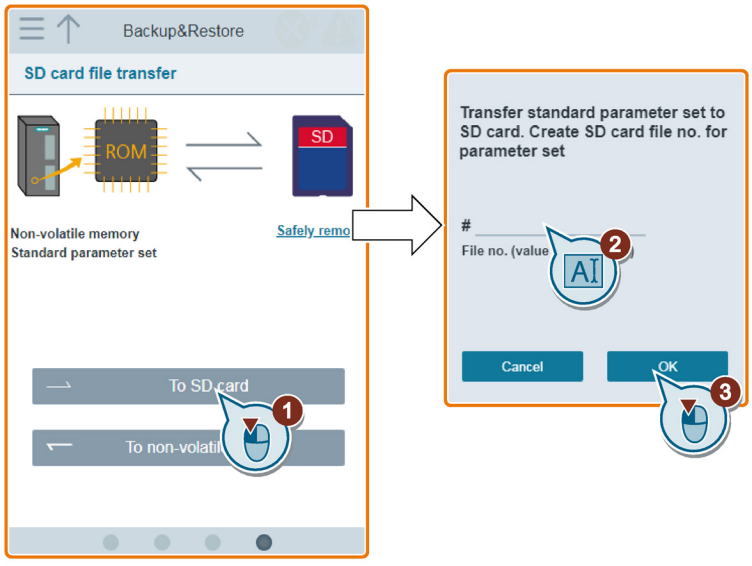
Precondition

The SD card file transfer function is available only when a required SD card is inserted into the converter.

Before data transfer, make sure that parameter settings are saved to the non-volatile memory as standard parameter set. For detailed information about saving parameters, see Section "Parameters (Page 47)".

Transferring standard parameters sets to SD card

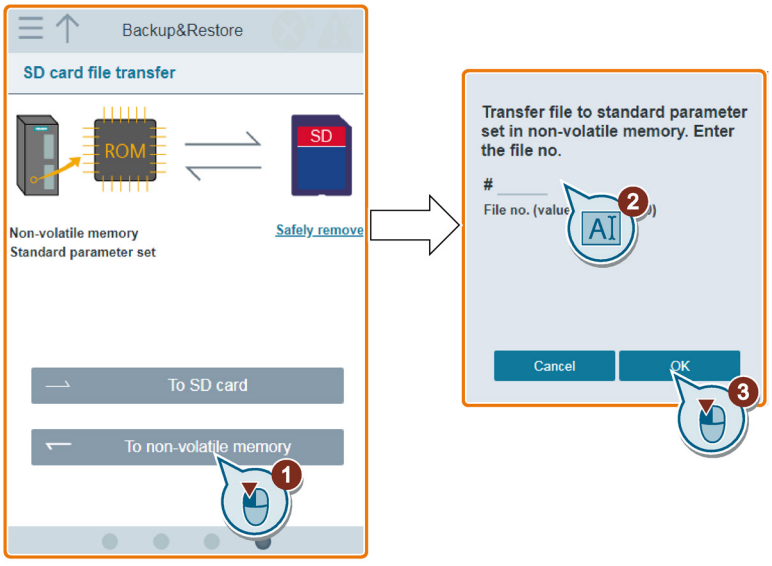
1. Proceed as follows to transfer the standard parameter sets to SD card.



2. The transferring process completes when the following window appears. If the Web page indicates that the transfer fails, you can select to transfer again.

Transferring files to standard parameter sets in non-volatile memory

1. Proceed as follows to transfer files to standard parameter sets in the non-volatile memory.



2. The transferring process completes when the following window appears. If the Web page indicates that the transfer fails, you can select to transfer again.

Note

To safely remove the SD card, click "safely remove" on the transfer Web page after the transferring process has completed.

5.11 Support

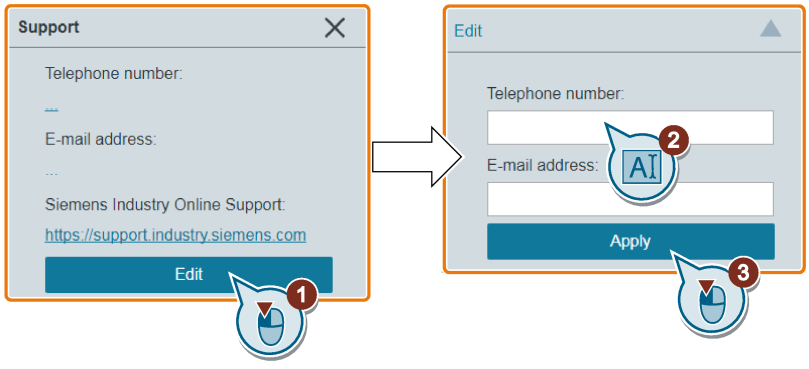
The support information dialog box contains the following information:

- Telephone number - left blank at the factory and can be edited by the OEM user
- E-mail address - left blank at the factory and can be edited by the OEM user
- Web site for Siemens Industry Online Support

Viewing the support information

Editing the support information (for OEM users only)

OEM users can enter their contact telephone and E-mail address in the following dialog box according to the specified rules:



- Telephone number: up to 22 characters starting with either "+" or numbers and limited to numbers, space, and "-"
- E-mail address: up to 48 characters starting with numbers or letters

Upgrading

6

Upgrading on the SINAMICS G120 Web page upgrades the firmware version of the SINAMICS G120 Smart Access.

Two upgrading methods are available:

- Conventional upgrading
- Basic upgrading (applicable when conventional upgrading fails)

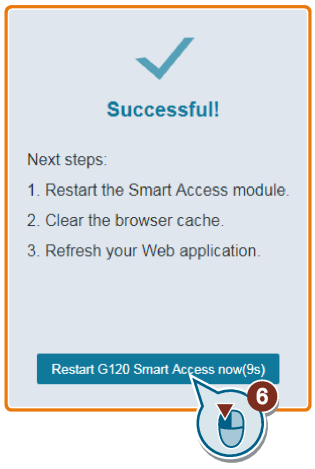
Conventional upgrading

1. Download the target upgrade file (*.bin file) from the following Web site to your local drive (recommended on PC):

   https://support.industry.siemens.com/cs/ww/en/ps/13225/dl

2. Access the SINAMICS G120 Web page: http://192.168.1.1 or https://192.168.1.1. Proceed as follows to perform the upgrade:

3. The upgrading process completes when the following window appears. If the Web page indicates that the upgrading fails, you can select to upgrade again.



4. Restart the SINAMICS G120 Smart Access. Note that if you do not click "Restart G120 Smart Access now", the SINAMICS G120 Smart Access will restart automatically after the 10-second countdown time has elapsed.
5. Clear the browser cache.
6. Refresh your Web application.

Note

Uploading self-signed certificates

If you want to replace the default certificates with self-signed ones, you can upload the certificates in the conventional upgrading page. You can use any tool available to create self-signed certificates as long as they adhere to these settings:

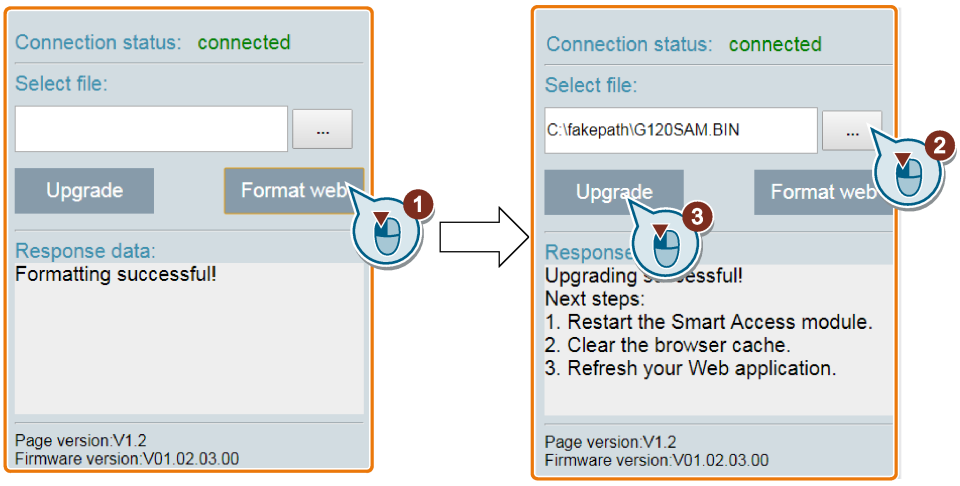
- The two certificate file names must be servercert.der and serverkey.der respectively.

After uploading the two certificate files, you must install the SSL certificates.

Basic upgrading

1. Download the target upgrade file (*.bin file) from the following Web site to your local drive (recommended on PC):
   https://support.industry.siemens.com/cs/ww/en/ps/13225/dl
2. Hold down the reset button when the module is in power-off state and then power on the module.
3. Open the following Web site specific for basic upgrading:
   http://192.168.1.1/factory/basicupgrade.html

4. Proceed as follows:



"Format web" is optional. If you click "Format web", the base version and all the bin files and xml files you have backed up will be deleted.

5. Restart the SINAMICS G120 Smart Access.
6. Clear the browser cache.
7. Refresh your Web application.

Note

Refresh the basic upgrading page if the connection status unexpectedly becomes "disconnected" during upgrading.

Additional information

7

7.1 Product information

User documentation

- SINAMICS G120 Smart Access Operating Instructions (https://support.industry.siemens.com/cs/ww/en/ps/13225/man)

  Commissioning, parameterizing, and maintaining the converter with SINAMICS G120 Smart Access (this manual)

- SINAMICS G120 Smart Access Product Information (https://support.industry.siemens.com/cs/ww/en/ps/13225/man)

  Basic information about SINAMICS G120 Smart Access

Additional resources

- SINAMICS G120 Smart Access Video Tutorial (www.siemens.com/sinamics-accessories)

  Video tutorial that helps you understand how to operate the SINAMCS G120 Smart Access

Readme file

Third-party software - Licensing terms and copyright information

You can view the Readme file from the following Web site:

- https://192.168.1.1/ReadMe_OSS.html
- http://192.168.1.1/ReadMe_OSS.html

7.2 Product support

For more information about the product, please visit:

Product support (http://www.siemens.com/automation/service&support)

This address provides the following:

- Actual product information (product memorandums), FAQs (frequently asked questions), downloads.
- The Newsletter contains the latest information on the products you use.
- The Knowledge Manager (Intelligent Search) helps you find the documents you need.
- Users and specialists from around the world share their experience and knowledge in the Forum.
- You can find your local representative for Automation & Drives via our contact database under "Contact & Partner".
- Information about local service, repair, spare parts and much more can be found under "Services".

7.3 Technical specifications

Feature	Description
Article number	6SL3255-0AA00-5AA0
Firmware version	V01.03.01
Net weight	87.5 g
Gross weight	109.7 g
Operating ambient temperature	0 °C ... 50 °C under nominal conditions of the connected converter, according to UL requirement
Transportation and storage ambient temperature	-40 °C ... 70 °C
Extreme temperature range	-10 °C ... 60 °C
Relative humidity	< 95%, without condensation
Rated voltage	15 V DC
Wireless technology and working frequency	Wi-Fi 2400MHz ... 2483.5MHz
Wireless modulation type	802.11 b/g
Maximum wireless communication distance	100 m
Antenna gain	1.9 dBi
Maximum radio frequency output power	17.5 dBm (effective isotropic radiated power)
Protection	Depending upon the converter IP rating to a maximum of IP55/UL Type 12
Shock and vibration	Long-term storage in the transport packaging according to Class 1M2 according to EN 60721-3-1: 1997 Transport in the transport packaging according to Class 2M3 according to EN 60721-3-2: 1997 Vibration in operation according to Class 3M1 according to EN 60721-3-3: 1995

7.4 Directives and standards

CE	**Radio Equipment Directive 2014/53/EU** SINAMICS G120 Smart Access is in compliance with Radio Equipment Directive 2014/53/EU. You can download the certificate from the following link: Declaration of conformity (https://support.industry.siemens.com/cs/ww/en/ps/13225/cert)
	The CE Declaration of Conformity is held on file available to the competent authorities at the following address: Siemens AG Digital Industries Motion Control Frauenauracher Straße 80 DE-91056 Erlangen Germany
FC	FCC Compliance statement This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation. Changes or modifications made to this device not expressly approved by SIEMENS may void the FCC authorization to operate this device. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment 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 separation between the equipment and receiver. • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. • Consult the dealer or an experienced radio/TV technician for help. **RF exposure statement** This equipment complies with radio frequency exposure limits set forth by the FCC for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the device and the user or bystanders. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

ANATEL	ANATEL certificate number: 06121-18-00199 This device must not be protected against harmful interference and it may not cause interference in authorized systems (see below for corresponding text in Portuguese): Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.
NCC	根據低功率電波輻射性電機管理辦法規定: 第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。 第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信； 經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。 前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。
IC	This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage. (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement. This equipment complies with radio frequency exposure limits set forth by the Innovation, Science and Economic Development Canada for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the device and the user or bystanders. This device must not be co-located or operating in conjunction with any other antenna or transmitter. Cet équipement est conforme aux limites d'exposition aux radiofréquences définies par la Innovation, Sciences et Développement économique Canada pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre le dispositif et l'utilisateur ou des tiers. Ce dispositif ne doit pas être utilisé à proximité d'une autre antenne ou d'un autre émetteur.
	Australia and New Zealand (RCM formerly C-Tick) SINAMICS G120 Smart Access fulfills the requirements for RCM.
	**Notice to users in South Korea:** 이 컴퓨터는 전자파 적합성평가(인증)를 받은 내장구성품을 사용하여 조립한것으로 완성품에 대한 전자파 적합성평가는 받지 않은 제품입니다.
	SINAMICS G120 Smart Access fulfills the requirements for KVALITET.
NBTC	This telecommunication equipment conforms to the technical standards or requirements of NBTC (see below for corresponding text in Thai). เครื่องโทรคมนาคมและอุปกรณ์นี้มีความสอดคล้องตามมาตรฐานหรือข้อกำหนดทางเทคนิคของ กสทช.
MIC	SINAMICS G120 Smart Access fulfills the requirements for MIC.
ICASA	SINAMICS G120 Smart Access fulfills the requirements for ICASA.
MOT	Certificate number: 4668 / E&M / 2019

ictQATAR	SINAMICS G120 Smart Access fulfills the requirements for ictQATAR.
NTC Type Approved No.: ESD-1918475C	SINAMICS G120 Smart Access fulfills the requirements for NTC.
UkrCEPRO	SINAMICS G120 Smart Access fulfills the requirements for UkrCEPRO.
PTA	SINAMICS G120 Smart Access fulfills the requirements for PTA.
Complies with IMDA Standards [DA104037]	SINAMICS G120 Smart Access fulfills the requirements for IMDA.
TRC	Certificate number: TRC/SS/2019/53
TRA REGISTERED No.: ER69328/19 DEALER No.: 0016335/08	SINAMICS G120 Smart Access fulfills the requirements for TRA.
SUBTEL	SINAMICS G120 Smart Access fulfills the requirements for SUBTEL.
IFETEL	Certificate number: RCPSI6S19-0552
SUPERTEL	SINAMICS G120 Smart Access fulfills the requirements for SUPERTEL.