

SIEMENS

<https://support.industry.siemens.com/cs/cn/zh/view/109772088>



Operating Instructions - 09/2020

InverterEdge

Operating Instructions

Software version V1.3

Unrestricted

Table of contents

1	Introduction	3
2	System requirements	4
2.1	Requirements for G120.....	4
2.2	Requirements for G120XA.....	6
3	Installing InverterEdge	7
3.1	Installation procedure	7
3.2	Shortcuts in the Windows Start menu.....	9
3.3	Drive configuration list	9
4	Getting started with InverterEdge.....	10
4.1	Commissioning G120	10
4.2	Commissioning G120XA.....	22
4.3	Commissioning V20.....	28
5	Appendix.....	34
5.1	Downloads	34
5.2	Feedback	34
5.3	Version log	35

1 Introduction

The InverterEdge software tool provides one-button configuration and commissioning for SINAMICS converters that are based on TIA Portal and Startdrive Openness. The current software version is valid only for SINAMICS G120 converter series.

All drive configuration and parameterization are simply done with an Excel sheet and the rest of the procedure is automatically complete with a click of one button in InverterEdge. For optional steps in between, you can select to skip or complete via dialog boxes.

InverterEdge supports the following converters:

Converter series	Control Unit	Firmware version
G120	CU240E-2 PN	V4.5 ~ V4.7.10
	CU250S-2 PN	V4.6 ~ V4.7.10
G120C	G120C PN	V4.5 ~ V4.7.10
G120P	CU230P-2 PN	V4.6 ~ V4.7.10
G120D	CU240D-2 PN	V4.5 ~ V4.7.10
	CU250D-2 PN	V4.5 ~ V4.7.10
G120XA		

InverterEdge supports the following functions:

- Automatically creating TIA Portal projects
- Reading configuration data
- Creating drive units in TIA Portal
- Configuring drive units
- Changing parameters of drive units
- Downloading project to drive units
- Connecting drive units online
- Quick commissioning and input of motor data on rating plate
- Stationary motor measurement
- Rotating measurement
- Series commissioning
- Offline drive settings
- Project export
- Project import

2 System requirements

To install and execute InverterEdge, your computer must satisfy the hardware and software requirements listed below.

2.1 Requirements for G120

2.1.1 Hardware requirements

Hardware	Recommendation
Processor	Intel® Core™ i5-6440EQ
Memory	16GB
Hard disk	SSD
Display	15.6"

2.1.2 Software requirements

Software	Compatible version
TIA Portal	V15.1
Startdrive	V15.1
Openness	V15.1

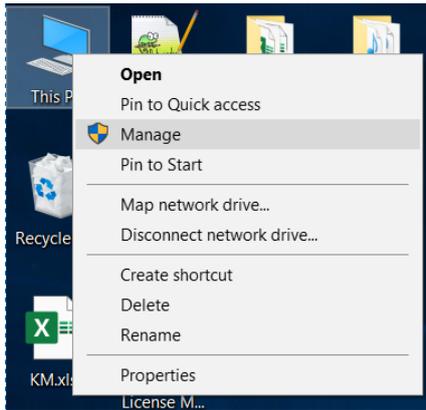
2.1.3 Compatible operating systems

Operating system	Compatible version
Windows 7 (64-bit)	Windows 7 Professional SP1
	Windows 7 Enterprise SP1
	Windows 7 Ultimate SP1
Windows 10 (64-bit)	Windows 10 Professional Version 1709, 1803
	Windows 10 Enterprise Version 1709, 1803
	Windows 10 Enterprise 2016 LTSB
	Windows 10 IoT Enterprise 2015 LTSB
	Windows 10 IoT Enterprise 2016 LTSB
Windows Server (64-bit)	Window Server 2012 R2 StdE (full installation)
	Window Server 2016 Standard (full installation)

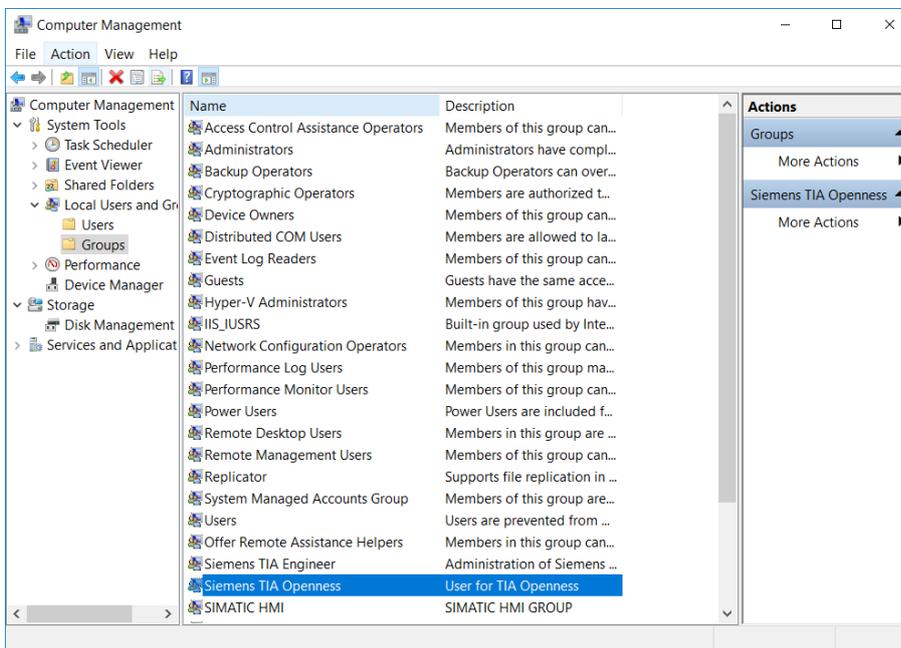
2.1.4 Adding users to Siemens TIA Openness user group

Before launching InverterEdge, firstly add the Windows user to the Siemens TIA Openness user group as described below:

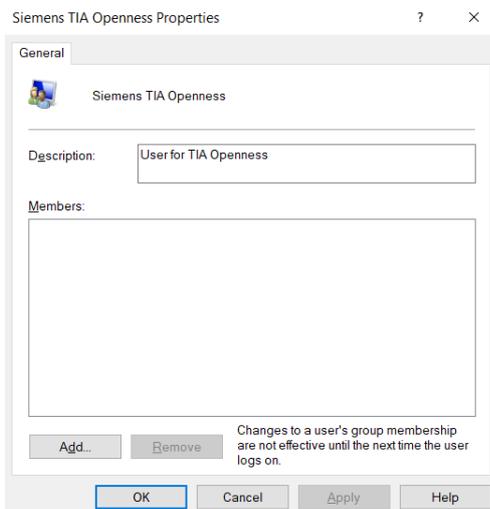
Right-click "This PC" and select the menu command "Manage".



Select “Groups” under “Local users and Groups” and then double-click **Siemens TIA Openness** on the right area of the window.



Click “Add” in the dialog box to add the Windows user to the group “**Siemens TIA Openness**”.



2.2 Requirements for G120XA

2.2.1 Hardware requirements

Hardware	Recommendation
Processor	Intel® Core™ i5-6440EQ
Memory	16GB
Hard disk	SSD
Display	15.6"

2.2.2 Compatible operating systems

Operating system	Compatible version
Windows 7 (64-bit)	Windows 7 Professional SP1
	Windows 7 Enterprise SP1
	Windows 7 Ultimate SP1
Windows 10 (64-bit)	Windows 10 Professional Version 1709, 1803
	Windows 10 Enterprise Version 1709, 1803
	Windows 10 Enterprise 2016 LTSB
	Windows 10 IoT Enterprise 2015 LTSB
	Windows 10 IoT Enterprise 2016 LTSB
Windows Server (64-bit)	Window Server 2012 R2 StdE (full installation)
	Window Server 2016 Standard (full installation)

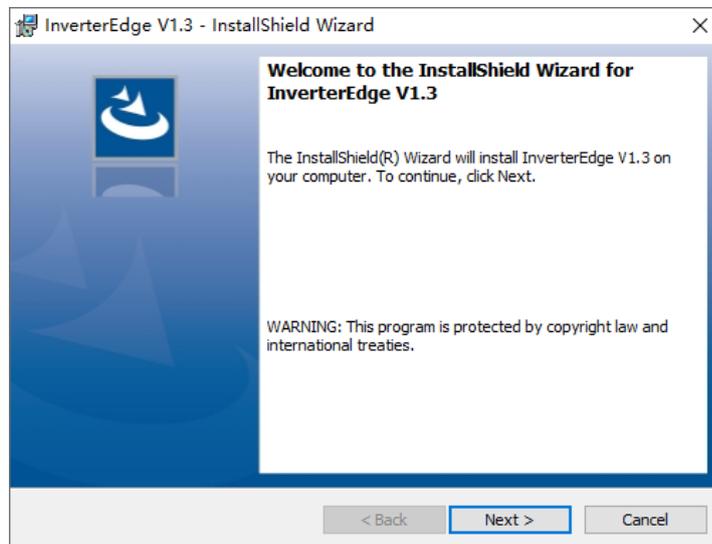
3 Installing InverterEdge

3.1 Installation procedure

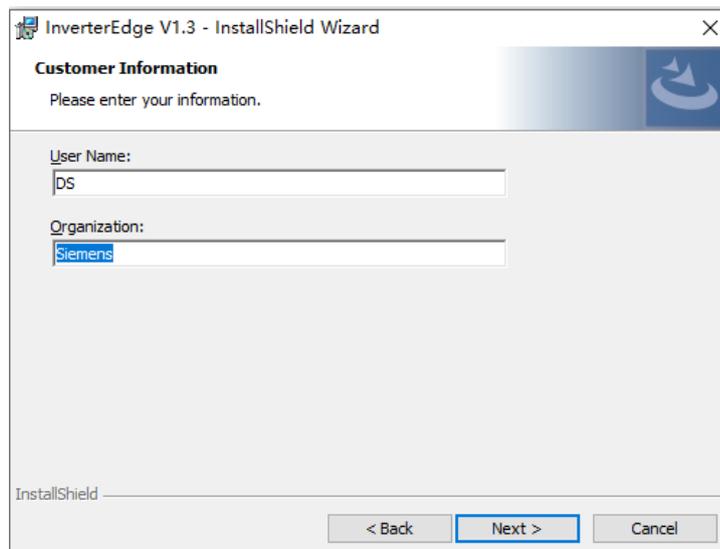
All installation files are packed in a setup program named “InverterEdgeSetup”. Double-click the program icon to launch the setup program:



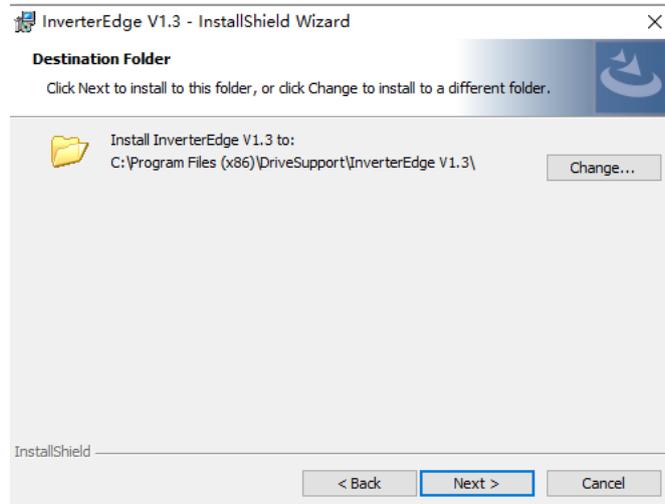
Click “ Next” to start the installation:



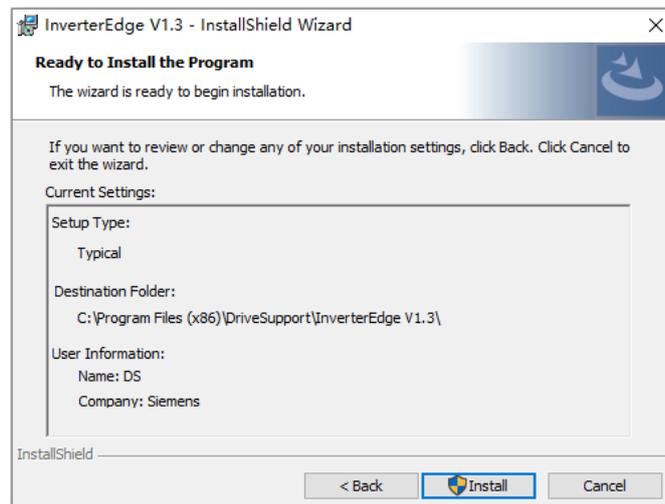
Enter your user name and Organization name, and then click “Next”.



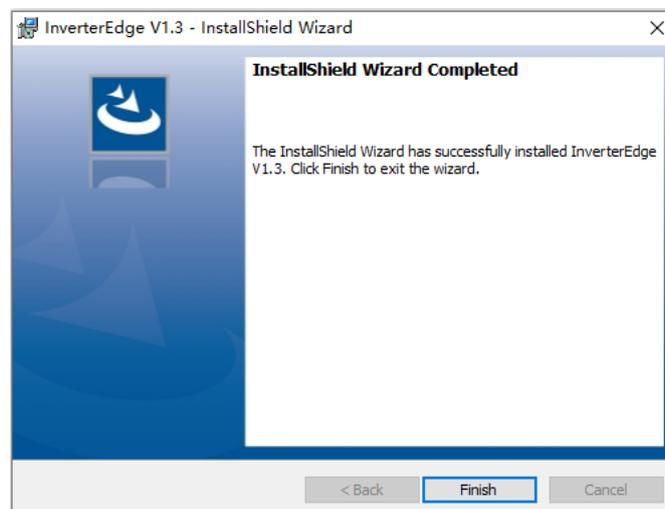
Specify the installation path and click “Next”.



Check the installation summary and click “Install”.



A message “InstallShield Wizard Completed” appears when the installation is complete successfully. Click “Finish” to exit the setup wizard.



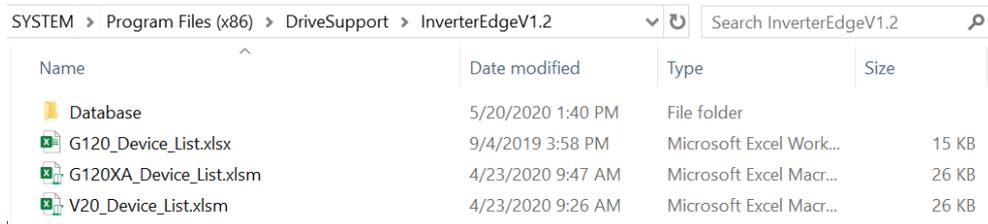
3.2 Shortcuts in the Windows Start menu

After installation, a shortcut to the folder named “DriveSupport” is automatically created in the Windows Start menu. It contains shortcuts to launching and uninstalling InverterEdge.



3.3 Drive configuration list

In addition to all files required to run InverterEdge, the software installation folder contains the drive configuration lists as well: G120_Device_List.xlsx, G120XA_Device_List.xlsm, and V20_Device_List.xlsm (see below)

A screenshot of a Windows File Explorer window. The address bar shows the path: SYSTEM > Program Files (x86) > DriveSupport > InverterEdgeV1.2. The search bar contains 'Search InverterEdgeV1.2'. The main area displays a table of files and folders.

Name	Date modified	Type	Size
Database	5/20/2020 1:40 PM	File folder	
G120_Device_List.xlsx	9/4/2019 3:58 PM	Microsoft Excel Work...	15 KB
G120XA_Device_List.xlsm	4/23/2020 9:47 AM	Microsoft Excel Macr...	26 KB
V20_Device_List.xlsm	4/23/2020 9:26 AM	Microsoft Excel Macr...	26 KB

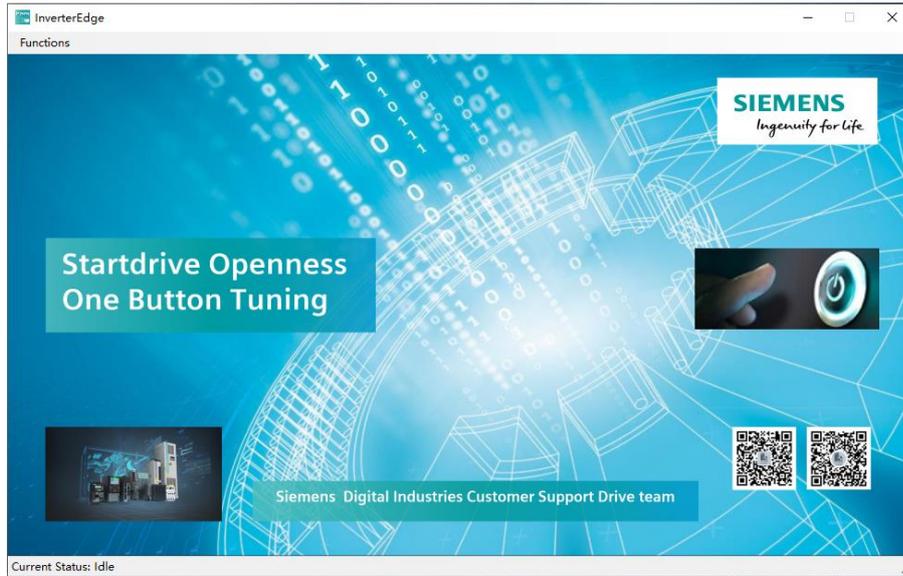
You don't have to copy these lists. After launching InverterEdge, they will be created automatically under the path C:\Siemens Drive.

4 Getting started with InverterEdge

Double-click the icon on the desktop to launch the software.



The start screen is as follows:



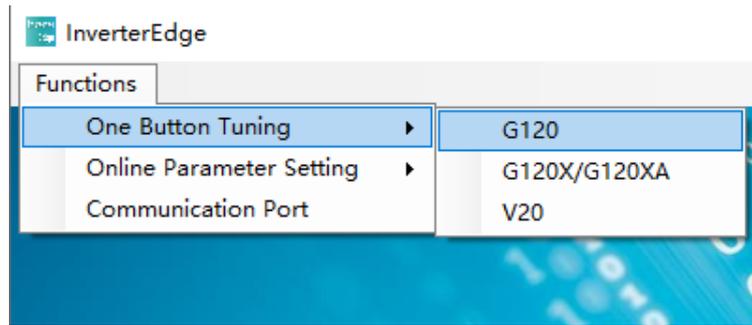
4.1 Commissioning G120

When InverterEdge is launched for the first time, it creates a folder named “Siemens Drive” as the root folder under C:\ and a drive configuration list named “G120 _Device_List.xlsx” with example parameters under the path C:\Siemens Drive.

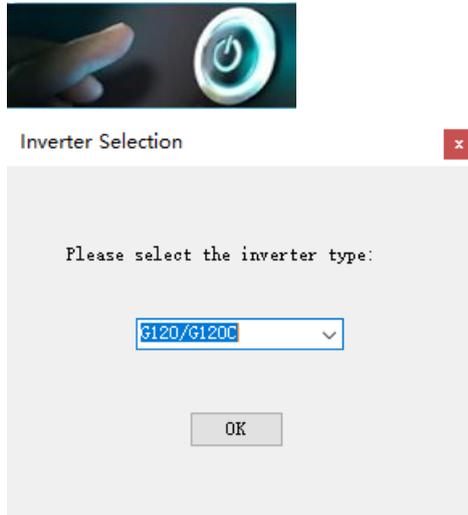
The screenshot shows a Windows File Explorer window with the address bar set to '(C:) SYSTEM > Siemens Drive'. The search bar contains 'Search Siemens Drive'. The file list contains three files:

Name	Date modified	Type	Size
G120_Device_List.xlsx	9/4/2019 3:58 PM	Microsoft Excel W...	15 KB
G120XA_Device_List.xlsm	4/23/2020 9:47 AM	Microsoft Excel M...	26 KB
V20_Device_List.xlsm	4/23/2020 9:26 AM	Microsoft Excel M...	26 KB

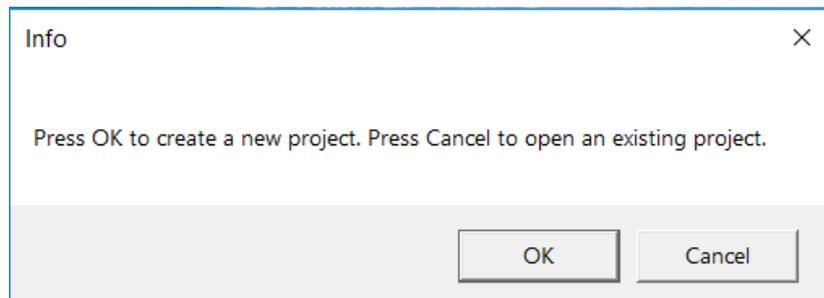
To start the one-button commissioning of G120, click “Function→ One Button Tuning” → G120 in the drop-down menu.



Alternatively, you may click “One Button tuning” button and then select “G120/G120C” in the following dialog box:



Click “OK” or “Cancel” to confirm whether to create a new project:



- Click “OK” to create a new TIA Portal project and read the drive configuration and parameter settings from the drive configuration list G120_Device_List.xlsx.
- Click “Cancel” to open an existing TIA Portal project and commission the converter based on the drive configuration and parameter settings in the project.

4.1.1 Commissioning the converter with a new project

To create a new project, you first edit the drive configuration list G120_Device_List.xlsx shown below:

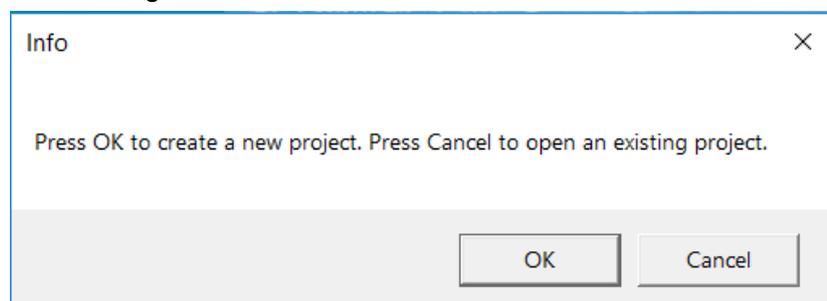
1	* 设备名称 Device Name	G120_1
2	变频器类型 Inverter Series	CU250S_2_PN
3	* 台数 Inverter Number	10
4	* Subnet	PN/IE_1
5	* IP Address	192.168.1.2
6	* 控制单元的订货号 MLFB of CU	6SL3246-0BA22-1FA0
7	* 控制单元的固件版本 Firmware Version	4.7.6
8	* 功率单元订货号 MLFB of PM	6SL3210-1PB13-8AL0
9	* 标准报文 Standard telegram	352
10	扩展报文 Extended telegram	2,4
11	* 电机额定电压 Rated motor voltage	230.00
12	* 电机额定电流 Rated motor current	2.45
13	* 电机额定功率 Rated motor power	0.55
14	* 电机功率因数 Motor power factor	0.80
15	* 电机额定频率 Rated motor frequency	50.00
16	* 电机额定转速 Rated motor speed	1425.00
17	* p1300[0]	20
18	p1120[0]	5.6
19	p1121[0]	6.6
20	p1130[0]	5.0
21	p1131[0]	5.0
22	p2104[0]	r722.5
23	p3900	1.0
24	p1240[0]	0.0
26	p2105[0]	r722.3
27	p844[0]	r722.1
28	p848[0]	r722.2
29	p849[0]	r722.4
33		
34		
--		

Before commissioning, all that you must do is enter the converter data, motor data and other important parameters. InverterEdge will then automatically create a new Startdrive project and complete further configuration. Note that all entries marked with “*” are mandatory fields and those without “*” are optional. See below for details:

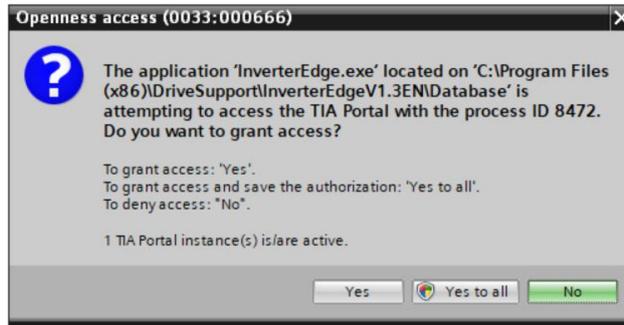
Parameter category	Parameter name	Parameter value (example)	Description
Basic converter data	* Device name	G120_1	Device name shown in the project tree
	Converter type	CU250S_2_PN	Converter type or Control Unit type for easy identification
	* Number of converters	10	Number of converters for series commissioning
	* Subnet	PN/IE_1	Subnet name of the online converters
	* IP Address	192.168.0.11	The IP address entered here must correspond to the actual IP address of the converter.
	* Article number of Control Unit	6SL3246-0BA22-1FA0	MLFB of the Control Unit
	* Firmware version of Control Unit	4.7.10	Firmware version of the Control Unit
Fieldbus telegram	* Standard telegram	352	Standard telegram number for bus communications
	Extended telegram	2,4	Length of receive words and send words for extended telegram
Rated motor data	* Rated motor voltage	220	V
	* Rated motor current	2.45	A
	* Rated motor power	0.55	kW

	* Rated motor power factor	0.80	
	* Rated motor frequency	50	Hz
	* Rated motor speed	1425	rpm
Encoder data	Encoder interface	Terminal	Supports only the interface "Terminal" right now
	Encoder type	HTL	Supports only the HTL incremental encoder right now
	Encoder power supply	24V	Supports only 24 V power supply right now
	Number of pulses per revolution	1024	Number of pulses per encoder revolution, specified in ppr
	Unipolar/ bipolar signal	Unipolar/ bipolar	Polarity of encoder signal. The bipolar signal includes inverted signal.
	Zero mark	N: no zero mark Y: one zero mark per revolution	With or without encoder zero mark; supports only "one zero mark per revolution" right now
	Fine resolution G1_XIST1	Value 2 corresponds to a fine resolution of $2^2=4$.	For incremental encoders, set the parameter to 2.
	Inversion of speed actual value	N: no inversion Y: inversion	Sets the inversion of speed actual value according to current encoder installation
Control type	*p1300[0]	20	Sets the converter control type. When setting p1300≠21/23, the encoder configuration is ignored.
Further parameters	p1120[0]	15.5	Sets additional parameters. Up to 200 converter parameters can be set here. Note: Specify the parameter index for indexed parameters in the square brackets.
	p2104[0]	r722.5	
	p1240	0	
	

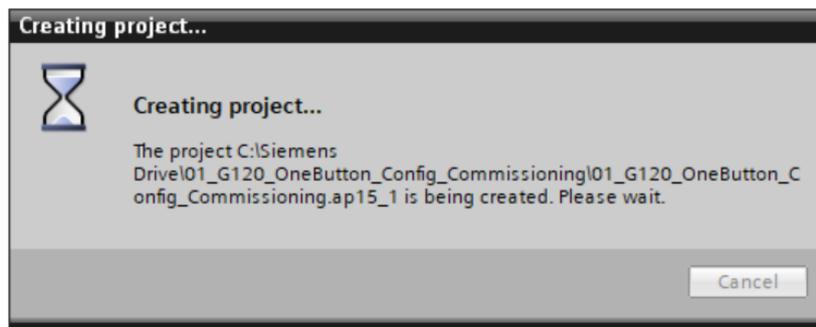
After editing the list G120_Device_List.xlsx, click "OK".



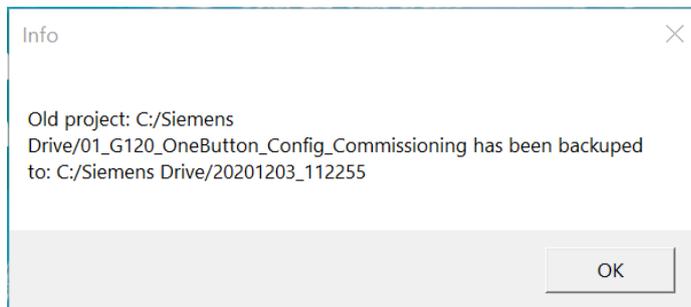
InverterEdge then opens TIA Portal automatically. When a security prompt appears as follows, click the button "Yes to all" to allow InverterEdge to access TIA Portal. In case of a firewall prompt, proceed in the same way to allow the access.



Now a project named "01_G120_OneButton_Config_Commissioning" is automatically created under the path C:\Siemens Drive\01_G120_OneButton_Config_Commissioning.

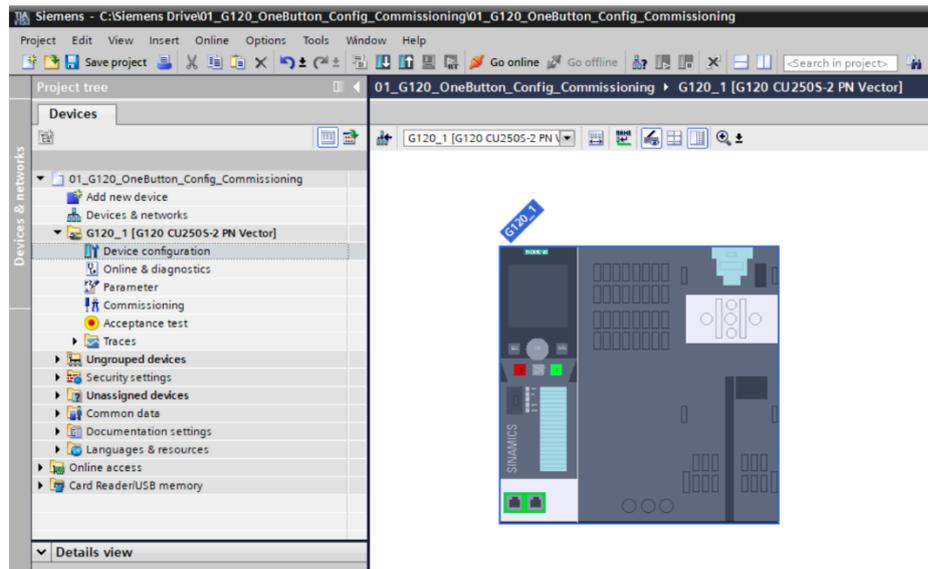


If a project with the same name exists in the specified path, InverterEdge backs up the existing project in a new folder named by the creation time. After back-up, a message is displayed as follows:

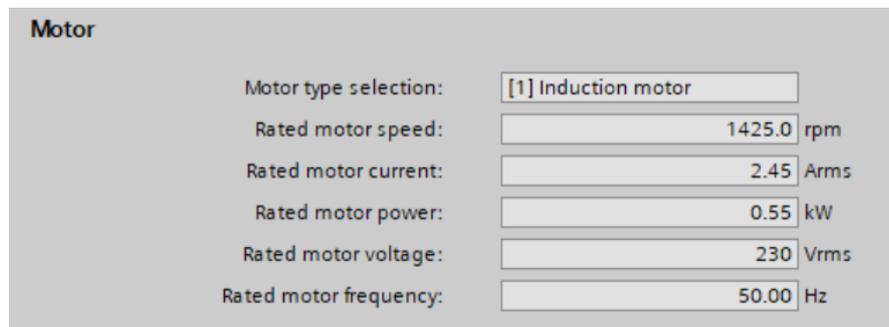


InverterEdge then adds, configures the drive, and changes the offline parameters based on G120_Device_List.xlsx.

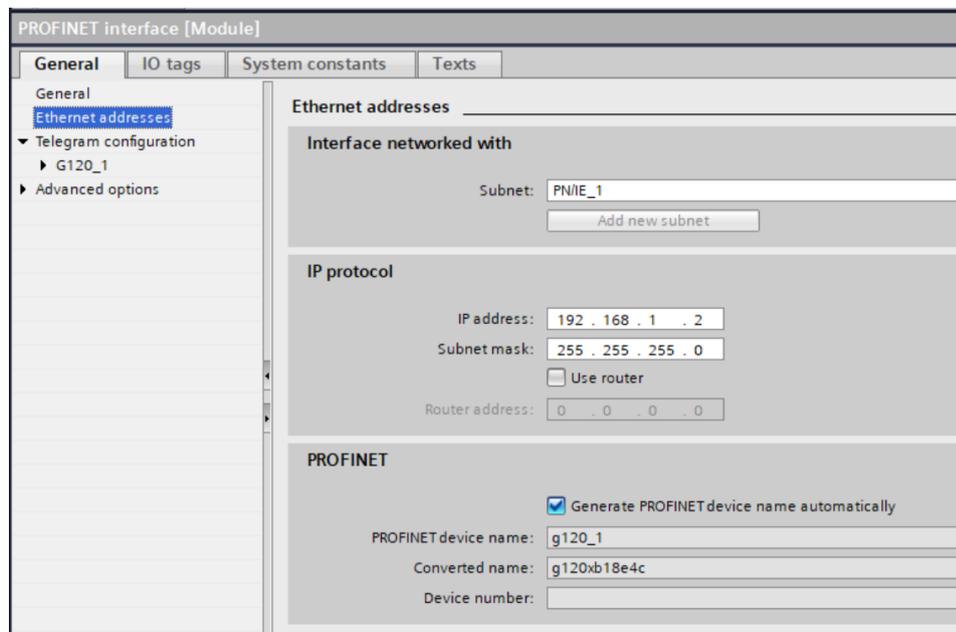
The figure below shows automatically completed converter hardware configuration:



The figure below shows automatically entered motor data:



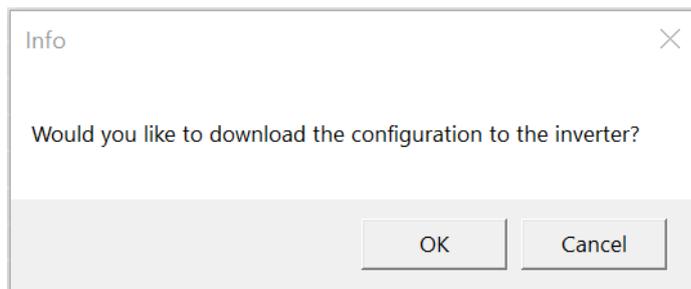
The figure below shows automatically configured network interface:



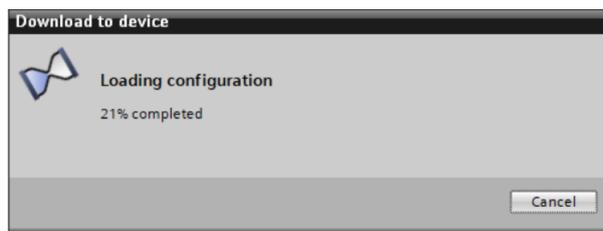
The figure below shows automatically configured telegrams and further parameters:

Parameter list		User list_1	
Number	Parameter text	Value	Unit
p1300[0]	Open-loop/closed-loop control operating mode	[20] Speed control (encoderless)	
p1120[0]	Ramp-function generator ramp-up time		5.600 s
p2104[0]	BI: 2nd acknowledge faults	r722.5 CO/BO: CU digital inputs status: DI 5 (T. 17, 66)	
p1240[0]	Vdc controller configuration (vector control)	[0] Inhib Vdc ctrl	
p2051	CI: PROFIdrive PZD send word		
p2051[0]	PZD 1	r2089[0] CO: Send binector-connector converter status word, Status word 1	
p2051[1]	PZD 2	r63[1] CO: Speed actual value, Smoothed with p0045	
p2051[2]	PZD 3	r68[1] CO: Absolute current actual value, Smoothed with p0045	
p2051[3]	PZD 4	r80[1] CO: Torque actual value, Smoothed with p0045	
p2051[4]	PZD 5	r2132 CO: Actual alarm code	
p2051[5]	PZD 6	r2131 CO: Actual fault code	
p2051[6]	PZD 7		0%
p2051[7]	PZD 8		0%
p2051[8]	PZD 9		0%
p2051[9]	PZD 10		0%
p2051[10]	PZD 11		0%
p2051[11]	PZD 12		0%
p2051[12]	PZD 13		0%
p2051[13]	PZD 14		0%
p2051[14]	PZD 15		0%
p2051[15]	PZD 16		0%
p2051[16]	PZD 17		0%

When the automatic configuration and parameterization are complete, you are promoted to download the settings to the converter. Make sure that the IP address of the converter corresponds to the entry in G120_Device_List.xlsx. Click **OK** to confirm the prompt.

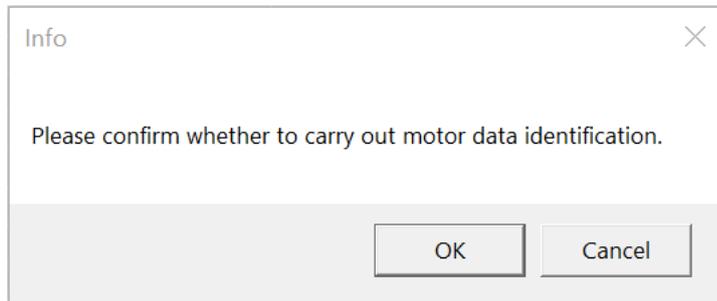


Now the configuration and parameter settings are being downloaded to the converter.

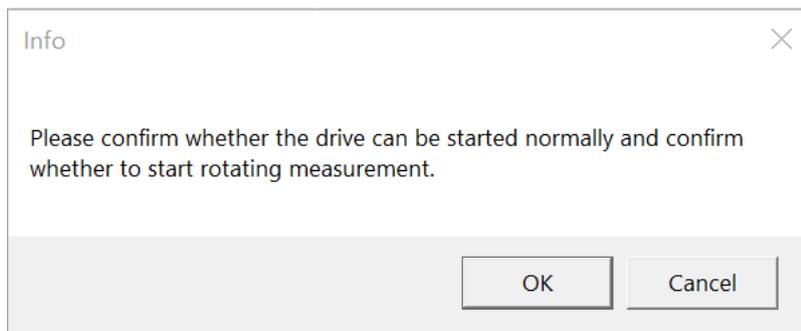


- **Note:** If you do not want to download parameter settings to the converter, set p340 to 1 in the drive configuration list manually; otherwise, the converter will output an error in the subsequent manual download. The automatic download with InverterEdge, however, is not affected by p340.

When the download is complete, you are prompted to start the stationary motor measurement. Click **OK** to confirm the prompt. InverterEdge activates the measurement and sends the start signal.

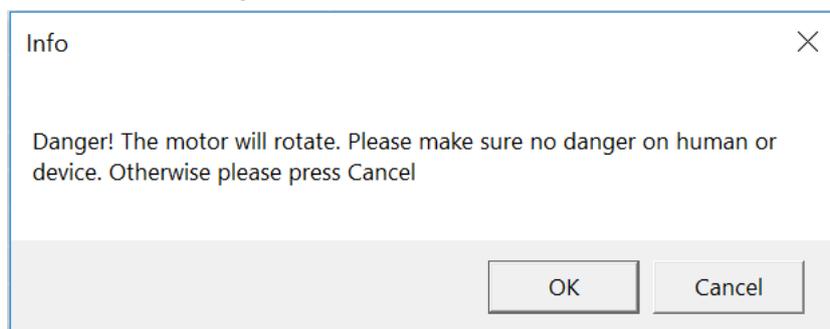


When the stationary motor measurement is complete, you are prompted to start the rotating measurement. Note that the motor moves in an uncontrolled manner during the rotating measurement. Make sure that such uncontrolled motor movement is allowed and click **OK**. InverterEdge activates the measurement and sends the start signal. If the uncontrolled motor movement is not allowed, click **Cancel**.

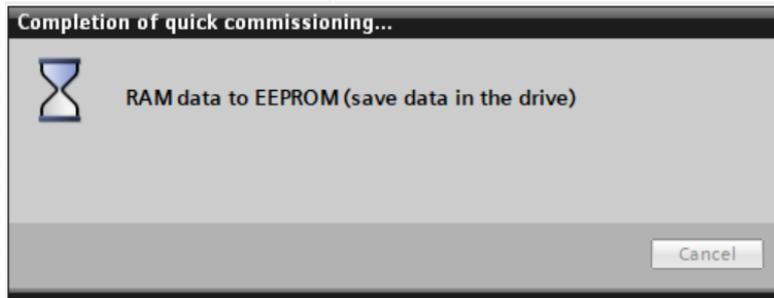


For safety reasons, you are prompted once again to double-check and confirm that the motor movement will not cause any danger to machinery and personnel. You have a second chance to click **Cancel** here to cancel the rotating measurement.

To start the rotating measurement, click **OK**.

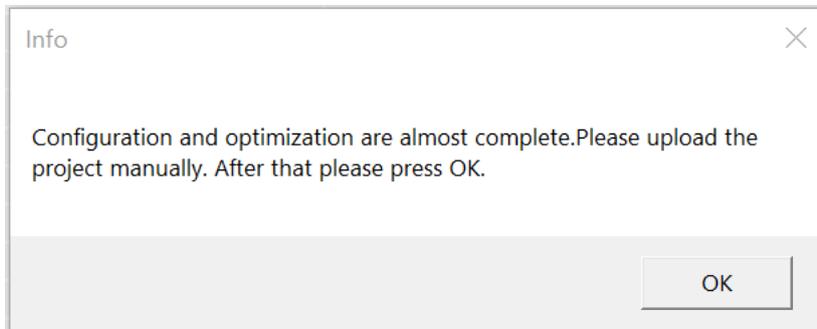


When the measurement is complete, InverterEdge saves the results retentively in the converter by copying RAM to ROM.



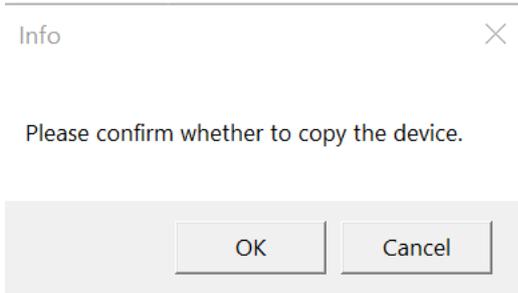
When the copying RAM to ROM process is complete, you are prompted to upload the project. As currently Sinamics Openness doesn't support automatic upload, proceed as follows to manually upload the project to PC:

Firstly, select the corresponding converter in the project tree, and then click  to start the upload. When the upload is complete, click **OK**.

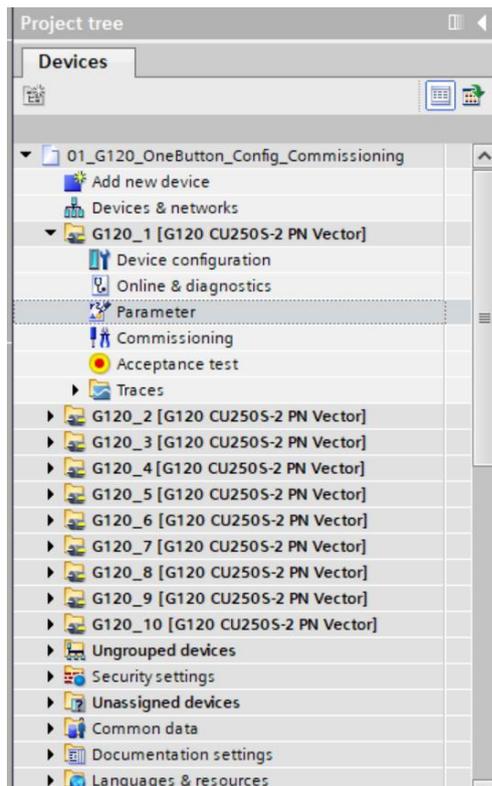


Now you are prompted to copy the project to other converters for series commissioning. To perform series commissioning, click **OK**.

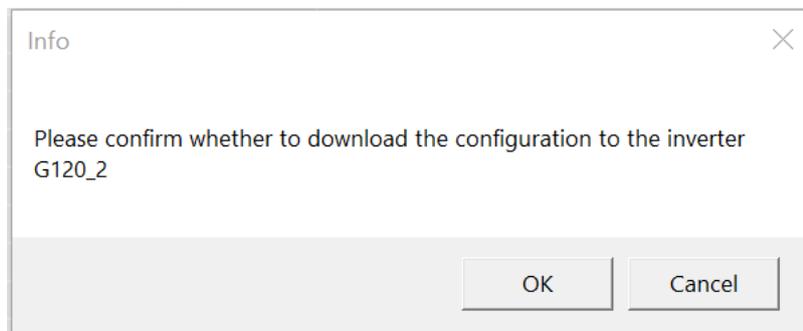
InverterEdge copies the project to multiple converters according to the number of converters for series commissioning entered in the drive configuration list.



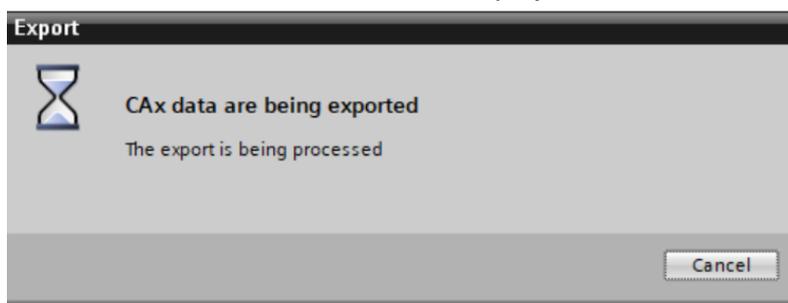
After copying, the project tree updates as follows. The IP address of each additional converter is incremented by 1 on the basis of the IP address of the first converter "G120_1". Each further converter is named by a consecutive number starting from "G120_1" and displayed sequentially in the project tree.



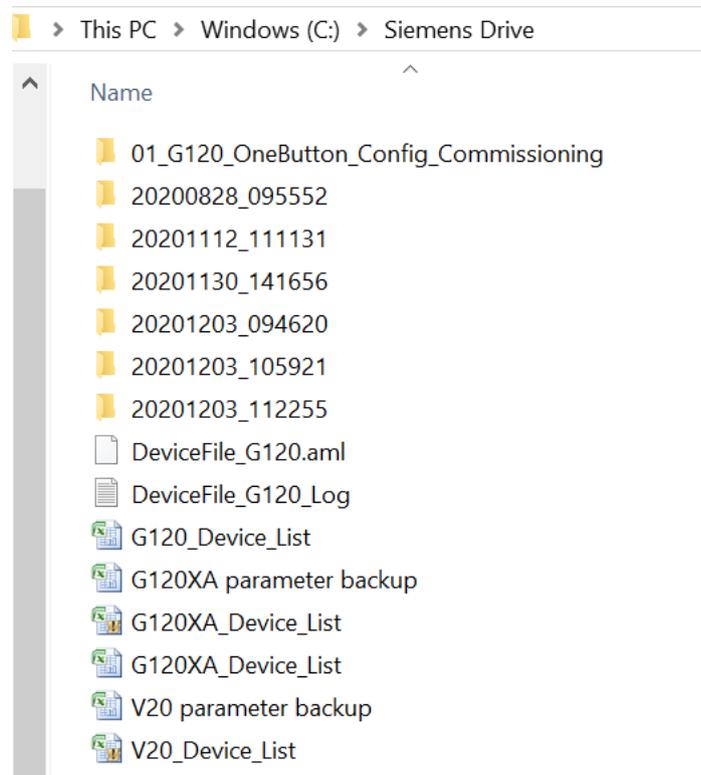
To download the project to the second converter “G120_2”, click **OK** in the following dialog box. Before download, make sure that the corresponding converter has been connected in the fieldbus and its IP address has been correctly assigned.



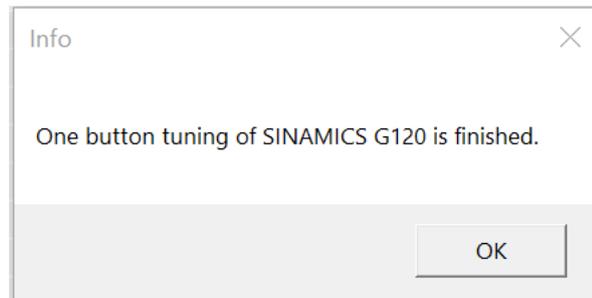
When the download is complete or cancelled, InverterEdge exports the project file in the aml file format and saves the project.



The exported files “DeviceFile_G120.aml” and “DeviceFile_G120_Log” are located under the path C:\Siemens Drive.



Now the automatic configuration and commissioning of SINAMICS G120 is complete. Click **OK** to close the dialog box.



4.1.2 Commissioning the converter with an existing project

If you choose to click **Cancel** in the following dialog box during one-button commissioning, InverterEdge reads the configuration and parameter settings from one existing project and reads only the number of converters for series commissioning entered in G120_Device_List.

Info

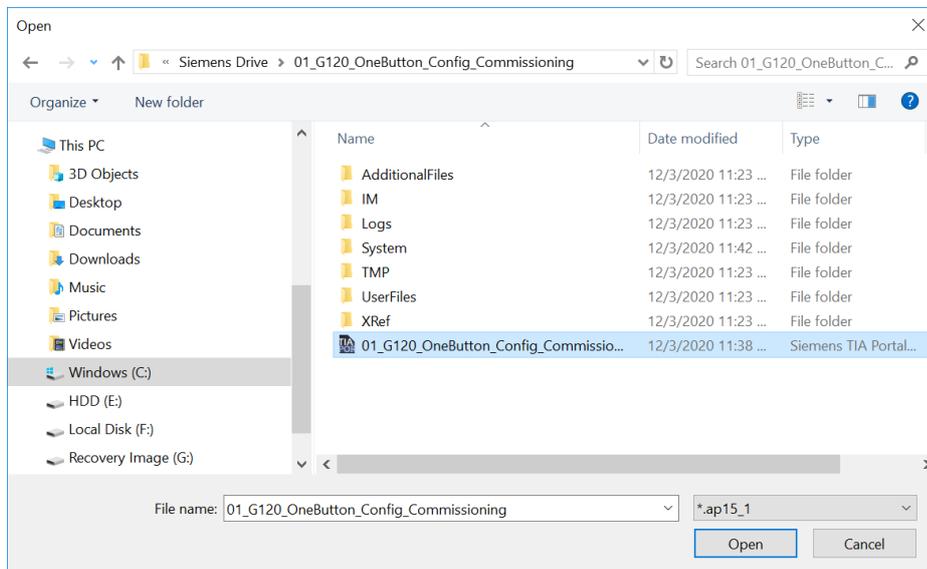


Press OK to create a new project. Press Cancel to open an existing project.

OK

Cancel

After you click **Cancel**, InverterEdge opens TIA Portal automatically and prompts you to select a project to open.



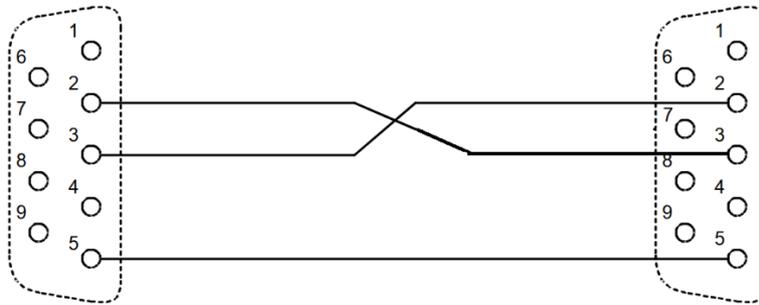
Select one existing project and click **Open**.

For the subsequent steps you may refer to the description in Chapter 4.1.1. You may also perform optional steps such as project download, stationary/rotating measurement, and series commissioning.

4.2 Commissioning G120XA

4.2.1 Preparing for commissioning

- a) Use one cable to connect the 9-pin service interface X21 on the front of the G120XA to the communication port on the PC. The wiring diagram is shown as follows:



Communication port on PC

Service interface X21 on G120XA

- b) Restore the factory settings of G120XA and then set the communication port by setting P2010 to 6 and P2011 to 2.

4.2.2 Commissioning procedure

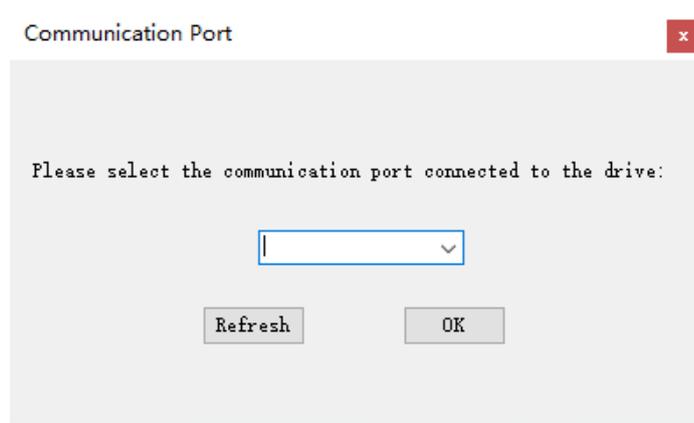
When InverterEdge is launched for the first time, it creates a folder named "Siemens Drive" as root folder under C:\ and a drive configuration list named "G120XA_Device_List.xlsx" with parameter samples under the path C:\Siemens Drive.

First edit the drive configuration list shown below:

	A	B	C	D
1	参数号/Parameter	参数值/Value	参数含义/Parameter text	备注/Remark
2	P0300	1	电机类型/Motor type selection	
3	P0304	400	额定电压/Rated motor voltage	
4	P0305	0.49	额定电流/Rated motor current	
5	P307	0.12	额定功率/Rated motor power	
6	P0308	0.71	功率因素/Rated motor power factor	
7	P0310	50	额定频率/Rated motor frequency	
8	P0311	1360.0	额定转速/Rated motor speed	
9	P1300	0	控制方式/Open-loop/closed-loop control operating mode	
10	P0015	205	宏设置/Macro drive unit	自定义宏205/User-defined macro 205
11	P1080	0	最小速度/Minimum speed	
12	P1082	1500	最大速度/Maximum speed	
13	P1120	3	加速时间/Ramp-function generator ramp-up time	
14	P1121	3	减速时间/Ramp-function generator ramp-down time	
15	P0640	0.6	电流极限/Current limit	
16	P1037	1500	MOP最大转速/Motorized potentiometer maximum speed	
17	P1038	-1500	MOP最小转速/Motorized potentiometer minimum speed	

Before commissioning, all that you must do is enter the motor data and a few important parameters. InverterEdge will complete the further configuration automatically.

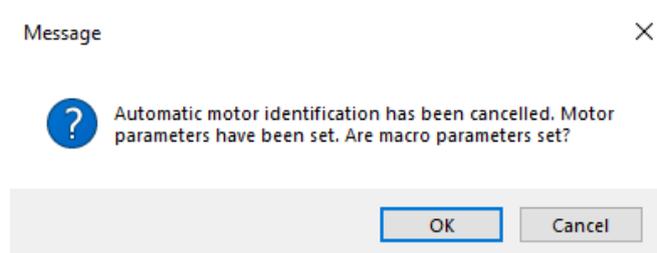
After editing the list, click "Functions" → "Communication Port" in the upper-left menu bar to select the communication port on the PC that is currently connected with the G120XA.



Click “Functions” → “One Button Tuning” → “G120X/XA” in the upper-left menu bar .



After a few seconds you are prompted to start the optimization.



- a) To perform the optimization, click “OK”. Note that if you select vector control as control type, the motor will move automatically. Make sure that no danger will be caused by the motor movement!

No matter whether the optimization succeeds or not, InverterEdge will always set the other parameters. If the optimization fails, the following message is

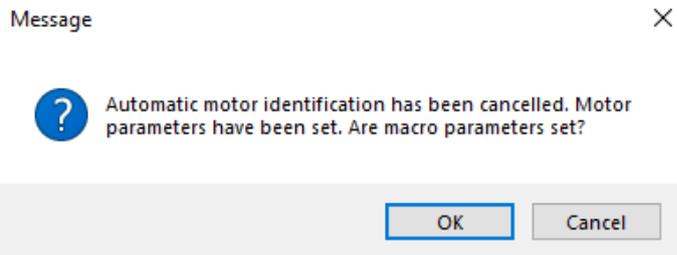
displayed. You must first resolve the fault of the converter accordingly and then retry the optimization.

×

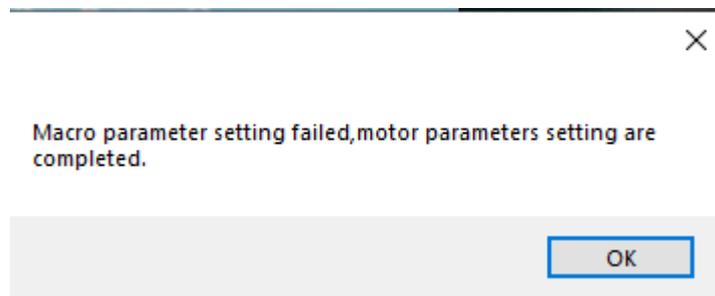
Automatic identification unsuccessful,all parameters have been set

OK

b) To skip the optimization, click “Cancel”. InverterEdge then sets the motor parameters according to entries in the drive configuration list without performing the optimization or setting the macro parameters (i.e. P015 and further parameters). You are thus prompted to set the macro parameters.



c) If you click “Cancel” to skip the macro parameters, the following message is displayed:



d) If you click “OK” to set the macro parameters, the following message is displayed after the setting:

×

Automatic identification unsuccessful,all parameters have been set

OK

In case that the error “Write Pxxx failure” is issued during the parameter setting, check whether the connection between PC and converter is interrupted and click “One Button Tuning” to restart the procedure.

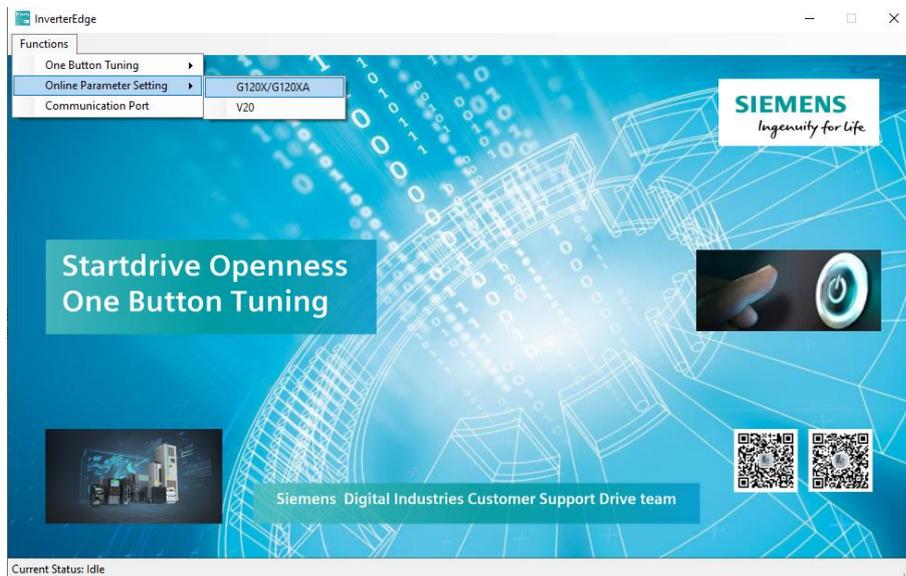
4.2.3 Predefined macros

For more information on predefined macros, connection and parameter definitions, refer to the SINAMICS G120XA Converter Marco Functions manual that can be downloaded from the Internet below:

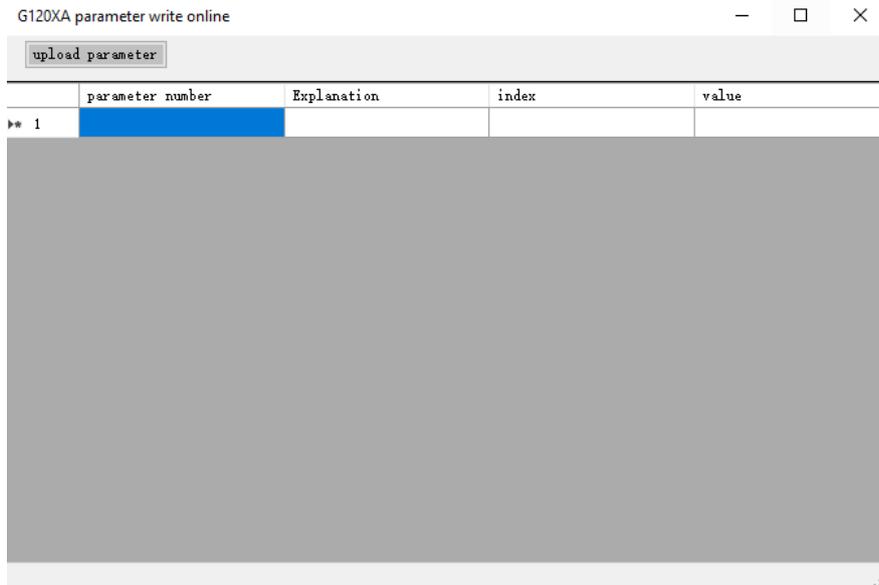
<https://support.industry.siemens.com/cs/cn/zh/view/109772088>

4.2.4 modify parameters online

Click “Functions→ Online Parameter Setting→G120X/G120XA” in the upper-left menu bar.



If the communication from PC to G120XA is set up successfully, a windows form will pop up.



User can watch any parameters they wanted and modify it as needed.

- Input parameter number in the “parameter number” column, after pressing the enter key, the explanation of the parameter number and parameter value will display accordingly.
- If User inputs a number prefixed with “P”, the parameter value can be modified in the value column.
- About the BICO parameters, a point is used to distinguish the parameter number part and index part. For example, define inverter DOO as fault signal, number “730” should be typed into the parameter number column and “52.3” should be typed into the value column.
- The default value of the index column is 0.

G120XA parameter write online

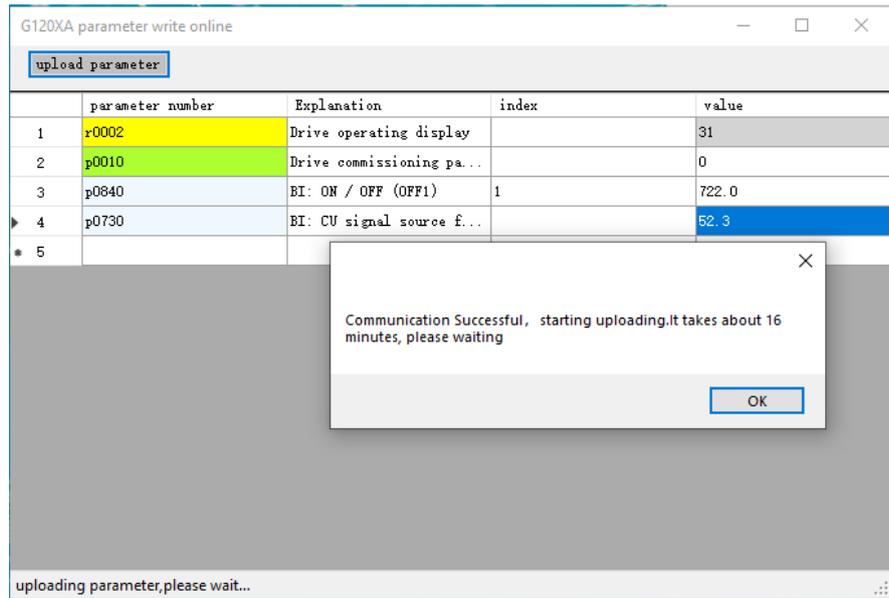
upload parameter

	parameter number	Explanation	index	value
1	r0002	Drive operating display		31
2	p0010	Drive commissioning pa...		0
3	p0840	EI: ON / OFF (OFF1)	1	722.0
▶ 4	p0730	EI: CU signal source f...		52.3
* 5				

4.2.5 Parameter backup

When InverterEdge is launched for the first time, it creates a folder named “Siemens Drive” as root folder under C:\ and a excel table named “G120XA parameter backup.xlsx” under the path C:\Siemens Drive.

After Click the “upload parameter” button on the upper-left corner of the “G120XA parameter write online” table, all of the G120XA parameters will be uploaded to the “G120XA parameter backup.xlsx” table automatically.



The screenshot shows a software window titled "G120XA parameter write online". At the top left, there is a button labeled "upload parameter". Below the button is a table with the following data:

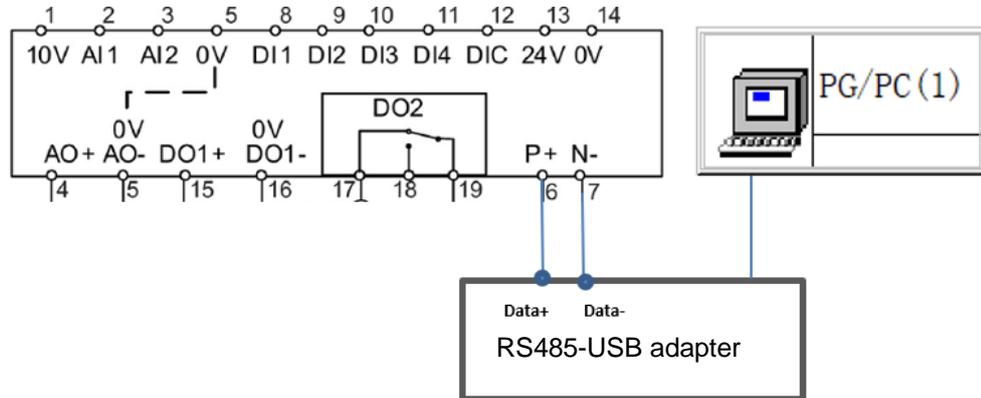
	parameter number	Explanation	index	value
1	r0002	Drive operating display		31
2	p0010	Drive commissioning pa...		0
3	p0840	BI: ON / OFF (OFF1)	1	722.0
▶ 4	p0730	BI: CU signal source f...		52.3
* 5				

A dialog box is overlaid on the table, containing the text: "Communication Successful, starting uploading.It takes about 16 minutes, please waiting". Below the text is an "OK" button. At the bottom of the window, a status bar displays the text "uploading parameter,please wait...".

4.3 Commissioning V20

4.3.1 Preparing for commissioning

- a) Use one RS485-USB adapter to connect the communication interface RS485 at V20 with the USB port on the PC. The wiring diagram is shown as follows:



- b) Restore the factory settings of the V20 and make sure that the USB port is set as follows: P2010=6, P2011=0, P2012=2, P2013=127, P2023=1.

4.3.2 Commissioning procedure

When InverterEdge is launched for the first time, it creates a folder named “Siemens Drive” as root folder under C:\ and a drive configuration list named “V20_Device_List.xlsx” with example parameters under the path C:\Siemens Drive.

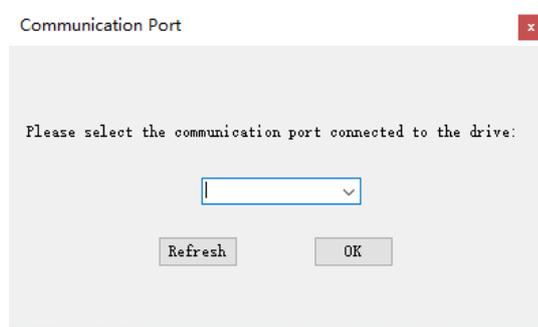
Note that the drive configuration list contains a macro function. Activate the macro when opening the list for the first time in Microsoft Excel.

Edit the drive configuration list “V20_Device_List.xlsm” shown below:

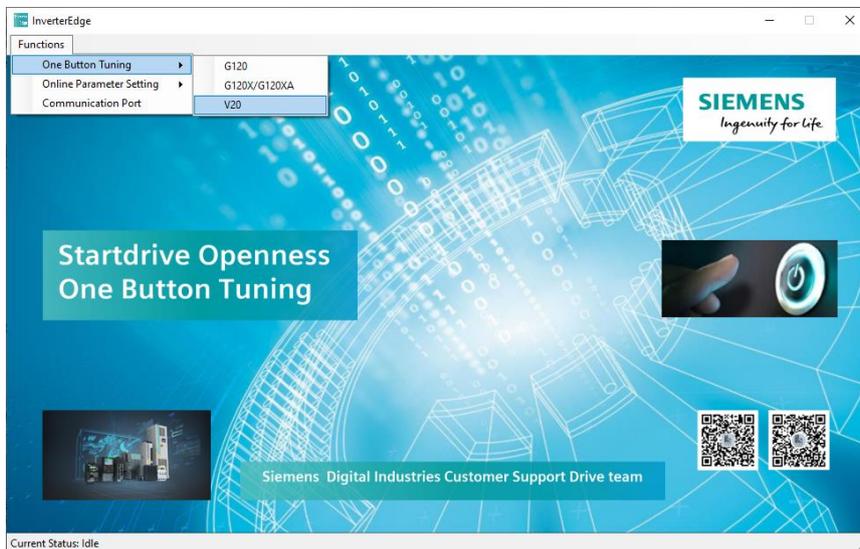
	A	B	C	D
1	参数号/Parameter	参数值/Value	参数含义/Parameter text	备注/Remark
2	P0100	0	50/60Hz频率选择/50/60Hz Selection	欧洲/北美/Europe/North America
3	P0304	400	额定电压/Rated motor voltage	
4	P0305	0.49	额定电流/Rated motor current	
5	P307	0.12	额定功率/Rated motor power	
6	P0308	0.71	功率因素/Rated motor power factor	
7	P0310	50	额定频率/Rated motor frequency	
8	P0311	1360	额定转速/Rated motor speed	
9	P15	1	宏设置/Macro setting	连接宏Cn001/Connection macro 1
10	P1080	0	最小频率/Min. frequency	
11	P1082	50	最大频率/Max. frequency	
12	P1120	3	加速时间/Ramp-up time	
13	P1121	3	减速时间/Ramp-down time	
14	P0640	150	过载系数%/Motor overload factor [%]	
15	P1300	0	控制方式/Control mode	

Before commissioning, all that you must do is enter the motor data and select the desired macro. InverterEdge will complete the further configuration automatically.

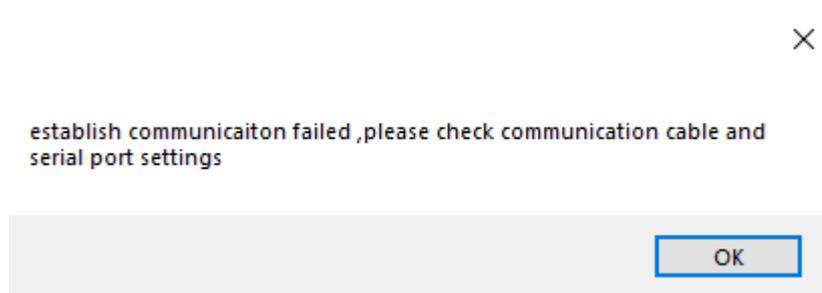
After editing the list, click “Functions→ Communication Port” in the upper-left menu bar to select the communication port on the PC that is currently connected with the V20.



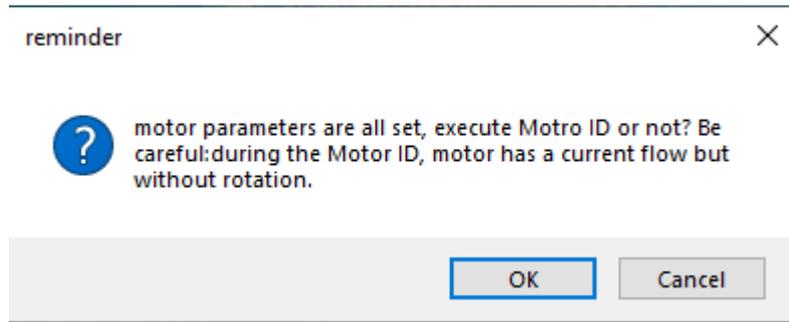
Click “One Button Tuning→V20” in the upper-left menu bar .



If PC fail to communicate with V20, a message will show:

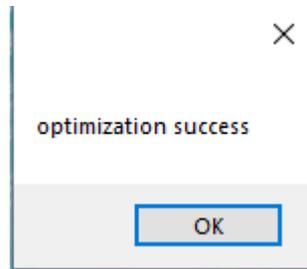


When the communication is set up, InverterEdge proceeds accordingly and prompts you to perform the optimization after a few seconds.



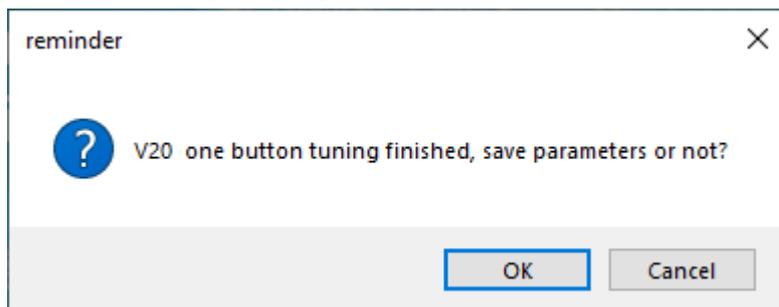
- a) To perform the optimization, click "OK". Note that the motor moves automatically during the optimization. Make sure that no danger will be caused by the motor movement!

If the optimization is complete, the following message is displayed:

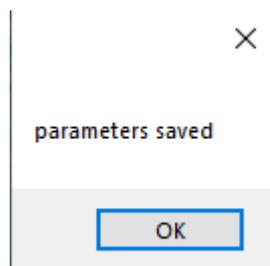


No matter whether the optimization succeeds or not, InverterEdge will always set the other parameters. If the optimization fails, You must first resolve the fault of the converter accordingly and then perform the manual optimization.

- b) No matter optimization is selected or not , InverterEdge continues to set the macros and prompts you to save the parameters after a while:



Click "OK" to save the parameters in the V20. When the parameters are saved, the following message is displayed:



In case that the error “write parameter Pxxx failed” is issued during the parameter setting, check whether the connection between PC and converter is interrupted and click “One Button Tuning” to restart the procedure.

Note

Select the connection macros Cn010 and Cn011 with great care, as InverterEdge reads/writes parameters from/to V20 based on RS485 communication. Once the macro Cn010 or Cn011 is selected, the setting of the communication interface changes accordingly. Only after you restore the setting as specified in Chapter 4.3.1, may you further work with InverterEdge to commission the V20.

4.3.3 Predefined macros

For more information on predefined macros, connection and parameter definition, you may refer to the SINAMICS V20 Converter Macro Functions manual that can be downloaded from the Internet below:

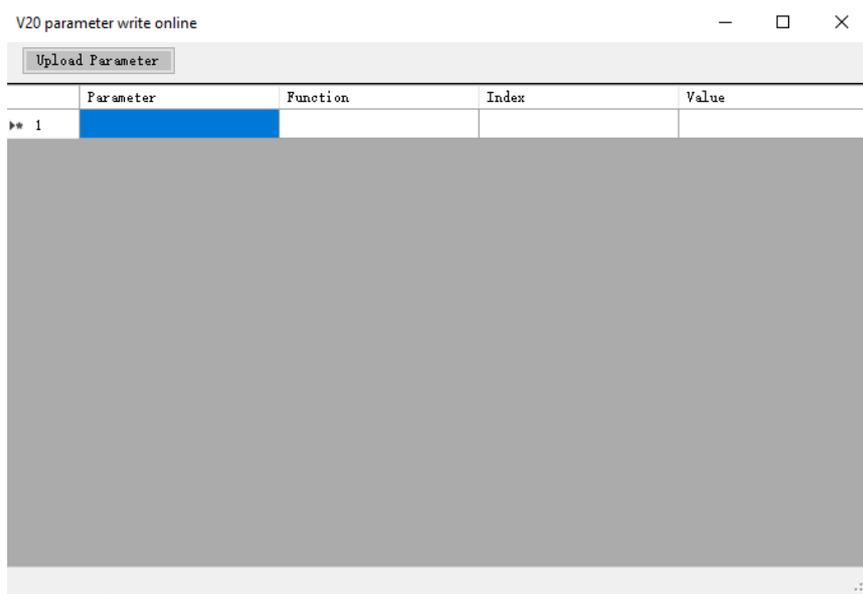
<https://support.industry.siemens.com/cs/cn/zh/view/109772088>

4.3.4 modify parameters online

Click “Functions→Online Parameter Setting→V20” in the upper-left menu bar.

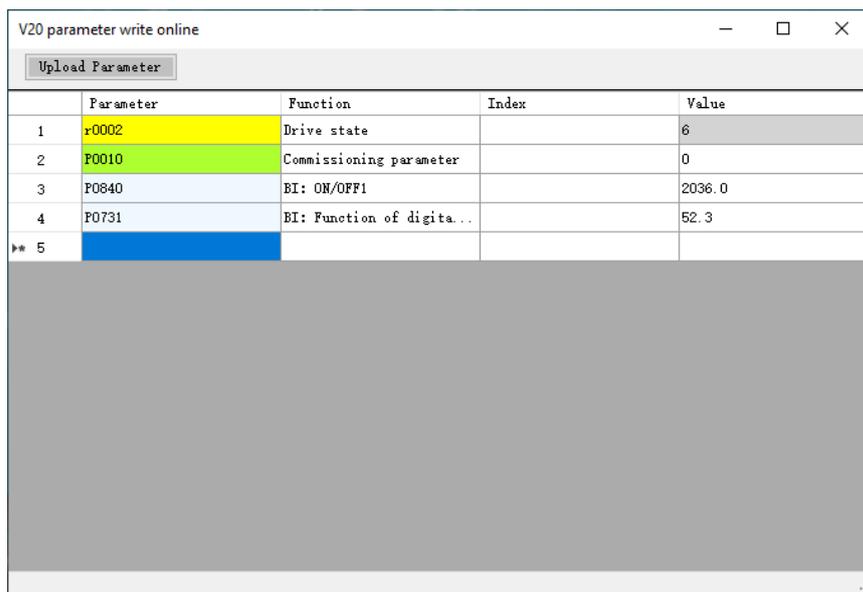


If the communication from PC to V20 is set up successfully, a windows form will pop up.



User can watch any parameters they wanted and modify it as needed.

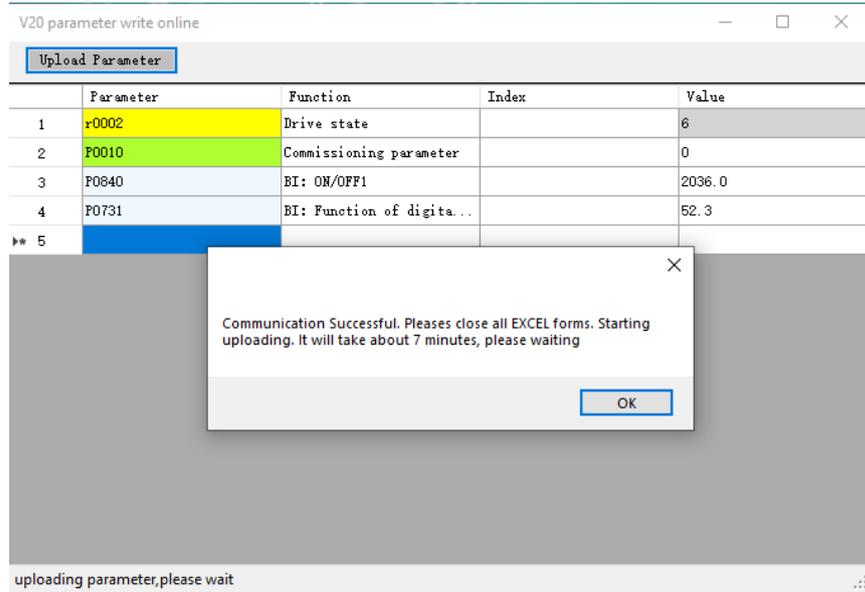
- Input parameter number in the “parameter number” column, after pressing the enter key, the explanation of the parameter number and parameter value will display accordingly.
- If User inputs a number prefixed with “P”, the parameter value can be modified in the value column.
- About the BICO parameters, a point is used to distinguish the parameter number part and index part. For example, define inverter DO1 as fault signal, number “731” should be typed into the parameter number column and “52.3” should be typed into the value column.
- The default value of the index column is 0.



4.3.5 Parameter backup

When InverterEdge is launched for the first time, it creates a folder named “Siemens Drive” as root folder under C:\ and a excel table named “G120XA parameter backup.xlsx” under the path C:\Siemens Drive.

After Click the “upload parameter” button on the upper-left corner of the “G120XA parameter write online” table, all of the V20 parameters will be uploaded to the “V20 parameter backup.xlsx” table automatically.



5 Appendix

5.1 Downloads

To download the InverterEdge installation package, please visit

<https://support.industry.siemens.com/cs/cn/zh/view/109755273>

To watch the InverterEdge tutorial video, please visit

<http://www.ad.siemens.com.cn/service/elearning/course/2219.html>

Or scan the QR code below to watch the video directly on your mobile phone:



You may also follow us on Siemens official WeChat account titled “Xi Jia Chuan Dong” or open our WeChat mini program “Drive Microlecture” to watch more videos:



Xi Jia Chuan Dong



Drive Microlecture

To download the TIA Portal Openness Operating Instructions, please visit

<https://support.industry.siemens.com/cs/ww/en/view/109477163>

To download the Startdrive V15.1 Openness Operating Instructions, please visit

<https://support.industry.siemens.com/cs/ww/en/view/109763491>

5.2 Feedback

We value each feedback from our customer. Please send your feedback to Siemens Industry Drive Service Center by one of the following two ways:

1. Leaving comments in Siemens official WeChat account “Xi Jia Chuan Dong”
2. Sending an e-mail to sidrive.cn@siemens.com

5.3 Version log

Version	Date	Change
V1.0	10/2019	The 1 st version
V1.1	12/2019	The 2 nd version
V1.2	05/2020	The 3 rd version