SINAMICS G120C: Speed Control with S7-1200 via Modbus RTU

SINAMICS G120C / V1.0 /

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Table of contents

1 Task

NOTICE	This reference only can be used in China and India.

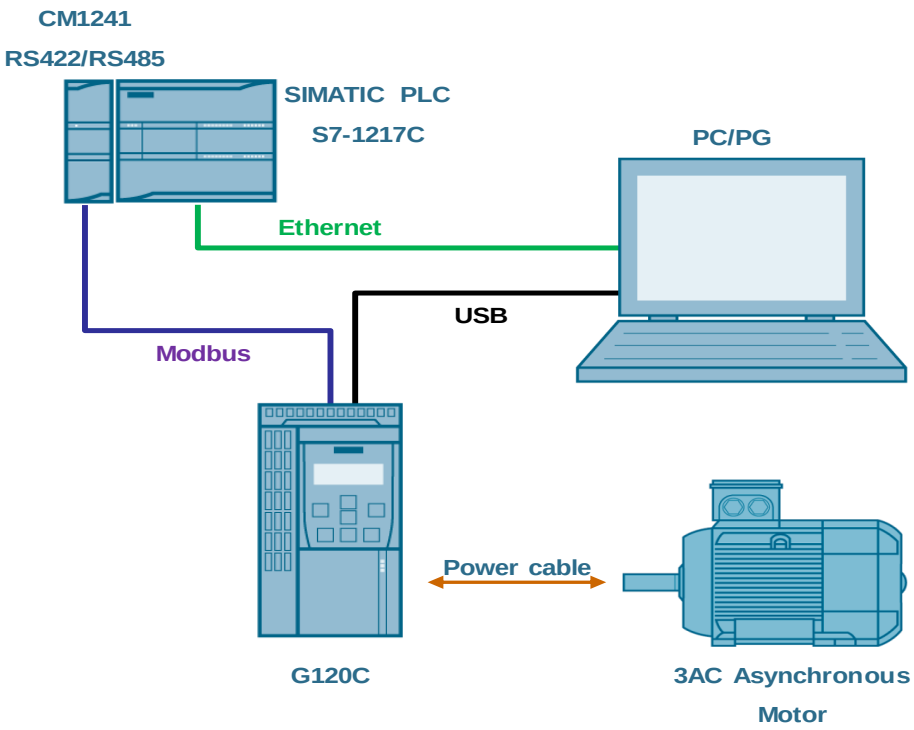
Introduction

SINAMICS G120C drives are able to exchange data via the RS485 interface and via Modbus RTU with a SINAMICS S7-1200 controller.

Overview of the automation task

The figure below provides an overview of the automation task.

Figure 1-1: Overview of the automation task



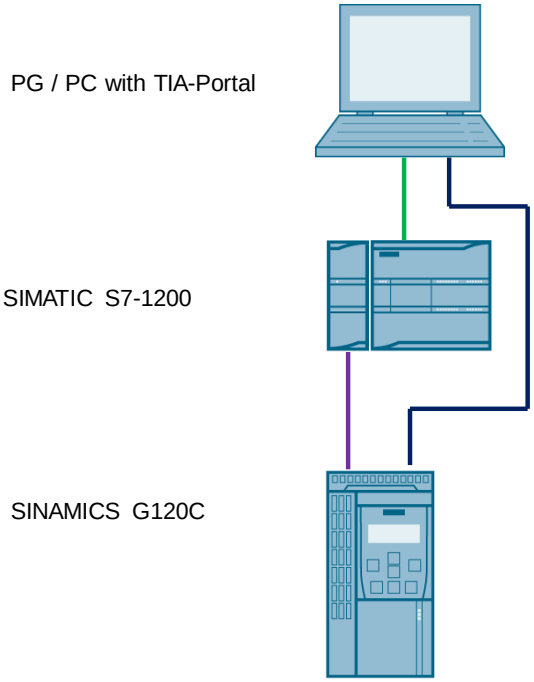
2 Solution

2.1 Solution overview

Schema Display

The following figure displays the most important components of the solution:

Figure 2-1: Overview of the most important components



Delimitation

This application does not include a description of

- SINAMICS G120C version
- BOP-2 operation of SINAMICS G120C

Basic knowledge of these topics is assumed.

Required knowledge

Basic knowledge on TIA Portal is assumed.

2.2 Hardware and Software Components

2.2.1 Validity

This application example is valid for

- TIA Portal V15 Professional
- S7-1200 CPU V4.1
- SINAMICS G120C Modbus RTU V4.7.6

2.2.2 Used Components

The application was generated with the following components:

Hardware components

Table 2-1

Component	No.	Article number	Note
SIMATIC S7-1200 1217C DC/DC/DC	1	6ES7217-1AG40-0XB0	V4.1
CM1241 RS422/RS485	1	6ES7 241-1CH32-0XB0	V2.1
SINAMICS G120C	1	6SL3210-1KE15-8UB1	V4.7.6

Standard software components

Table 2-2

Component	No.	Article number	Note
TIA Portal Professional	1	6AV2103-0AA05-0AA7	V15
Startdrive	1	6SL3072-4FA02-0XA0	V15

Sample files and projects

The following list includes all files and projects that are used in this example.

Table 2-3

Component	Note
109764623_G120C_Modbus-communication_PROJ_V10.zip	Project file
109764623_G120C_Modbus-communication_DOC_V10_en.pdf	Reference document

3 Basics of Modbus introduction

Overview of communication using Modbus RTU communication

Modbus RTU (Remote Terminal Unit) is a standard protocol for communication in the network and uses the RS232 or RS422/485 connection for serial data transmission between Modbus devices in the network.

Modbus RTU uses a master/slave network in which all communication is triggered by a single master device while the slaves can only respond to the request of the master. The master sends a request to a slave address and only the slave with this slave address responds to the command.

NOTE Exception: Modbus slave address 0 sends a broadcast frame to all slaves (without slave response).

Implementation with SIMATIC S7-1200

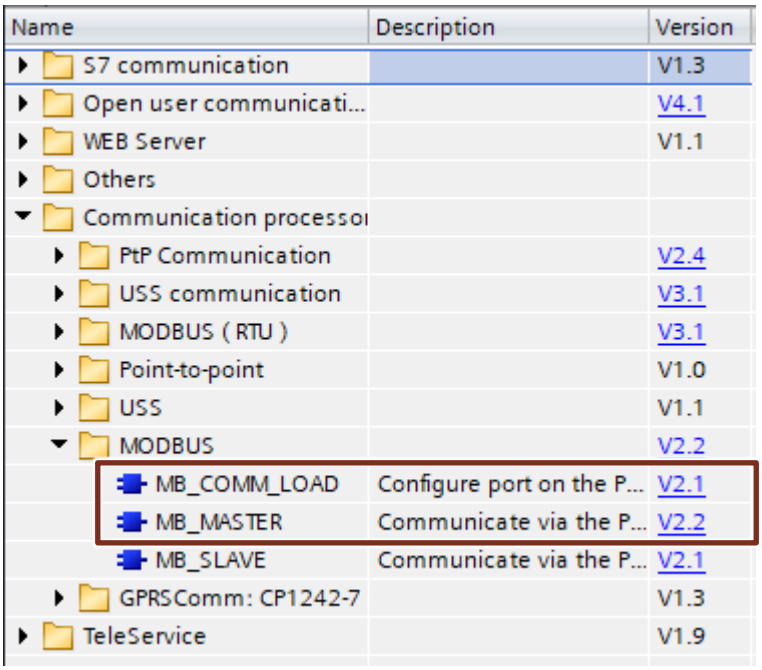
The application uses the following system instructions:

- MB_Comm_Load

  To configure port for Modbus
- MB_Master

  To communicate as Modbus master

Figure 3-1: Modbus introduction for S7-1200



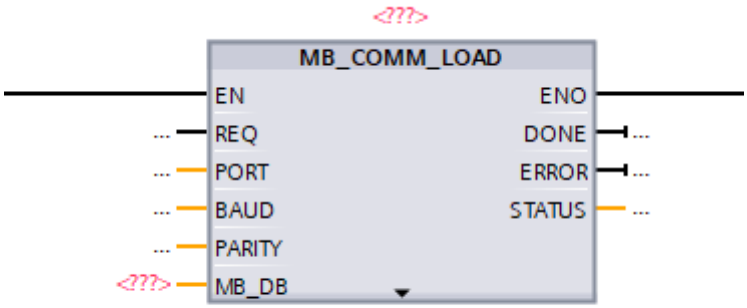
3.1 Overview Modbus RTU system instruction

3.1.1 MB_Comm_Load (S7-1200)

Description

The *MB_Comm_Load* instruction configures a communication module for communication by means of the Modbus protocol. An instance data block is automatically assigned when you add the *MB_Comm_Load* instruction in your program.

Figure 3-1: *MB_Comm_Load* system instruction

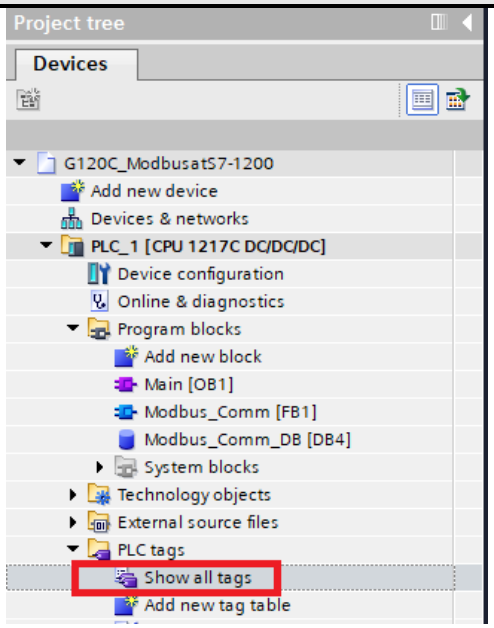
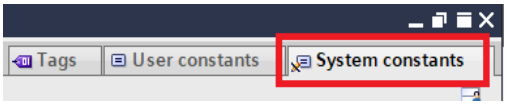
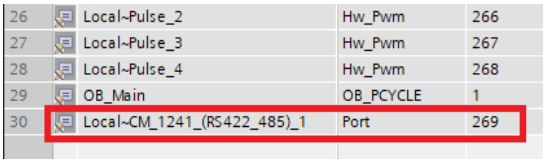


Parameter

The following table shows the parameters of *MB_Comm_Load*

Table 3-1: Parameter list of *MB_Comm_Load*

Parameter	IN / OUT	Data type	Default	Description
REQ	IN	Bool	False	Starts the instruction upon a positive edge of this input.
PORT	IN	PORT	0	Specifies the communication module which is used for the communication: For S7-1500/S7-1200 the "HW identifier" from the device configuration will be used. The symbolic port name is assigned in the "System constants" tab of the PLC tag table and can be applied from there.

Parameter	IN / OUT	Data type	Default	Description
				 Double click "Show all tags"  Switch to "System constants"  Find the target HW identifier.
BAUD	IN	UDInt	9600	Selection of the data transmission rate Valid values are: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 76800, 115200 bit/s.
PARITY	IN	UInt	0	Selection of parity: • 0 – None • 1 – Odd • 2 – Even
MB_DB	IN/OUT	MB_BASE	-	A reference to the instance data block of the MB_Master or MB_Slave instructions. The MB_DB parameter must be connected with the (static and therefore not visible in the instruction) MB_DB parameter of the MB_Master or MB_Slave instruction.
DONE	OUT	Bool	False	The DONE bit is TRUE for one cycle after the last request has been completed without errors.
ERROR	OUT	Bool	False	The ERROR bit is TRUE for one cycle after the last request has been completed with errors. The error code in the STATUS parameter is only valid in the cycle in which ERROR = TRUE.
STATUS	OUT	Word	16#7000	Error code

NOTE The input value used in this application will described in chapter 4.

3.1.2 MB_Master (S7-1200)

Description

The *MB_Master* instruction communicates as Modbus master via a port configured by the *MB_Comm_Load* instruction. An instance data block is automatically assigned when you add the *MB_Master* instruction in your program. The MB_DB parameter of the *MB_Comm_Load* instruction must be connected to the (static) MB_DB parameter of the *MB_Master* instruction.

Figure 3-3: *MB_Master* system instruction

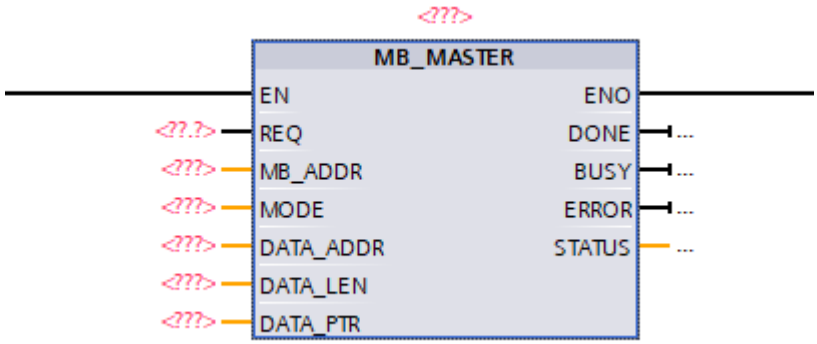


Table 3-2: Parameter list of *Modbus_Master*

Parameters	Declaration	Data type	Standard	Description
REQ	IN	Bool	FALSE	FALSE = no request TRUE = request to send data to the Modbus slave
MB_ADDR	IN	UInt	-	Modbus RTU station address: The value 0 is reserved for the broadcast of a frame to all Modbus slaves. Only the Modbus function codes 05, 06, 15 and 16 are supported for the broadcast.
MODE	IN	USInt	0	Mode selection: Specifies the type of request (read, write or diagnostics).
DATA_ADDR	IN	UDInt	0	Start address in the slave: Specifies the start address of the data that is accessed in the Modbus slave.
DATA_LEN	IN	Word	0	Data length: Specifies the number of bits or words this instruction is to access. The valid lengths are listed in the table of Modbus functions below.

Parameters	Declaration	Data type	Standard	Description
DATA_PTR	IN/OUT	Variant	-	Data pointer: Points to the flag or DB address for the data to be written or read. As of instruction version V3.0: The parameter may point to an optimized memory area. In the optimized memory area, a single element or an array is permitted with the following data types: Bool, Byte, Char, Word, Int, DWord, DInt, Real, USInt, UInt, UDInt, SInt, WChar. Every other data type results in error message 16#818C.
DONE	OUT	Bool	FALSE	The DONE bit is TRUE for one cycle after the last request has been completed without errors.
BUSY	OUT	Bool	-	FALSE – no command active for Modbus_Master TRUE – command for Modbus_Master in progress
ERROR	OUT	Bool	FALSE	The ERROR bit is TRUE for one cycle after the last request has been completed with errors. The error code in the STATUS parameter is only valid in the cycle in which ERROR = TRUE
STATUS	OUT	Bool	0	Error code

NOTE The input value used in this application will described in chapter 4.

3.1.3 Drive parameters for drive control via Modbus RTU

Modbus RTU is used to transfer cyclic process data and acyclic parameter data between precisely one master and up to 247 slaves.

Settings for Modbus RTU

Table 3-3: Parameter list of Modbus RTU Setting

Parameter	Explanation		
p2020=8	Fieldbus interface baudrate (Factory setting: 7)	5: 4800 baud 6: 9600 baud 7: 19200 baud 8: 38400 baud 9: 57600 baud	10: 76800 baud 11: 93750 baud 12: 115200 baud 13: 187500 baud
p2021	**Fieldbus interface address** (Factory setting: 1) Valid addresses: 1 … 247. The parameter is only active if address 0 is set at the Control Unit address switch. A change only becomes effective after the inverter power supply has been switched off and switched on again.		
p2024	**Fieldbus interface times** (Factory setting: [0] 1000 ms, [2] 0 ms)	[0] Maximum permissible telegram processing time ofthe Modbus slave [2] dead time between two telegrams	
p2029	**Fieldbus interface error statistics**	[0] number of error-free telegrams [1] number of rejected telegrams [2] number of framing errors [3] number of overrun errors	[4] number of parity errors [5] number of starting character errors [6] number of checksum errors [7] number of length errors
p2030=2	**Fieldbus interface protocol selection: Modbus RTU**		
p2031	**Fieldbus interface Modbus parity** (Factory setting: 2)	0: No parity 1: Odd parity 2: Even parity	
p2040	**Fieldbus interface monitoring time** (Factory setting: 10 s) p2040 = 0: The monitoring is deactivated		

NOTE The input value used in this application will described in chapter 4.2.

3.2 Details of G120C Modbus function

3.2.1 Control word 1 (STW1)

Table 3-3: Control word 1 (STW1)

Bit	Significance	Explanation	Signal intercom-nection in the inverter
0	0 = OFF1	The motor brakes with the ramp-down time p1121 of the ramp-function generator. The inverter switches off the motor at standstill.	p0840[0]=r2090.0
	0 → 1 = ON	The inverter goes into the “ready” state. If, in addition bit 3 = 1, then the inverter switches on the motor.	
1	0 = OFF2	Switch off the motor immediately, the motor then coasts down to a standstill	p0844[0]=r2090.1
	1 = No OFF2	The motor can be switched on (ON command).	
2	0 = Quick stop (OFF3)	Quick stop: The motor brakes with the OFF3 ramp-down time p1135 down to standstill.	p0848[0]=r2090.2
	1 = No quick stop (OFF3)	The motor can be switched on (ON command)	
3	0 = Inhibit operation	Immediately switch-off motor (cancel pulses).	p0852[0]=r2090.3
	1 = Enable operation	Switch-on motor (pulses can be enabled).	
4	0 = Disable RFG	The inverter immediately sets its ramp-function generator output to 0.	p1140[0]= r2090.4
	1 = Do not disable RFG	The ramp-function generator can be enabled.	
5	0 = Stop RFG	The output of the ramp-function generator stops at the actual value.	p1141[0]=r2090.3
	1 = Enable RFG	The output of the ramp-function generator follows the setpoint.	
6	0 = Inhibit setpoint	The inverter brakes the motor with the ramp-down time p1121 of the ramp-function generator	p1142[0]=r2090.6
	1 = Enable setpoint	Motor accelerates with the ramp-up time p1120 to the setpoint.	
7	0 → 1 = Acknowledge faults	Acknowledge fault. If the ON command is still active, the inverter switches to the “switching on inhibited” state.	p2103[0]=r2090.7
8,9	Reserved		
10	0 = No control via PLC	Inverter ignores the process data from the fieldbus.	p0854[0]=r2090.10
	1 = Control via PLC	Control via fieldbus, inverter accepts the process data from the fieldbus.	
11	1 = Direction reversal	Invert setpoint in the inverter.	p1113[0]=r2090.11
12	Reserved		
13	1 = MOP up	Increase the setpoint saved in the motorized potentiometer.	p1035[0]=r2090.13

Bit	Significance	Explanation	Signal intercom-nection in the inverter
14	1 = MOP down	Reduce the setpoint saved in the motorized potentiometer	p1036[0]=r2090.14
15	Reserved		

3.2.2 Status word 1 (ZSW1)

Table 3-4: Status word 1 (ZSW1)

Bit	Significance	Remarks	Signal intercom nection in the inverter
0	1 = Ready for switching on	Power supply switched on; electronics initialized; pulses locked.	p2080[0]=r0899.0
1	1 = Ready	Motor is switched on (ON/OFF = 1), no fault is active. With the command “Enable operation” (STW1.3), the inverter switches on the motor.	p2080[1]=r0899.1
2	1 = Operation enabled	Motor follows setpoint. See control word 1, bit 3.	p2080[2]=r0899.2
3	1 = Fault active	The inverter has a fault. Acknowledge fault using STW1.7.	p2080[3]=r2139.3
4	1 = OFF2 inactive	Coast down to standstill is not active.	p2080[4]=r0899.4
5	1 = OFF3 inactive	Quick stop is not active.	p2080[5]=r0899.5
6	1 = Switching on inhibited active	It is only possible to switch on the motor after an OFF1 followed by ON.	p2080[6]=r0899.6
7	1 = Alarm active	Motor remains switched on; no acknowledgement is necessary.	p2080[7]=r2139.7
8	1 = Speed deviation within the tolerance range	Setpoint / actual value deviation within the tolerance range.	p2080[8]=r2197.7
9	1 = Master control requested	The automation system is requested to accept the inverter control.	p2080[9]=r0899.0
10	1 = Comparison speed reached or exceeded	Speed is greater than or equal to the corresponding maximum speed.	p2080[0]=r2199.1
11	1 = Torque limit not reached	Comparison value for current or torque has been fallen below.	p2080[11]=r0056.13 /r1407.7
12	Reserved		p2080[12]=r0899.12
13	0 = Alarm, motor over temperature	--	p2080[13]=r2135.14
14	1 = Motor rotates clockwise	Internal inverter actual value > 0	p2080[14]=r2197.3
	0 = Motor rotates counterclockwise	Internal inverter actual value < 0	
15	0 = Alarm, inverter thermal overload		p2080[15]=r2135.15

3.3 Installation

The figure below shows the hardware configuration of the application:

CAUTION	**Wrong wiring can damage the drive!** In this application, the three phase 400V power supply is used. It is a must for you to check the supply voltage; otherwise, the drive can be damaged!

Figure 3-4

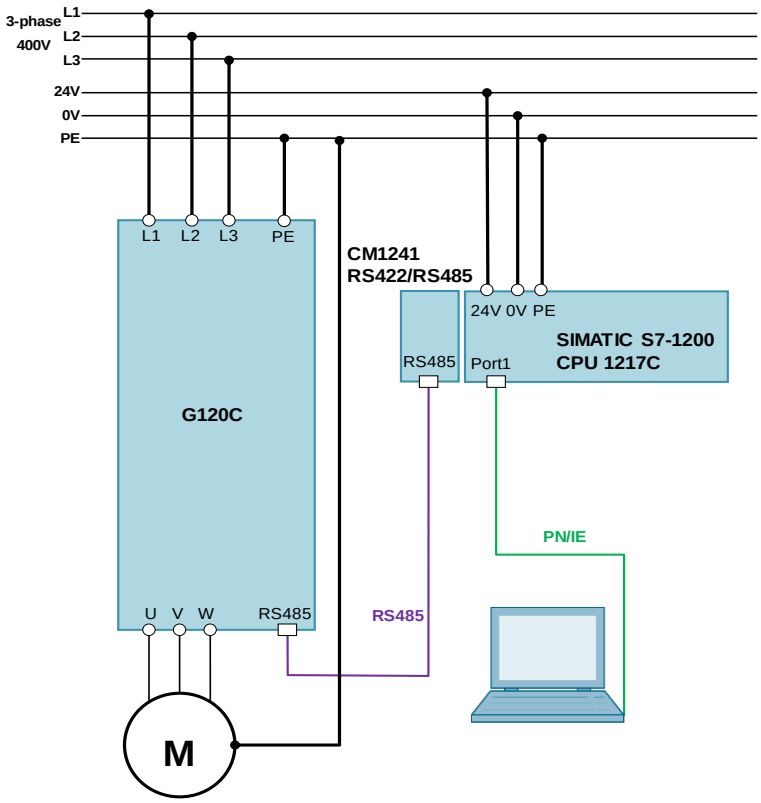


Figure 3-2: Modbus communication between CM1241 and G120C

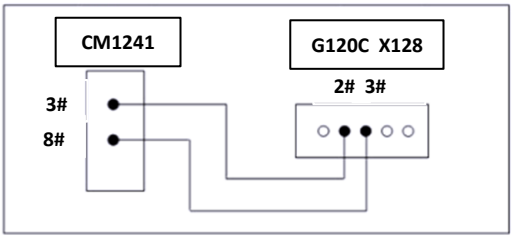
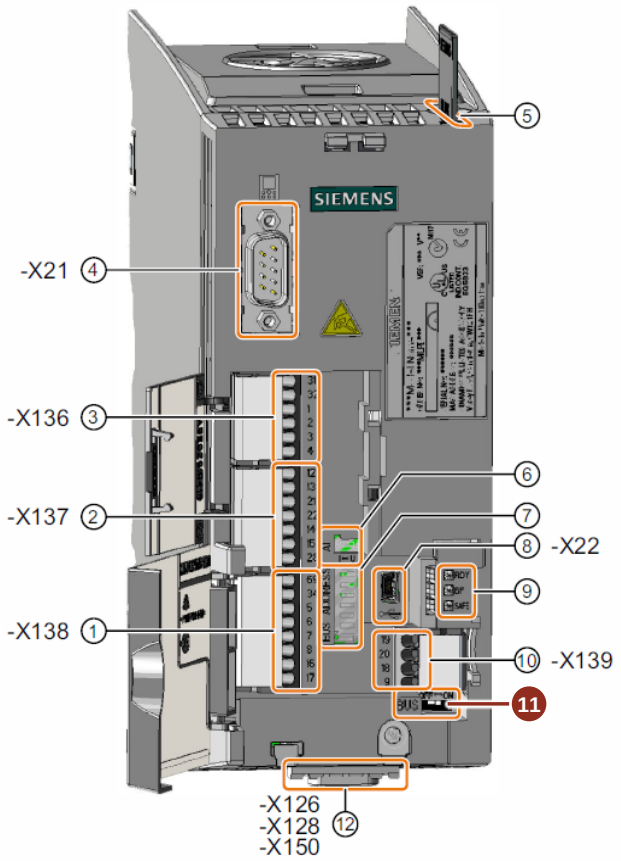


Figure 3-2: Position of the terminal bus switch (Frame sizes FSAA … FSC)

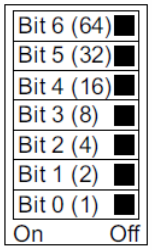
To access the interfaces at the front of the Control Unit, you must lift the Operator Panel (if one is being used) and open the front doors.



① Terminal strip -X138
② Terminal strip -X137
③ Terminal strip -X136
④ Interface -X21 to the Operator Panel
⑤ Memory card slot
⑥ Switch for AI 0

- I 0/4 mA … 20 mA
- U -10/0 V … 10 V

⑦ Switch for the bus address



⑧ USB interface -X22 for connection to a PC

⑨ RDY BF SAFE Status LED

⑩ Terminal strip -X139

11 OFF ON Switch for bus termination, only on G120C USS/MB

⑫ Fieldbus interface at the bottom

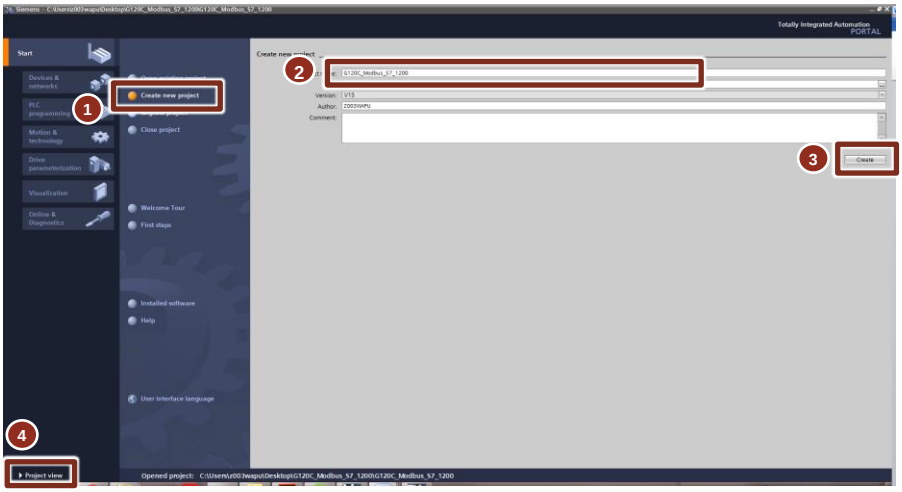
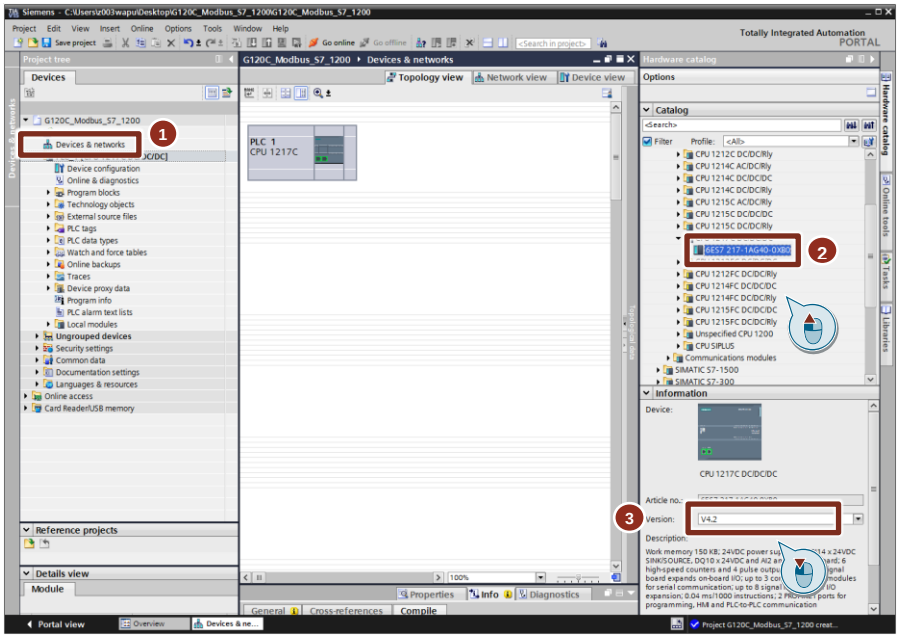
NOTE The position of the bus termination switch for the frame sizes FSD – FSF can be found in the G120C manual \3\.

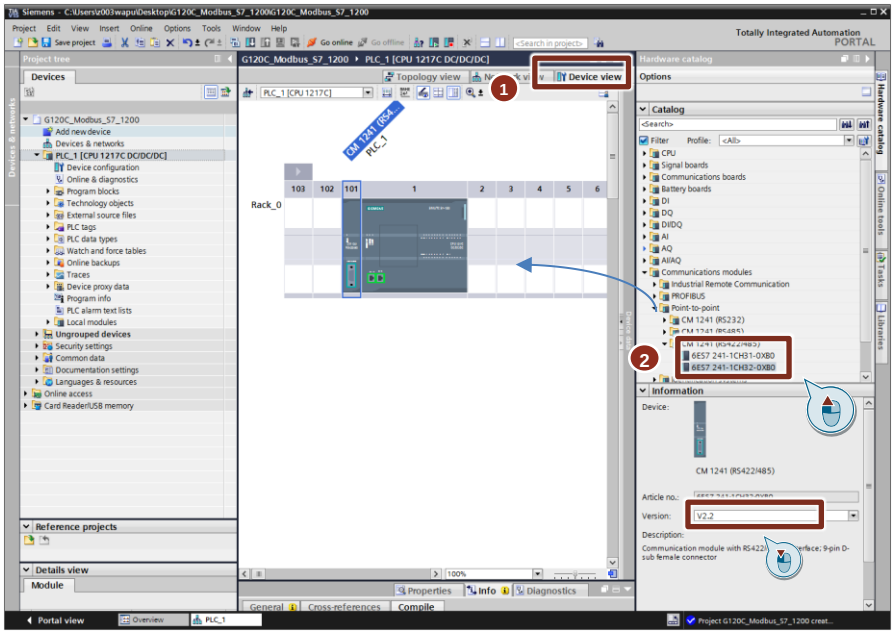
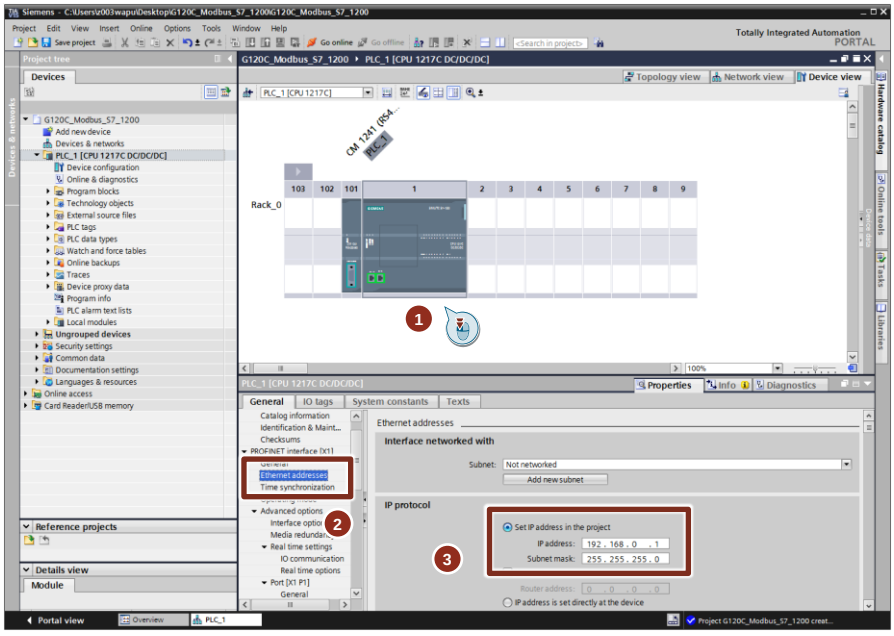
4 Configuration

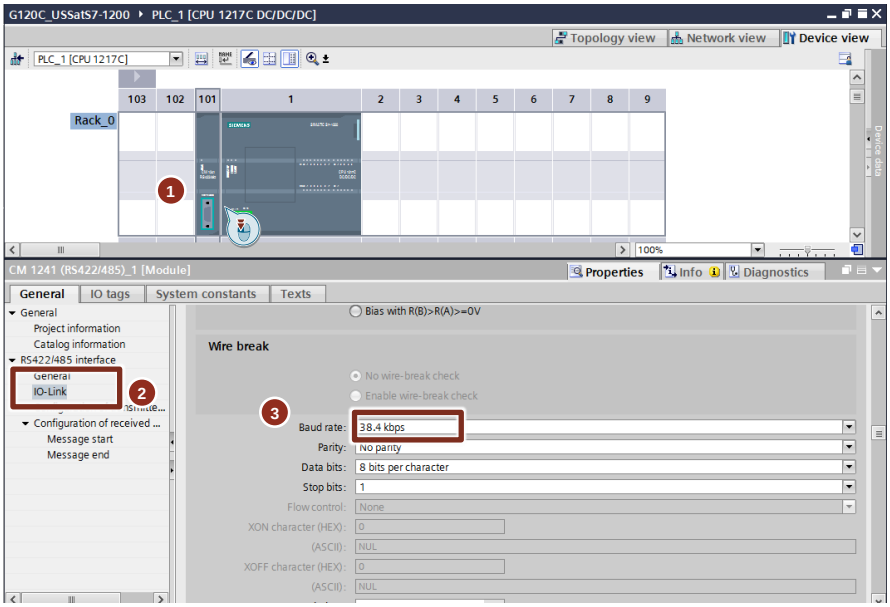
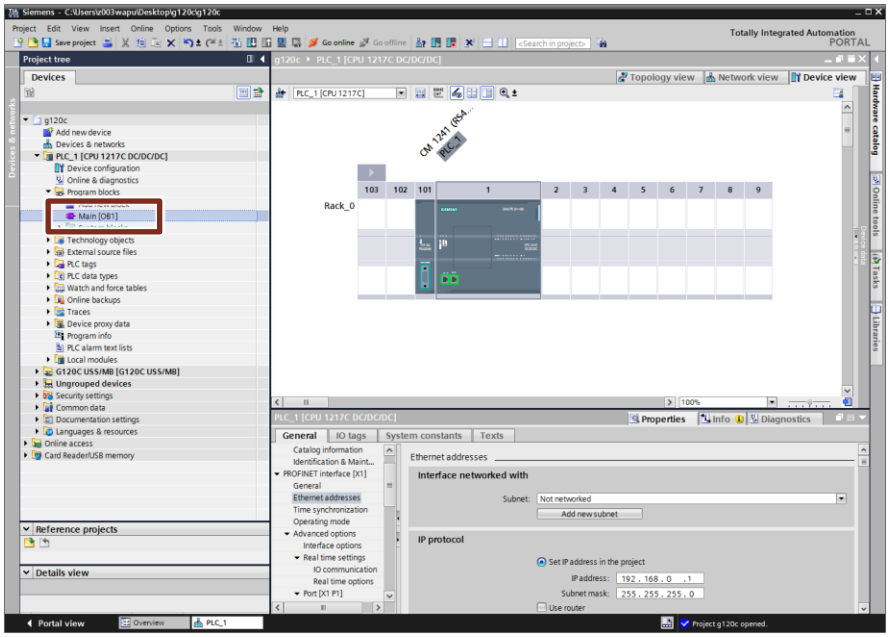
4.1 Configure PLC project

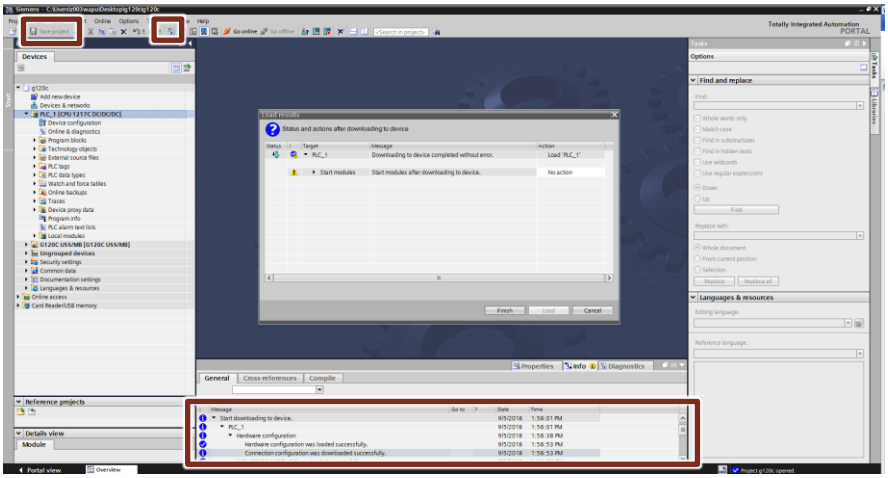
The screenshots in the following tables are from G120C_Modbus RTU at S7-1200 project.

Table 4-1: Creation of new project and configuration of the PLC

No.	Picture	Remarks
1.		1. Open TIA Portal V15 in your PC and then click ***Create new project***. 2. Assign the new project a name ***G120C_ModbusatS7-1200***. 3. Click ***Create*** to finish the creation of a new project. 4. Click ***Project view*** to change to project view.
2.		1. In the project tree, go to Devices & Network view. 2. In the Hardware catalog task card, locate the available SIMATIC CPU (for example S7-1217 DC/DC/DC), select the right firmware and use drag and drop to move it to the graphic area of the Network view. In this area and in the project tree, it will be created as PLC_1. 3. Select the CPU with a suitable version (for example V4.2 (S7-1200)).

No.	Picture	Remarks
3.		
	1. In the graphic area, select the SIMATIC controller and go to the Device view. 2. In the Hardware catalog task card, locate the CM1241 (RS422/RS485) communication module, version V2.2 and use drag and drop to move it to an allowed slot left to the CPU in the graphic area of the network view.	
4.		
	If necessary, change the Ethernet address. To do this, double-click the CPU to open its properties.	

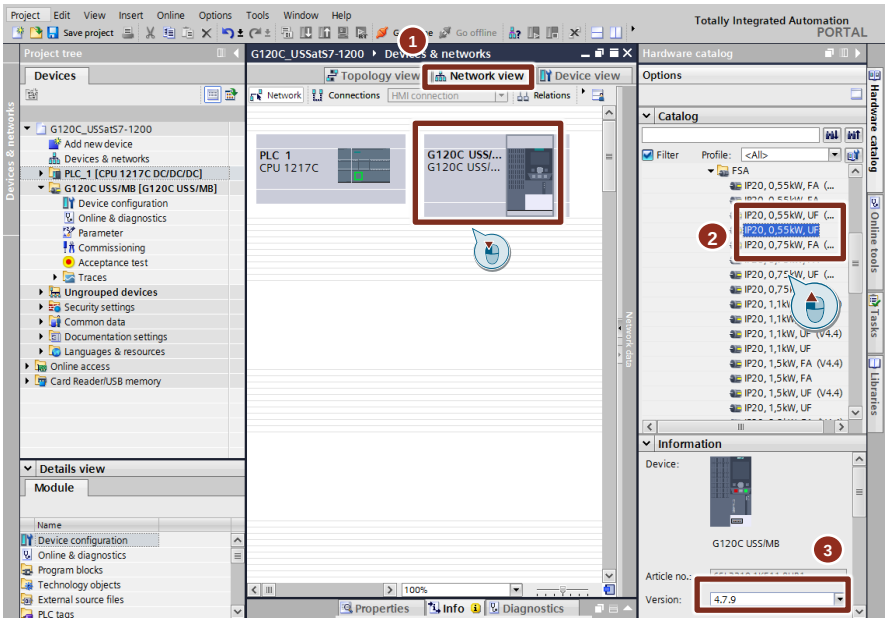
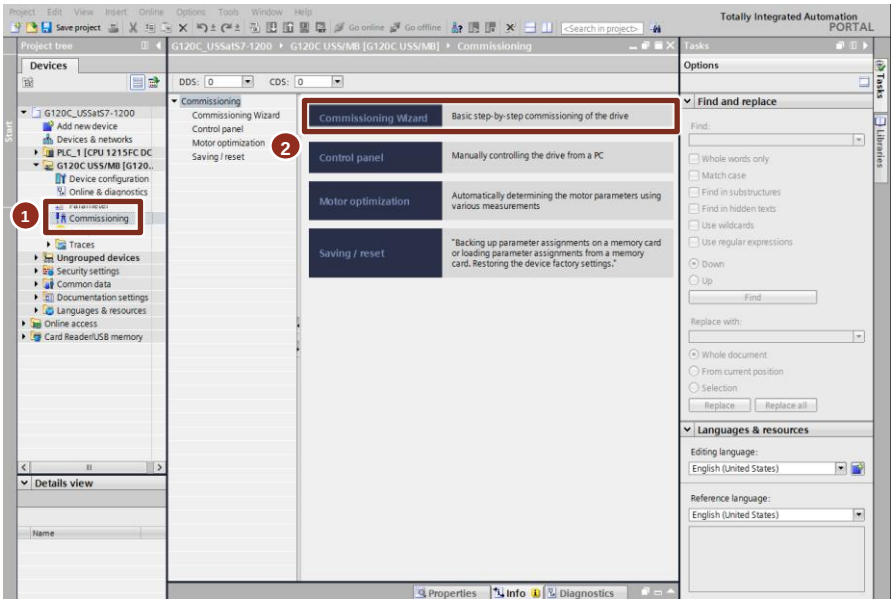
No.	Picture	Remarks
5.	 1. In the ***Device view*** double click on the CM1241to configure the property. 2. Go to the ***IO-Link*** in the ***RS422/485 interface*** card. 3. Change the ***Baud rate*** to 38.4kbps.	
6.	 Create your user program or – if you want to use the supplied sample program – copy the following objects from the sample program to your new project.	

No.	Picture	Remarks
7.		

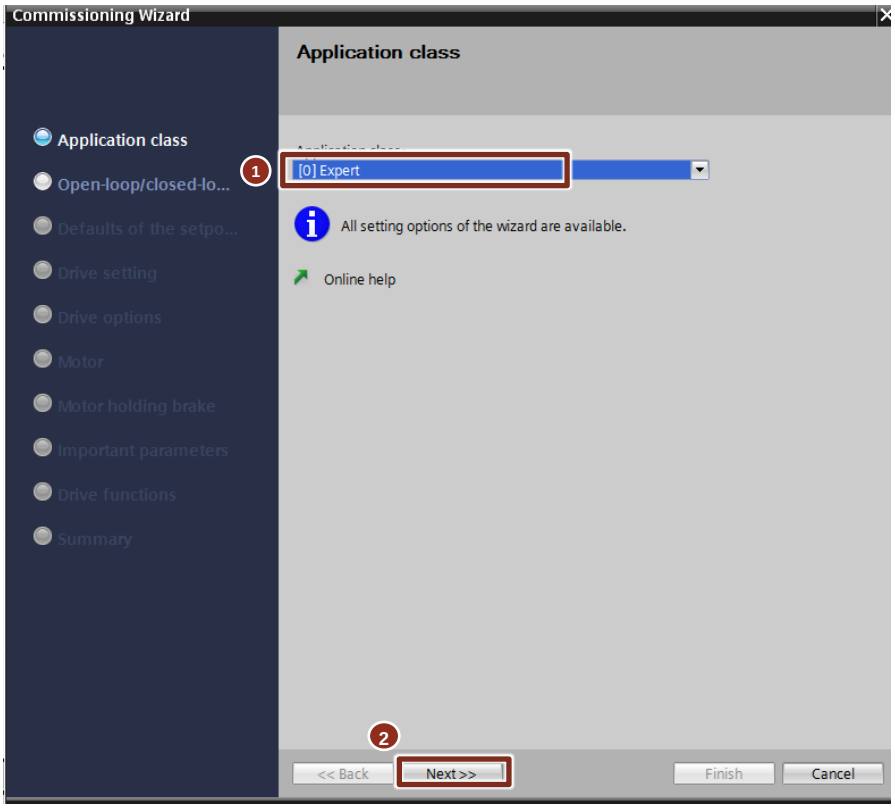
1. *Compile* the PLC_1 device in order to detect possible errors.
2. Save the project

4.2 G120C configuration

Table 4-2: Quick Commissioning via Startdrive in TIA Portal V15

No.	Description	Remarks
1.	 1. Select ***network view*** 2. In the Hardware catalog task card, select the suitable *G120C USS IP20*, (for example 2.2kW UF) and use drag and drop to move it to the graphic area of the Network view. In this area, it will be created as G120C USS/MB. 3. Select the drive with a suitable version (for example V4.7.9).	
2.	 1. In the project tree, go to the ***Commissioning*** under *G120C USS/MB*. 2. Click the ***Commissioning Wizard*** function to open Commissioning Wizard dialog.	

3.

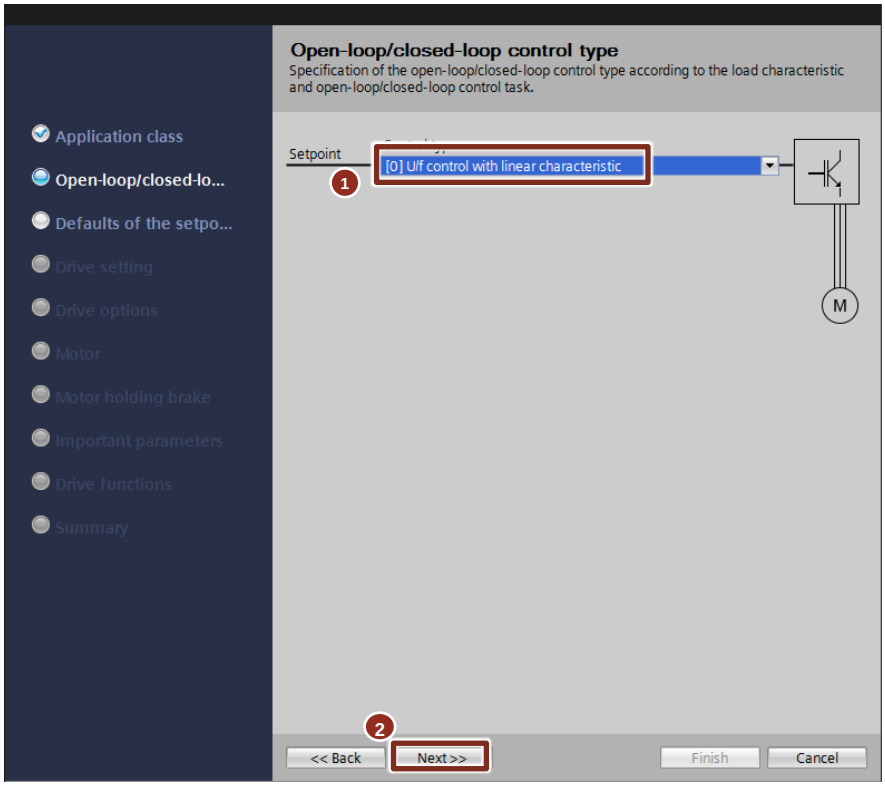


1. Choose ***Expert*** at the Application class card.
2. Click ***Next***.

NOTICE:

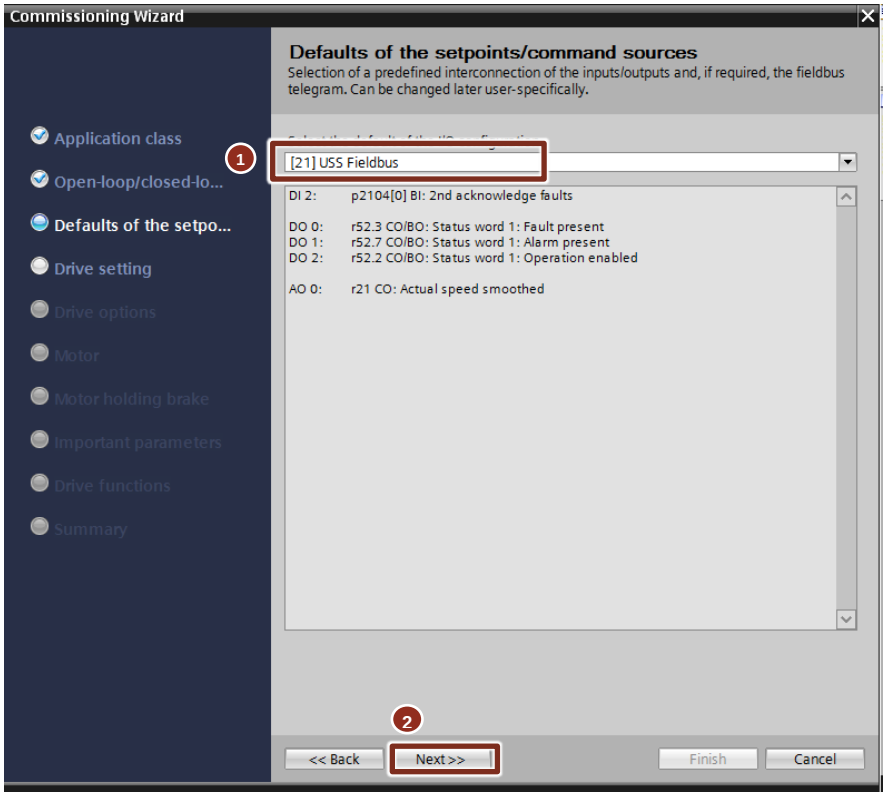
*This application also can be finished in **Standard Drive Control** or **Dynamic Drive Control** application class*

4.



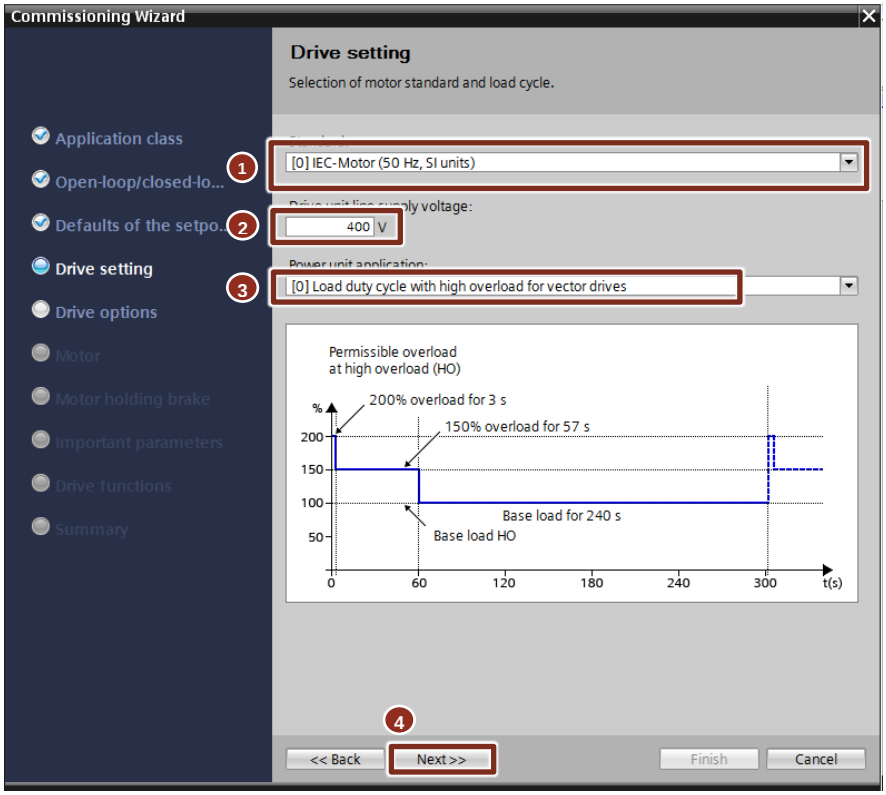
1. Choose ***U/f control with linear characteristic*** at the Open-loop/close-loop control type card.
2. Click ***Next***.

5.



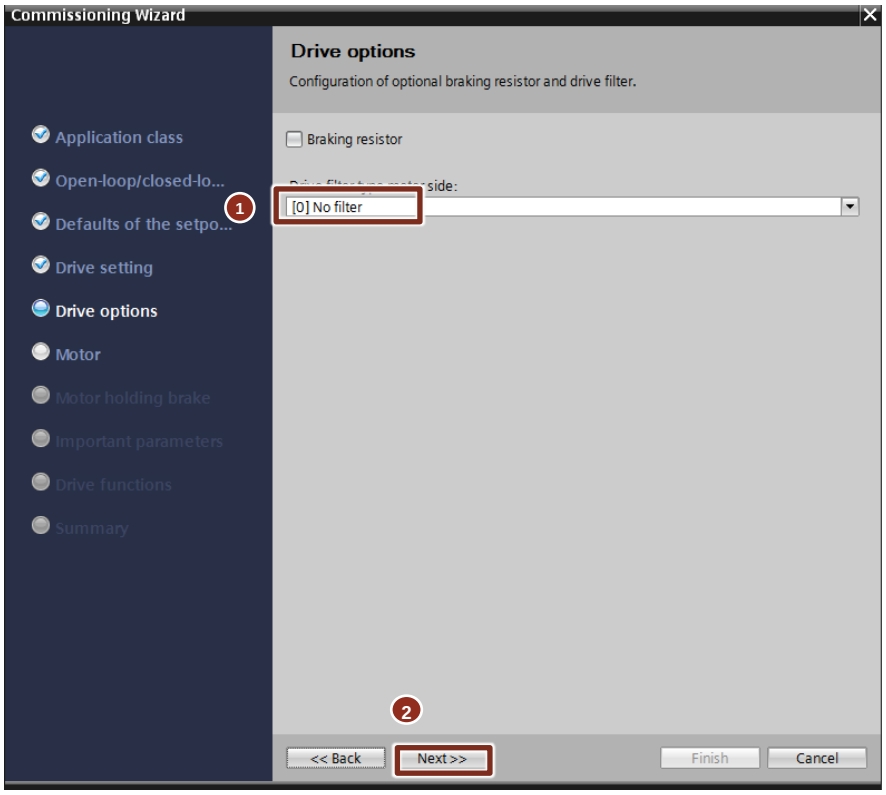
1. Choose ***USS Fieldbus*** at the defaults of the setpoints/command sources card.
2. Click ***Next***.

6.



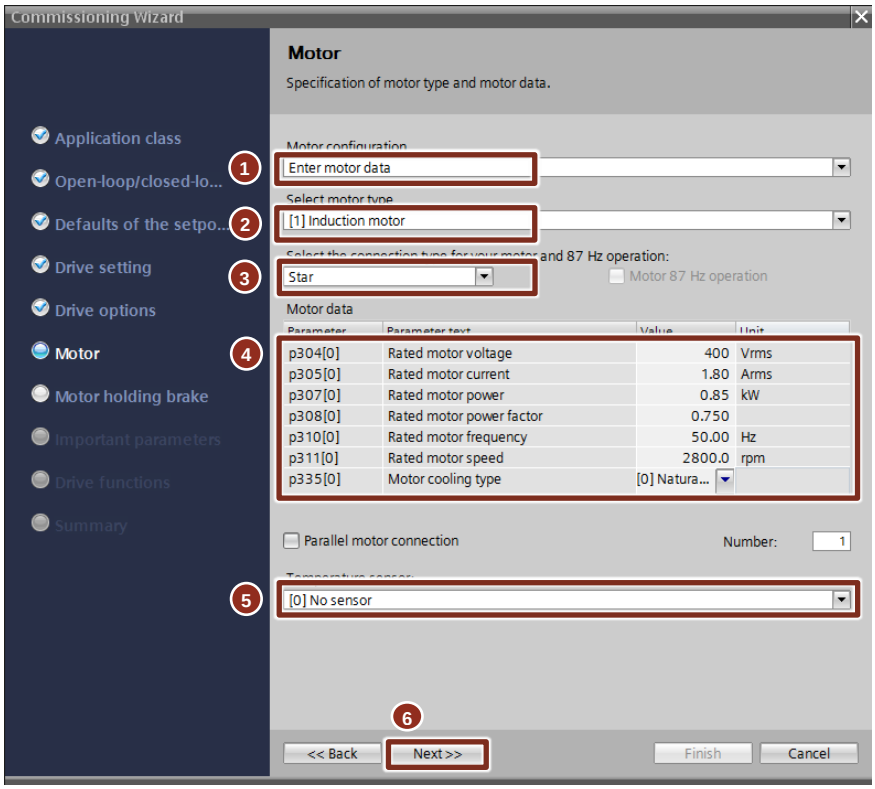
1. Choose ***IEC-Motor (50 Hz, SI units)*** for Standard.
2. Input ***400 V*** for the drive unit line supply voltage.
3. Choose ***Load duty cycle with high overload for vector drives*** for the power unit application.
4. Click ***Next***.

7.



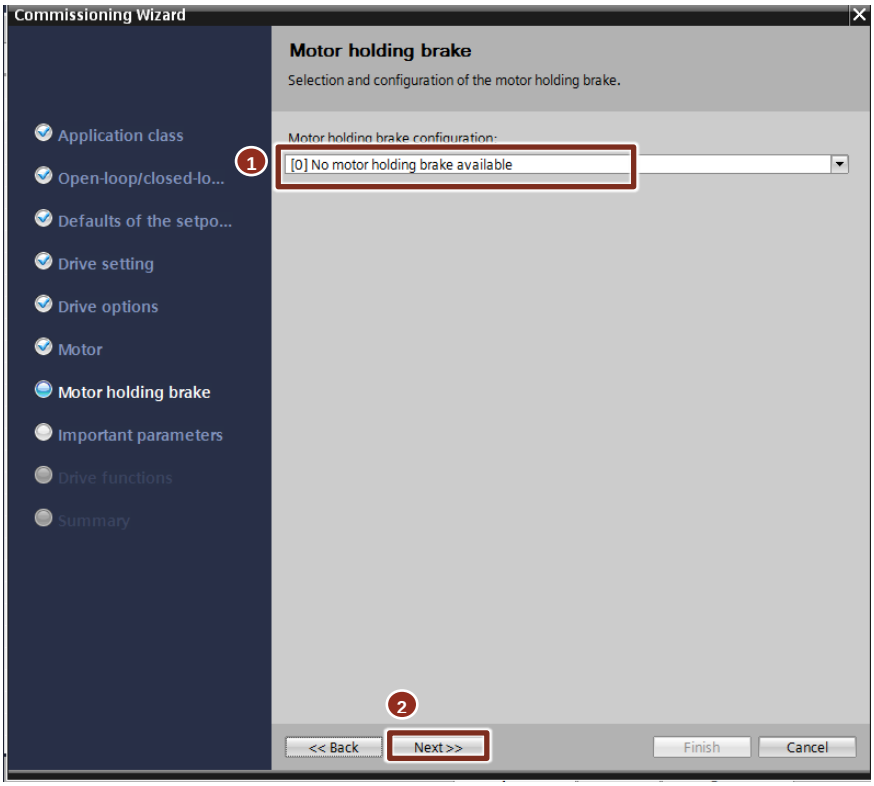
1. Choose ***No filter*** at the drive options card.
2. Click ***Next***.

8.



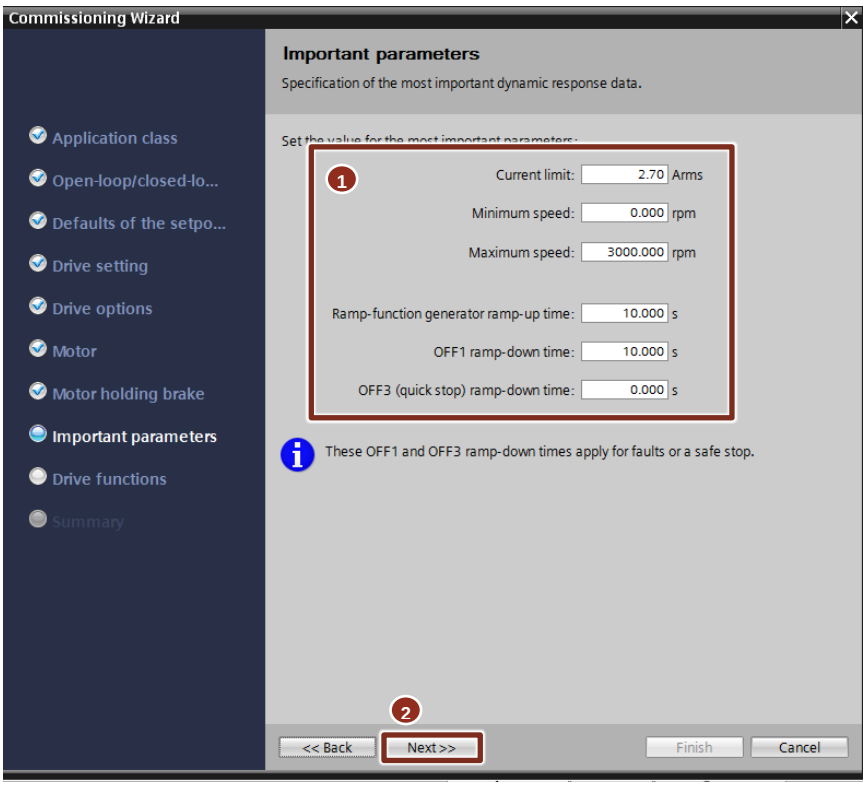
1. Choose ***Enter motor data*** for the Motor configuration.
2. Choose ***Induction motor*** for the motor type.
3. Choose ***Star*** for the connection type.
4. Input the required motor data accordingly.
5. Choose ***No sensor*** for the temperature sensor.
6. Click ***Next***.

9.



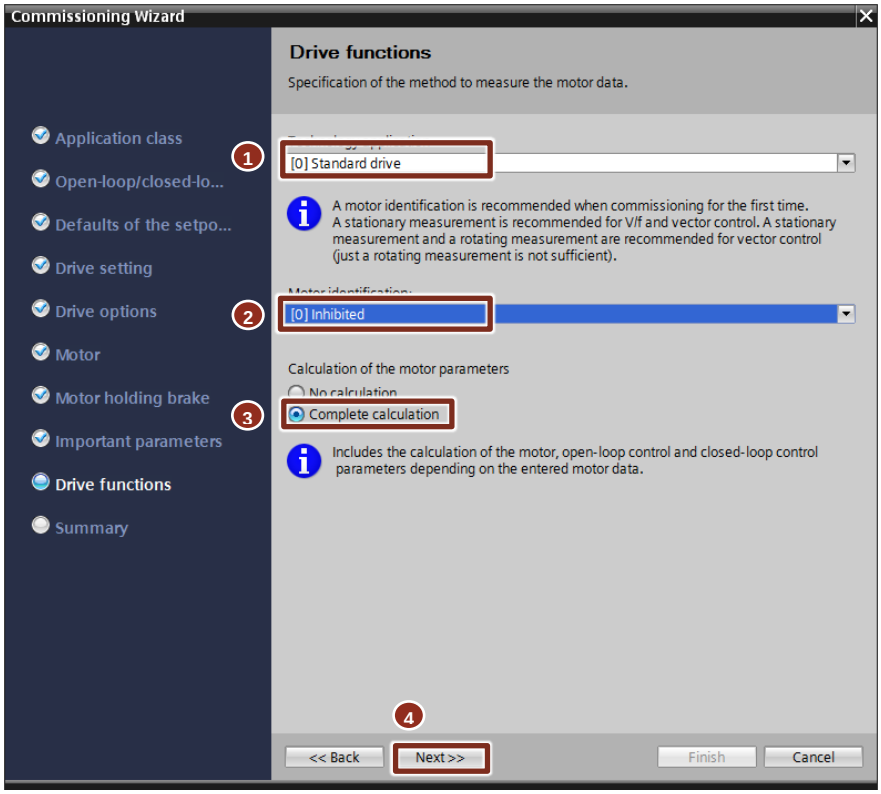
1. Choose ***No motor holding brake available*** at the motor holding brake card.
2. Click ***Next***.

10.



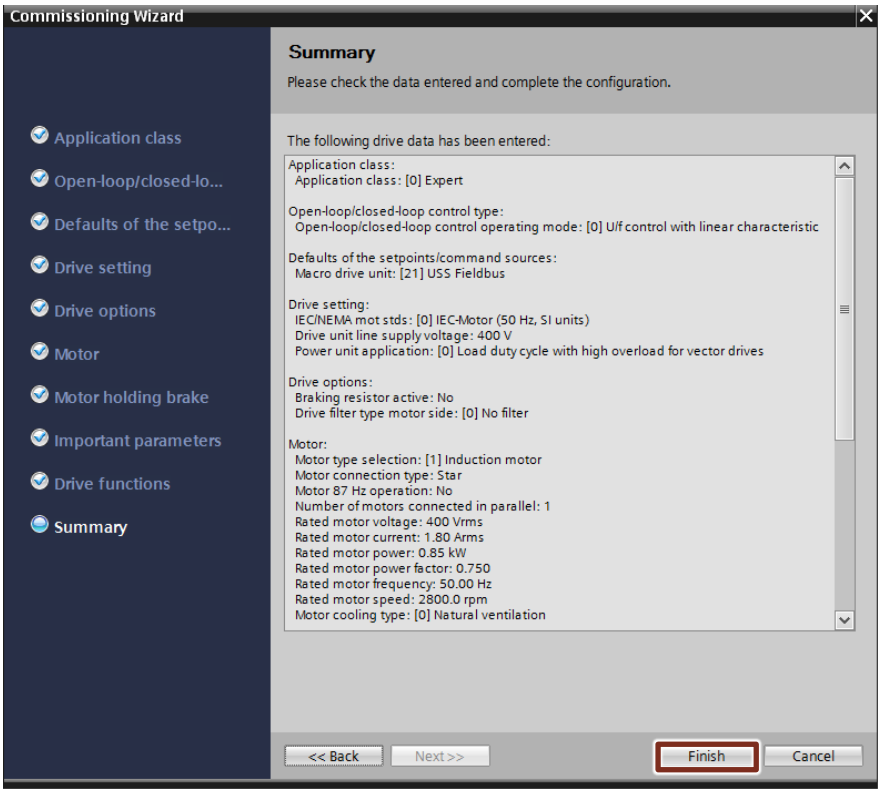
1. Input important parameters accordingly at the important parameters card.
2. Click ***Next***.

11.



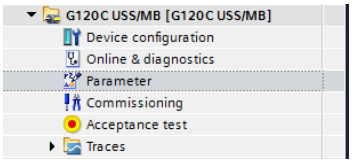
1. Choose ***Standard drive*** for the Technology application.
2. Choose ***Inhibited*** for the motor identification.
3. Choose ***Complete calculation*** for the Calculation of the motor parameters.
4. Click ***Next***.

12.



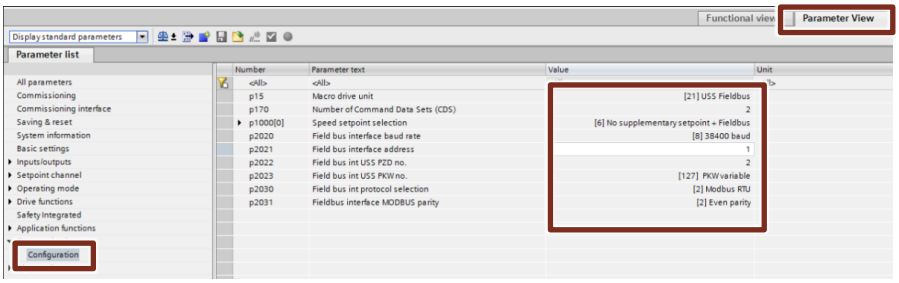
Click ***Finish***.

13.



Double click the ***Parameter.***

14.

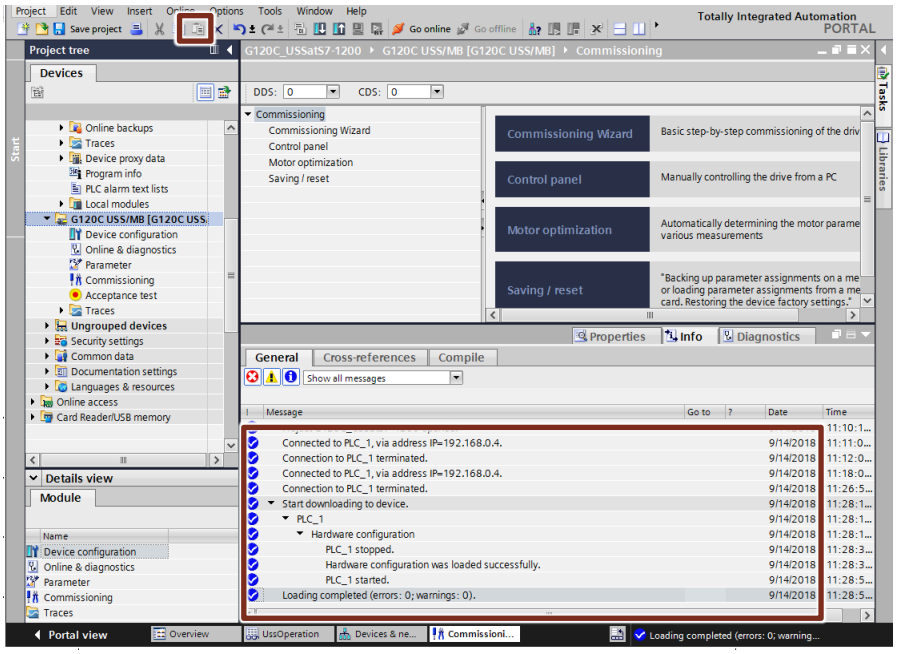


Switch to ***parameter view***.

Click the ***configuration*** option of the communication command.

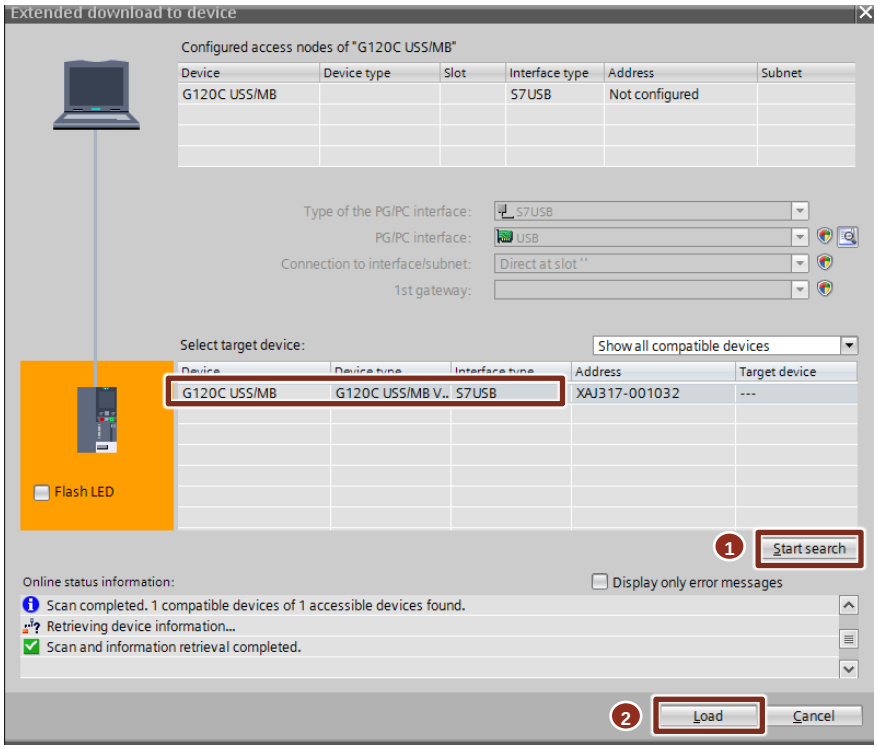
Modify the related communication parameters.

15.



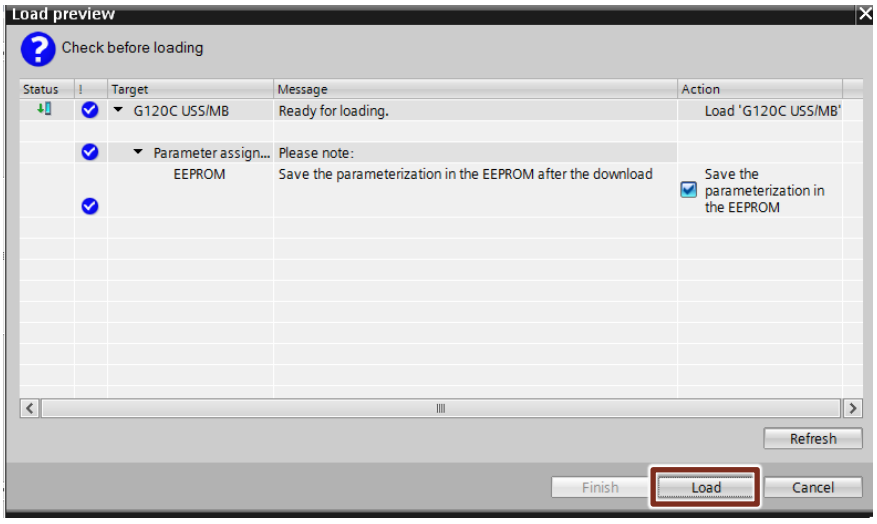
Download the configuration to the drive.

16.



1. Connect the G120C with the USB cable to the PG.
2. Click ***Start search*** and the connected G120C is showed in the table.
3. Click ***Load***.

17.



Click ***Load*** to load the configuration to the drive.

4.3 Programming the PLC logic

In this application example, the SINAMICS G120C drive is controlled by S7-1217 CPU via Modbus communication. To achieve this control, the following instructions have been added to the program:

- MB_COMM_LOAD
- MB_MASTER

These FBs are called in the user defined "Modbus_Com"(FB1) function block.

The figure 4-1 shows the program structure.

Figure 4-1 Program structure

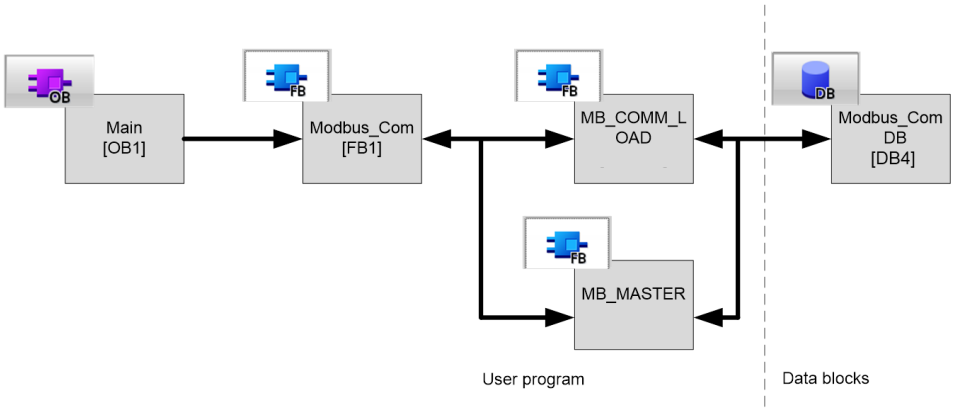
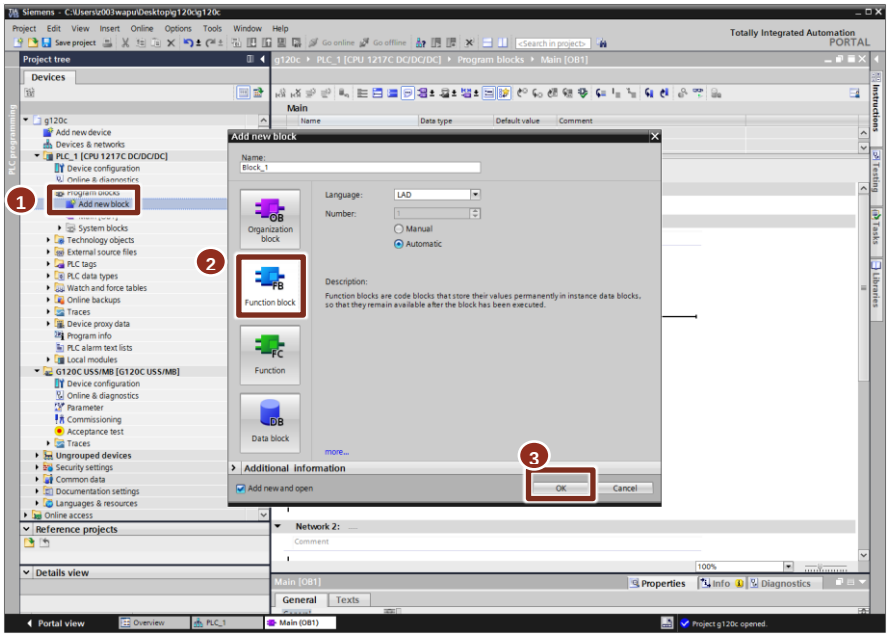
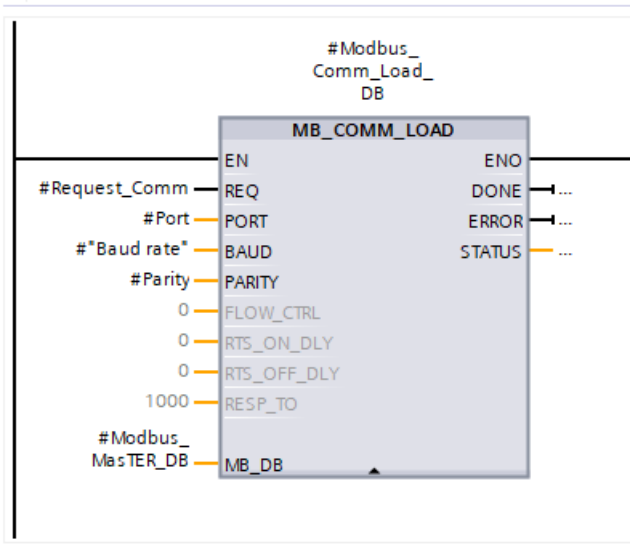
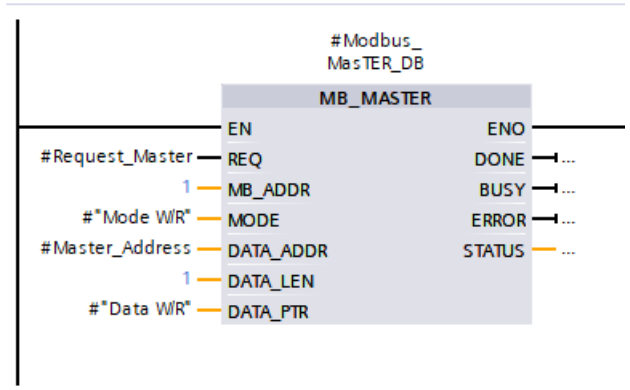
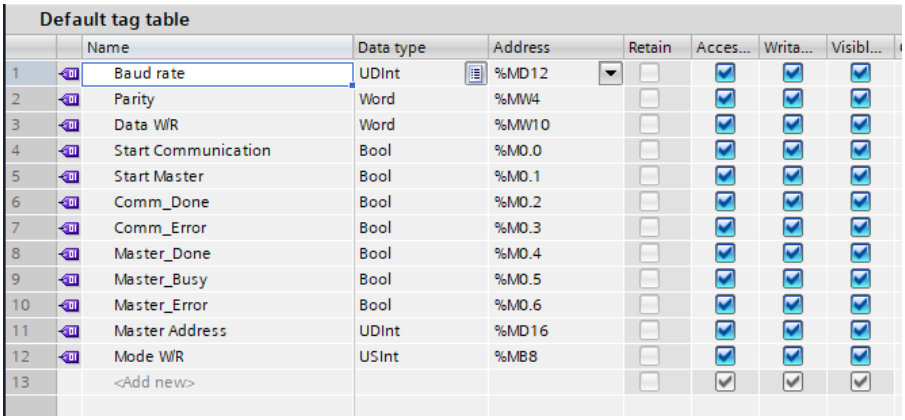


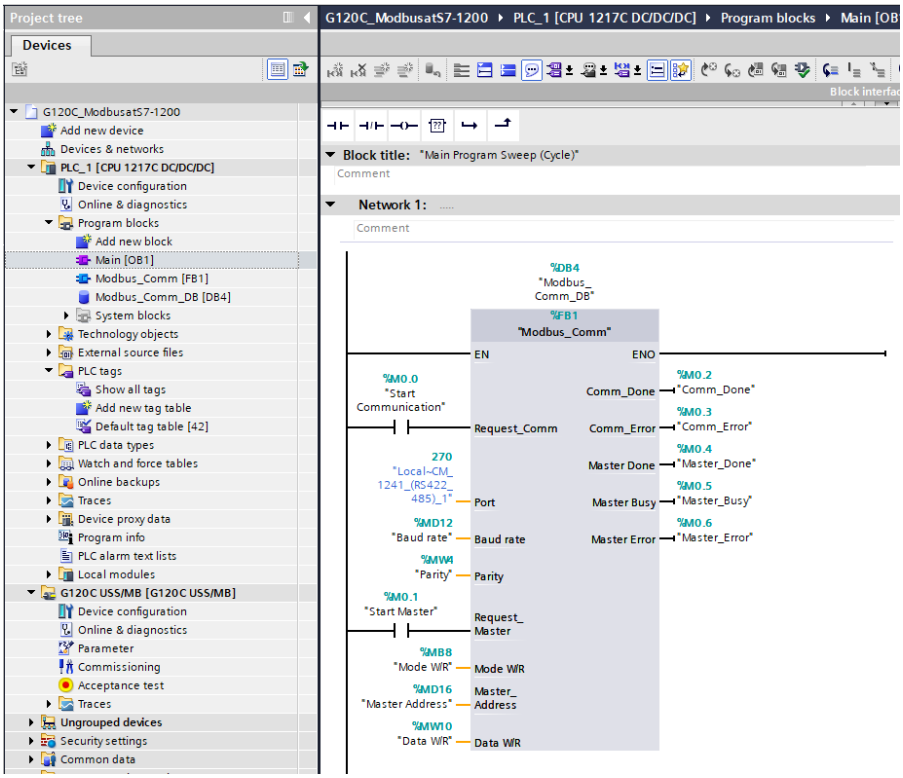
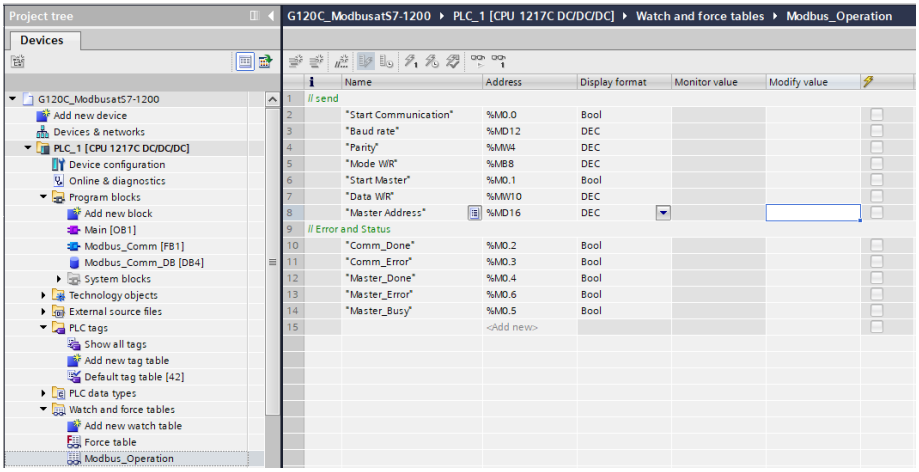
Table 4-3 is the details about the PLC logic programming.

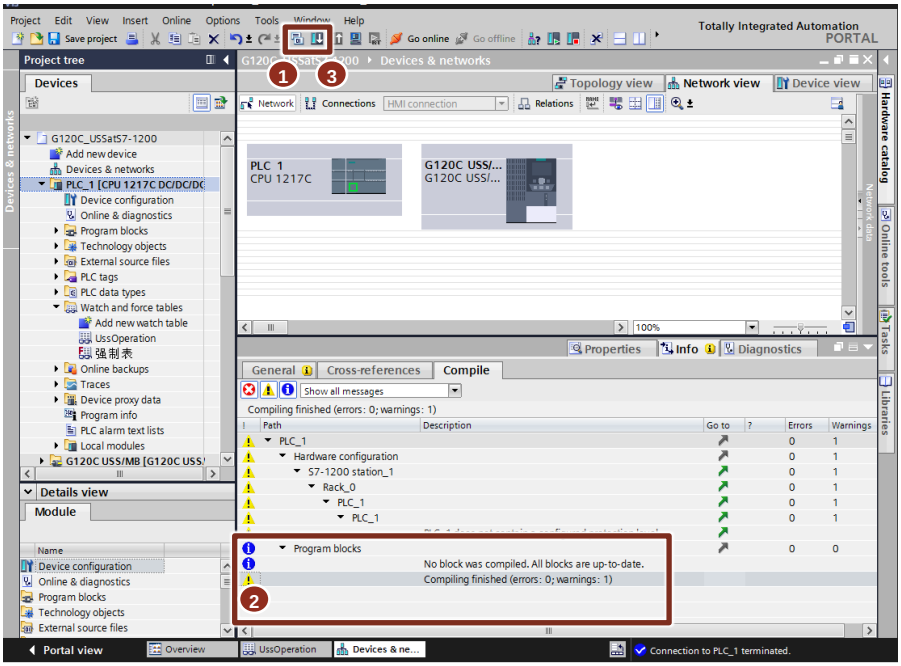
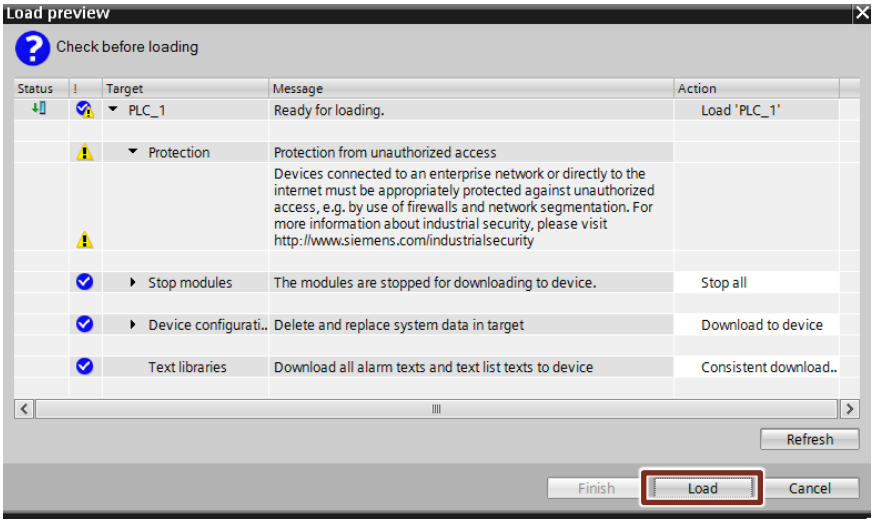
Table 4-3 PLC Program

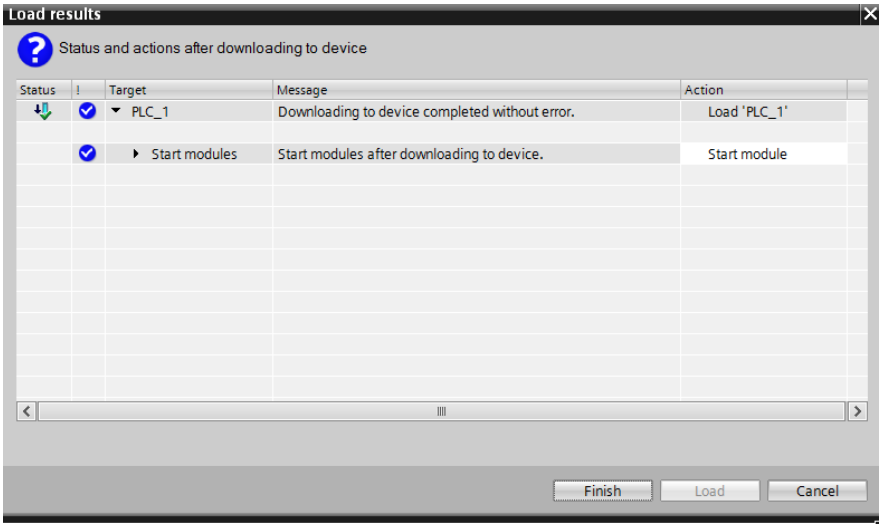
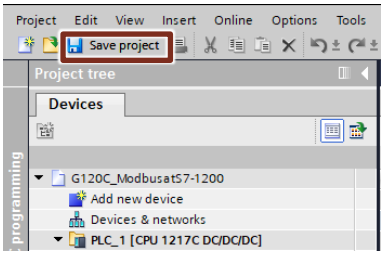
<table>
<tr><th>No.</th><th>Picture</th><th>Description</th></tr>
<tr><td>1.</td><td> 

1. Double-click Add new block in the program blocks.
2. Select to create a new FB and give a name as Modbus_Comm.
3. Click OK.</td></tr>
<tr><td>2.</td><td>Modbus_Comm_DB
<table>
<tr><th></th><th></th><th>Name</th><th>Data type</th><th>Start value</th><th>Retain</th><th>Accessible f...</th><th>Writa...</th><th>Visible in ...</th><th>Setpoint</th></tr>
<tr><td>1</td><td></td><td>Input</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>2</td><td></td><td>Request_Comm</td><td>Bool</td><td>false</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>3</td><td></td><td>Port</td><td>PORT</td><td>0</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>4</td><td></td><td>Baud rate</td><td>UDInt</td><td>38400</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>5</td><td></td><td>Parity</td><td>UInt</td><td>2</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>6</td><td></td><td>Request_Master</td><td>Bool</td><td>false</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>7</td><td></td><td>Mode WR</td><td>USInt</td><td>0</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>8</td><td></td><td>Master_Address</td><td>UDInt</td><td>0</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>9</td><td></td><td>Output</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10</td><td></td><td>Comm_Done</td><td>Bool</td><td>false</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>11</td><td></td><td>Comm_Error</td><td>Bool</td><td>false</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>12</td><td></td><td>Master Done</td><td>Bool</td><td>false</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>13</td><td></td><td>Master Busy</td><td>Bool</td><td>false</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>14</td><td></td><td>Master Error</td><td>Bool</td><td>false</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>15</td><td></td><td>InOut</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>16</td><td></td><td>Data WR</td><td>Variant</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>17</td><td></td><td>Static</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>18</td><td></td><td>Modbus_Comm_Load...</td><td>MB_COMM_LOAD</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>19</td><td></td><td>Modbus_MasTER_DB</td><td>MB_MASTER</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
Configure the input and output as the table.</td></tr>
</table>

No.	Picture	Description
3.		Configure the ***MB_Comm_Load*** function block as the table.
4.		Configure the ***MB_Master*** function block as the table.
5.		Open the ***Default tag table***, and create the variables as the table.

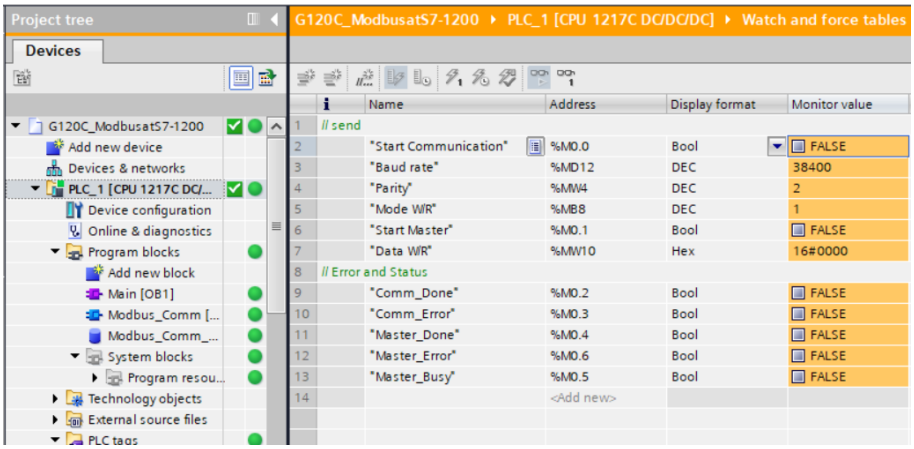
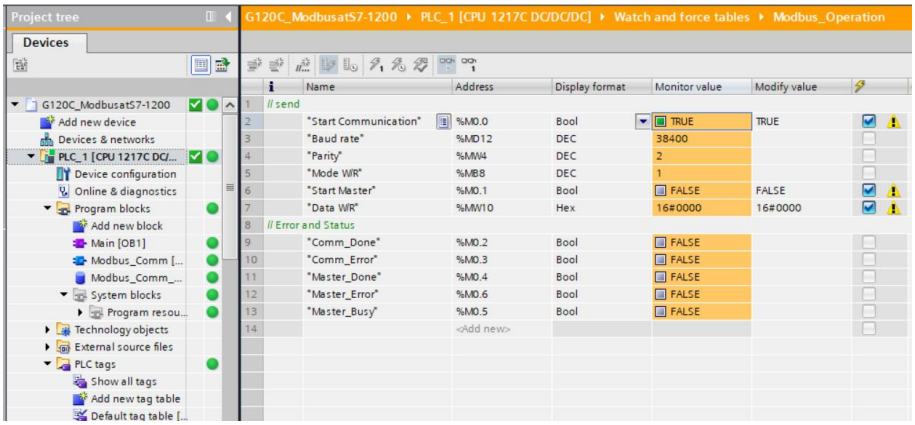
No.	Picture	Description
6.		Open ***OB1*** and insert the FB1 to OB1, connect the input and output as the table.
7.		Create a watch table as the table.

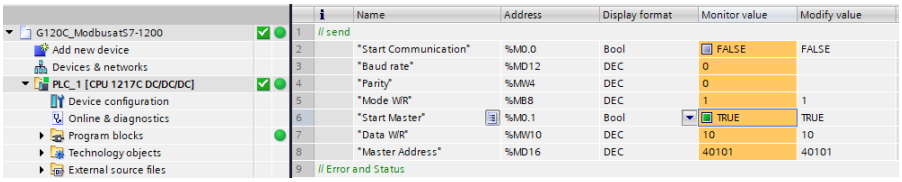
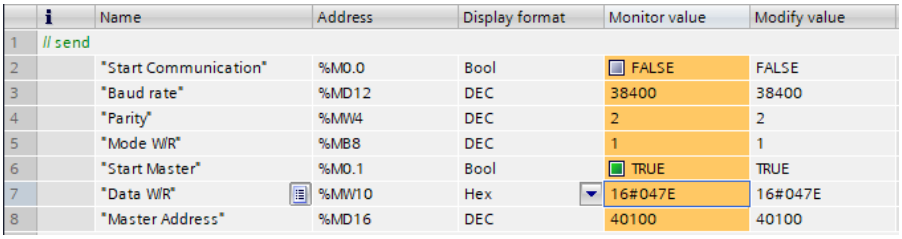
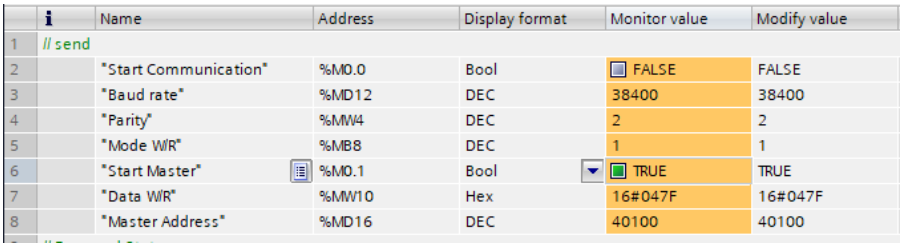
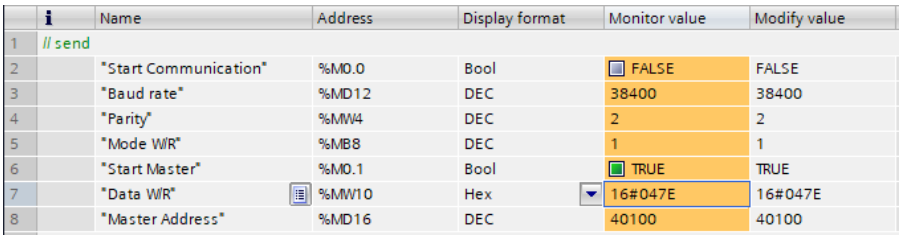
No.	Picture	Description
8.		1. ***Compile*** the program. 2. Compiling is finished. 3. Click ***download***.
9.		Click ***Load*** to load the program into PLC.

No.	Picture	Description
10.	  Click ***Finish*** and ***Save project***.	

4.4 Operating the application

Table 4-2 Operation

No.	Picture	Discription
1.	 1. Go to Watch and force table: Modbus_Operation 2. Go Online
2.	 **Communication load enable:** 1. Modify “Start Communication” with "True" (1) 2. When “Communication Done” is True, 3. Modify “Start Communication” "False" (0).

No.	Picture	Discription
3.	**Start motor:**  1.Set “Mode W/R” to 1. 2.Set “Master Address” to 40101. 3.Set “DATA_W/R” to 10.	
	 1.Set “Master Address” to 40100. 2.Set “Data W/R” to 047E.	
	 1.Set “Data W/R” to 047F.	
4.	**Stop motor:**  1.Set “Data W/R” to 047E.	

5 Related literature

Table 5-1 Reference documents

	Topic
\1\	Siemens Industry Online Support http://support.industry.siemens.com
\2\	Download page of this entry https://support.industry.siemens.com/cs/ww/en/view/109764623
\3\	G120C manual FW 4.7.10 https://support.industry.siemens.com/cs/ww/en/view/109757226

6 Contact

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7 History

Table 7-1

Version	Date	Modifications
V1.0	12/2018	First version