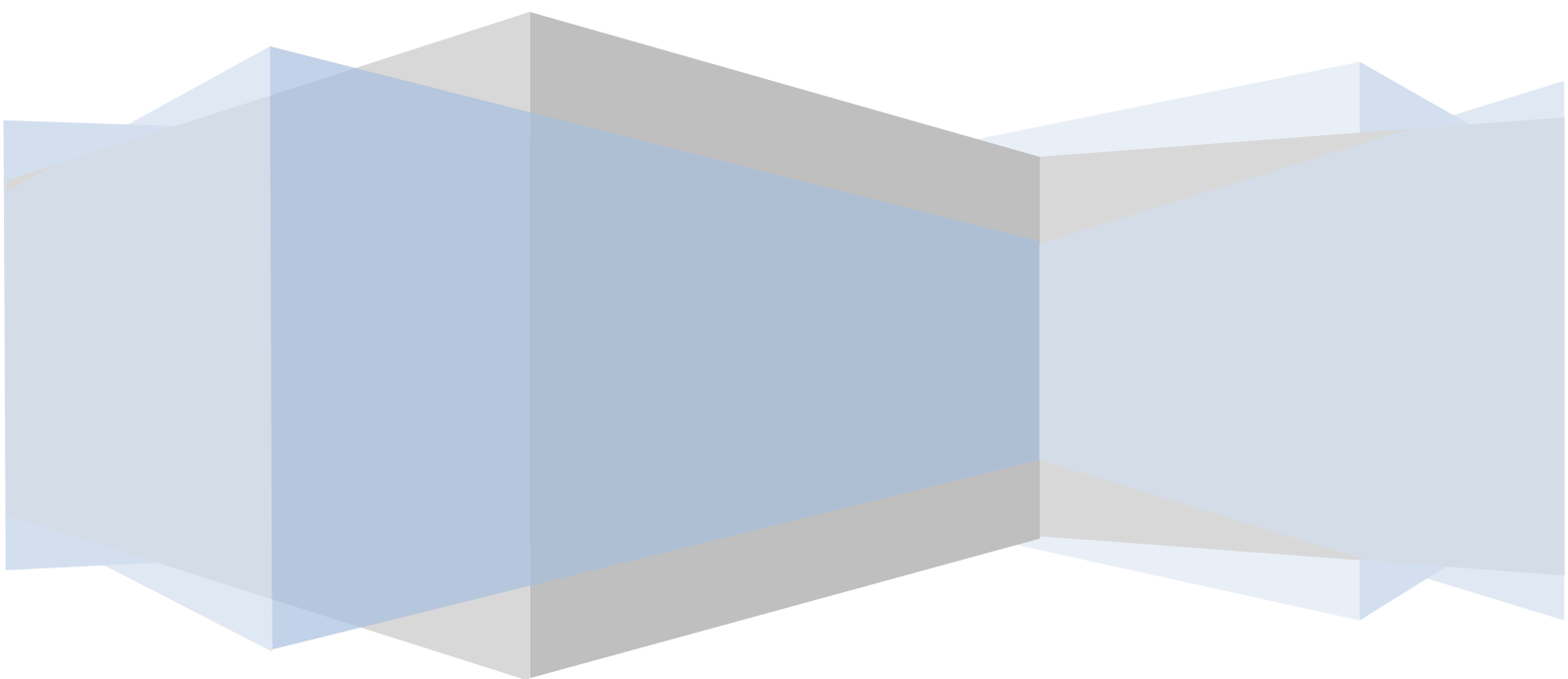


AirTAC

Product Manual

6D-PN



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Safety Instruction

① The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

② Only personnel with appropriate training should operate machinery and equipment.

③ Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.

2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, read and understand the specific product precautions of all relevant products carefully.

3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

④ Contact AirTAC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.

2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.

3. An application that could have negative effects on people, property, or animals requiring special safety analysis.

4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⑤ The product is provided for use in manufacturing industries.

1. The product herein described is basically provided for peaceful use in manufacturing industries.

2. If considering using the product in other industries, consult AirTAC beforehand and exchange specifications or a contract if necessary.

3. If anything is unclear, contact your nearest sales branch.



Product handling

Installation

Do not drop, hit or apply excessive shock to the fieldbus system. Otherwise damage to the product can result, causing malfunction.

Wiring

Avoid repeatedly bending or stretching the cables, or placing heavy load on them. Repetitive bending stress or tensile stress can cause breakage of the cable.

Wire correctly, incorrect wiring can break the product.

Do not perform wiring while the power is on. Otherwise damage to the fieldbus system and/or I/O device can result, causing malfunction.

Do not route wires and cables together with power or high voltage cables. Otherwise the fieldbus system and/or I/O device can malfunction due to interference of noise and surge voltage from power and high voltage cables to the signal line.

Route the wires (piping) of the fieldbus system and/or I/O device separately from power or high voltage cables. Confirm proper insulation of wiring.

Poor insulation (interference from another circuit, poor insulation between terminals, etc.) can lead to excess voltage or current being applied to the product, causing damage.

Take appropriate measures against noise, such as using a noise filter, when the fieldbus system is incorporated into equipment. Otherwise noise can cause malfunction. Separate the power line for output devices from the power line for control. Otherwise noise or induced surge voltage can cause malfunction.

Environment

Select the proper type of protection according to the environment of operation.

(1)The units are connected properly with fieldbus cable with M12 connector and power cable with M12 (M8) connector.

(2)Suitable mounting of each unit and manifold valve.

If using in an environment that is exposed to water splashes, please take measures such as using a cover.

If the product is to be used in an environment containing oils or chemicals such as coolant or cleaning solvent, even for a short time, it may be adversely affected (damage, malfunction etc.).

Do not use the product in an environment where corrosive gases or fluids could be splashed. Otherwise damage to the product and malfunction can result.

Do not use in an area where surges are generated. If there is equipment which generates a large amount of surge (solenoid type lifter, high frequency induction furnace, motor, etc.) close to the fieldbus system, this may cause deterioration or breakage of the internal circuit of the fieldbus system.



When a surge-generating load such as a relay or solenoid is driven directly, use a fieldbus system with a built-in surge absorbing element. Direct drive of a load generating surge voltage can damage the fieldbus system.

The product is CE marked, but not immune to lightning strikes. Take measures against lightning strikes in the system.

Prevent foreign matter such as remnants of wires from entering the fieldbus system to avoid failure and malfunction.

Mount the product in a place that is not exposed to excessive vibration or impact. Otherwise failure or malfunction can result.

Do not use the product in an environment that is exposed to temperature cycles. Heat cycles other than ordinary changes in temperature can adversely affect the inside of the product.

Adjustment and Operation

Perform settings suitable for the operating conditions. Incorrect settings can cause operation failure.

Please refer to the PLC manufacturer's manual etc. for details of programming and addresses. For the PLC protocol and programming refer to the relevant manufacturer's documentation.

Maintenance

Do not use solvents such as benzene, thinner, etc. to clean each unit. They could damage the surface of the body and erase the markings on the body.

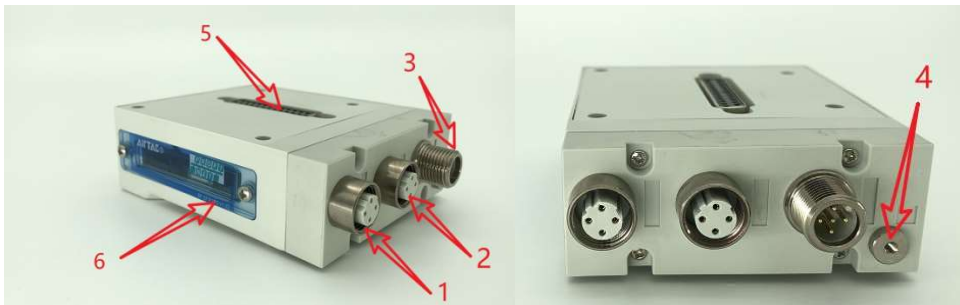
Use a soft cloth to remove stains.

For heavy stains, use a cloth soaked with diluted neutral detergent and fully squeezed, then wipe up the stains again with a dry cloth.

In case of a module failure, please contact the manufacturer for professional inspection and maintenance.



1. Appearance



No.	Component	Function
1	P2	PROFINET Connection PORT 2. BUS OUT (M12 4-pin Socket, D-coded)
2	P1	PROFINET Connection PORT 1. BUS IN (M12 4-pin Socket, D-coded)
3	Power Input	Power Supply (M12 5-pin Plug, A-coded)
4	Ground	Functional Ground
5	Output	Output signal for valve manifold , D-Sub, 25-PIN socket
6	Indicator	Indicator of status

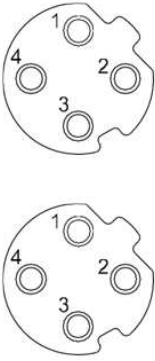
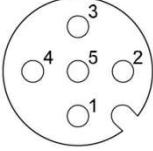
2. Specification

Item	Specification
Power Supply	DC 24 V±10%
Sudden power cut	>10ms
Protection	Dustproof
Power consumption	<100mA
Withstand voltage	Refer to GBT24344 500 VAC for 1 minute between external terminals and FE
Insulation resistance	Refer to GBT24343 500 VDC, 10 MΩ or more between external terminals and FE
Ambient temperature	-10 ~ 60 °C
Ambient humidity	35% ~ 85%RH
Impact resistance	EN 60068-2-6, 5G, 10~150Hz, for non-stop 2 hours
EMI	CLASS A
Sole power supply for controlling component	Yes
Voltage inspection	Support
Reverse connection and over voltage protection	Yes
Number of outputs	24 outputs
Output Load	Maximum output 1.5A
Transmission speed	100M bps
Network topology	Daisy chain
IRT	Yes
MRP	Yes
Detection	Short circuit protection, Short circuit detection, counts of numbers of opens




3. Power Supply / Connection

A body equips 1 power supply plug , 2 PROFINET outputs (P1, P2).

Fieldbus	2×M12(Socket), 4-pin, D-coded	 <p>P1: M12 4-pin socket,D-coded</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Designation</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>TD+</td> <td>Transmit Data + (TD+)</td> </tr> <tr> <td>2</td> <td>RD+</td> <td>Receive Data + (RD+)</td> </tr> <tr> <td>3</td> <td>TD-</td> <td>Transmission Data – (TD-)</td> </tr> <tr> <td>4</td> <td>RD-</td> <td>Receive Data – (RD-)</td> </tr> </tbody> </table> <p>P2: M12 4-pin socket,D-coded</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Designation</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>TD+</td> <td>Transmit Data + (TD+)</td> </tr> <tr> <td>2</td> <td>RD+</td> <td>Receive Data + (RD+)</td> </tr> <tr> <td>3</td> <td>TD-</td> <td>Transmission Data – (TD-)</td> </tr> <tr> <td>4</td> <td>RD-</td> <td>Receive Data – (RD-)</td> </tr> </tbody> </table>	No.	Designation	Description	1	TD+	Transmit Data + (TD+)	2	RD+	Receive Data + (RD+)	3	TD-	Transmission Data – (TD-)	4	RD-	Receive Data – (RD-)	No.	Designation	Description	1	TD+	Transmit Data + (TD+)	2	RD+	Receive Data + (RD+)	3	TD-	Transmission Data – (TD-)	4	RD-	Receive Data – (RD-)
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Power Supply	1xM12(Plug), 5-pin, A-coded	 <p>PWR : M12 5-pin plug,A-coded</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Designation</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>V1 24V</td> <td>+24V for solenoid valve</td> </tr> <tr> <td>2</td> <td>V1 0V</td> <td>0V for solenoid valve</td> </tr> <tr> <td>3</td> <td>V2 24V</td> <td>+24V for V2 unit operation</td> </tr> <tr> <td>4</td> <td>V2 0V</td> <td>0V for V2 unit operation</td> </tr> <tr> <td>5</td> <td>FE</td> <td>Functional earth</td> </tr> </tbody> </table>	No.	Designation	Description	1	V1 24V	+24V for solenoid valve	2	V1 0V	0V for solenoid valve	3	V2 24V	+24V for V2 unit operation	4	V2 0V	0V for V2 unit operation	5	FE	Functional earth												
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4	V2 0V	0V for V2 unit operation																														
5	FE	Functional earth																														
Valve Manifold	D-SUB , 25 PIN	Refer to D-SUB configuration																														

4. Label, indicator and status

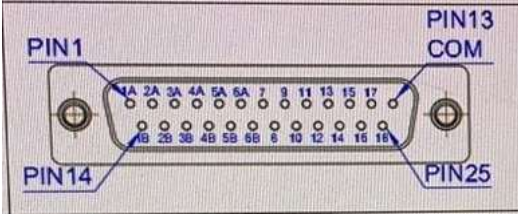
Appearance		
BF Profinet Status	Lights off	PROFINET software does not initialize
	Red light on	Device offline
	Red light twinkling	Hardware and parameters incorrect
	Red light twinkle 3 times	IOPS = BAD (PLC Stop)
	Green light on	Normal working



SF Manifold Status	Lights off	Device does not initialize
	Red light on	Hardware malfunction
	Red light twinkle slowly	Open Circuit
	Red light twinkle fast	Short Circuit
	Red light twinkle twice	Internal communication error
	Red light twinkle 3 times	Severe error
	Green light on	Normal working
P1 Port IN	Lights off	Link lose signal
	Yellow light on / Green light twinkling	Link communication activate
	Yellow light on / Green light on	Link communication built
P2 Port OUT	Lights off	Link lose signal
	Yellow light on / Green light twinkling	Link communication activate
	Yellow light on / Green light on	Link communication built
V1 Manifold- power supply	Green light on	Normal power supply
	Red light twinkling	Insufficient power
	Red light on	Over supply
V2 Fieldbus- power supply	Green light on	Normal power supply
	Red light twinkling	Insufficient power
	Red light on	Over supply



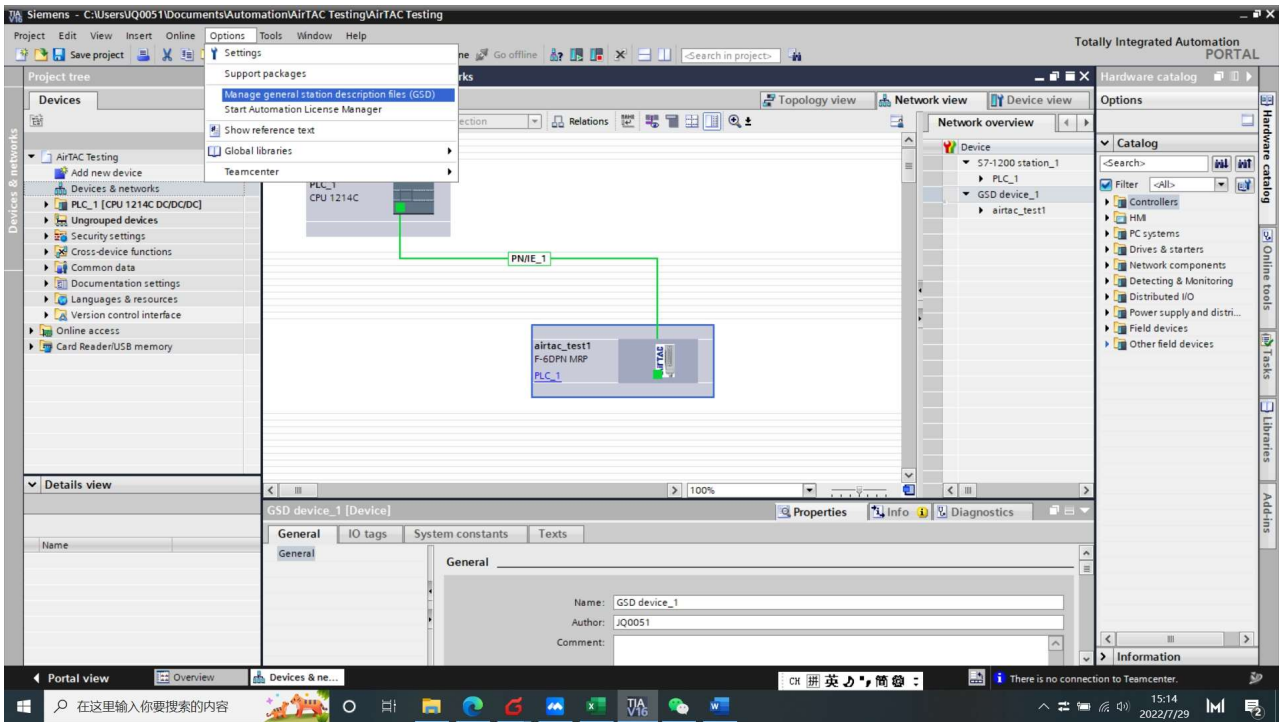
5. D-SUB configuration

D-SUB configuration	
Output type	Source/PNP (-Common)
Number of outputs	24 outputs
Load	24V per valve 1.5W
V1 Voltage and current supply	24VDC \pm 10% , Max. 1.5A (24 points)

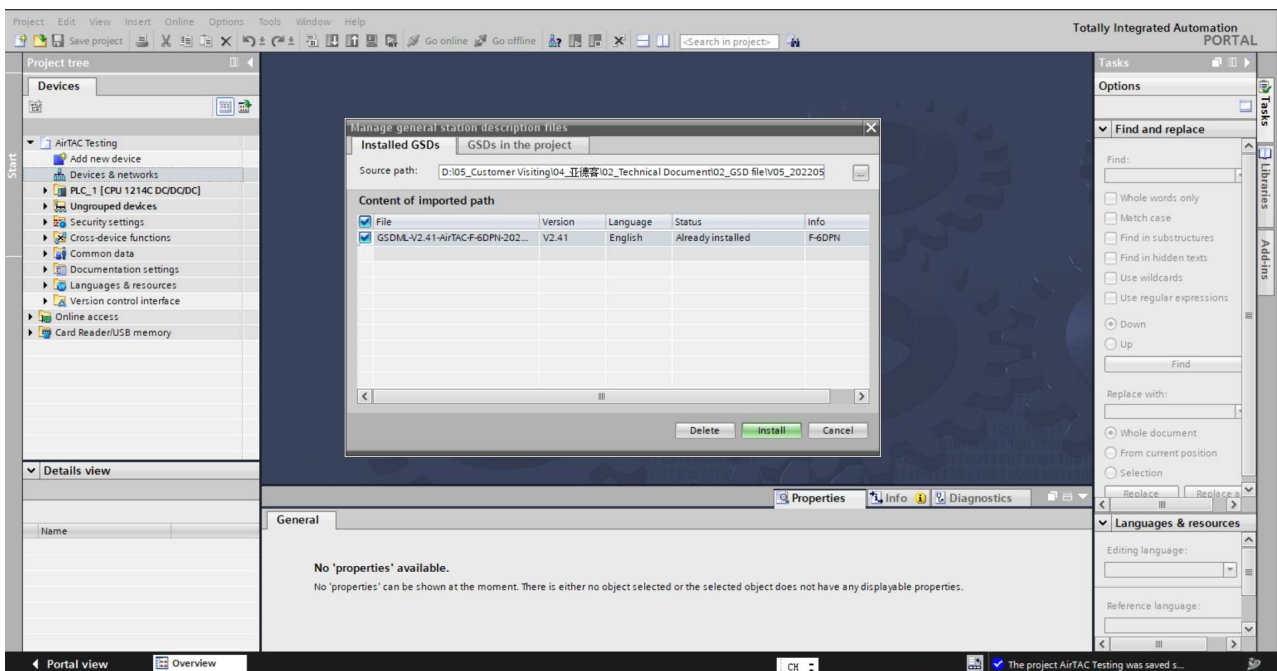
6. Environment Setting

6.1. Load GSDML device description file

Install GSDML to identify AirTAC valve terminal. Open Siemens TIA Portal and click “Options” to choose “Manage general station description files (GSD)” as following picture :

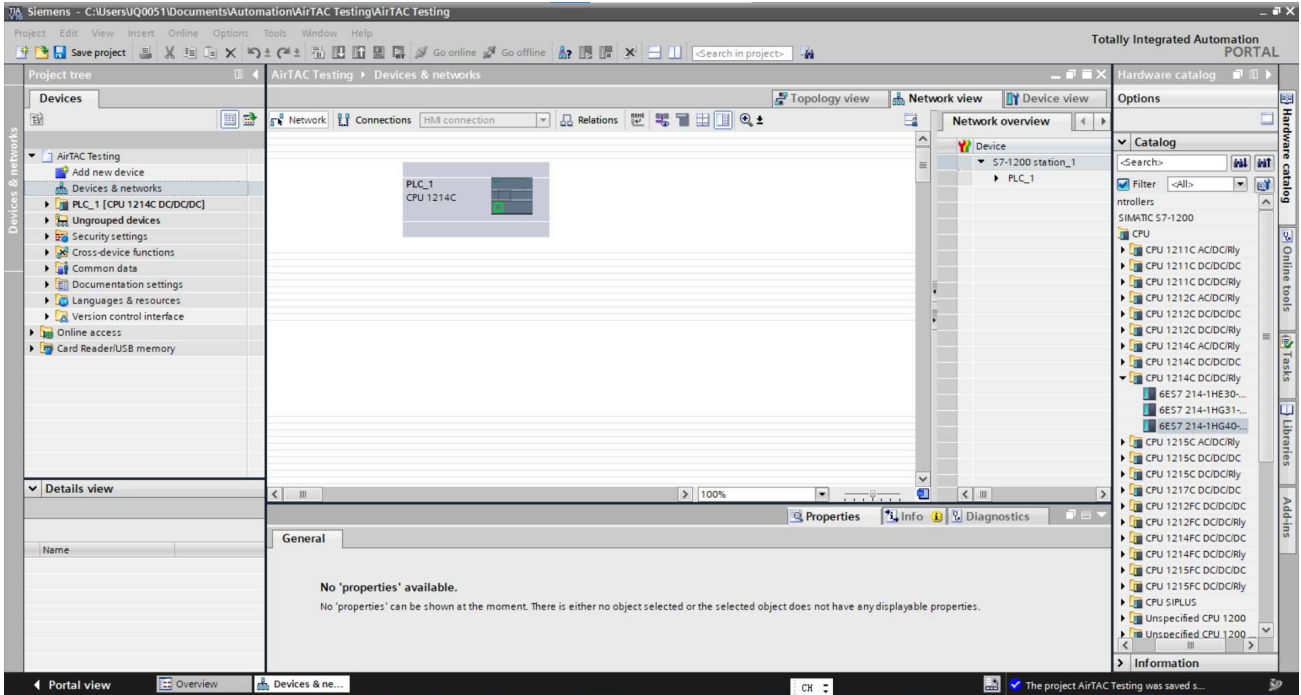


Find your GSD file and install it :

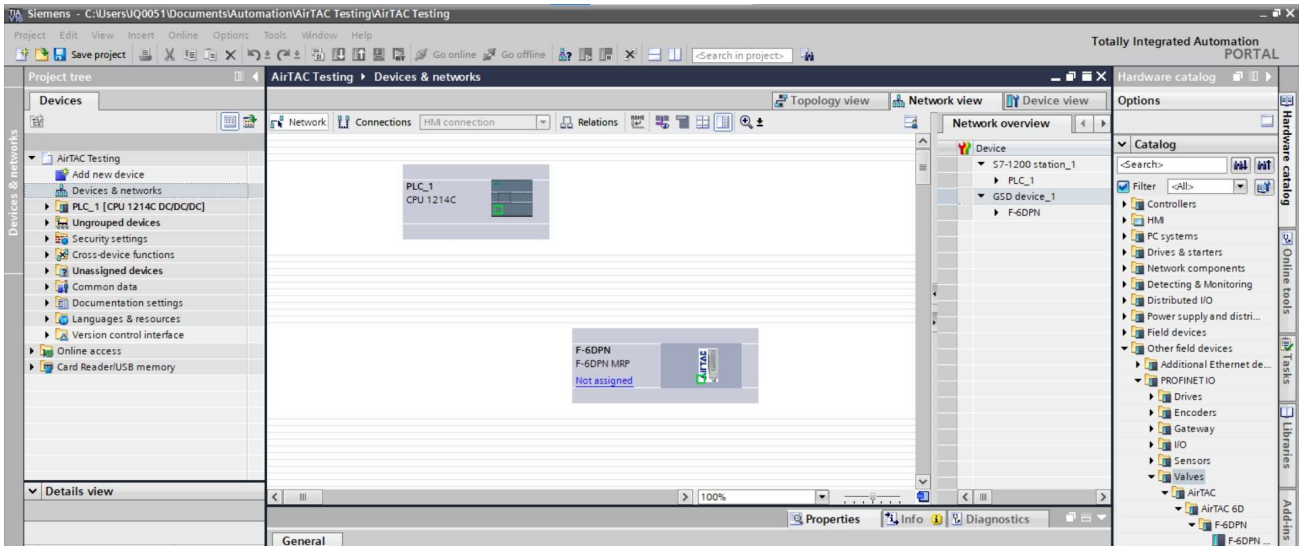


6.2. Load working device

Confirm ID code of your PLC and drag it into “Devices & network” working page as following:

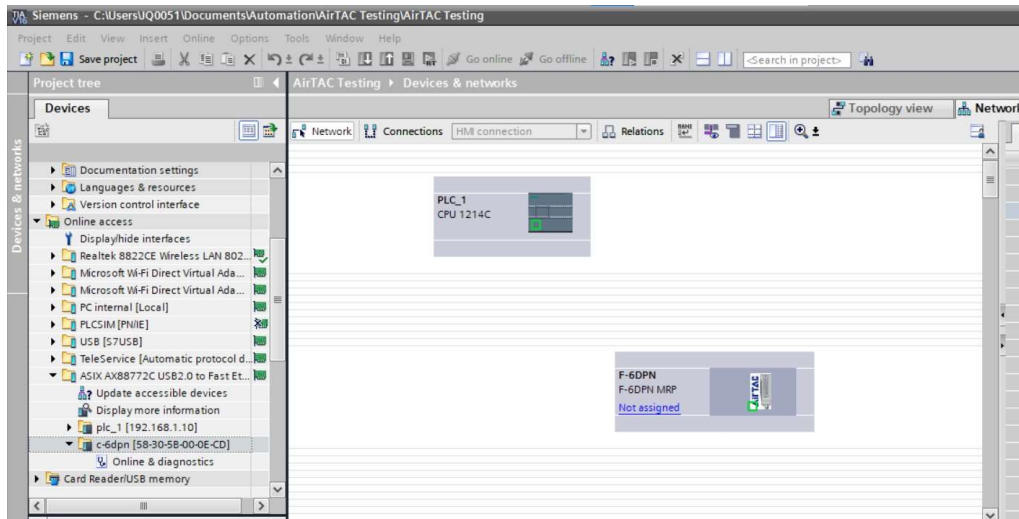


On the right of TIA Portal, you could find AirTAC 6D device, and drag it into “Devices & network” as following:

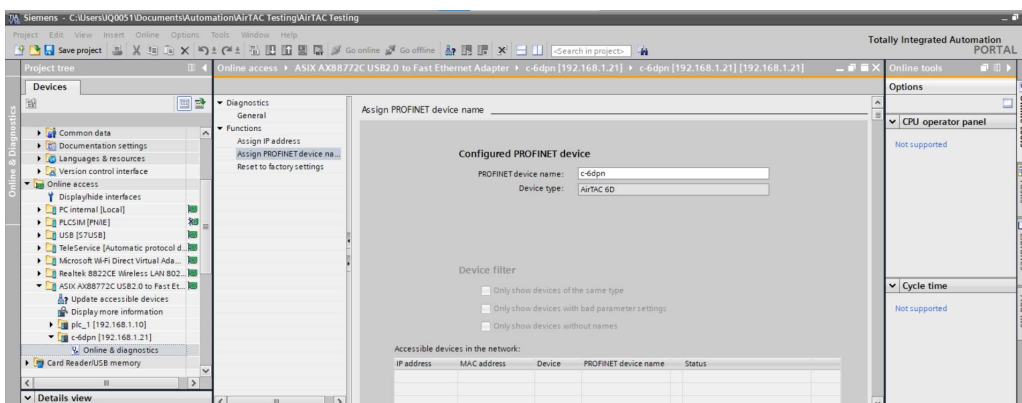
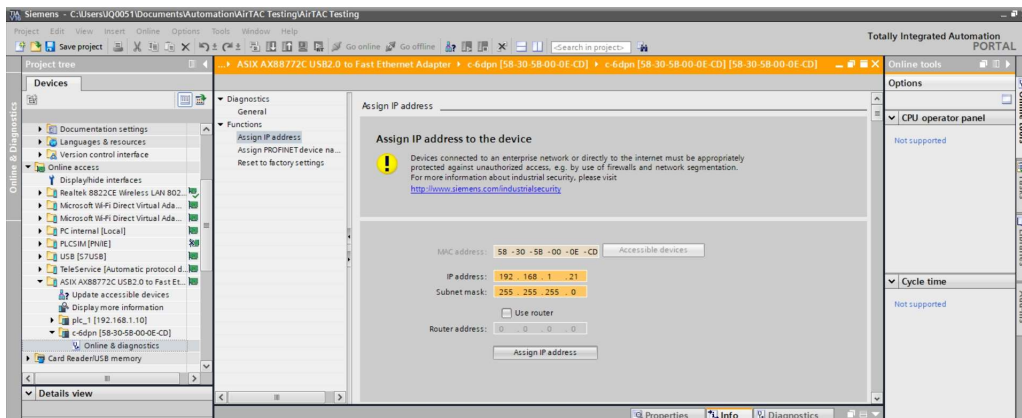


6.3. Change equipment name and IP address

Connect Profinet devices with PC via net line. Power on, and check “Online access”. Then click “Update accessible Devices” and you could find PLC and AirTAC device as following :



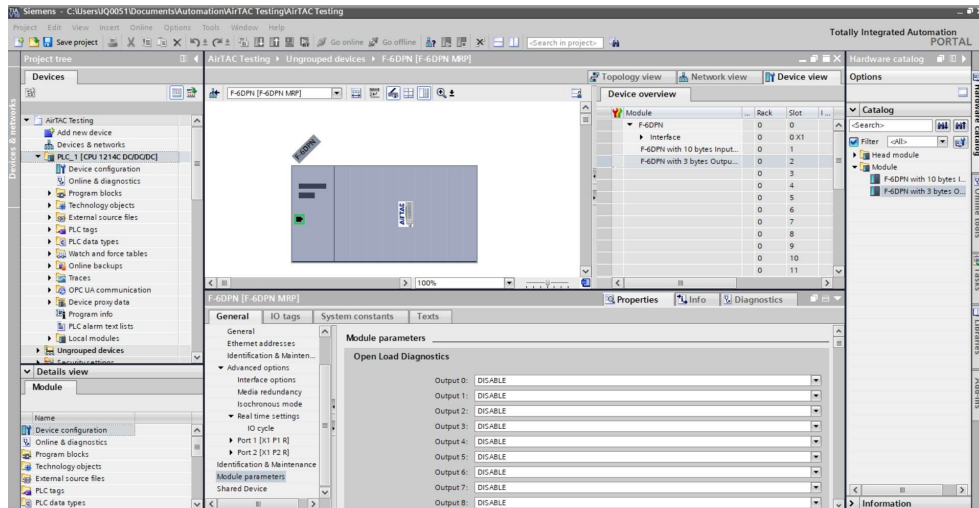
Double click “Online and Diagnostics” and modify “Device Name” and IP Address as following :



6.4. Setting of “Open circuit enable”, “Cycle Counter limit” and “Fail safe state”

It's open to set “Open circuit enable”, “Cycle Counter limit” and “Fail safe state” at Module Parameters subcategory.

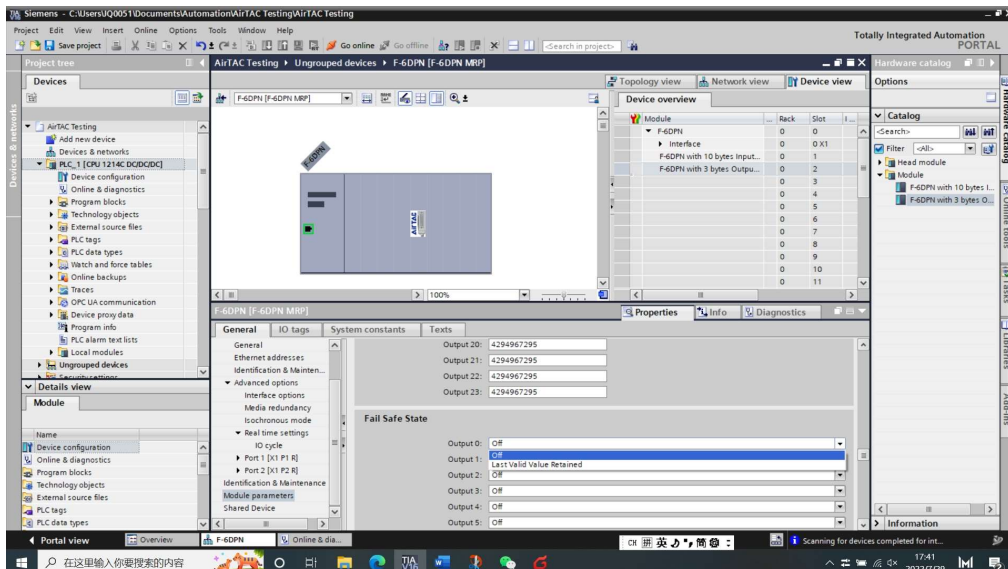
Open circuit enable can be enable to check circuit status of 24 channels:



There are 2 options of “Fail Safe State”: Last Valid Value Retained or Off.

If choose “Last Valid Value Retained”, the channel output will keep its state after “fail”,

If choose “Off”, the channel output will be 0 after “fail”.

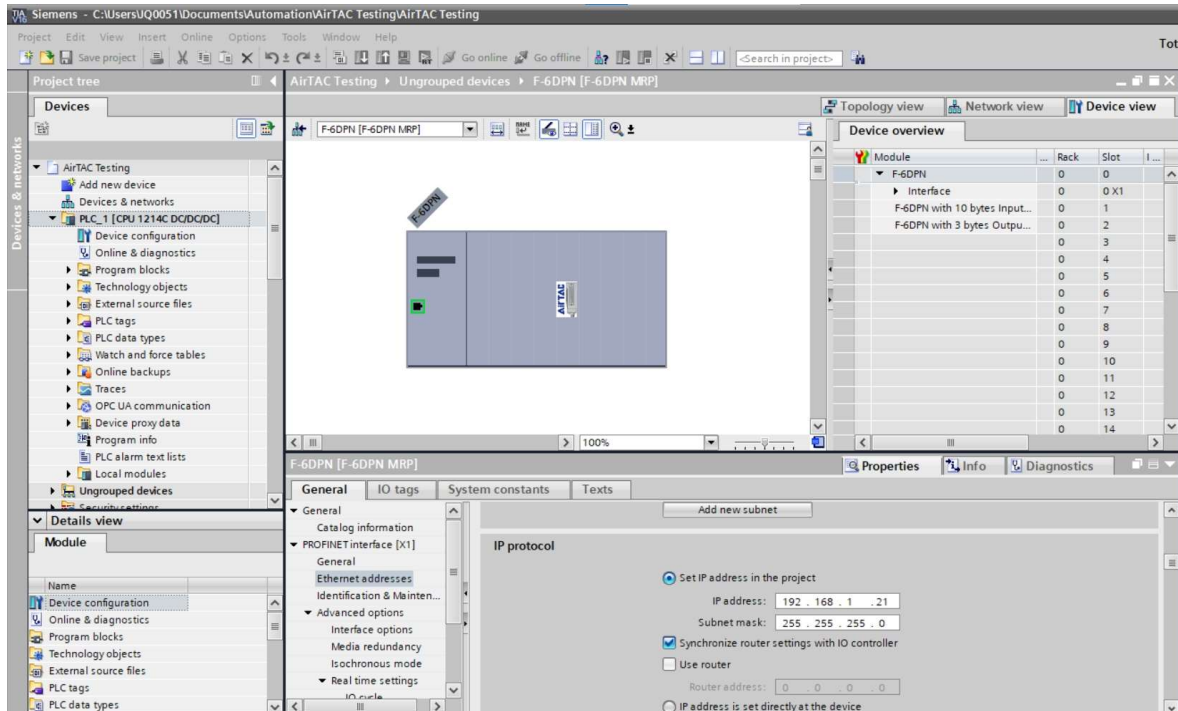


Cycle Counter limit cannot exceed four digits

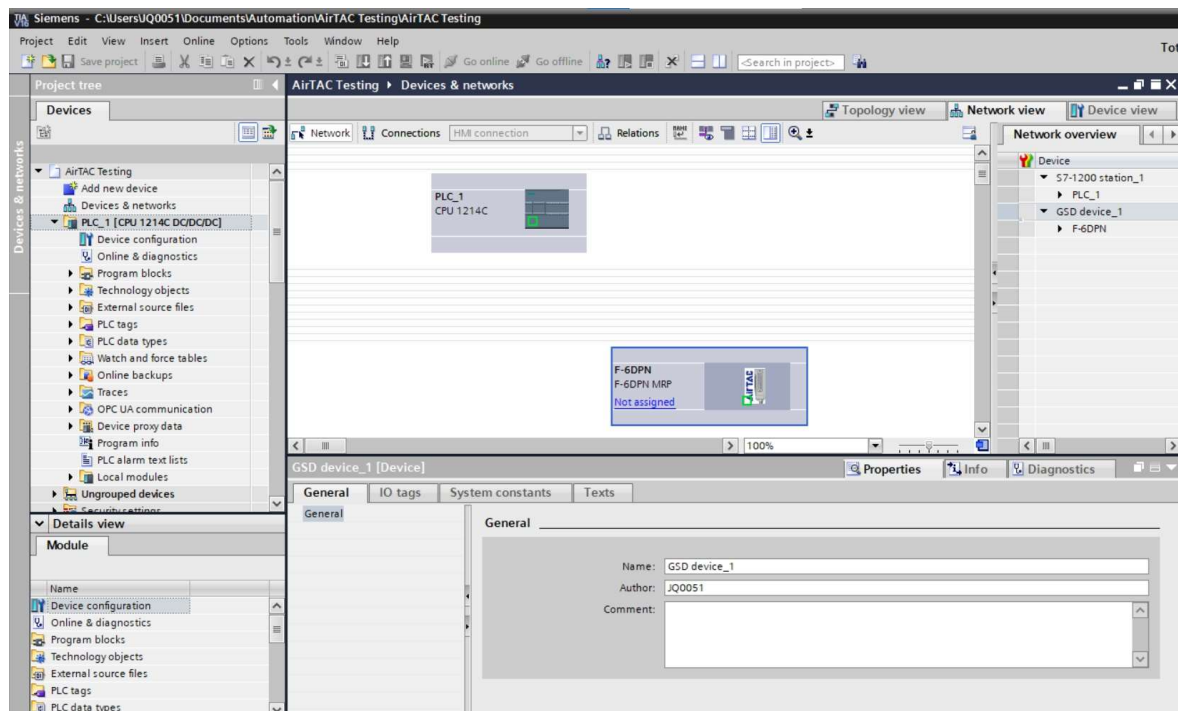


6.5. Compile

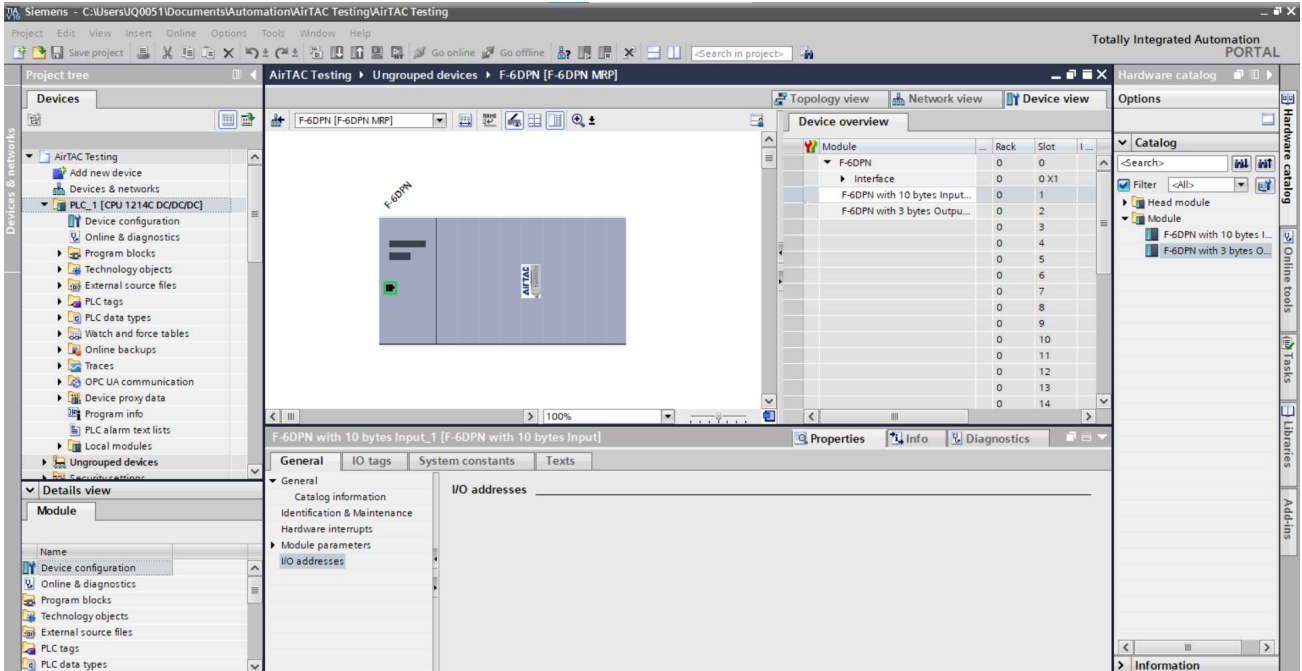
Double click the device and see the address, change its name and address as set before.



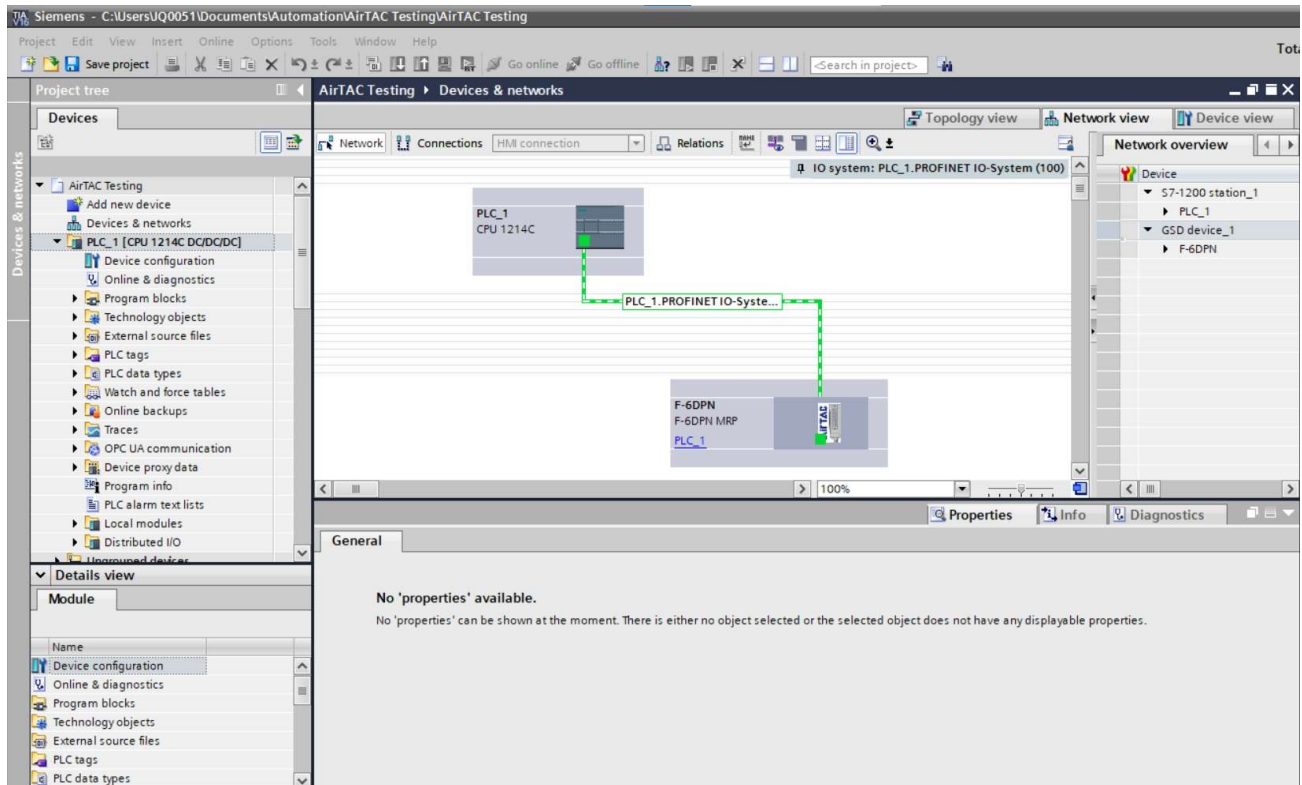
Load and drag device to corresponding network and save project :



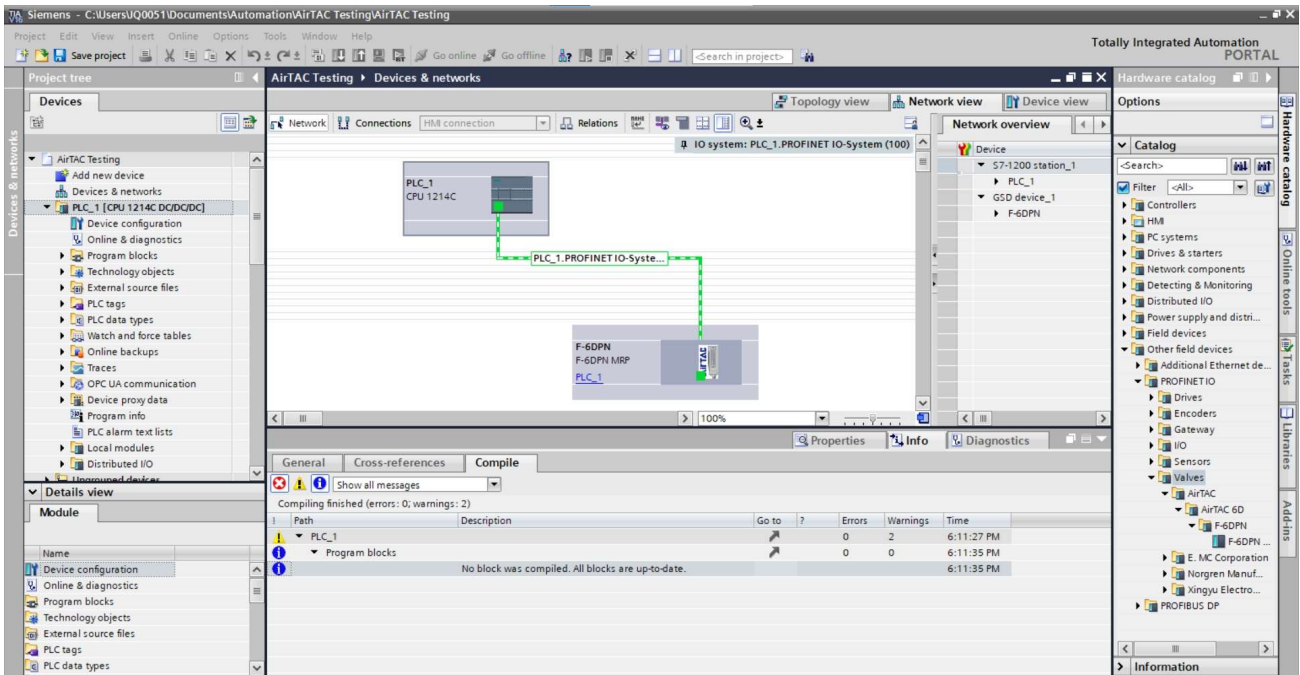
Choose device from the left side window and assign output port based on design, here we use port 1 to connect as example :



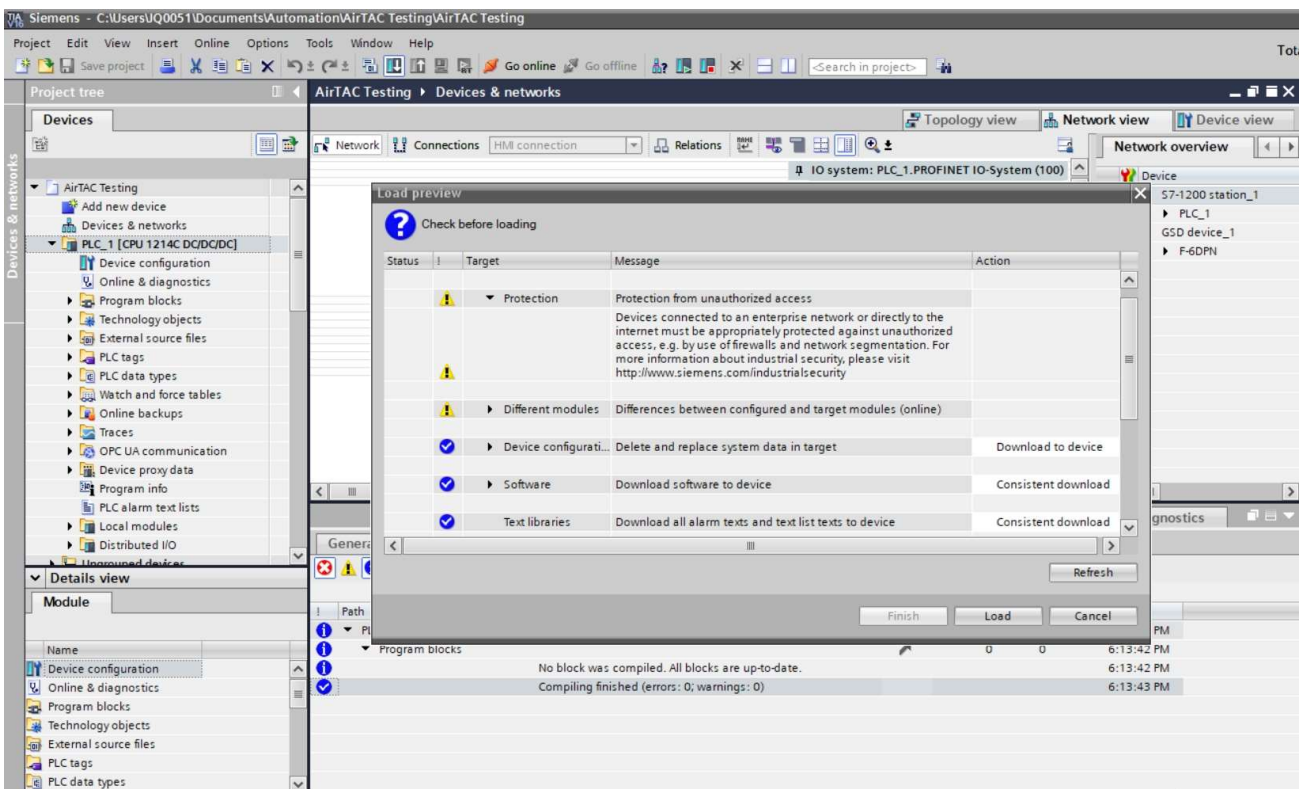
Connect device port with PLC as following :



Save project and choose Compile page:

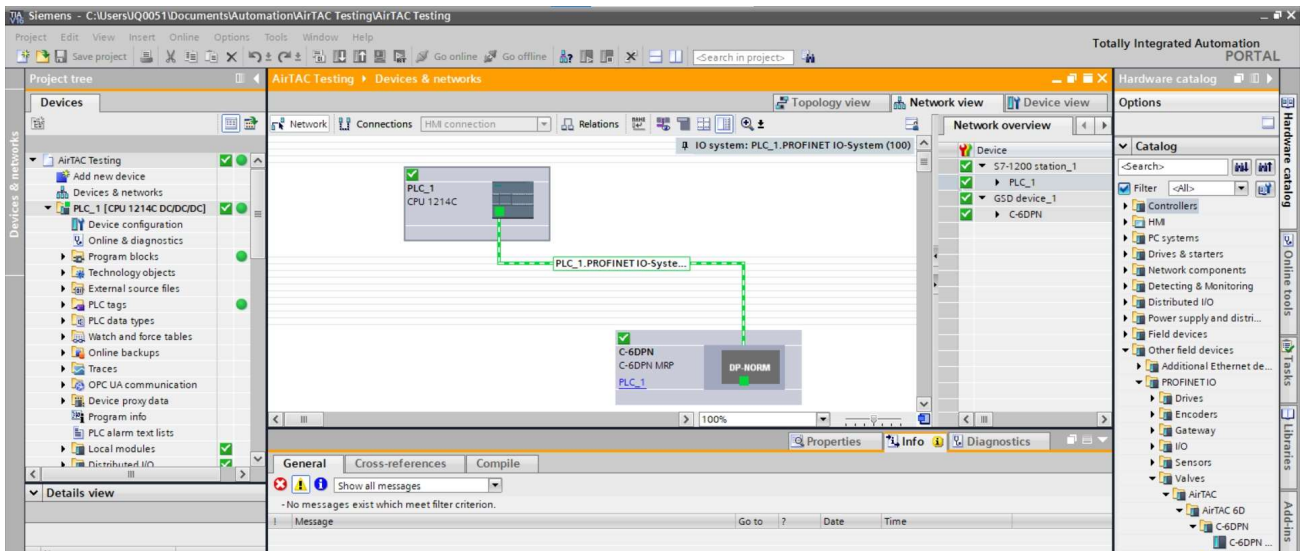


Download PLC program :



6.6 Run

It will show green color if download successful and all the check box in of devices in Network overview will be on. Otherwise it will show failure :



Finish PLC program and upload to module to run.



7. Update input and output data

7.1. List of input and output data

7.1.1. List of Input data

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
BYTE 0		OC	SC	COR	UV-V2	OV-V2	UV-V1	OV-V1
BYTE 1	SC-7	SC-6	SC-5	SC-4	SC-3	SC-2	SC-1	SC-0
BYTE 2	SC-15	SC-14	SC-13	SC-12	SC-11	SC-10	SC-9	SC-8
BYTE 3	SC-23	SC-22	SC-21	SC-20	SC-19	SC-18	SC-17	SC-16
BYTE 4	OC-7	OC-6	OC-5	OC-4	OC-3	OC-2	OC-1	OC-0
BYTE 5	OC-15	OC-14	OC-13	OC-12	OC-11	OC-10	OC-9	OC-8
BYTE 6	OC-23	OC-22	OC-21	OC-20	OC-19	OC-18	OC-17	OC-16
BYTE 7	COUNT -7	COUNT -6	COUNT -5	COUNT -4	COUNT -3	COUNT -2	COUNT -1	COUNT -0
BYTE 8	COUNT -15	COUNT -14	COUNT -13	COUNT -12	COUNT -11	COUNT -10	COUNT -9	COUNT -8
BYTE 9	COUNT -23	COUNT -22	COUNT -21	COUNT -20	COUNT -19	COUNT -18	COUNT -17	COUNT -16

BYTE0:

BIT7	Remain	
BIT6	1: Open circuit detected 0: No open circuit	
BIT5	1: Short circuit detected 0: No short circuit	
BIT4	1: Counter reach limit 0: Counter hasn't reach limit	
BIT3:BIT2	0:0	Normal power supply
	0:1	Over power supply
	1:0	Insufficient power supply
BIT1:BIT0	0:0	Normal power supply
	0:1	Over power supply
	1:0	Insufficient power supply



BYTE1 ~ BYTE3:

SC-0 shows short circuit status of channel 0, SC-23 shows for channel 23 and same for others.

Bit = 1 indicates short circuit, 0 means not short circuit.

BYTE4 ~ BYTE6:

OC-0 shows open circuit status of channel 0, OC-23 shows for channel 23 and same for others.

Bit = 1 indicates open circuit, 0 means not open circuit.

BYTE7 ~ BYTE9:

COUNT-0 shows counter limit status of channel 0, COUNT-23 shows for channel 23 and same for others.

Bit = 1 indicates counter reach limit, 0 means not reach limit yet.

7.1.2. List of output data

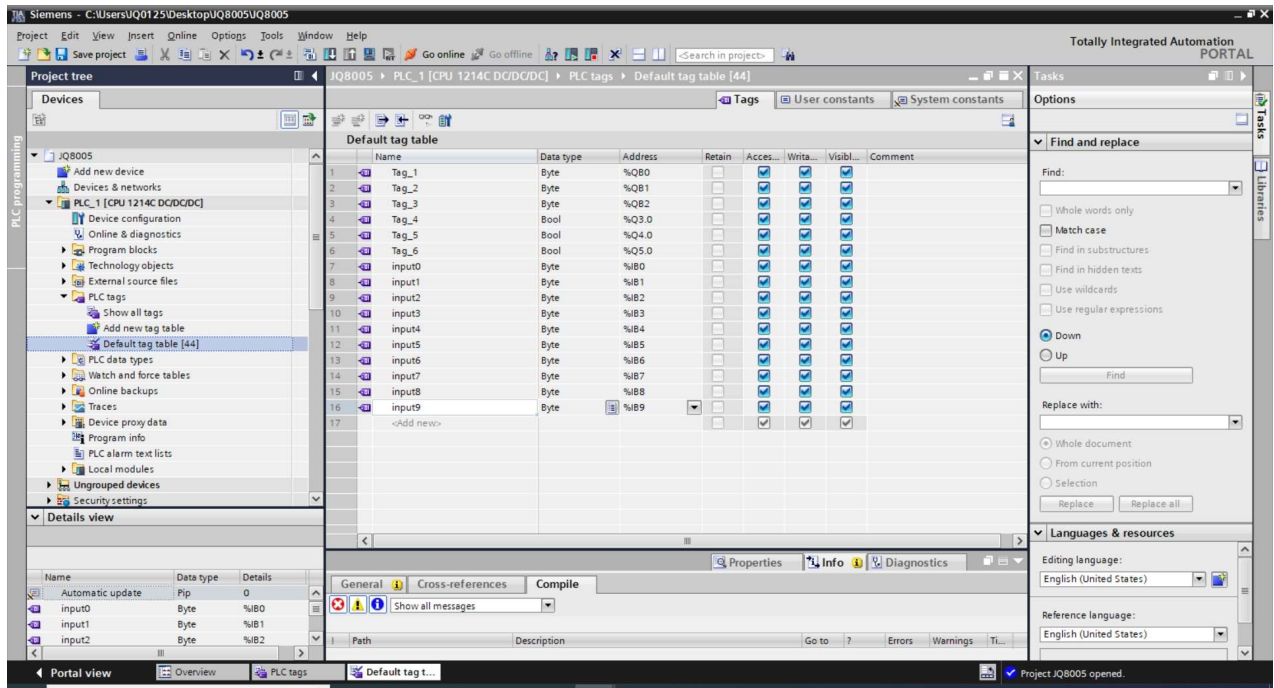
	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
BYTE0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0
BYTE1	O-15	O-14	O-13	O-12	O-11	O-10	O-9	O-8
BYTE2	O-23	O-22	O-21	O-20	O-19	O-18	O-17	O-16

O-0 ~ O-23: O-0 means channel 0, O-23 means channel 23 and same for others.

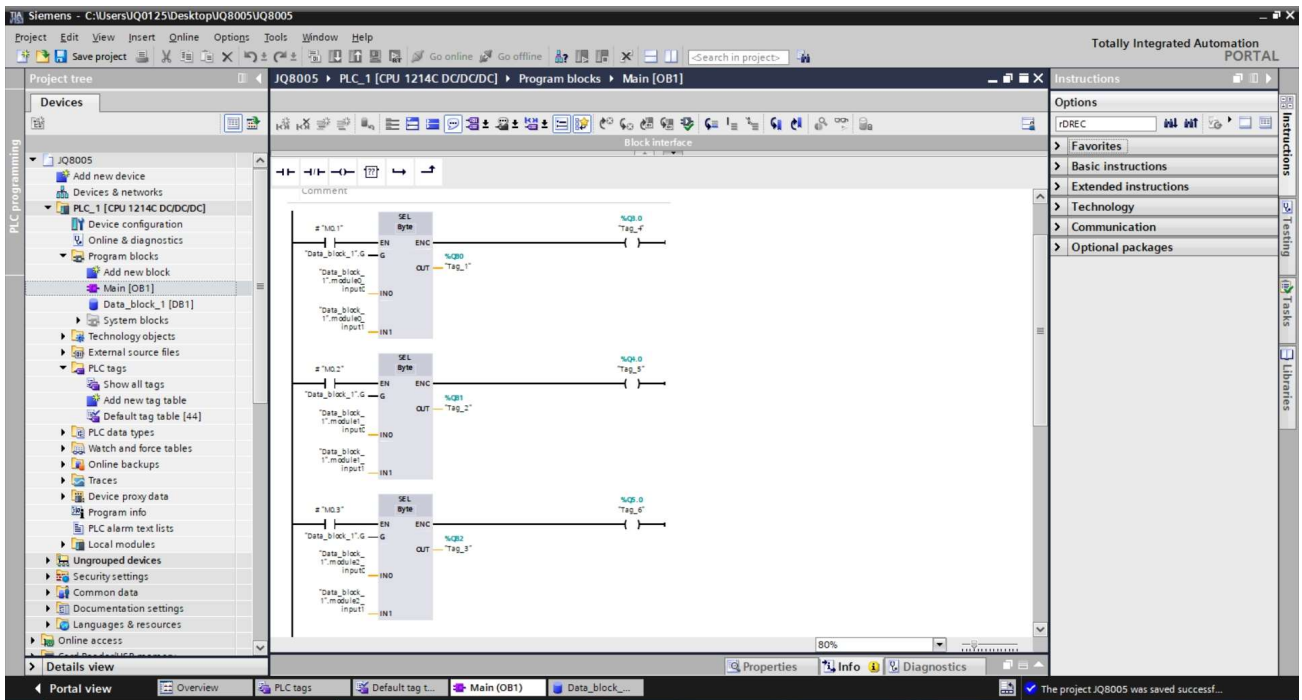
7.2. Portal software operation

Create a data block:

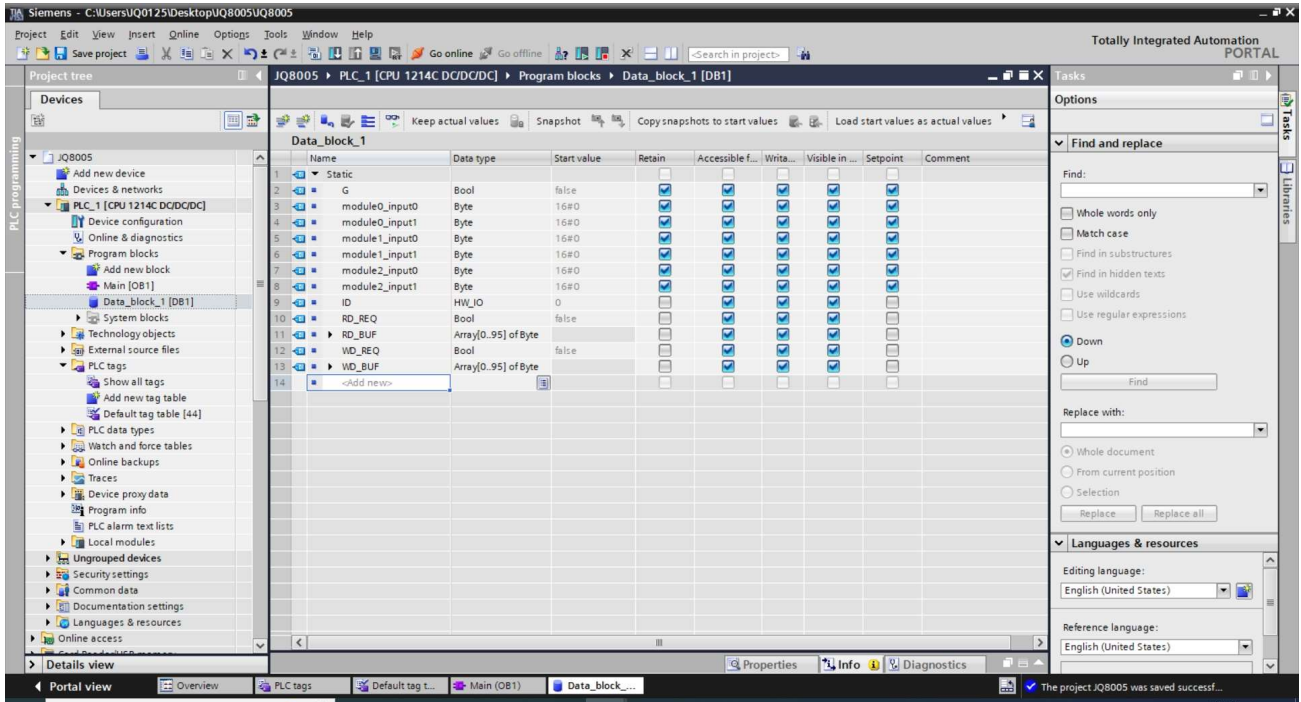
Add new input0~input9 and assign address:



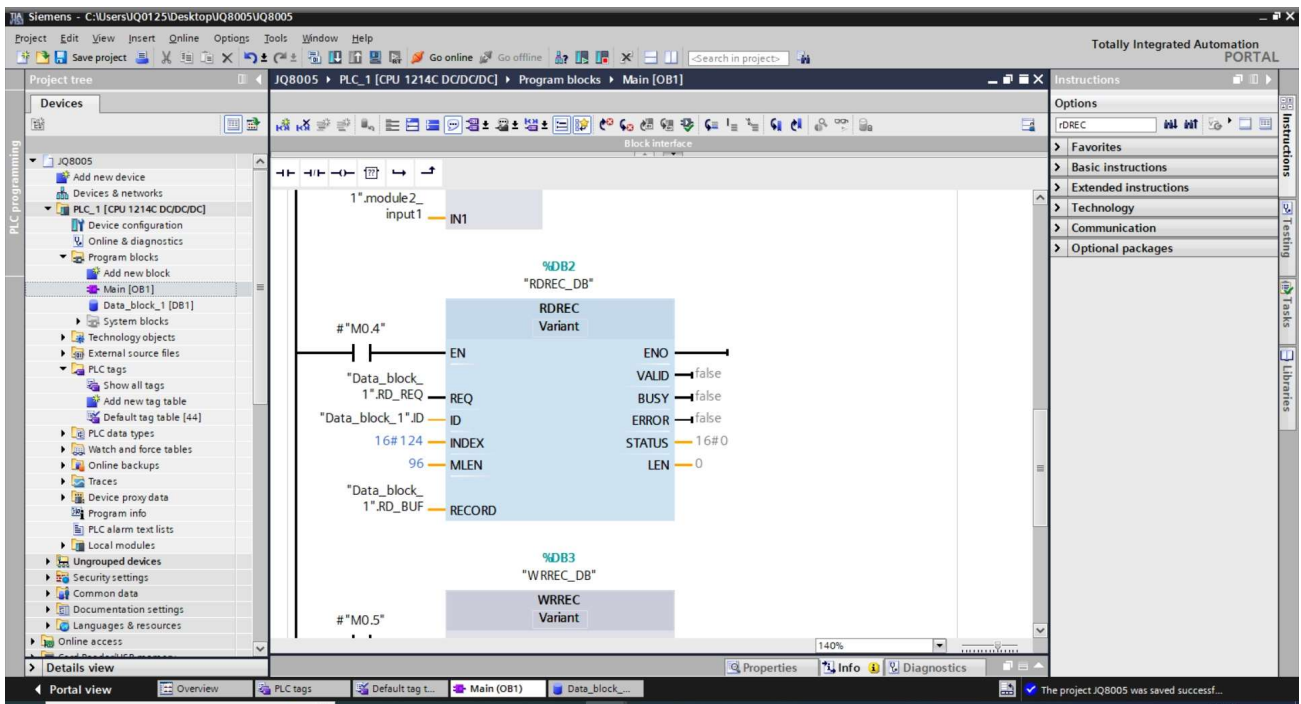
Use Ladder Logic Programming Language (LAD) to program correspond output with PLC. Be noted the introduced parameters from data block. Finished LAD is shown as the follow:



Upload and activate finished program to PLC. Changing G and module0_input0 ~ module2_input0 parameters in data block to control channel output value.



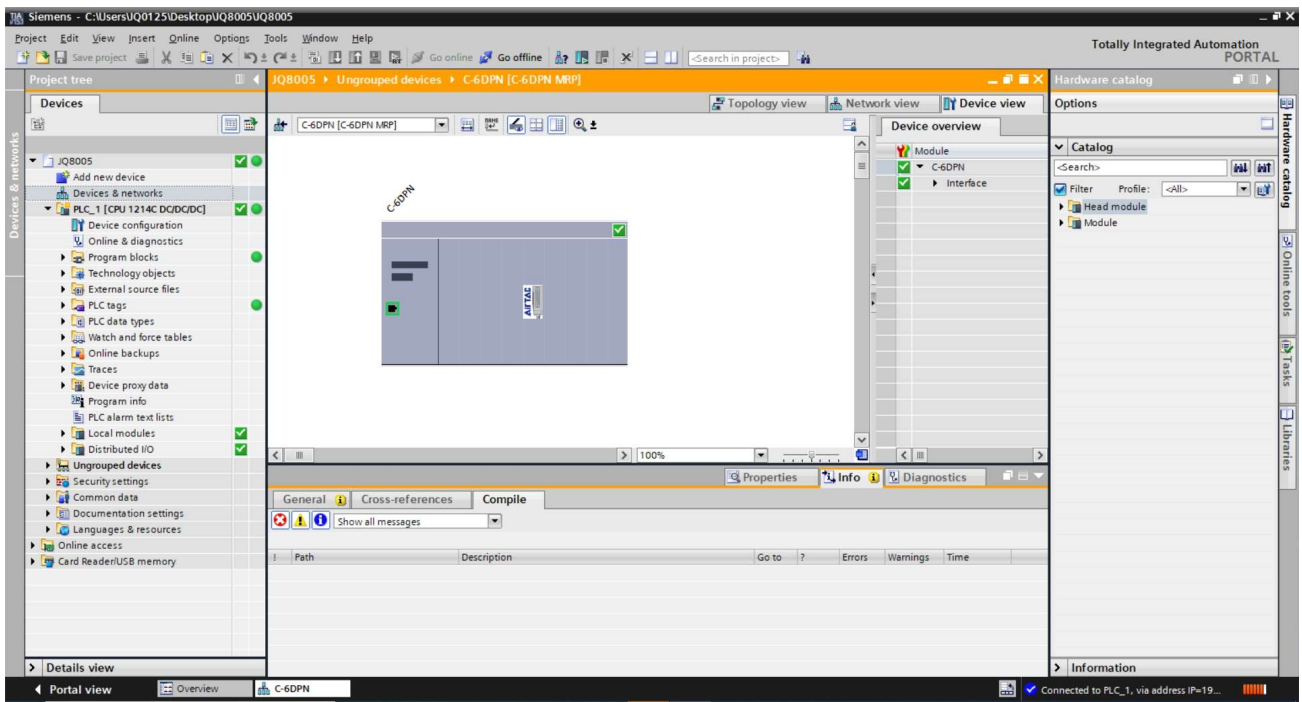
7.3. Counter count for each channel



Following table is RDREC module parameters. Programming only the input part:

Parameters	Status	Data type	Memory area	Description
REQ	Input	BOOL	I,Q,M,D,L,T** or constant	REQ=1: transmit data record
ID	Input	HW_IO	I,Q,M,D,L,T** or constant	Identifier of the hardware module(DP/PROFINET IO). The identifier is automatically assigned by the system and stored in the properties of the module or interface of the hardware.
INDEX	Input	DINT	I,Q,M,D,L or constant	Data record coding
MLEN	Input	UINT	I,Q,M,D,L or constant	The max. length(bytes) of recorded data to be read
VALID	Output	BOOL	I,Q,M,D,L	Newly-received and valid data record
BUSY	Output	BOOL	I,Q,M,D,L	BUSY=1: read process is not complete yet
ERROR	Output	BOOL	I,Q,M,D,L	ERROR=1: an error occurred during read
STATUS	Output	DWORD	I,Q,M,D,L	Block status or information of error
LEN	Output	UNIT	I,Q,M,D,L	Length of the read data record
RECORD	InOut	VARIANT	I,Q,M,D,L	The range for reading data records. If NREF system type is chosen to access and optimize target data, then there won't be any data written in target range.

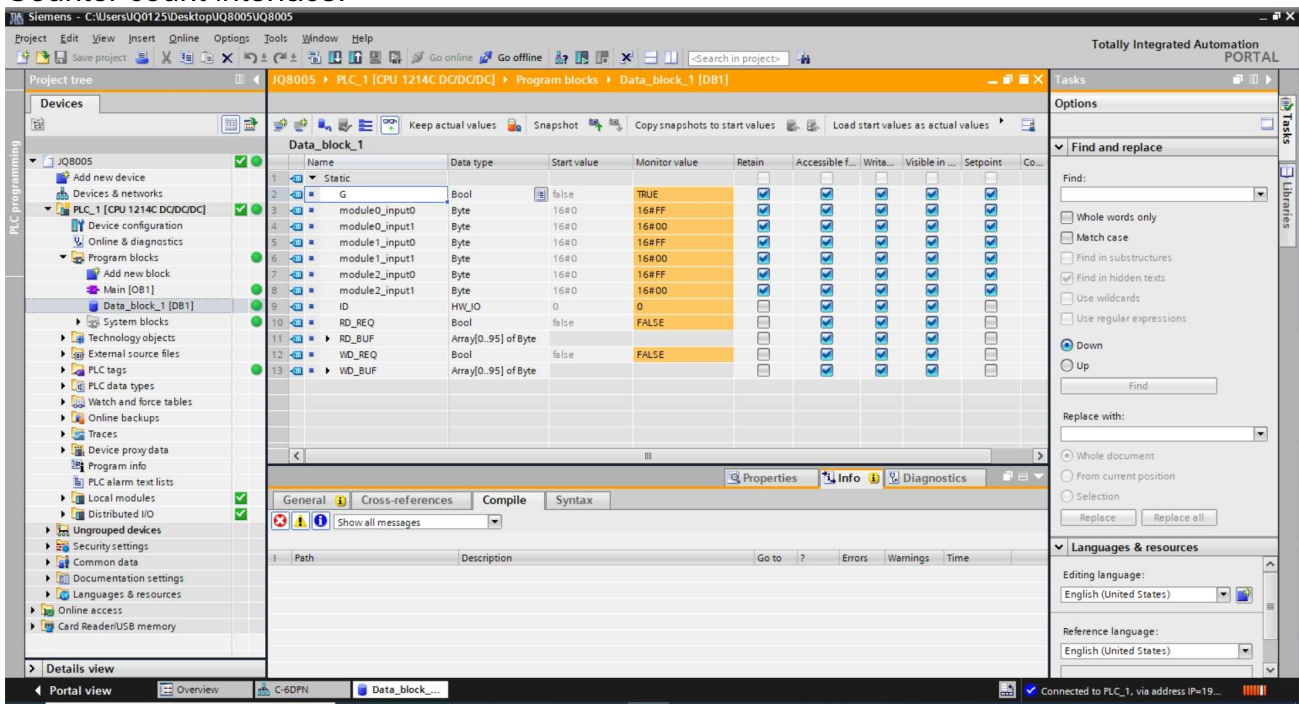
ID : Find the target Hardware identifier. It can be found in device overview



Programming only the value of EN, REQ, ID, INDEX, MLEN, RECORD :

Parameters	Input value
EN	TRUE
REQ	Introduce RD_REQ value defined in data block
ID	Device ID number, data type: HW_IO
INDEX	0x124, Hexadecimal, format can be 16#124
MLEN	96
RECORD	Introduce RD_BUF value defined in data block. Be noted that it's a default address.

Counter count interface:



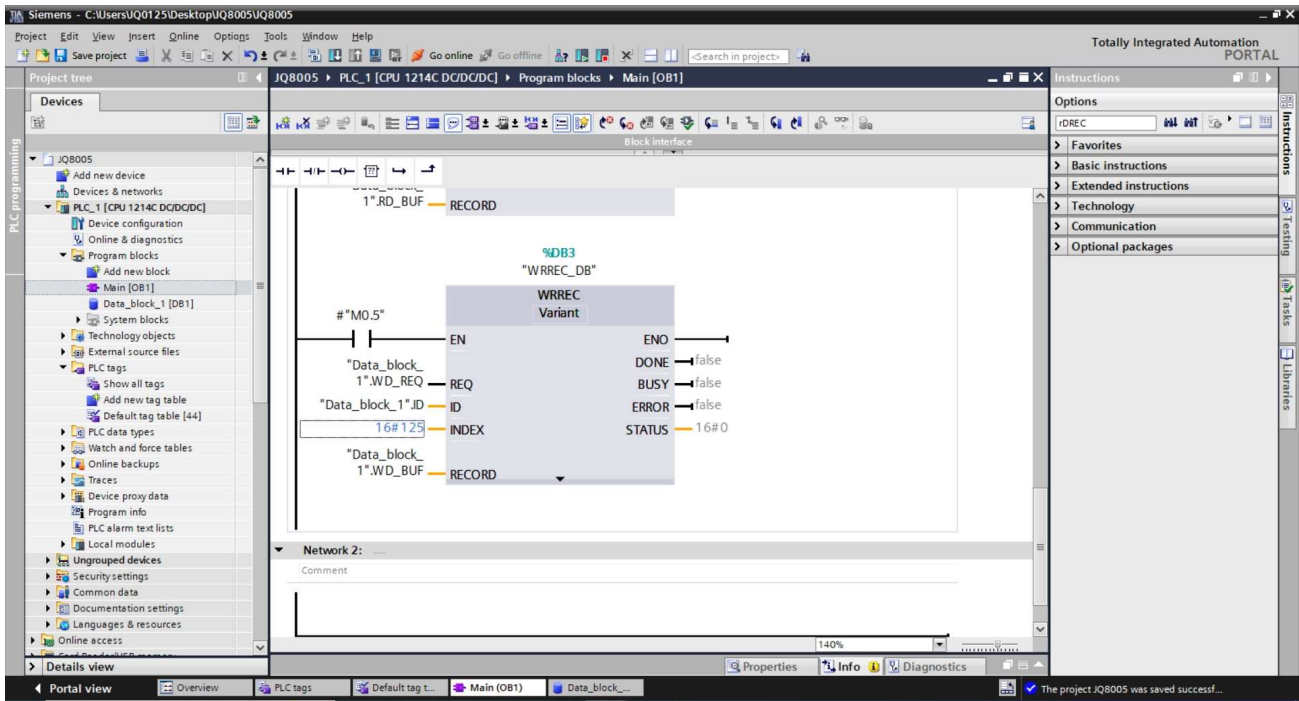
Set R_REQ as TRUE to monitor each channel count. Value can be found in RD_BUF. Length of RD_BUF is 96 bytes. Each channel count is represented by 4 bytes, for example: counter count for channel 0 is $RD_BUF[0] + RD_BUF[1]*256 + RD_BUF[2]*256*256 + RD_BUF[3]*256*256*256$.

Structure of RD_BUF data is :

RD_BUF[0]~ RD_BUF[3]	Counter count for channel 0
RD_BUF[4]~ RD_BUF[7]	Counter count for channel 1
RD_BUF[8]~ RD_BUF[11]	Counter count for channel 2
...	...
RD_BUF[92]~ RD_BUF[95]	Counter count for channel 23

7.4. Clear counter for each channel

Use WRREC, parameters are similar to RDREC:



Only the input parameters need to be programmed.

Programming only the value of EN, REQ, ID, INDEX, MLEN, RECORD :

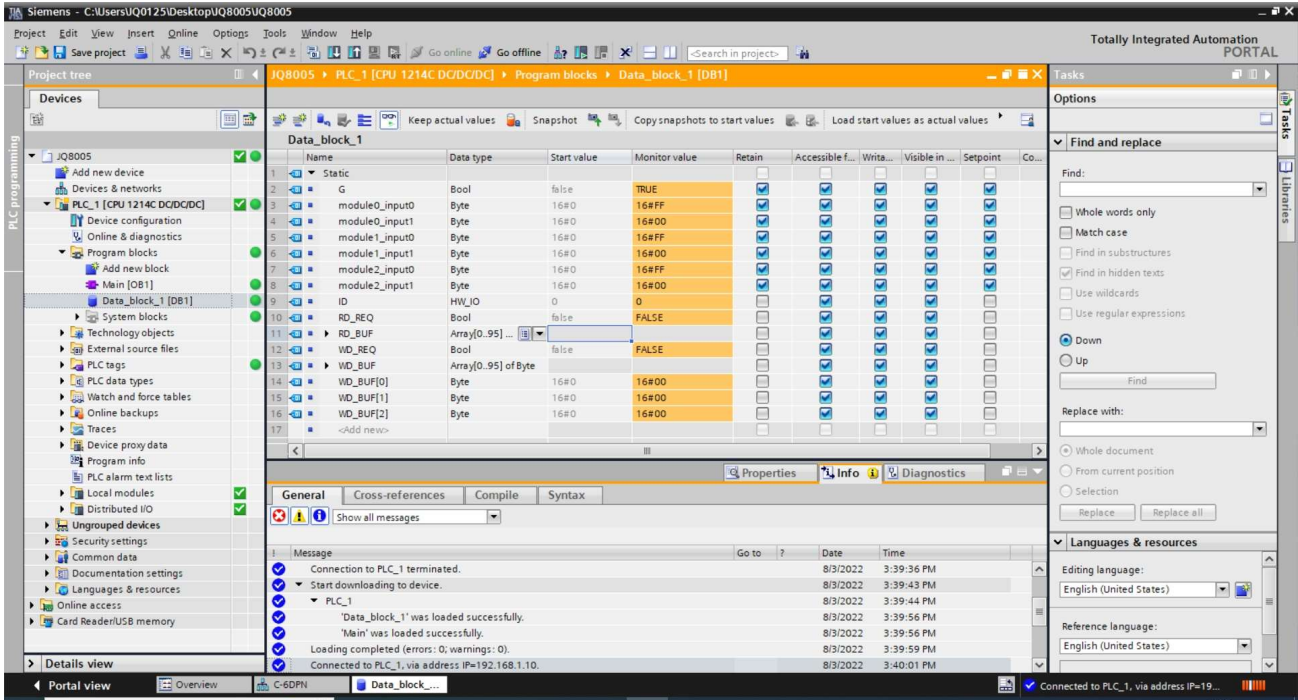
Parameters	Input value
EN	TRUE
REQ	Introduce WD_REQ value defined in data block
ID	Device ID number, data type: HW_IO
INDEX	0x125, Hexadecimal, format can be 16#125
RECORD	Introduce WD_BUF value defined in data block. Be noted that it's a default address, and the length of WD_BUF is 3 bytes

Input corresponding bytes to clear channel count:

BUF[0]	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
BUF[1]	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
BUF[2]	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0

Bit0~ Bit7 in BUF[0] correspond to channel 0~7, BUF[1] to channel 8~15, BUF[2] to channel 16~23.





Name	Data type	Start value	Monitor value	Retain	Accessible F...	Writ...	Visible in ...	Setpoint	Co...
1	Static								
2	G								
3	module0_input0	Bool	false	TRUE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	module0_input1	Byte	16#0	16#FF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	module1_input0	Byte	16#0	16#FF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	module1_input1	Byte	16#0	16#FF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	module2_input0	Byte	16#0	16#FF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8	module2_input1	Byte	16#0	16#0D	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9	ID	HW_ID	0		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	RD_REQ	Bool	false	FALSE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11	RD_BUF	Array[0..95] ...			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12	WD_REQ	Bool	false	FALSE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
13	WD_BUF	Array[0..95] of Byte			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
14	WD_BUF[0]	Byte	16#0	16#0D	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15	WD_BUF[1]	Byte	16#0	16#0D	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
16	WD_BUF[2]	Byte	16#0	16#0D	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
17	<<Add new>>								

The screenshot also shows a message log with the following entries:

- Connection to PLC_1 terminated. 8/3/2022 3:39:36 PM
- Start downloading to device. 8/3/2022 3:39:43 PM
- PLC_1
 - Data_block_1' was loaded successfully. 8/3/2022 3:39:44 PM
 - 'Main' was loaded successfully. 8/3/2022 3:39:56 PM
 - Loading completed (errors: 0; warnings: 0). 8/3/2022 3:39:56 PM
- Connected to PLC_1, via address IP=192.168.1.10. 8/3/2022 3:40:01 PM

Set W_REQ as TRUE to clear counts. Be noted that change TRUE back to FALSE after clearance.

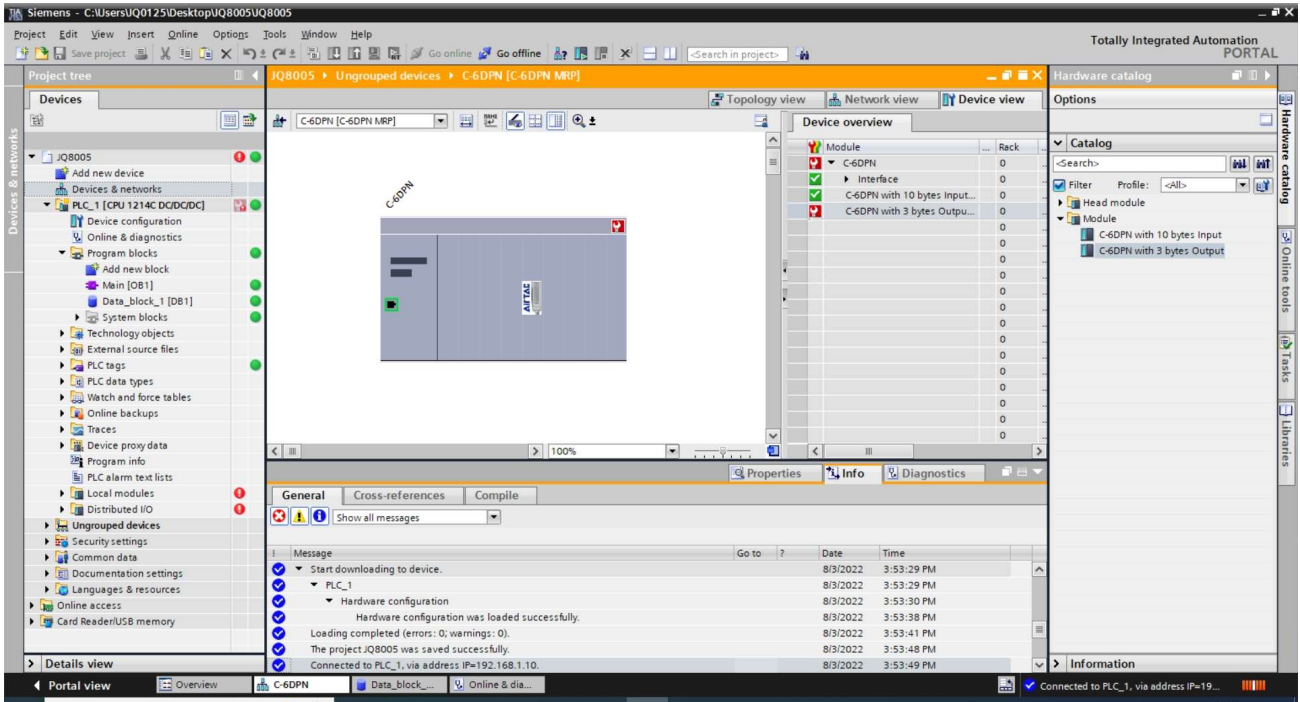
Before setting W_REQ as TRUE, set RD_REQ as FALSE first.



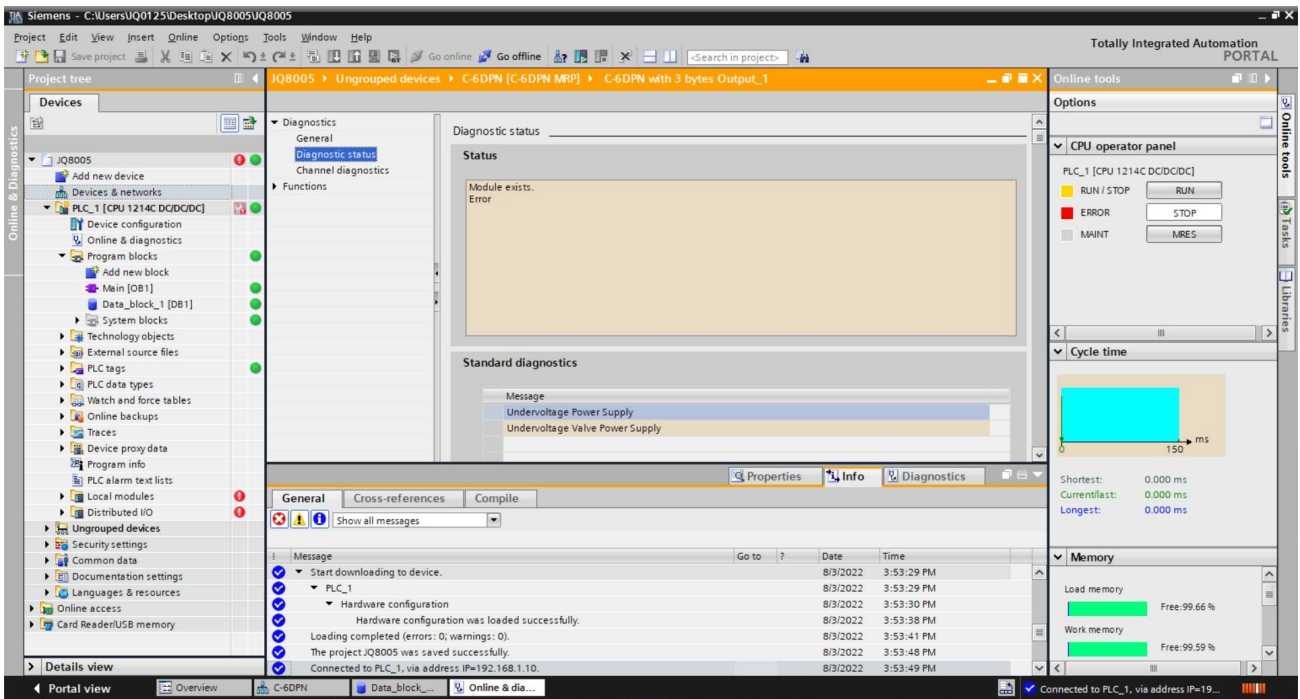
8. Online analysis

8.1. Module analysis

When insufficient or over pressure happened, interface will show red checkbox in corresponding module, as the following image:

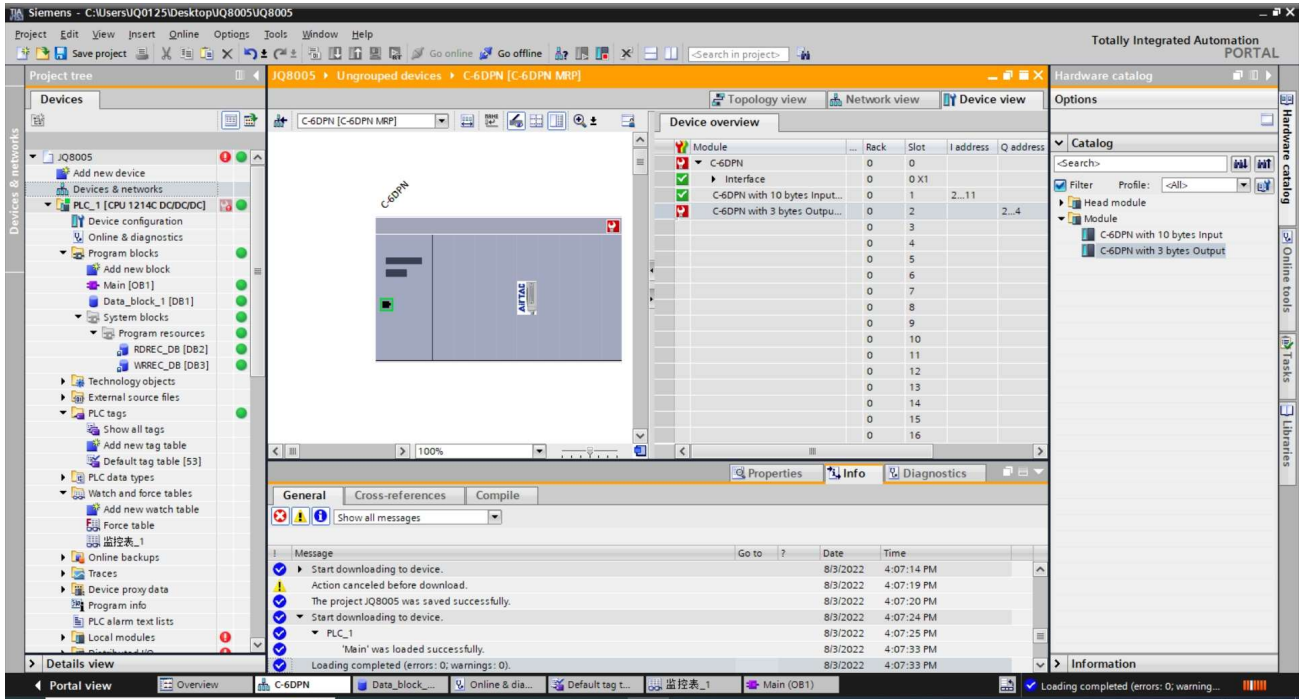


Description of module analysis is shown as follow:

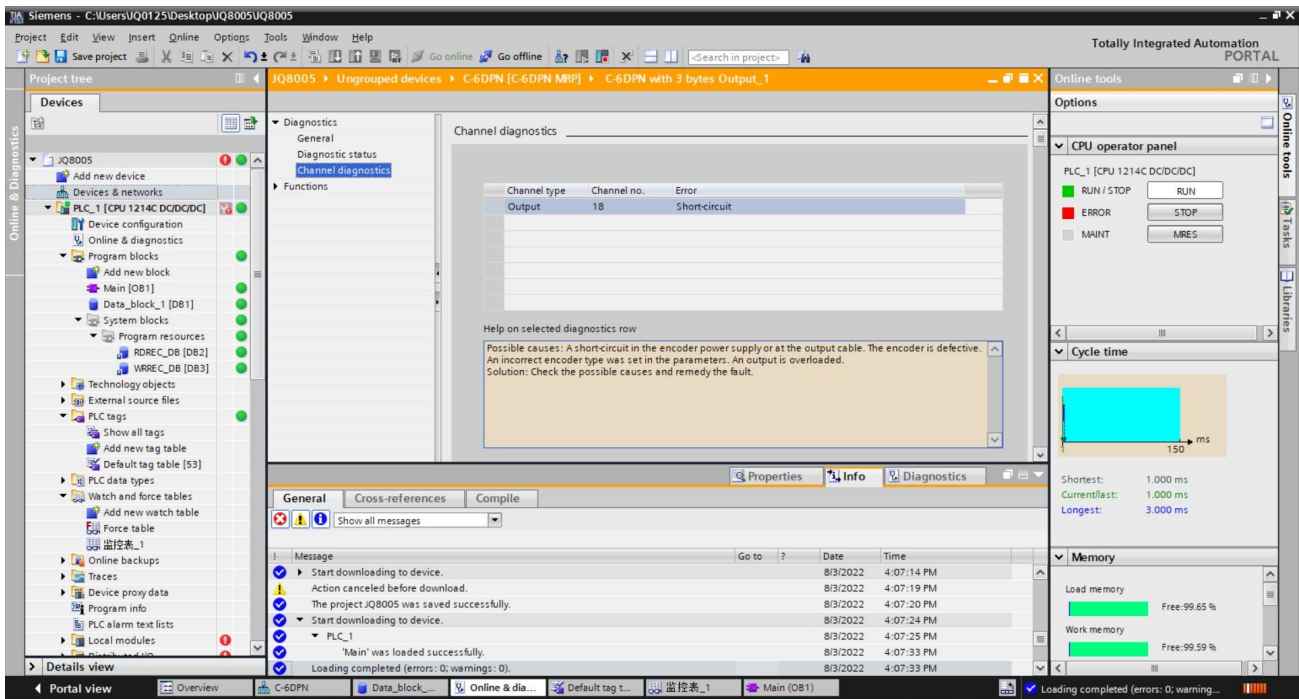


8.2. Channel analysis

When abnormal happened in channel analysis, it will show red checkbox in corresponding module, as the following image:



Description of channel analysis is shown as follow:



9. Profinet Error Code

Code (Hexadecimal)	Description	LED Light
0x00	0x00, normal working	“SF” LED, Green light on
0x01	Manifold , short circuit	“SF” LED, Red light twinkling
0x06	Manifold , open circuit	“SF” LED, Red light twinkling
0x07	Manifold , overloading	None
0x100	Module power supply , Insufficient power	“V2” LED, Red light twinkling
0x101	Module power supply , Over power	“V2” LED, Red light on
0x102	Manifold power supply , Insufficient power	“V1” LED, Red light twinkling
0x103	Manifold power supply , Over power	“V1” LED, Red light on



10. Profinet characteristic

Item		Note
Numbers of Port	2	
Connecting speed	100Mbit/s	---
Network type	Full duplex	---
RT	Yes	Real Time Protocol
IRT	Yes	Isochronous Real Time Protocol
MRP	Yes	Media Redundancy Protocol (possible to switch between redundant transmission paths)
PROFINET (certification by PNO)	2.41 Conformance Class CC-C	---
Addressing mode	DCP	---
GSD Language	EN	---

