



## User Manual

### Cobot Robot Profinet Fieldbus Function

### User Instruction Manual



**User Manual**

**Cobot Robot PROFINET Fieldbus Function**

**User Instruction Manual**

**V1.0**

**Suitable for cobot robot series**

**Software Version: V7.7**

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The original language of this publication is Chinese.

This publication is entirely in the International System of Units, and GB represents the Chinese National Standard.

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## Safety Instructions for Use

When using the robot, you must read and understand the content described in this chapter thoroughly.

In this operation manual, the robot system refers to an integrated system that includes the robot body, robot controller, wired handle, cables, software, and other accessories, and safety precautions for both users and the system must be fully considered.

Without the authorization of Shanghai Agilebot e Robot Co., Ltd., no one has the right to modify the robot. Shanghai Agilebot e Robot Co., Ltd. does not assume any responsibility for damage to the robot or its components that may be caused by the use of any additional components (software, tools, etc.) not provided by Agilebot e Robot.

Shanghai Agilebot e Robot Co., Ltd. does not assume any responsibility for the consequences resulting from any improper use of robots. Improper use includes:

- Use beyond the specified parameter range of the robot
- As a means of transportation for humans or animals
- Used as a climbing tool
- For use in explosive environments
- Use without safety protection

In addition to the safety content in this chapter, this operating manual contains other safety instructions, which must also be complied with.

For any safety matters not fully covered in this manual, please refer to the safety instructions.

## Definition of User

The definition of operators is as follows:

- Operator

Perform power on/off operations for the robot

Start the robot program from the operation panel

- Commissioning Engineer

Operate the robot

Teach and debug the robot's programming within the safety fence

- Maintenance Engineer

Operate the robot

Perform robot teaching, etc. within the safety fence

Perform robot maintenance (repair, adjustment, replacement) operations

"Operator" is not allowed to enter the safety fence for work.

"Commissioning Engineer" and "Maintenance Engineer" can work within the safety fence.

Operations within the safety fence, including handling, setup, teaching, adjustment, maintenance, etc.

To work within the safety fence, one must have received professional training on robots.

When operating, programming, or maintaining the robot, operators, programmers, and maintenance engineers must ensure safety and at least wear the following items for work.

- Work clothes suitable for the job content
- Safety Shoes
- Safety Helmet

## **Operator System Permissions**

### **Operator**

Operator permissions include:

1. Robot power on/off operation
2. Use the operating terminal to teach the robot; select, debug and run, start, pause, and terminate the program
3. Switch the currently loaded TF/UF and modify global speed parameters via the status bar at the top of the screen

4. Allows operations such as moving to the target point
5. Check alarms and reset routine alarms
6. Operations on the IO Status Interface and Register Interface

### **Commissioning Engineer**

Debug Engineer permissions include:

1. Includes all permissions of the operator
2. Robot zero point setting, soft limit setting, coordinate system establishment and editing can be performed
3. Configuration and Management of I/O
4. Communication Configuration
5. Robot program management functions such as creation, editing, modification, and deletion
6. Create and configure various types of registers
7. Management function for robot program properties
8. Program Startup Method Settings
9. Backup and Loading of Files
10. Set the IP Address of the control cabinet
11. Set System Time

### **Administrator**

Administrator privileges include:




1. Includes all permissions of operators and commissioning engineers
2. Software Installation and Upgrade
3. Management of the Debug Engineer role, allowing addition, deletion, and editing of Debug Engineer roles

### Definition of records related to security

This manual includes safety warnings related to ensuring the personal safety of users and preventing damage to machine tools, and describes them in the text as "Danger" and "Warning" according to their importance in terms of safety.

In addition, the relevant supplementary notes are presented as "Note".

Before use, users must thoroughly read the items described in "Danger", "Warning", and "Caution".

Identification	Definition
 危险	It is used in situations where there is a risk of death or serious injury to the user in case of incorrect operation.
 警告	It is used in situations where there may be risks such as mild or moderate injury to personnel and damage to items during incorrect operations.
 注意	Used to describe post scripts, which are not related to danger or warnings.

Please read this manual carefully. To facilitate easy reference at any time, please keep it properly within reach.

### Safety of Workers

When operating a robot automatically, measures must be taken to ensure the safety of operators. It is extremely dangerous to enter the robot's motion range during its automatic operation. Measures should be taken to prevent operators from entering the robot's motion range.

General precautions are listed below. Please take appropriate measures to ensure the safety of operators.

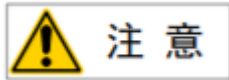
1. All operators using the robot system shall complete the training courses provided by Shanghai Agilebot e Robot Co., Ltd.

2. During equipment operation, even if the robot appears to have stopped, it may be in a state of being about to start because it is waiting for a start signal. Even in such a situation, the robot should be regarded as in motion.
3. Peripheral devices should be placed outside the robot's range of motion whenever possible.
4. Locks shall be installed as needed to prevent anyone other than the personnel responsible for operation from turning on the power of the robot.
5. When performing individual debugging of peripheral devices, be sure to disconnect the power supply of the robot before proceeding.
6. When transporting or installing the robot, it must be carried out correctly in accordance with the method shown by Shanghai Agilebot e Robot Co., Ltd. If the operation is carried out in an incorrect way, it may cause injury to the operator due to the robot tipping over.
7. When operating the robot for the first time after installation, be sure to do so at a low speed. Then, gradually increase the speed and confirm whether there are any abnormalities.
8. When operating the robot, be sure to confirm that there are no personnel inside the safety fence before proceeding with the operation. At the same time, check for potential hazards, and when potential hazards are confirmed, be sure to eliminate them before proceeding with the operation.
9. Do not use the robot under the circumstances shown below. Otherwise, it will not only have an adverse impact on the robot, but may also cause serious injury to the operator.
10. Use in a flammable environment
11. Use in explosive environments
12. Use in an environment with high levels of radiation
13. Use in water or high humidity environments
14. When connecting and disconnecting various signals related to peripheral devices and robots, be sure to confirm the stop signal to avoid incorrect connections.

### Safety Warning Label


Both the robot and the controller are affixed with several safety and information labels, which contain important information related to the product. This information is very useful to all personnel operating the robot system, such as during installation, maintenance, or operation.

Safety labels use only graphics and are applicable to all languages.



Safety and health signs on the product label must be observed. In addition, supplementary safety information provided by the system builder or integrator must also be followed.

Sign	Description
	Danger! Electric Shock Risk
	Caution: Risk of Pinching
	High temperature, be careful not to get burned.

	<p>Grounding</p>
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### Robot Stop

The stop categories of Agilebot collaborative robots are:

#### Class 0 Stop

- Stopping is achieved by immediately cutting off the robot's drive power supply, which is an uncontrolled stop.

#### Class 1 Stop

- The power supply to the actuator of the machine equipment remains on at all times, allowing the machine equipment to gradually come to a stop. The power supply is only cut off after the machine equipment has completely stopped. This is a controlled stop.

#### Category 2 Stop

- Controlled stop, after the robot stops, the power supply to the drive device of the machine equipment remains on all the time.



When establishing a safety protection area, it is necessary to consider the stopping distance and stopping time, and a full risk assessment and analysis of the entire system is required.

The Agilebot collaborative robot is equipped with the following emergency stop devices:

- Emergency stop button of the wired controller
- External emergency stop device (input signal)

The emergency stop device must be activated in case of a dangerous or emergency situation.

When the emergency stop device is pressed, the robot immediately executes a Category 1 stop. To resume operation, the emergency stop device must first be rotated to unlock it, and then the servo power must be turned on.

The external emergency stop input signal is a signal input by peripheral devices, etc., and the terminal of this signal is inside the control cabinet. For the actual location of the emergency stop button, please refer to the instruction manual of each control cabinet.

## Security Features

### Overview of Security Features

Agilebot robots are equipped with the following safety features:

- Emergency Stop
- External safety device interface
- External Emergency Stop Button Interface
- External isolation protection device interface/External limit stop device interface

### Emergency Stop

Agilebot robots are equipped with the following emergency stop devices:

- Emergency stop button of the wired controller
- External emergency stop device (input signal)

This device must be pressed in the event of a dangerous or emergency situation. When the emergency stop device is pressed, the robot will respond as follows:

The robot stops in Category 1 stop mode.

To continue operation, you must first rotate the emergency stop device to unlock it, and then turn on the servo power.



If a tool or other device connected to the robot may pose a hazard, it must be connected to the robot's emergency stop circuit. Failure to comply may result in death, serious bodily injury, or property damage to the operator.

## External Security Interface

### 1. External Emergency Stop Interface

External emergency stop devices must be installed at each workstation that may control the start of robots or trigger potentially dangerous situations, and the System Integrator shall be responsible for these devices. To ensure that emergency stop devices are available even in extremely urgent situations, at least one external emergency stop device shall be installed.

The external emergency stop device is connected via the safety interface provided to the customer on the controller, and the external emergency stop device is not included in the scope of supply of the robot.

### 2. External limit stop device interface

A device to prevent the robot from exceeding the scope of work in the application. It is not inherently dangerous and does not pose a hazard.

# 1. Brief Description of Document Content

Thank you for your attention to the content of this manual. To ensure the accuracy and timeliness of the information, the content in the manual may be updated and adjusted according to actual circumstances, and we will promptly announce any changes through official channels.

We have done our best to ensure the rigor of the manual content, but due to the rapid pace of technological development and product iteration, if you find any omissions or have questions about the content, you are welcome to contact us at any time to provide feedback, and we will verify and handle it immediately.

Regarding the use of the manual and the described products, we recommend that you refer to the operating instructions in combination with specific scenarios. If you have any special requirements or questions, you can contact the Agilebot Customer Service Team at any time to obtain professional support.

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The original language of this publication is Chinese.

We are always committed to providing you with clearer and more practical information services. Thank you for your understanding and support.

### 1.1 Document Status

Current Status: Passed Review

Note: Unavailable ---- The document is in preparation and cannot be used as a reference

Completed ---- Document Completed

Passed Review ---- The document has passed the review

### 1.2 Revision

Version Number	Date yyyy-mm-dd	Author	Modify Description
1.0	2026-06-01	Zhou Zening	Released

## 2. Abbreviations

Name	Meaning
Profinet	<p>Process Field Network, an open standard based on industrial Ethernet developed by PROFIBUS &amp; PROFINET International (PI), is used to implement real-time industrial communication and support data exchange between controllers and field devices (such as I/O modules, drives, valves, etc.).</p>
GSD / GSDML	<p>General Station Description (GSD) / General Station Description Markup Language (GSDML): An XML file that describes information about a single Profinet device or IO controller/device (referred to as a "station") (modern Profinet uses GSDML), usually provided by the device manufacturer. The GSD (GSDML) file contains detailed technical specifications and configuration parameters of the device, enabling the configuration tool/engineering system to identify the device and integrate it into the Profinet network. The content of the GSD (GSDML) file typically includes:</p> <ul style="list-style-type: none"> <li>Manufacturer information, name, model, hardware, and software version of the device.</li> <li>Supported Profinet conformance classes (Conformance Classes CC-A, CC-B, CC-C).</li> <li>Description of IO modules or submodules (quantity, type, address, diagnostic information).</li> <li>Number and types of supported communication channels (e.g., real-time IO data, alarms, parameterization).</li> <li>Detailed information on configurable parameters (e.g., diagnostic options, update time, parameter record structure).</li> <li>Supported system redundancy features (such as MRP, MRRT, DCP).</li> </ul>

	<p>Device identification information (Vendor ID, Device ID, Instance,...).</p>
<p>RT IO Data</p>	<p>Real-Time Input/Output Data (Real-Time IO Data): Real-Time IO Data is used to transmit periodic process data (input/output signals) between the controller (IO controller) and field devices (IO devices). In Profinet, the transmission of process data is based on the concept of submodules (Submodules):</p> <p>IO devices are structured into one or more slots, each of which contains one or more submodules.</p> <p>Each submodule represents a specific input data block, output data block, or mixed data block.</p> <p>The IO controller defines the size and location (address) of the expected input/output data areas during configuration, and these areas are mapped to specific submodules on the remote IO device.</p> <p>Communication Relations (CR): Data exchange is managed through the configured IO Communication Relations (IO-CR), which specifies which specific input/output data (usually organized by slot/submodule index) is exchanged between the controller and the device.</p> <p>Periodic Transmission: In RT (Real-Time) or IRT (Isochronous Real-Time) mode, input and output data are periodically exchanged according to a fixed, highly deterministic cycle period (Update Time). Output data is sent from the controller to the device at the start of the cycle, and input data is collected by the device within the cycle and sent back to the controller at the end.</p> <p>Data Buffer: Devices and controllers typically have internal buffers (e.g., process images) for storing the current input/output data status. The controller reads its input process image buffer at synchronization points or specific moments during its scan cycle and sends out the values in the output process image buffer. The device, upon receiving the output data, writes to its physical output points and updates its input data buffer based on the</p>

	status of the physical input points, so as to send it to the controller at the end of the cycle.
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### 3. General Description of Profinet

When the customer chooses to use the Agilebot Profinet function, Agilebot will provide the following hardware and software:

Product	Main Parameters	Category
Profinet Module	Robot acts as a slave station Installation inside Cabinet D6B	Hardware
Basic software functions	IO Data Interaction Supports DIO, UIO, GIO mapping Data 256 ByteDance	Software

Supported models include:

Category	Supported Models	Adaptive Software	Remarks
Industrial 4-axis, Scara	Not available yet		
Industrial 6-axis, Puma	Not available yet		
Collaboration,	D6B: C5A, C7A,	Copper 7.8 and	

Cobot	C12A,C16A	later	
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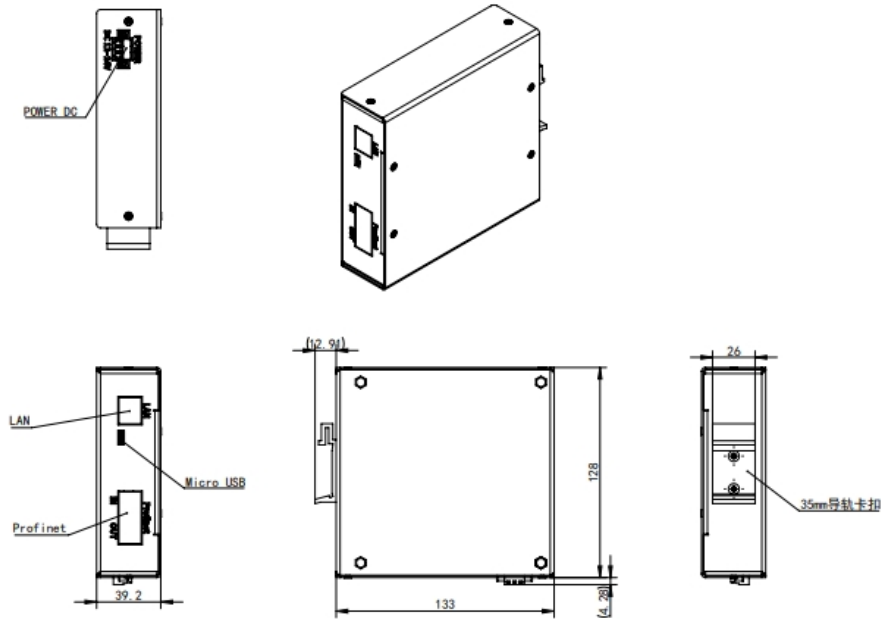
## 4. Profinet Module

Note: Profinet modules can only act as slaves

### 4.1 Specification


Input Voltage	12-24v
Size	133mm*128mm*39.2mm
Installation Method	Guide Rail Clip
Power Consumption	2.5w

### 4.2 Dimensions



### 4.3 Power Interface

Table 2.1 Power Interface Definitions

Interface	Pin Number	Function
	1	DC12V-24V
	2	GND
	3	PE

#### 4.4 Signal Interface

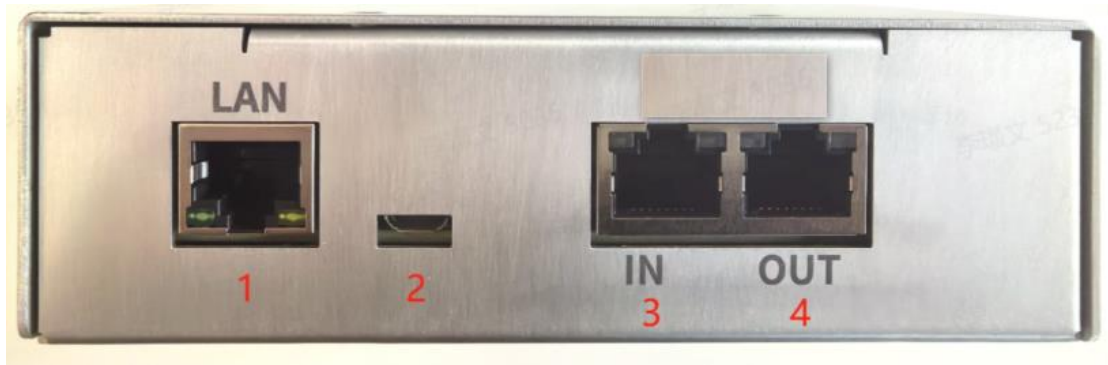


Table 2.2 Signal Interface Definitions

Serial Number	Definition	Description	MAC Address
1	LAN	Modbus TCP Interface (Direct Connection Inside the Control Cabinet)	Add [1]
2	Debug Interface	Internal debugging interface (permission not granted)	
3	Profinet_P1	Profinet Input Port	Add [1]+1
4	Profinet_P2	Profinet Output Port	Add [1]+2

#### 4.5 Connection Method

Under normal circumstances, when disassembling/installing the board, the robot must be in a powered-off state. Connect the Modbus TCP network port of the board to the LAN network port inside the control cabinet. The customer connects the Profinet network cable to the control cabinet through the gland at the plug position. The

connection and installation are as shown in the following example diagram.

Connect devices according to the Profinet topology design, connect the upstream Profinet network cable to the Profinet P1 network port, and connect the Profinet P2 network port to the next device.

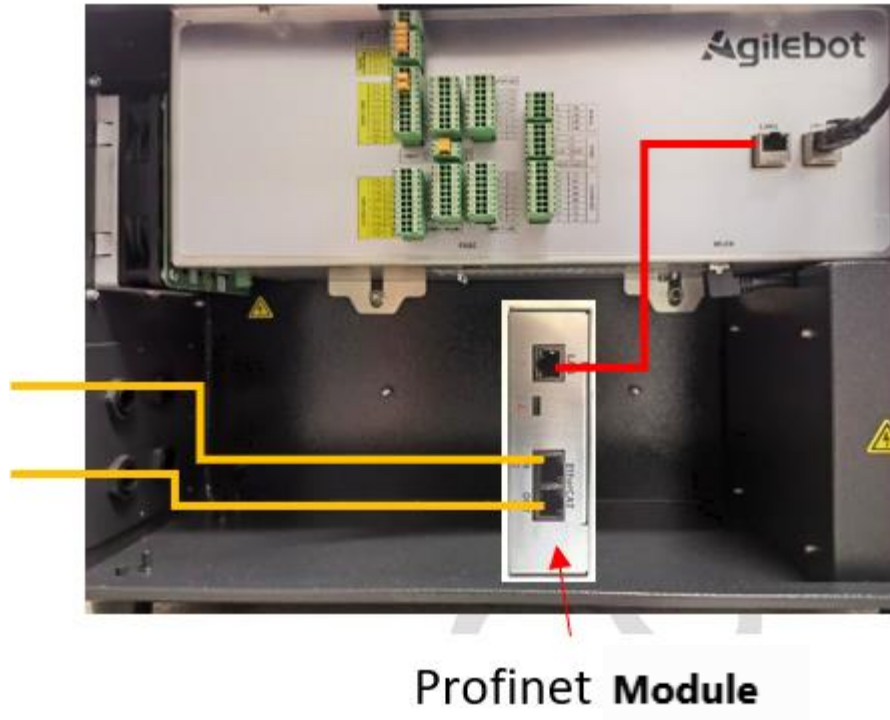


Figure: Profinet Function Control Cabinet Connection

## 5. Use of Profinet Bus Function

### 5.1 Installation and Connection

1. Install the GSD file (.xml file) provided by Agilebot :  
GSDML-V2.43-Agilebot-ERTEC200pEvalkit-20251110.xml
2. Default parameters of Profinet board:
  - ① IP Address: 192.168.110.1

② Device Name: ertec-devkit

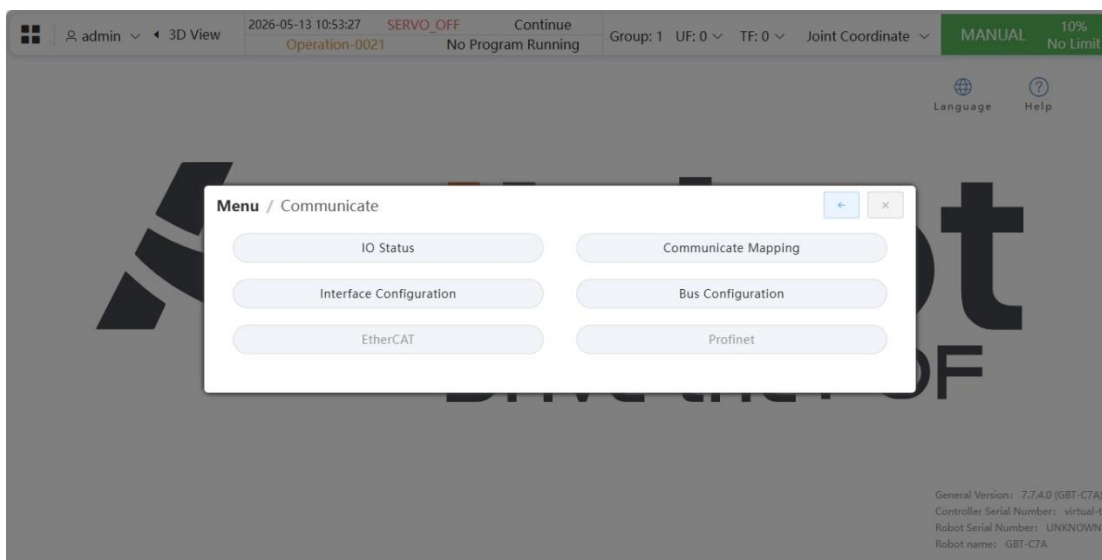
③ Device Number: 2

**Steps - Taking Siemens 1200 as an example:**

1. Install GSD File: [Selection] - [Manage General Station Description File (GSD)] - [Source Path] Locate.xml File - [Install]
2. Add Profinet Module: [Network View] - [Hardware Catalog] - Double-click to add [IRC-ProfiNET]
3. Configure Profinet parameters: IP Address, Device Name, Device Number, IO Mapping

**5.2 Interface Configuration**

1. Enter the Profinet page.



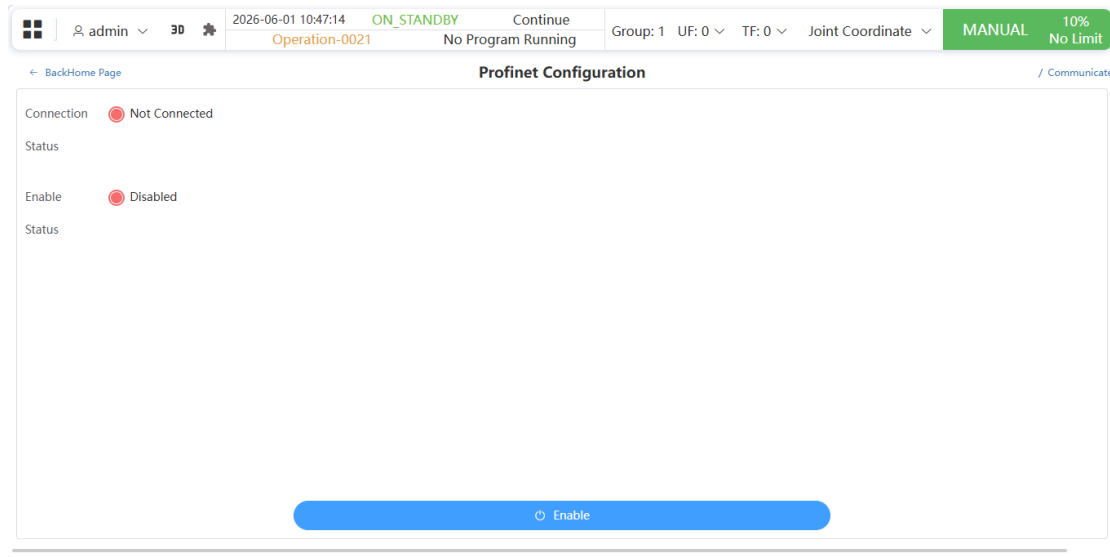
The "Profinet" configuration page is at the same level as ModbusTCP in "Menu/Communication/Bus Configuration". Click to enter the function page

The system self-checks whether the board is normal. If the Profinet board is not detected or the function is not enabled, the function page cannot be accessed, the font is grayed out, and a prompt will appear when clicked: "Profinet function is unavailable, please contact the manufacturer." At this time, please contact the manufacturer promptly.

2. In manual mode, when the program stops, you can modify and activate the configuration. Click "Enable" to establish a connection with the master station.

The connection status will display the status of the board and communication connection.

- If the board does not exist, it will display "Profinet module not found"
- If the communication with the main station fails, "Communication Failure" will be displayed



3. Once enabled, the mapping of DIO, UIO, or GIO can be configured in "Communication Mapping". DIO is used to transmit IO signals from Profinet, and GIO is used to transmit integer or floating-point data composed of multi-bit addresses from the master station. The size limit of GIO has been relaxed to 32 bits.

The input and output sizes in the transmission address are set to 256 ByteDance. The Profinet master station will identify the slave stations and assign addresses based on the slave station sequence and GSD configuration information. p is the starting word address of the data transmitted from the Profinet master station to the robot, which is also the first object of RxPDO. Configuring 0~15 in Profinet/slave means the addresses p~p+15 assigned by the PLC side.

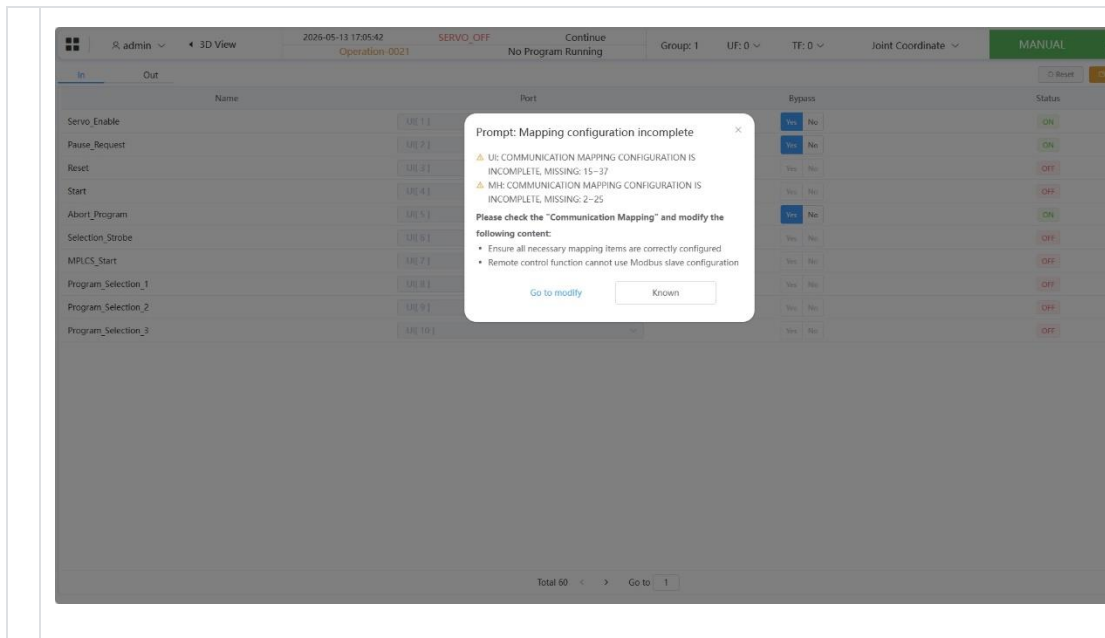
DI		DO	UI	UO	GI	GO	AI	AO	MH	MI	MANUAL		10% No Limit	
2026-06-01 11:19:32 ON_STANDBY Continue T1 Group: 1 UF: 0 TF: 0 Joint Coordinate														
Operation-0021														
<span>Create</span> <span>Delete</span> <span>Watch Status</span>														
User Port				Communication Modules						Address	Bits	Status		
1	GI	1		Profinet/slave/33						256-287	32	ACTIVE		
2	GI	2		Profinet/slave/33						0-15	16	ACTIVE		

DI		DO	UI	UO	GI	GO	AI	AO	MH	MI	MANUAL		10% No Limit		
2026-06-01 11:20:56 ON_STANDBY Continue T1 Group: 1 UF: 0 TF: 0 Joint Coordinate															
Operation-0021															
<span>Create</span> <span>Delete</span> <span>Watch Status</span>															
User Port				Communication Modules						Address	Total	Status			
1	DI	1	~	32	Profinet/slave/33						1	32	ACTIVE		

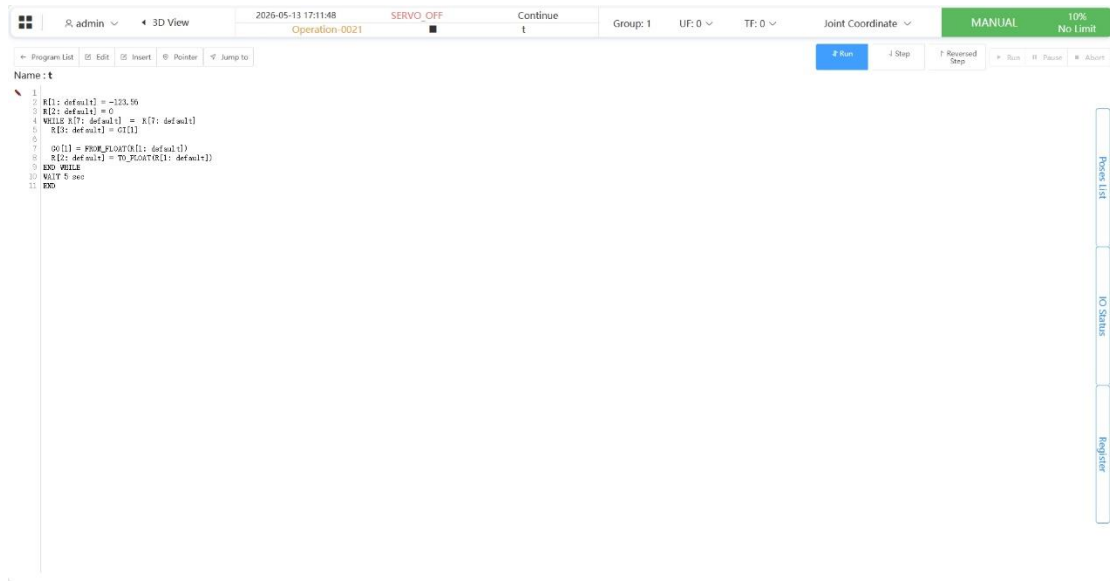
4. After address configuration, similar to Modbus TCP, remote IO control allocation can be performed. Robot commissioning engineers can assign addresses to specific functions based on the IO mapping table of the master PLC communication. Using templates will automatically detect whether address allocation has been completed.

Name	Port	Bypass		Status
Servo_Enable	UI[ 1 ]	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	ON
Pause_Request	UI[ 2 ]	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	ON
Reset	UI[ 3 ]	<input type="checkbox"/> Yes	<input type="checkbox"/> No	OFF
Start	UI[ 4 ]	<input type="checkbox"/> Yes	<input type="checkbox"/> No	OFF
Abort_Program	UI[ 5 ]	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	ON
Selection_Strobe	UI[ 6 ]	<input type="checkbox"/> Yes	<input type="checkbox"/> No	OFF
MPLCS_Start	UI[ 7 ]	<input type="checkbox"/> Yes	<input type="checkbox"/> No	OFF
Program_Selection_1	UI[ 8 ]	<input type="checkbox"/> Yes	<input type="checkbox"/> No	OFF
Program_Selection_2	UI[ 9 ]	<input type="checkbox"/> Yes	<input type="checkbox"/> No	OFF
Program_Selection_3	UI[ 10 ]	<input type="checkbox"/> Yes	<input type="checkbox"/> No	OFF

Total 60 < > Go to 1



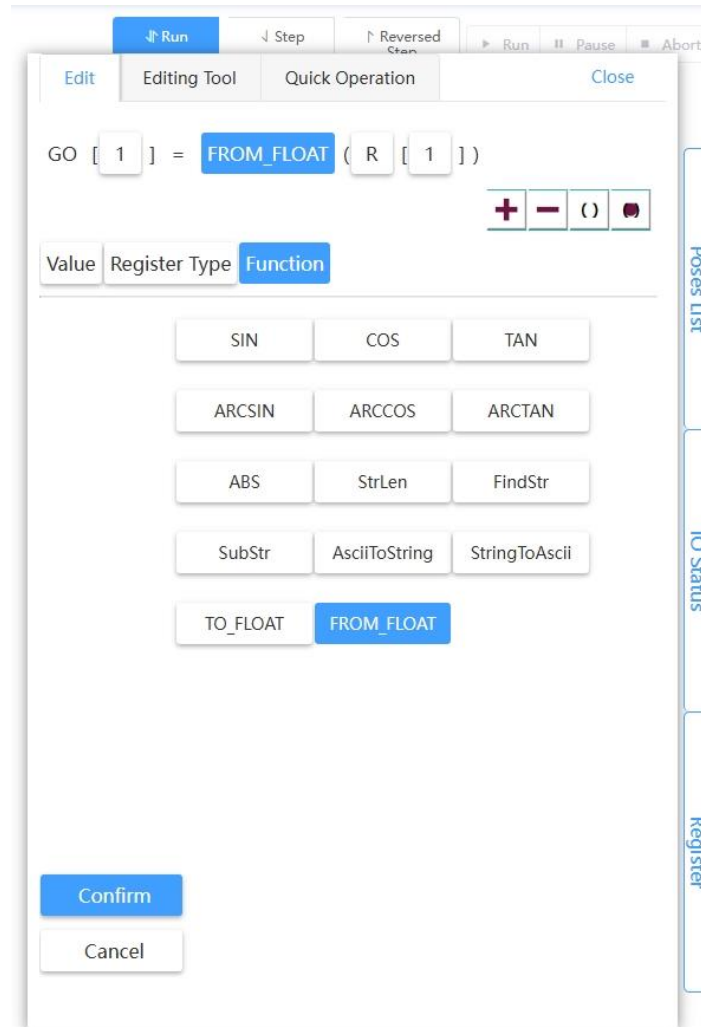
- After the address is assigned, save it to take effect. Then the response data can be called in the program. Additionally, the FROM\_FLOAT and TO\_FLOAT functions are provided. By default, if not filled in, the low byte is stored in the low address and the high byte is stored in the high address. The robot retrieves data from the PLC and converts it into the desired data type, such as a floating-point number. The instruction will verify whether the size of the data GI is consistent with the required data size. The following takes the debugging of Inovance PLC as an example:



## 5.3 Instruction Function

- $R[3] = G[1]$

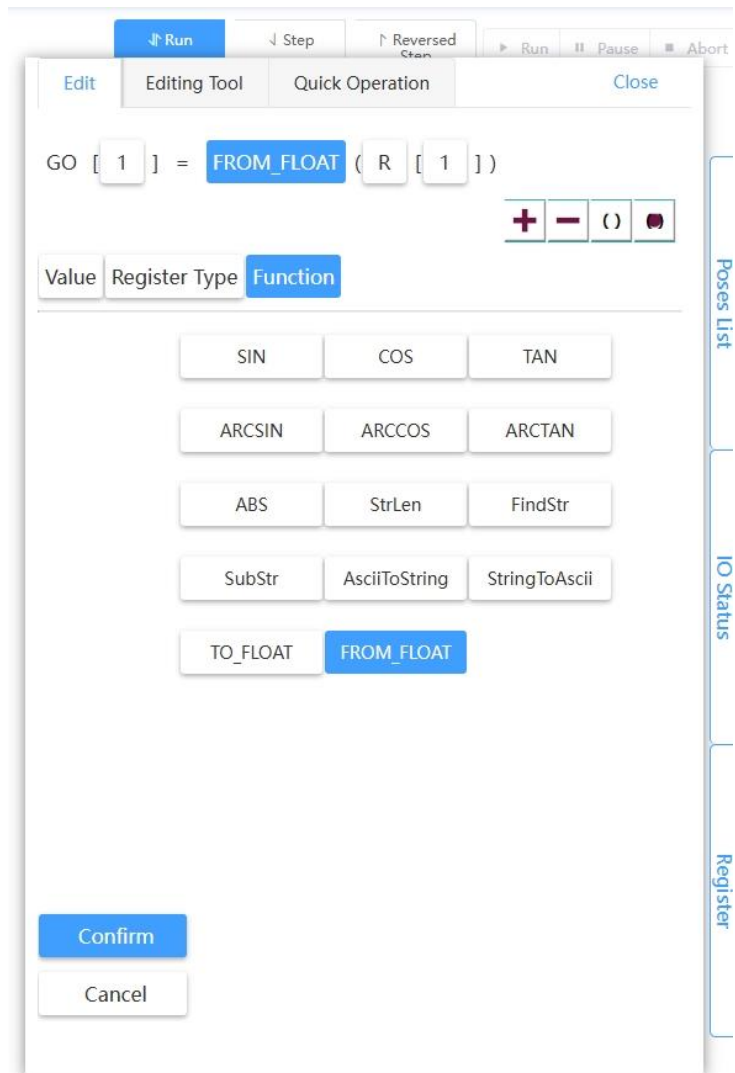
The Profinet master station can directly assign the integer composed of the address assigned to G1 to the R register



- GO[1] = FROM\_FLOAT(R[1])

GO can send the floating-point value in the R1 register to the Profinet bus via the address corresponding to GO1

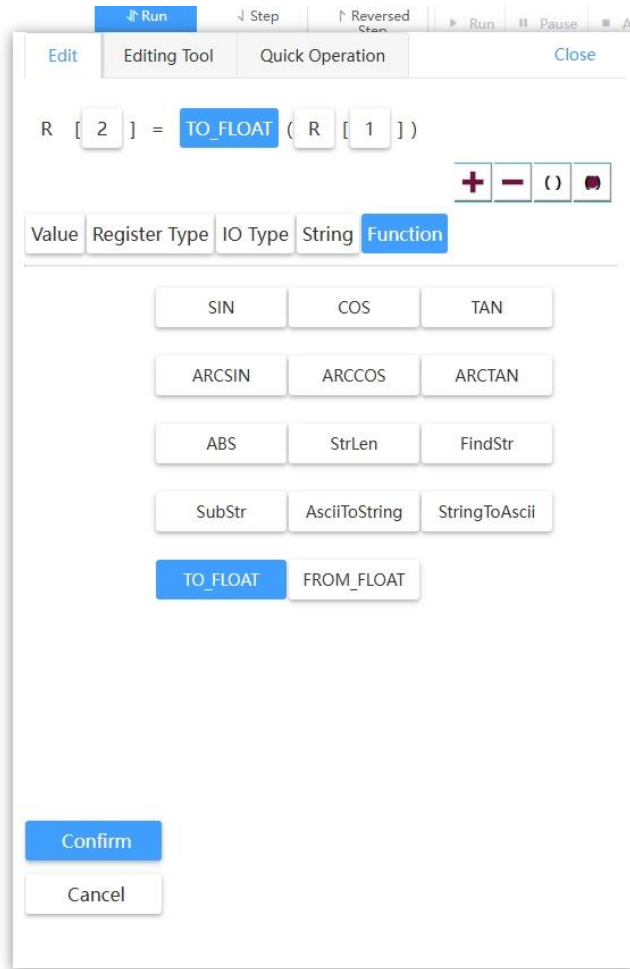
Data precision can reach 32-bit single-precision floating-point numbers.



- $R[2]= TO\_FLOAT(GO[1])$

The floating-point value of GO1 is stored in register R1

Data precision can reach 32-bit single-precision floating-point numbers.



At this time, the PLC is running a program for numerical increment, which can be obtained through R3 in this program, and R1 and R2 can send and process floating-point numbers.

The value of GIO is expressed in numerical values (decimal or hexadecimal), converted or inversely converted to binary numbers, and then data is exchanged through signal lines.

1. GI Value: Displays the decimal value converted from the binary of the current GI input signal, with the syntax  $R[i]=GI[i]$

Example: GI[4] contains 5 signals, corresponding to ports 23, 24, 25, 26, and 29; DI[1] corresponds to port 25; when the acquired signal  $R[1]=GI[4]$  and the result of R[1] is 20, it means that ports 25 and 29 are 1, the remaining ports are 0, and the value of DI[1] is ON. Similarly, when the value of DI[1] is OFF, the value of port 5 in GI[4] is 0.

2. GO Value: Sets the current value of GO. This value will be converted to binary to represent the signals of each port. The range is determined by the number of its

ports. For example, if GO maps to 7 IO ports, its value range is 0-127; if the set value exceeds the range, an error will be alerted, indicating the range within which the GO value should be set. Syntax: GO[i]=value or GO[i]=R[i]

Example: GO[1] contains 4 signals, corresponding to ports 25-28. If ports 25 and 26 need to be set to 0, and ports 27 and 28 to 1, then GO[1]=12.

## 6. Example

### 6.1 UO

1. Enter the communication mapping interface through Menu - Communication - Communication Mapping.

Select UO - Set user port, module number, and address. Here, UO[5] is located at address 4.

DI	DO	UI	UO	GI	GO	AI	AO	MH	MI	Address	Total	Status
			1	~	13					0	13	ACTIVE
			2	~	14					128	1	ACTIVE
			3	~	19					160	5	ACTIVE
			4	~	35					192	16	ACTIVE
			5	~	51					224	16	ACTIVE
			6	~	67					256	11	ACTIVE
			7	~	83					288	16	ACTIVE
			8	~	99					320	16	ACTIVE
			9	~	115					352	16	ACTIVE
			10	~	131					384	16	ACTIVE
			11	~	147					416	16	ACTIVE
			12	~	163					448	16	ACTIVE

2. Click Menu - Application - Remote Control - Output, where UO[1] - UO[5] are system UOs, and observe that UO[5] is currently ON.

Name	Port	Status
CMD_Enable	UO[ 1]	OFF
Paused	UO[ 2]	OFF
Fault	UO[ 3]	OFF
Program_Running	UO[ 4]	OFF
Servo_Status	UO[ 5]	ON
Selection_Check_Request	UO[ 6]	OFF
MPLCS_Start_Done	UO[ 7]	OFF
Selection_Confirm_1	UO[ 8]	OFF
Selection_Confirm_2	UO[ 9]	OFF
Selection_Confirm_3	UO[ 10]	OFF

- On the PLC side, create a new variable using the default variable table, select the data type BOOL, (if the starting address is 100) then UO[5] corresponds to the PLC-side address %ID100.4, and the position variable status is True.

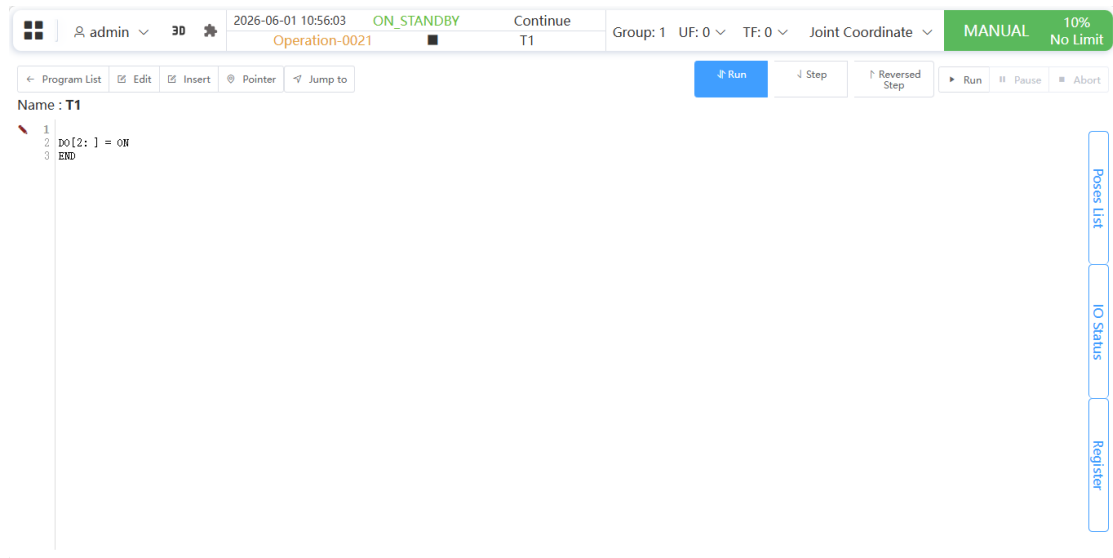
## 6.2 DO

- Enter the communication mapping interface through Menu - Communication - Communication Mapping.

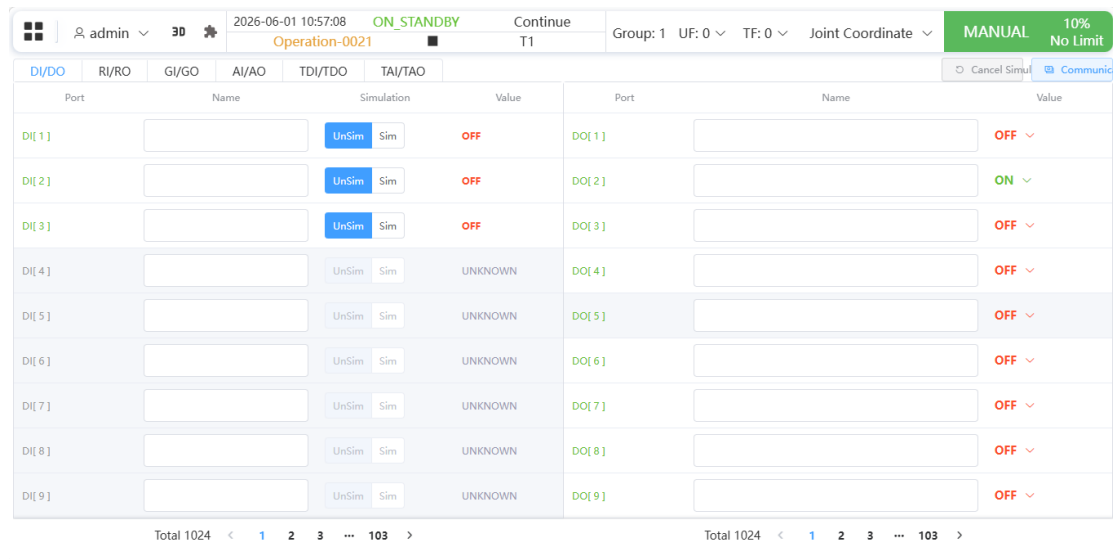
Select DO - Set user port, module number, and address. Here, the addresses of DO[1] - DO[10] start from 99.

DI	DO	UI	UO	GI	GO	AI	AO	MH	MI	Address	Total	Status
1	DO	1	10							99	10	ACTIVE

- Simply write a program to set DO[2] to ON, execute the program / set DO[2] to ON through Menu - Communication - IO Status.



3. Observe the current state of DO[2] through Menu - Communication - IO Status.



4. On the PLC side, create a new variable using the default variable table, select BOOL as the data type, set the corresponding address (if the starting address is 100) to %I112.4, and set the variable status to TRUE.

### 6.3 DI

1. On the PLC side, select Monitoring and Forcing Table - Forcing Table, create a new variable, and select address Q100.2.
2. Enter the communication mapping interface through Menu - Communication - Communication Mapping.

Select D1 - Set user port, module number, and address, configure DI[1]-DI[32], select

module number Profinet/slave/32, and start the address from 0.

User Port		Communication Modules		Address	Total	Status
1	DI	1	~ 32	Profinet/slave/33	0	32 ACTIVE

3. Observe the current state of DI[3] as OFF through Menu - Communication - IO Status.

Port	Name	Simulation	Value	Port	Name	Value
DI[1]		UnSim Sim	OFF	DO[1]		OFF
DI[2]		UnSim Sim	OFF	DO[2]		OFF
DI[3]		UnSim Sim	OFF	DO[3]		OFF
DI[4]		UnSim Sim	OFF	DO[4]		OFF
DI[5]		UnSim Sim	OFF	DO[5]		OFF
DI[6]		UnSim Sim	OFF	DO[6]		OFF
DI[7]		UnSim Sim	OFF	DO[7]		OFF
DI[8]		UnSim Sim	OFF	DO[8]		OFF
DI[9]		UnSim Sim	OFF	DO[9]		OFF

4. Use PLC to force the variable at address Q100.2 to True.
5. Observed that the state of DI[3] is ON.

DI/DO	RI/RO	GI/GO	AI/AO	TDI/TDO	TAI/TAO	Simulation	Value	Port	Name	Value
DI[1]						UnSim Sim	OFF	DO[1]		OFF
DI[2]						UnSim Sim	OFF	DO[2]		OFF
DI[3]						UnSim Sim	ON	DO[3]		ON
DI[4]						UnSim Sim	OFF	DO[4]		OFF
DI[5]						UnSim Sim	OFF	DO[5]		OFF
DI[6]						UnSim Sim	OFF	DO[6]		OFF
DI[7]						UnSim Sim	OFF	DO[7]		OFF
DI[8]						UnSim Sim	OFF	DO[8]		OFF
DI[9]						UnSim Sim	OFF	DO[9]		OFF

## 7. Precautions

1. If the Profinet board cannot be detected during operation, immediately trigger an alarm and enter the PAUSE state: "Error: Profinet board not found, function failed, robot will stop." If the robot is in motion, it will stop moving. At this time, you can reset it, and it will continue to detect and report errors. (It still cannot move at this time.) If you need to resume motion and clear the alarm, you need to click "Disable" in Profinet. The register values and IO states remain the same as before the disconnection.

Profinet Configuration

Connection ● Not Connected

Status

Enable ● Disabled

Status

[Enable](#)

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