

2501EN V1.0.4

# i-Designer Software User Manual

DAUDIN CO., LTD.

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### **1. System Overview**

This document explains how to use the i-Designer software tool.

i-Designer is used on a PC and can configure the iO-GRID series <u>modules</u> through the following methods.

- **I.** By connecting to the <u>control module</u> via Mini USB, you can manage and set the following parameters:
  - (1) Set the <u>control module</u> station number
  - (2) Set the <u>I/O module</u> station number
  - (3) Serial RS485#1 external bus communication interface format and baud rate
  - (4) Serial RS485#2 external bus communication interface format and baud rate
  - (5) Search for the number and type of <u>I/O modules</u> on the bus board
- **II.** By connecting a GFTL-RM01 and Micro USB to a single <u>M series I/O module</u>, you can configure the following parameters:
  - (1) Station Number Setting
  - (2) Baud rate setting
  - (3) Format setting
- **III.** By connecting to the <u>gateway module</u> via network cable, you can manage and set the following parameters:
  - (1) Set the IP address of the gateway module
  - (2) Set the operating mode
  - (3) Serial settings
  - (4) ID mapping
- IV. By connecting to the C series coupler <u>module</u> via Micro USB, different parameters can be configured depending on the protocol.

The communication parameters that can be configured for the coupler and I/O modules in the software include:

- (1) Coupler IP settings
- (2) Module disconnection handling mechanism
- (3) Analog module range adjustment
- (4) Special function module settings
- (5) Firmware update



**V.** By connecting to the X series coupler <u>module</u> via Type C USB, different parameters can be configured depending on the protocol.

The communication parameters that can be configured for the coupler and I/O modules in the software include:

- (1) Coupler IP settings
- (2) Module disconnection handling mechanism
- (3) Analog module range adjustment
- (4) Special function module settings
- (5) Firmware update
- **VI.** By connecting to the Nemo series <u>module</u> via Micro USB, different parameters can be configured depending on the protocol.

The communication parameters that can be configured for the coupler and I/O modules in the software include:

- (1) Module IP settings
- (2) Module disconnection handling mechanism



### 2. M Series - Preparations Before Use

Before using i-Designer, ensure that all connections are correct before proceeding.

#### I. Connection Method via Mini USB to the <u>Control Module</u>

Connect the Mini USB to the Mini USB port on the <u>control module</u>. Ensure the bus board is powered on, and open the <u>i-Designer</u> software to configure the related parameters for the <u>control module</u>.

Control module wiring diagram:



Before setting the <u>control module</u>, ensure that the <u>station numbers</u> of the <u>I/O modules</u> on the <u>bus board</u> are not duplicated.



Control module wiring diagram:



#### II. Individual <u>I/O Module</u> Connection Method

Connect the Micro USB interface to the <u>GFTL-RM01</u>, convert it to a USB port to connect to the computer, and remove it from the bus board. Ensure that the single <u>I/O</u> <u>module</u> is in a powered-off state, then open the <u>iO-GRID M Utility</u> software to configure the relevant parameters for the <u>I/O module</u>.

<u>I/O module</u> wiring diagram:





<u>I/O module</u> wiring diagram:



#### III. Connection Method for Gateway Module via Network Cable

Connect the network cable to the network interface on the gateway module. Ensure the bus board is powered on, and open the i-Designer software to configure the

relevant parameters for the gateway module.

<u>I/O module</u> wiring diagram:





### **3.** C Series - Preparations Before Use

Before using i-Designer, ensure that all connections are correct before proceeding.

#### I. Connection Method via Micro USB to the Coupler Module

Connect the Micro USB to the Micro USB port on the coupler <u>module</u>. Ensure the bus board is powered on, and open the <u>i-Designer</u> software to configure the <u>coupler</u> and <u>I/O module</u> parameters.

Coupler module wiring diagram:





### 4. X Series - Preparations Before Use

Before using i-Designer, ensure that all connections are correct before proceeding.

#### I. Connection Method via Type C USB to the <u>Coupler Module</u>

Connect the Type C USB to the Type C port on the coupler <u>module</u>. Ensure the coupler is powered on, and open the <u>i-Designer</u> software to configure the <u>coupler</u> and <u>I/O module</u> parameters.

Coupler module wiring diagram:







### 5. Nemo Series - Preparations Before Use

Before using i-Designer, ensure that all connections are correct before proceeding.

#### I. Connection Method via Type C USB to the <u>Coupler Module</u>

Connect the Type C USB interface to the Type C port on the <u>module</u>. Ensure the module is powered on, and open the <u>i-Designer</u> software to configure the relevant parameters for the <u>module</u>.

Module wiring diagram:





### 6. i-Designer Operating Instructions

### 6.1 Installation

Download the i-Designer program from the official website, then click on the program (as shown in the figure) to install it.



Figure 6. 1 Program Icon

After reading the user agreement, please check the box and click Start Installation.



Figure 6.2 Click Start Installation



During installation, the progress will be displayed.



15%



Once the software installation is complete, you can choose to run it immediately by clicking the Finish button.





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完成

Figure 6.4 Installation Complete



### 6.2 UI Screen Description

After installation, locate the program icon on the desktop and click it to open the settings screen (see the figure below).



Figure 6.5 Program Icon

The screen is organized as follows, from top to bottom:

- I. Tab Area: Select different product series or switch languages.
- II. Function Key Area: Displays different function keys based on the selected tab.
- III. Display and Configuration Area: Shows the module status and settings.
- IV. Progress Display Area: Displays the progress of various functions in percentages, helping users understand the current execution status, such as configuration or updates.



#### Figure 6.6 Default Homepage



#### Tab Area:

- Homepage Tab: Provides information about i-Designer and options for switching the language.
- (2) Product Settings Tab: Used for setting parameters for various **i - G RID** product series.



Figure 6.7 Tab



Function Key Area:

The function keys displayed here vary based on the selected tab and product. The relevant descriptions are as follows:

Icon	Name	Description
0	About i- Designer	Shows software version information.
ABC	Switch	Switches between Traditional Chinese,
48	Languages	Simplified Chinese, and English.
άL	Connection	Offers automatic or manual module
IV	Mode	connection modes.
	Connection Info	
۲	Connect	Connects to the module.
~~	Disconnect	Disconnects from the module.
0	System Stop	Temporarily stops the module system.
0	System Running	Starts the module system.
<b>a</b>	Auto Station	Reconfigures the station numbers of the
1 p*	Assignment	module system.
4	Upload	Undates the module settings
	Parameters	opuates the module settings.
	Online	
•	Adjustment	
<b>M</b> -	Check for	Searches and compares the current module
<b>—</b>	Updates	firmware version to check if it's the latest.



	Firmware	Manually underes the module firmware
G	Update	Manually updates the module minware.
	Point	
••••••••••••••••••••••••••••••••••••	Information	Displays all operational data of the modules.
	Overview	



8		i-Designer[USB Mode]		- 0 X
Homepage M Series Online Settings	C Series Online Settings	Nemo Series Online Settings	GX Series Online Settings	
Mode - Information	ON (	DFF Parameters	Configuration Ch	eck Update Monitor
Communication		Control		
Module List	Module Configuration		Module Settings	
Module Name Module	GXCL12		✓ 1-General Settings	
→	SP         EncOT         ICCION         ICCION		Module Slot	0
GX-HC100 1			Time Lock(ms)	0
GX-HCIUU 2			✓ 2-Module Information	on
			Firmware Version	1.1.1.r
			Hardware Version	V01
			Product Serial Number	GX-CL120241000808
	Log Information			
	DateTime	Description		
	⊘ 2024-12-05 09:	54:59 Read addressing succ	cessfully	
	2024-12-05 09:	54:59 Connect successfully		
	→ ② 2024-12-05 09:	55:29 System stop successfu	ully	

Figure 6.8 Function Key Area



#### **Display and Configuration Area**



#### Figure 6.9 Display and Configuration Area



#### Figure 6.10 Progress Display Area



### 6.3 i-Designer Information Verification

Click on the homepage -> About i-Designer



Figure 6.11 Software Information



### 6.4 Language Settings

i-Designer currently supports three languages: Traditional Chinese, Simplified Chinese, and English. Use this feature to change the language.



Figure 6.12 Language Selection



### 6.5 COM Port Connection Settings

i-Designer communicates with **D**-**G**RID primarily through the COM Port interface. The connection mode can be either automatic module search or manual COM Port connection.

Before setting up the custom connection with  $i \Box - G R I D$ , confirm the module



Figure 6.13 Connection Mode Selection



_												
					i-Designei						- C	- ×
Homepage	M Series Online Settings	C Series On	line Settings	Nen	no Series Onli	ine Settings	GX S	eries Online Setti	ngs			
t↓		~~	0	0	đ	1	B	$\sim$		C		
Communication Mode +	Communication Connect Information	DisConnect	System S ON	System OFF	Addressing	Upload Parameters	Reload	Online Configuration	Updates Check	Firmware Update		
Auto Mode	mmunication				C	ontrol						
✓ Custom Mo	de	Module Con	figuration					Module Settings	5			
Module Na	ame Module											
		Log Informa	tion									
		D	ateTime		Descripti	on						
		2	024-12-05 09	9:59:38	Read add	dressing succ	essfully					
		<b>2</b>	024-12-05 09	9:59:39	Connect	successfully						
		2	024-12-05 09	9:59:39	Pair succ	essfully						
		→ 🔮 2	024-12-05 10	):02:17	Disconne	ct						
												v

Figure 6.14 Custom Mode Settings



Figure 6.15 Confirming Device Manager COM Port Number



🚠 Co	mmunication Inf	formation	×										
Coupler Module													
$\checkmark$	USB Mode												
	Port Number	COM3											
		Save											

Figure 6.16 Setting Connection COM Port



### 6.6 Connection Setting Instructions

Once the connection is successful, the current connection mode will be displayed in the window, and the firmware version of all modules will be detected. If the system is running, a pop-up window will ask whether to stop the system to perform firmware version detection for all modules.

						i-Designe	er					-	×
Homepage	M Series Online	Settings	C Series Or	nline Setting	js Ne	emo Series On	line Settings	GX	Series Online Setti	ngs			
t↓		~		0	$\oslash$	đ	1	ß		⊠= □=	C		
Communication Mode <del>+</del>	Communication Information	Connect	DisConnect	System ON	System OFF	Addressing	Upload Parameters	Reloa	d Online Configuration	Updates Check	Firmware Update		
	Communicat	tion					Control						
Module List			Module Cor	figuration					Module Settings				
Module Na	me Mo	dule											
			Log Informa	tion									
			C	DateTime		Descript	ion						
			2	2024-12-05	09:59:38	Read ad	Idressing succe	essfully					
			<b>2</b>	2024-12-05	09:59:39	Connect	successfully						
			<b>Ø</b> 2	2024-12-05	09:59:39	Pair suc	cessfully						
			→ 📀 2	2024-12-05	10:02:17	Disconn	ect						
													•



<b>_</b>						: Designed	_					
						I-Designe	r					
Homepage	M Series Online S	Settings	C Series On	line Setting	s Ne	mo Series Onl	ine Settings	GX S	Series Online Setti	ngs		
t↓	L.	~	~	C	$\oslash$	đ	1	B	~		C	
Communication Mode +	Communication Information	Connect	DisConnect	System ON	System OFF	Addressing	Upload Parameters	Reload	d Online Configuration	Updates Check	Firmware Update	
	Communicatio	on	•			(	Control					
Module List			Module Conf	figuration					Module Settings	;		
Module Na	ame Mod	ule										
			Log Informat	tion								
			D	ateTime		Descripti	on					
			20	024-12-05	09:59:38	Read add	dressing succ	essfully				
			20	024-12-05	09:59:39	Connect	successfully					
			20	024-12-05	09:59:39	Pair succ	essfully					
			→ 📀 20	024-12-05	10:02:17	Disconne	ect					
L												

Figure 6.17 Setting Connection

Manua					i-De	esigner[USB	Mode]					-	• ×
Homepage	M Series Online Se	ettings	C Series On	line Settings	Nen	no Series Onl	ine Settings	GX	Series Online Setti	ngs			
<b>t</b> ↓	L.	~	~	0	0			B	$\sim$		C	•	
Communication Mode -	Communication Information	Connect	DisConnect	System S	ystem OFF	Addressing	Upload Parameters	Reloa	d Online Configuration	Updates Check	Firmware Update	Module Monitor	
	Communicatio	on				C	Control						
Module List			Module Con	figuration					Module Register	r			
Module Na	ame Modu	ule	GX-CL120	<b>•</b>   •					✓ 1-General Set	tings			
GX-I GX-I	GX-HC100     Message     X       GX-HC100     In order to detect whether there is a new firmware version for the module, do you want to stop the system?       Yes     No										? 24100	00808	
				lateTime		Descript	tion						
			<ul> <li>✓ 2024-12-05 09:54:59</li> <li>Read addressing successfully</li> </ul>										
			→ ⊘ 2	024-12-05 09	9:54:59	Connect	t successfully						

Figure 6.18 After Connection, Module Automatically Confirms Module Version and Prompts for

Updates



If the system is stopped, i-Designer will automatically detect the module version.

<b>N</b>			i-Des	signer[USB Mode]		- 🗆 ×
Homepage M Series Onli	ine Settings	C Series Onlin	e Settings Nemo	o Series Online Settings GX S	eries Online Settings	
1 ₽	~~	~		🗗 🕇 C	✓ 🗄	C O
Communication Communic Mode - Informat			Fir	mware Update	··· · · · · · · · · · · · · · · · · ·	mware Module pdate Monitor
Commu		Mobus Station	Modbus Name	Current Firmware Version	Newest Firmware Version	
Module List	$\rightarrow$ $\checkmark$	2	GX-HC100	1.0.2.r	1.0.3.r	
→ ★ GX-CL120 GX-HC100 GX-HC100						20241000808
				Start Update		
		201	24-12-05 09:54:59	Connect successfully		
		→ ② 202	4-12-05 09:55:29	System stop successfully		
		- 200		,		

Figure 6.19 Module Version Information Display



Only after the system is stopped can the module functions be configured.

		i-C	Designer[USB Mc	ode]					-	o x
Homepage M Series Online Settings	C Series C	online Settings Ne	mo Series Online	Settings	GX	Series Online Settir	ngs			
N 🖪 🌄	~	00	đ	1	ß	~		C	0	
Communication Communication Connect Mode - Information Communication	DisConnec	t System System ON OFF	Addressing Pa Con	Upload arameters ntrol	Reloa	d Online Configuration	Updates Check	Firmware Update	Module Monitor	
Module List	Module Co	ofiguration				Module Register				
Module Name Module	Wodule co	ingulation				would register				
A CY-CL120 0	GX-CL120 SP EnrOF					✓ 1-General Sett	ings			
GX-HC100 1						Module Slot	0			
GX-HC100 2	<b>]</b> ⊕ [≝					Time Lock(ms)	0			
		✓ 2-Module Information								
		5.55				Firmware Version	1.1.	.1.r		
		5; ; 2 5;				Hardware Version	V0:	1		
						Product Serial Nu	mber GX	-CL12024100	0808	
	Log Inform	ation								
		DateTime	Description							
	<b>S</b>	2024-12-05 10:02:17	Disconnect							
	0	2024-12-05 10:05:54	Read addre	essing succes	ssfully					
	<b>S</b>	2024-12-05 10:05:54	Connect suc	ccessfully						
	→ 📀	2024-12-05 10:06:02	System run	successfully	/					
										*

Figure 6.20 System Stop Screen





Figure 6.21 System Stop Screen



When connecting to X series modules, if the listed modules do not match the actual modules, you can search for modules through the Auto Station Assignment function.

							i-C	esigner[USB	Mode]					-	o x
Hor	nepage	M Series O	nline Setti	ings	C Series Onl	line Settings	Ne	mo Series On	line Settings	GX	Series Online Settir	igs			
	<b>↑</b> J	L.		~~	~~	C	$\oslash$	đ	1	3	~	⊠= □=	C	•	
Com N	munication ⁄lode +	Communic Informat	ation C ion	onnect	DisConnect	System ON	System OFF	Addressing	Upload Parameters	Reloa	d Online Configuration	Updates Check	Firmware Update	Module Monitor	
		Commu	nication					(	Control						
M	odule List				Module Conf	figuration		Addressing			Module Settings				
											✓ 1-General Sett				
$\rightarrow$															
											✓ 2-Module Info				
					Log Informat	ion									
					D	ateTime		Descrip	tion						
					2	024-12-05 0	9:54:59	Read ad	ddressing succ	essfully	/				
					<b>2</b>	024-12-05 0	9:54:59	Connec	t successfully	-					
					<b>2</b>	024-12-05 0	9:55:29	System	stop successfu	ılly					
					→ ② 2	024-12-05 0	9:59:31	Addres	sing						
Statu	s							209	6						

Figure 6.22 Station Assignment in Progress



After configuring the module functions, you must click "Upload Parameters" to save the

settings correctly.



Figure 6.23 Screen After Uploading Parameters



You can view the IO point status through the online debugging feature.

Note: You must disconnect from the external master station before proceeding.

						i-l	Designer[USE	8 Mode]					-	×
Homepage M Se	eries C	Online Set	ttings	C Series O	nline Setting	is Ne	emo Series Or	nline Settings	GX Se	ries Online Settir	ngs			
<b>t</b> ↓		ŀ	~	~~	0	0	đ		B	$\checkmark$		C	•	
Communication Con Mode • In	nmuni forma	cation ( tion	Connect	DisConnec	t System ON	System OFF	Addressing	Upload Parameters	Reload	Online Configuration	Updates Check	Firmware Update	Module Monitor	
C	omm	unication	ı					Control						
Manhula Lint	Loca	ation Info	ormation	Overview								o x		
Module List		N			N / 1								-	
Module Name		Name			Value								-	
→ ✓ GX-CL120	$\rightarrow$	✓ Mod	dule: Stati	ion : 1 Mod	ule Name : G	X-HC100	) (DC_BA)					A		
GX-HC100		CH1Pha	ase_A Inpu	ut Status	0									
GX-HC10		CH1Pha	ase_B Inpu	ut Status	0									
		CH1Pha	ase_Z Inpu	ut Status	0									
		CH1Dig	jital Input	Signal	0									
		CH1Cou	unter Ove	rflow Fl	0								0.2	
		CH1Cou	unter Und	lerflow F	0								08	
		CH1Cou	unter Up I	Flag (Bit6)	0									
		CH1Cou	unter Dow	vn Flag (	0									
		CH2Pha	ase_A Inpu	ut Status	0									
		CH2Pha	ase_B Inpu	ut Status	0									
		CH2Pha	ase_Z Inpu	ut Status	0									
		CH2Dig	jital Input	Signal	0									
		CH2Cou	unter Ove	rflow Fl	0									
		CH2Cou	unter Und	lerflow F	0									
		CH2Cou	unter Up I	Flag (Bit6)	0									
		CH2Cou	unter Dow	vn Flag (	0							Y		
	9	Save To E	xcel										-	•
													_	

Figure 6.24 Online Adjustment Screen



The system will detect whether the current module version is the latest and prompt for updates.

2		i-Desig	ner[USB Mode]		- 0 ×
Homepage M Series Onli	ine Settings C Series Onli	ne Settings Nemo S	eries Online Settings GX	Series Online Settings	
1↓ □	~		1 C	; ✓ 🖺	C O
Communication Communicati Mode - Information	tion Connect <mark>DisConnect</mark> n	System System Add ON OFF	Iressing Upload Reloa Parameters	ad Online Updates Configuration Check	Firmware Module Update Monitor
Communie	ication		Control		
Module List		Firm	ware Update	;	
Module Name →  ✓ GX-CL120	Mobus Station	Modbus Name	Current Firmware Version	Newest Firmware Version	
GX-HC100 GX-HC100		GX-HC100 S 24-12-03 10.12.30	1.0.2.r	1.0.3.r	0241000808

Figure 6.25 Firmware Update Screen



The GX-CL140 will display the Modbus register positions for the configured IO modules.

-											
Homepa	ige M Series C	Inline Settings C	Series Online Setting	s Nemo Series Onlir	ne Settings GX	Series Online Setti	ngs				
11				0	1 2	. ~	Ň=	11 <sup>1</sup> C			
		cation Connect D	DisConnect System	System Addressing	Upload Reloa	ad Online	Updates Fi	rmware Location I	nformation		
			ON	OFF	Parameters	Configuration	Check L	Ipdate Over	rview		
		unication			ontrol			1.	_		
Module	e List	Location Informat	ion Overview					0	× tings		
Ma	dule Name			5365 5 650	1						
	SV CL140	Name	Input AddrO	utput Ad Input Ad	Output A Valu	ne			al Settings		
4.48	GX DIAOP	→ ✓ Module: S	tation : 1 Module Nar	ne : GX-DI40P					*	0	
	GX-DIHUP	CH01 (Bit0)	0x0000	0x1000						1000	
	GX-DU40N	CH02 (Bit1)	0x0001	0x1000						ON	
	GY-DO40N	CH03 (Bit2)	0x0002	0x1000					et Settings		
	GX-AO21V	CH04 (Bit3)	0x0003	0x1000						192.168.1.40	
	GX-AO21V	CH05 (Bit4)	0x0004	0x1000						255.255.255.0	
	Core r repear r	CH06 (Bit5)	0x0005	0x1000						192.168.1.1	
		CH07 (Bit6)	0x0006	0x1000						00:00:00:00:00:00	
		CH08 (Bit7)	0x0007	0x1000					e Information		
		CH11 (Bit8)	0x0008	0×1000					Children		
		CH12 (Bit9)	0x0009	0x1000					rsion	1.0.0.r	
		CH13 (Bit10)	A000x0	0×1000					ersion	X01	
		CH14 (Bit11)	0x000B	0x1000					al Number	GX-CL14000000001	
		CH15 (Bit12)	0x000C	0x1000							
		CH16 (Bit13)	0x000D	0x1000							
		CH17 (Bit14)	0x000E	0×1000							
		CH18 (BR15)	0X000F	001000							
		✓ Module: SI	tation : 2 Module Nar	ne : GX-DQ40P							
		CH01 (Bit0)	Ox	0000	0x2000						*
		CH02 (Bit1)	0x	0001	0x2000						
		CH03 (Bit2)	Ox	0002	0x2000						
		CH04 (Bit3)	Ox	0003	0x2000						
		CH05 (Bit4)	Ox	0004	0x2000						
	2.	Save To Excel									*

Figure 6.26 Point Information Overview Screen



## 7. M-Series Control Module Setup Function Introduction

I. Function Editing Area Setup Instructions

<b>a</b>							i-Designer[M	S Mode]					×
Homepage	M Series Online	Settings	C Series (	Online Settin	gs Ne	emo Serie	s Online Settin	ıgs GX Serie	es Online	Settings			
<b>↑</b> ↓	D.	~~	~7	0	$\oslash$	8	1	~	C	; 🥌			
Communication Mode -	Communication	n Connect	DisConne	t System ON		Search 1	Upload Parameters	Online Configuration	Firmw Upda	are Location te Information			
	Communica	tion				Со	ntrol 🗧						
Module List			Mod	ile Configur	ation					Module Setting	gs		
Module N	ame	Module Sta	_							v 1-General Se	attings		
→ → GFMS-	RM01N	1	-	4.N William Close						• I deneral se	.cungs		
GFA	I-RM10	5		-						Module Station	1 3		
										✓ 2-RS485#1 F	Port Settings		
			1001							BaudRate	115200	5	
										Parity	None		
										DataBits	8 4		
			- Count	<b>.</b>						Stopbits	1		
										Timeout	0 0		
			1							→ 3-RS485#2 F	Port Settings		
			2							BaudRate	115200	8	
			1	6						Parity	None		
										DataBits	8 7		
										Stopbits	1		
										Timeout	0 9	)	Ŧ
			Log I	nformation									
				Date	Time		Descrip	otion					
				2024	-11-07 08	:53:38	Conner	ct successfully					
			$\rightarrow$	2024	-11-07 08	:53:46	System	n stop successfull	ly				

								i-Designer[N	IS Mode]					-	đ	×
н	omepage	M Series Online S	Settings	C Series Onl	ine Setting	is Ne	emo Serie	s Online Settir	ngs GX Serie	es Online	Settings					
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1. Search Module

When users initially configure each <u>I/O module</u>'s station number and format, they can use the "Search Module" button to display the types and quantities of <u>I/O modules</u> on the bus board in the module list selection area. \*Before searching for modules, ensure that the "format" and "baud rate" set locally match those of the <u>I/O modules</u>.

2. Set

Confirm the changes to the parameters. After setting 3 to 15 parameters, you must first click the "Set" button and then press the "Search Module" button again for all the parameter changes to take effect.

3. Station Number

Set the slave station number of the Modbus master controller.

4. #1 Format

The communication interface format for the first external RS485 bus.



5. #1 Baud Rate

The communication speed of the first external RS485 bus interface.



6. #1 Timeout Setting

Set how long the  $\underline{I/O \text{ module}}$  will maintain its current state after communication with the controller is interrupted.

Example:

To maintain the state for 1 second after communication is interrupted, set the value to: 1000 ms.

To maintain the state permanently after communication is interrupted, set the value to: 0 ms.





7. #2 Format

The communication interface format for the second external RS485 bus.





8. #2 Baud Rate

The communication speed of the second external RS485 bus interface.

9. #2 Timeout Setting

Set how long the <u>I/O module</u> will maintain its current state after communication with the controller is interrupted.

Example:

To maintain the state for 1 second after communication is interrupted, set the value to: 1000 ms.

To maintain the state permanently after communication is interrupted, set the value to: 0 ms.



10. Speed

The communication speed of the  $\underline{I/O \text{ module}}$  on the bus board, with a maximum of 1.5M.

11. Format

The Modbus communication format on the bus board.

12. Timeout Setting

The time the master controller waits for a response from the  $\underline{I/O \text{ module}}$  on the bus board after pressing the "Search Module" button.



#### 13. Error Resend

Set the number of times the <u>control module</u> will resend commands. When the "Search Module" button is pressed, if there is an error in the response from the <u>I/O module</u> on the bus board, the control module will resend the command to the <u>I/O modules</u> on the bus board.

14. Error Handling

Set whether the system should stop if any <u>I/O module</u> on the bus board encounters an error.

Example:

Stop Operation: The system will stop if any <u>I/O module</u> on the bus board encounters an error.

Continue Operation The system will continue to operate even if an  $\underline{I/O \text{ module}}$  encounters an error.



- **II.** Module List Selection Area Setup Instructions:
  - 1. Use the left mouse button to select the I/O module that needs configuration.
  - 2. Enter the station number using the keyboard.
  - 3. After clicking the "Upload Parameters" button, confirm the changes.

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# 8. M-Series Standalone I/O Module Station Number Setup

I. After connecting the I/O module, open the iO-GRID M Utility and click "Connect." If a prompt box appears, select "No" to enter non-backplane mode.
\*Do not power on the I/O module during single module setup.



**II.** Click "Connect." Once the "Module Connected Successfully" message appears in the status log area, you can begin setting the station number, speed, and format.

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**III.** After completing the settings, click "Set Module." Once the module settings are confirmed as complete, the process is finished.



### 9. M-Series Gateway Module Setup Function Overview

I. Go to the Network and Sharing Center to change the network interface settings.



**II.** Click "Ethernet," select "Properties," and then click "Internet Protocol Version 4 (TCP/IPv4)."





**III.** Ensure the domain settings match those of the gateway module (e.g., 192.168.1.XXX).

192.168.1.2
255 . 255 . 255 . 0
tomatically
addresses:

IV. Check that the domain settings match the gateway module's configuration (e.g., 192.168.1.XXX) and connect to the module.

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**V.** Function editing area setup instructions

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				J						CHannel 2 Timeou	ut(x10 50				
			2							CHannel 3 Model	Type Slave				
			2 L							CHannel 3 Timeou	ut(x10 60				
				:						CHannel 4 Mode	Type Slave				
			100	A						CHannel 4 Timeou	ut(x10 70				
				6 A 0						✓ 2-Internet Set	ttings				
										IP Address	192.1	.68.1.20	3		
										Mask	255.2	55.255.0	4		
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 Select whether each serial port is connected to a Master or Slave module. If connected to the controller, select Master; otherwise, select Slave.

\* A simple guide: Choose Slave for Modbus TCP to Modbus RTU, and Master for the reverse.

- (2) For the serial port that is connected to a slave module, you will need to configure the communication timeout parameters.
- (3) Set the IP address.
- (4) Set the network mask.
- (5) Set the default gateway.



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(6) Set the communication baud rate for each serial port.

(7) Set the Modbus communication format for each serial port (RTU/ASCII).

- (8) Configure parity (None / Even / Odd).
- (9) Set the number of stop bits (0 / 1 / 2).



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Communication Connect DisConnect System System Search Upload Online Firmware Uccation Information	
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Module Name Module Sta	ing A
→ GFGW-RM01N	
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Channel 1 Stat (D	20
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Channel 2 Modelyp	102169115
Channel 2 Pred New	ss 192.100.1.15
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Channel's Port Num	nber 502
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DateTime Description	
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✓ ✓ Z024 II 0/ 0520.33 Connect succession	

- (10) If the operation mode is set to Master, configure the mapped master station IP address.
- (11) If the operation mode is set to Slave, configure the mapped slave station ID range (in decimal).

\* The ID mapping range of the slave determines which RS485 interface outputs the Modbus RTU station number packet.



### **10. i-Designer Precautions**

I. From the top toolbar, ensure you select the correct module system.



#### **II.** The connection sequence for the module is as follows:

- (12) Assemble the modules
- (13) Power on the modules
- (14) Connect the USB to the modules
- (15) Open i-Designer
- (16) Connect
- (17) System stop
- (18) Set parameters
- (19) Upload parameters
- (20) System running

Following this order ensures proper use of the module.



# **III.** When connecting the gateway module using a network cable, you must ensure that it is in the same domain(LAN) as the gateway.

Verify that the domain(LAN) settings match those of the gateway module:

192.168.<mark>1</mark>.XXX.

r the appropriate IP settings.	to ask your network administrator
Obtain an IP address automatically Oute the following IP address:	
Subnet mask: Default gateway:	255 . 255 . 255 . 0
Obtain DNS server address aut	tomatically
Use the following DNS server a	ddresses:
Preferred DNS server:	
Alternate DNS server:	