

2302EN V2.0.0





iD-GRIDM and Beijer HMI Modbus TCP Connection Operating Manual



Table of Contents

1.		Remote I/O Module Configuration List	. 3
	1.1	Product Description	.3
2.		Gateway Parameter Settings	.4
	2.1	i-Designer Program Setup	.4
3.		Beijer HMI Connection Setup	.9
	3.1	Beijer HMI Hardware Connection	.9
	3.2	Beijer HMI IP Address and Connection Setup	10

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1. Remote I/O Module Configuration List

Part No.	Specification	Description
GFGW-RM01N	Modbus TCP-to-Modbus RTU/ASCII, 4 Ports	Gateway
GFMS-RM01S	Master Modbus RTU, 1 Port	Main Controller
GFDI-RM01N	Digital Input 16 Channel	Digital Input
GFDO-RM01N	Digital Output 16 Channel / 0.5A	Digital Output
GFPS-0202	Power 24V / 48W	Power Supply
GFPS-0303	Power 5V / 20W	Power Supply

1.1 Product Description

- I. The gateway is used externally to connect with Beijer HMI's communication port (Modbus TCP)
- II. The main controller is in charge of the management and dynamic configuration of I/O parameters and so on.
- III. The power module is standard for remote I/Os and users can choose the model or brand of power module they prefer.



2. Gateway Parameter Settings

This section details how to connect to Beijer HMI. For detailed information, please refer to the D-GRID M Series Product Manual

2.1 i-Designer Program Setup

I. Make sure that the module is powered and connected to the gateway module using an Ethernet cable



II. Click to launch the software





III. Select "M Series Module Configuration"

🚾 i-Designer v1.0.30.b			- 0	×
C Series Module Configuration	M Series Module Configuration			
1				
Setting Module				
Config				

IV. Click on the "Setting Module" icon





V.	Enter the "Setting	Module" page	for M-series
----	--------------------	--------------	--------------

		Settin	g Module				×
Module List	ModeType Gate	way Mode			IP Address	192.168.1.20	
Module	Module Option						
	System Log						
	Date	Time	Description				
				Connect			

VI. Select the mode type based on the connected module

		Settin	g Module				
Module List	ModeType G	iateway Mode 🔹			IP Address	192.168.1.20	
Module	woodule Opt	ion					
	System Log						
	D	DateTime	Description				
				Connect			



VII. Click on "Connect"

i 🔤			Setting	g Module				×	
С	Module List	Setting Module			IP Address	192.168.1.20			
	Module	Module Option							
Se M									
Cc									
		System Log							
		DateTim	e	Description					
						_			
				System Stop	Connect				

VIII. Gateway Module IP Settings

		Setting Modu	ule				×
Module List					IP Address	192.168.1.20	
Module ID	Module Option						
→ GFGW-RM01N	Internet Settings	Operating Settings	Port Settings	ID Mapping	Module Information		
	IP Address	192.168.1.20					
	Default Gateway	192 168 1 1					
	Physical Address	0C:73:EB:72:02:07					
	System Log						
	Date	ime De	escription				
	→ ② 2022-	09-14 16:28:06 Re	ad Gateway Modu	le Successfully!			
					Disconnect	Save Setting	

Note: The IP address must be in the same domain as the controller equipment



IX. Gateway Module Operational Modes

		Setting	Module				×
Module List					IP /	Address 192.168.1	.20
Module I	Module Optio	n					
→ GFGW-RM01N	Internet Settir	igs Operating Sett	ings Port Settings	ID Mapping	Module Information		
	Channel 1 M	lode Slave	- Timeout	25 🗘 ms			
	Channel 2 M	lode Slave	- Timeout	25 🗘 ms			
	Channel 3 M	lode Slave	✓ Timeout	25 🗘 ms			
	Channel 4 M	lode Slave	- Timeout	25 🗘 ms			
	System Log						
	Da	teTime	Description				
	→ 📀 202	22-09-14 16:28:06	Read Gateway Mod	dule Successfully	N!		
					Disconnect	Save Setting	9

Note:

Set Group 1 as Slave and set the gateway to use the first set of RS485 port to connect to the main controller (GFMS-RM01N)



3. Beijer HMI Connection Setup

This chapter explains how to use the iX Developer program to connect Beijer HMI to the gateway and add a remote I/O. For detailed information, please refer to <u>iX Developer User Manual</u>

3.1 Beijer HMI Hardware Connection

I. The connection port is on the right at the bottom of the machine. There are LAN A and LAN B



II. Connect the port at the botton of the machine to the gateway's port





- 3.2 Beijer HMI IP Address and Connection Setup
 - I. Once HMI is powered, press on the HMI screen to enter the service menu and then click on "IP Settings".



II. Click on "Specify an IP Address" and set "IP Address" to the same domain as the gateway domain at 192.168.1.XXX.





III. Launch iX Developer and select "MODICON" and "Modbus Master" to add a new controller

選擇目標 在下面的功能表中選擇您的目標		選擇控制器 在下面的功能表中選擇您偏好的控 制器或 OPC 伺服器	選擇位置 在下面的功能表中選取專案的位置
● 控制器 ^{選取品牌} MODICON [™] MMEA 0183 [™] OMRON [™] PROFIBUS OPC UA伺服器 URL:	Ĵ	選取通訊協定 Modbus Master Modbus Slave RTU/TCP	下一步(N)> <上一步(P) 完成(F) 取消(C)

IV. Click on the "Controller" tab to enter the controller setup page. Select the controller and then click on "Settings"

会標籤 標籤 控制器 NA 精韵联组 索引暫存器		
新増		控制器 設定 顯示選取內容
Name Dinkle	ID	Active
10.11 20-112.**		

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V. Connection method setup

Modbus N	laster 5.21.02			
3 Settin	js			-
Comm	unication mode	0	Ethernet TCP/IP	
Default	station	B	1	
Modbu	s protocol	Ô	RTU	
32-bit \	vord mapping	D	Little-endian	
Addres	sing		Decimal	
Start a	ddress		0-based	
Silent ti	me (ms)		0	
Coils/in	put status bits per messag	ge (r	128	
Coils/in	put status bits per messag	ge (1	
Holding	/input registers per messa	age (16	
Holding	/input registers per messa	age (8	
Force f	unction code 0x10	Ē	Enable	
String s	swap	Ð	Disable	
Byte sv	vap		Disable	-

^(B) Setup the default station number

(A)

C From the "Modbus protocol" drop-down menu, select "RTU"

D From the "32-bit World mapping" drop-down menu, select "Little-endian"

E From the "Force function code 0x10" drop-down menu, select "Enable"

(E) From the "String swap" drop-down menu, select "Disable"



VI. Click on "Stations" and set the "Station" and "IP Address" the same as the gateway

Modbus	lodbus Master										
Settings Stations											
Station	IP Address	Port	Node								
1	192.168.1.20	502	1								
	本白	Ho	<u>ж</u>	春田(小)	始明						

VII. Click on "Tab" to enter the tab setting page. Next, click on "New" and set up the tab register's location

○ 標籤 攝圖 操範詳組 ────────────────────────────────────													
主頁 可見資料欄 新増 翻除 「調整刻度 以其他 「資料交換						[6選	索引表	顧示攤取內容 •	匯入 •			
標籖			控制器			資料交換		其他					
名稱 🔻	資料	存取權限	資料型別	Dinkle	Contr	方向	當	說明	車侖 詰肉 君羊 須且	始終處			
OUT_10	DEFAULT	ReadWrite	BIT	48192.9			Value Chan		PolGroup1				
OUT_1	DEFAULT	ReadWrite	BIT	48192.0			Value Chan		PolGroup1				
> Modbus_DO	DEFAULT	ReadWrite	INT16 •	48192			Value Chan		PolGroup1	=			
Modbus_DI	DEFAULT	ReadWrite	INT16	44096			Value Chan		PolGroup1				
ERROR_ID	DEFAULT	ReadWrite	INT16	420483			Value Chan		PolGroup1				
ERROR_FUN	DEFAULT	ReadWrite	INT16	420484			Value Chan		PolGroup1				
DI_9	DEFAULT	ReadWrite	BIT	44096.9			Value Chan		PolGroup1				
DI_8	DEFAULT	ReadWrite	BIT	44096.8			Value Chan		PolGroup1				
DI_7	DEFAULT	ReadWrite	BIT	44096.7			Value Chan		PolGroup1				
DI_6	DEFAULT	ReadWrite	BIT	44096.6			Value Chan		PolGroup1				
1	DECAULT	Deedittate	DIT	4400C F			Value Chan		DelConord				
設計 程式語言										使用的標籤: 78			

* ID-GRID^M 's first GFDI-RM01N has the initial address at 44096 ig-GRID^M 's first GFDO-RM01N has the initial address at 48192