

2303SC V2.0.0





iロ-GRIDが 与Schneider PLC Modbus TCP 连线操作手册



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1.远程 I/O 模块配套列表

料号	规格	说明
GFGW-RM01N	Modbus TCP-to-Modbus RTU/ASCII, 4 Ports	网关
GFMS-RM01S	Master Modbus RTU, 1 Port	主控制器
GFDI-RM01N	Digital Input 16 Channel	数字输入
GFDO-RM01N	Digital Output 16 Channel / 0.5A	数字输出
GFPS-0202	Power 24V / 48W	电源
GFPS-0303	Power 5V / 20W	电源
0170-0101	8 pin RJ45 female connector/RS-485 Interface	转接模块

1.1 产品描述

- I. 转接模块可将网关的 RS485 端口转换成 RJ45 接口。
- II. 主控制器负责管理并组态配置 I/O 参数...等。
- III.电源模块以及转接模块为远程 I/O 标准品,使用者可自行选配。



2. Schneider TM241 连结设定

本章节主要说明网关如何与Schneider TM241连接,_{ID-GRID}加详细说明 请参考 <u>ID-GRID 加系列产品手册</u>

2.1 i-Designer 软件设定

I. 确认模块上电以及使用网络线连接网关模块



II. 点击并开启软件





III. 选择 M 系列页签

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

IV. 点击设定模块图标

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



V. 进入 M 系列设定页面

		Settir	ng Module				
Module List	ModeType Ga	teway Mode			IP Address	192.168.1.20	
Module	Module Optic	n					
	System Log						
	Da	teTime	Description				
				Connect			

VI. 根据连线模块选择模式

		Settin	g Module				
Module List	ModeType	Gateway Mode 🚽			IP Address	192.168.1.20	
Module	wodule Opt	.1011					
	System Log						
		DateTime	Description				
				Connect			



VII. 点击" 连线"

an i			Setting Module			××
C	Module List	Setting Module		IP Address 192	2.168.1.20	
	Module	Module Option				
Sc						
М						
Cc						
		System Log				
		DateTime	Description			
			nning System Stop	Connect	Disconnect	

VIII. 网关模块 IP 设定

		Setting Mc	dule					
Module List					IP A	Address	192.168.1.20	
Module	Module Option							
→ GFGW-RM01N	Internet Settings	Operating Setting	s Port Settings	ID Mapping	Module Information			
	IP Address	192.168.1.20						
	Netmask	255.255.255.0						
	Default Gateway	192.168.1.1						
	System Log							
	DateT	me	Description					
	→ ⊘ 2022-0	09-14 16:28:06	Read Gateway Mo	dule Successfull	y!			
					Disconnect	Sa	ave Setting	

注: IP 地址需与 控制设备相同网域



IX. 网关操作模式

				Setting M	odule					×
Module L	.ist						IP #	Address	192.168.1.20	
Modu	le	Module Op	tion							
→ GFC	GW-RM01N	Internet Se	ttings	Operating Setting	gs Port Settings	ID Mapping	Module Information			
		Channel 1	Mode	Slave	- Timeout	25 🗘 ms				
		Channel 2	Mode	Slave	- Timeout	25 🗘 ms				
		Channel 3	Mode	Slave		25 💲 ms				
		Channel 4	Mode	Slave	- Timeout	25 🗘 ms				
		System Log	DataTin		Description					
			2022-00	a-14 16:28:06	Read Gateway Mor	dula Successfully	4			
							Disconnect	S	Save Setting	

注:设定 Group1 为 Slave,网关使用第一组RS485

与主控制器 (GFMS-RM01N) 对接



2.2 Schneider TM241硬件连接

本章节说明如何使用SoMachine软件,将TM241与io-GRID加进行连结

I. Modbus TCP是透过TM241主机上的以太网口,经由网络线连接至网关



2.3 Schneider TM241连线设定

I. 开启 SoMachine 从程序右方点选"指令"



1.点击"Ethernet_1(EthernetNetwork)"

- 2.fixed IP Address 处设定控制器 IP Address、Subnet Mask
- 3.右键"Ethernet_1(EthernetNetwork)"点击"Add Device..."
- 4.在"Protocol Managers"点击新增"Industrial Ethernet Manager"



II. 新增装置

		Modbus_TCP_Sample.project* - SoMachine Logic Builder - V4.3
Ele Edit View Device Configuration Bro	oject ETEST Build Online Debug Tools Window Help	Chat M . Last Parlamenta
		LO select All Logic computation
evices tree	• • • X Ethernet_1 POU MyController	Industria ¹ 🗊 Add Device X
Modbus_TCP_Sample	Scarner securings Network Manager Scanner Resources IOScanner I Network Settings	/O Mapont Name: Generic_Modbus_TCP_Slave Action:
HyController (TH241CEC24T/U) DI (Digital Inputs)	Subnet Mask: 255 , 255 , 0	Append device Insert device Plug device Update device Device:
DQ (Digital Outputs)	Protocol Settings	Vendor: Schneider Electric V
Li Pulse_Generators (Pulse Generato Cartridge_1 (Cartridge) Cartridge_1 (Cartridge) D_Bus (IO bus - TM3) GOM_Bus (COM bus)	Preferred protocol: EtherNet/IP V This is the protocol set by default when adding a size device to the fieldsus (using drag & drop)	Name Vendor Venion *
Ethernet_1 (Ethernet Network) Industrial_Ethernet_Manager Ø Serial_line_1 (Serial line) Ø Serial_line_2 (Serial line)	Etherhet/IP Settings Etherhet/IP Settings (Induet	* if Abuer * if Hemory * if Lotun * if Collema Outforme 3
CAN_1 (CANopen bus)	Paste Delete	+ 🗊 Ots S Other S Cherent Modbus TCP Save Schweider Electric 1.8.2.21
	tope tes	
	Add Device From Template Add Object	
	Add Device	Display all versions (for experts only) Display outdated versions
	Convert Device	Information
	Disable Device	Name: Generic Moduus TCP Slave Vendor: Schneider Electric
	IO Summary	Categories: Other Version: 10.2.21
	Power consumption	Description: A generic Modbus device that is configured as Slave for a Modbus
	Add Folder	TCP Master.
	Edit Object Edit Object With	
	Advanced Configuration	Industrial_Ethernet_Manager
line DTM Commenter		(You can select another target node in the navigator while this window is open.)
Jose one comecon		
a Devices trée 👫 Applications trée 🕍 Tools	s acc	Add Device Close

1.右键"Industrial Ethernet Manager"选取"Add Device…" 2.Modbus TCP Slaves中,点击新增"Generic Modbus TCP Slave"

III. 设定网关 IP 地址

	Modbus_TCP_Sample.project* - SoMachine Logic Builder - V4.3
Fie Edit Yew Project ETESI Build Online Debu ອ∫ι⊷ ⇔ ≵ ℕ Μα × ΙΑΑ ↔ Ιℕ Ι№ - Ο΄) Tools Window Help 편 여명 여 → ■ [지 역 석 석 정 수 석 수 ④ 다 Select All ・ Logic Configuration ・
evices tree v v X	Controller C
 FidConnectors (POT Connectons) HryGontoller (TH241ECCAT/U) Di Digital Inputs) 	Slave IP Address: 192 + 168 + 1 + 20 Health Timeout (ms) 1000

1. 选取"Generic Modbus TCP Slave",

2.选取"Modbus TCP Slave Configuration",在"Slave IP Address"设定网关 IP 地址



IV. 读取缓存器设定

Be and the fact of the line of the li	Modibus, TCP, Sample propert - Saktachine Logic Builder - V4.3	- 6 -
OK Ganet	Marked Consequences Automatication and a set of the set of th	
2) Um DTM Convection		3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

- 1.选取"Modbus TCP Channel Configuration"
- 2.选取"Add Channel..."
- 3.在"Unit ID"中设定 Master ID
- 4.在"Function Code"选取 03 读取命令
- 5.在"Offset"设定读取缓存器地址为 4096
- 6.在"Length"设定读取数量
- V. 写入缓存器设定

	Medhav, TCP, Sample priject* - SoMachine Logic Rulder - VK3	-8
je pit yev popet FEET pit Dive Debu Birnin Alika (k)	The galaxy galax	- 0
Advances (1997) A	Nali of langua (mark of langua) Nali of langua (mark of langua)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Size DM Connection		Add Deaved. Deate Bat
Messages - Totaly 11 error(s), 8 warring(s), 8 message(s)	a Lastada o 11 e .	0 Precomplet 🗸 Current users (nobiody)

- 1.选取"Add Channel..."
- 2.在"Unit ID"中设定 Master ID"
- 3.在"Function Code"选取 16 写入命令
- 4.在"Offset"设定写入缓存器地址为 8192
- 5.在"Length"设定写入数量



VI. 指令地址配对

		Modbus_TCP_Sample.project* - SoMachine Logic Bu								
Edit View Project ETEST Build Online	Qebug Tools Window Help									
IN A X B B X M MIDI	1-15 100 100 ct	Fa 44 64 42 2 1 0 14	5.1 R R	Select All		• Logic Co	onfouration			
a construction of the second second		AD . A . A . A . A . A	1.1.4 -0							
						~				
vices tree 👻	7 X Ethernet_1	POU MyController	🕤 Ir	ndustrial_E	thernet_Manager	1.	peric_Hodbus	_TCP_Slave X		
	Modbus TCP Slave Config	aration Modbus TCP Channel Confe	auration Mod	busTCPSIa	ve I/O Mapping St	(1	bn			
	Chaopeis					L 1	1			
Modbus_TCP_Sample	Variable	Manajan Channel	Address	Tune	Default Value	Ilas	arctistian			
FdtConnections (FDT Connections)	variable	Mapping Channel	Address	type	Derault value	Unit L	rescription			
MyController (TM241CEC24T/U)	inputs	-(2)				Ir	put Channels			
🗱 DI (Digital Inputs)	≃ 19 RD_1	nnei 0	%IW7	WORD						
- 🙀 DQ (Digital Outputs)			%D(1	BOOL	FALSE					
Counters (Counters)	-19	Bit 1	%D(1	BOOL	FALSE					
- TLI Pulse_Generators (Pulse Generators)	- 19	Bit 2	%DX1	BOOL	FALSE					
Cartridge_1 (Cartridge)	- *9	Bit 3	%D(1	BOOL	FALSE					
10 Bus (IO bus - TM3)	- 10	Bit 4	%D(1	BOOL	FALSE					
(III COM Bus (COM bus)	- *9	Bit S	%DX1	BOOL	FALSE					
Ethernet 1 (Ethernet Network)	- *9	Bit 6	%D(1	BOOL	FALSE					
S III Industrial Ethernet Manager (Indu	etrial Ethy	Bit 7	%D(1	BOOL	FALSE					
Generic Module TCP Slave (G	americ Mc	Bit 8	%D(1	BOOL	FALSE					
# 10 Carial Line 1 (Carial Ine)	- 10	Bit 9	%D(1	BOOL	FALSE					
 March Line 2 (Secial line) 	- 10	Bit 10	%D(1	BOOL	FALSE					
(iii can a (canon bus)	- 10	Bit 11	56.TX1	8001	FALSE					
CAN_1 (CANOPER DUS)		Bit 12	%D(1	BOOL	FALSE					
	20	Bi+ 12	86.TV1	8001	EALCE					
		Bit 14	86.7V1	8000	ENICE					
			Ri Tici	8000	EAL CE					
	a ca chuir	- C - C - C - C - C - C - C - C - C - C	761/1	BOUL	PALSE		And Channels			
	Contraction of the second seco					0	ucput channels			
	= 9 WR_1		%QW2	WORD						
			%QX4.0	BOOL	FALSE					
		Bit 1	%QX4.1	BOOL	FALSE					
		Bit 2	%QX4.2	BOOL	FALSE					
		Bit 3	%QX(4.3	BOOL	FALSE					
	-**	Bit 4	%QX4.4	BOOL	FALSE					
	- 10	Bit S	%QX4.5	BOOL	FALSE					
	- 0	Bit 6	96QX4.6	BOOL	FALSE					
	- * 0	Bit 7	%QX4.7	BOOL	FALSE					
	-0	Bit 8	%QX5.0	BOOL	FALSE					
	- * 9	Bit 9	%QX5.1	BOOL	FALSE					
	- 9	Bit 10	%QX5.2	BOOL	FALSE					
		Bit 11	%QX5.3	BOOL	FALSE					
		Bit 12	\$6005.4	BOOL	FALSE					
		Bit 13	%03.5	BOOL	FALSE					
		Rit 14	\$6035.6	8001	FALSE					
		0.0.0	10000	0000	541.00					
	_									

1.选取"Modbus TCP Slave I/O Mapping"

2.在"Input"中建立输入 I/O 配对名称

3.在"Output"中建立输出 I/O 配对名称

备注:

- ※_{i□-GRID}**加**第一组 GFDI-RM01N ,缓存器地址1000(HEX)转成(DEC) 起始地址为 4096
- ※ ¡□-GRID**洲**第一组 GFDO-RM01N ,缓存器地址2000(HEX)转成(DEC) 起始地址为 8192



VII. 范例程序

以一组 GFDI-RM01N 以及一组 GFDO-RM01N 控制

当 DI 的第一个点收到讯号触发时, DO 的第一个点输出导通

