How to configure FC5A-D12% CPU as Modbus TCP Client (Master)



IP: 192.168.1.101

The purpose of the document is to show users how to configure IDEC Ethernet CPU FC5A-D12% as a Modbus TCP client (Master) and communicate with two Server (Slave) devices.

- 1. In WindLDR, click on *Configuration* tab → *Network Settings*
- 2. In this tutorial, we'll use the default settings for FC5A-D12% CPU
 - a. IP Address: 192.168.1.5
 - b. Subnet mask: 255.255.255.0

Key Matrix	IP Settings	IP Settings					
Device Settings Program Protection	 Obtain an IP address automatically (DHCP) Use special data registers to configure the IP address Use the following IP address: 						
Self Diagnostic	IP Address:	192.168.1.5					
Network Settings	Subnet mask:	255 . 255 . 255 . 0					
E-mail Settings Network Management	Default gateway:	0,0,0,0					



3. Click Connection Settings

4. Under Client Connections (No. 1), click and select *Modbus TCP Client (Master)*

Network Management	6	Unused	TCP	
Connection Settings	7	Unused	TCP	
Web Server	8	Unused	TCP	
	Client (Connections		
	No.	Communication Mode		
	1	Unused	TCP	
	2	Unused User Communication Client	TCP	
	3	Modbus TCP Client (Master)	TCP	
Default				OK Cancel

- 5. Modbus TCP Client (Master) dialog box appears.
- 6. Under Function Code (Req. No. 1), click and select 03 Read Holding Registers

Modbus T	Iodbus TCP Client (Master)									
Reques © Use	t Execution Device	Error Status -	Our Unuse Use a single DR for all communicatio			ation requests				
Req. No.	Function Code	Master Device Address	Data Size	Word/Bit	Remote Host No.	Slave Number (1 to 247)	Slave Address			
1	03 Read Holding Registers			Word	Select a remote host					
2										

7. Under Master Device Address, enter **D100** (the value coming from VFD Server #1 will be stored into this data register) and **1** for *Data Size*.

Modbus T	CP Client (Master)			-	and some second second		
Request Execution Device		Error Status	Error Status O Use Use a single DR for all communication			ation requests	
Req. No.	Function Code	Master Device Address	Data Size	Word/Bit	Remote Host No.	Slave Number (1 to 247)	Slave Address
1	03 Read Holding Registers	D0100	1	Word	Select a remote host		
2							

- 8. Under Remote Host No., click Select a remote host... and select New Remote Host...
- 9. Remote Host dialog box appears. Enter Server #1 IP address.
 - Note: In this tutorial, we'll use 192.168.1.101 for Server #1. Leave Port 502 as default.

Remote Host		8 >	3
Remote Host IP Address: Host name:	192 . 168 . 1 . 101		
Port: Comment:	502 -	Cancel]



- 10. Click **OK** button to close Remote Host dialog box.
- 11. Under Slave Number (1 to 247) select any number from 1 to 247 (Modbus TCP communications does not use Slave number to establish communication). In this tutorial, we'll enter **1**.
- 12. Under Slave Address, enter 400001 (this is the Modbus holding register of Server #1).

Modbus T	odbus TCP Client (Master)								
Reques © Use	t Execution Device	Error Status	Our Unuse Use a single DR for all communication re				ation requests		
Req. No.	Function Code	Master Device Address	Data Size	Word/Bit	Remote Host No.	Slave Number (1 to 247)	Slave Address		
1	03 Read Holding Registers	D0100	1	Word	1: 192.168.1.101 (502)	1	400001		
2	00 No Operation								

- 13. Next, we'll write data register D0 in the PLC to Server #2.
- 14. Under Function Code (Req. No. 2), click and select O6 Preset Single Register.

Modbus TCP Client (Master)									? ×	
F	leques DUse	t Execution Device	Error Status © Use		Onuse	use a single	e DR for all communi	cation requests		
	Req. No.	Function Code	Master Device Address	Data Size	Word/Bit	Remote Host No.	Slave Number (1 to 247)	Slave Address	Req. Execution Device	Error Status
	1	03 Read Holding Registers	D0100	1	Word	1: 192.168.1.101 (502)	1	400001		
	2	06 Preset Single Register		1	Word	Select a remote host				

- 15. Under Master Device Address, enter DO.
- 16. Under Remote Host No., click Select a remote host... and Select New Remote Host...
- 17. Remote Host dialog box appears. Enter Server #2 IP address. Click **OK** button.

Note: In this tutorial, we'll use 192.168.1.102 for Server #2. Leave Port 502 as default.

Rem	ote Host		8 23
F	Remote Host	192 . 168 . 1 . 102	
	Host name:		
	Port:	502 👻	
1	Comment:		
			OK Cancel

- 18. Under Slave Number (1 to 247) select any number from 1 to 247 (Modbus TCP communications does not use Slave number to establish communication). In this tutorial, we'll enter **1**.
- 19. Under Slave Address, enter **400002** (this the Modbus holding register where the value coming from D0 in the PLC will be stored).



Modbus T	odbus TCP Client (Master)							
Reques	t Execution Device Unuse	Error Status		Ounuse	Use a single [DR for all communic	ation requests	
Req. No.	Function Code	Master Device Address	Data Size	Word/Bit	Remote Host No.	Slave Number (1 to 247)	Slave Address	
1	03 Read Holding Registers	D0100	1	Word	1: 192.168.1.101 (502)	1	400001	
2	06 Preset Single Register	D0000	1	Word	2: 192.168.1.102 (502)	1	400002	
3	00 No Operation							

20. Click **OK** button to close Modbus TCP Client (Master) dialog box.

21. Click **OK** button to close Function Are Settings dialog box.

END

