A M.S. VC++ 6.0 Demo Program To Connect One WP-8xx7 by Modbus TCP Protocol

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This example shows a M.S. VC++ 6.0 program "PC_wpdmo78.exe" running on PC to connect one WP-8xx7 by Modbus TCP protocol. The connected WP-8xx7 runs one ISaGRAF program "wpdmo78". The WP-8xx7 setups its COM2: RS-485 as a Modbus RTU Master port to conect one M-7011D as the following figure.



Reference:

1. Please visit the following web site to get the "PC_wpdmo78.exe" and "wpdmo78.pia" www.icpdas.com > FAQ > Software > ISaGRAF > 118

2. Refer to Chapter 21 of the "ISaGRAF User 's manual" to get more description about linking the WP-8xx7 to M-7000 I/O modules.

3.Refer to Chapter 5 of the "ISaGRAF User 's manual" to get more description about Modbus protocol.

How to test?

Step 1: (Refer to Chapter 21 of the "ISaGRAF User 's manual")

PC runs the "DCON utility" to config the M-7011D. Set it as "Modbus RTU" protocol and ID (Address) as 1 and Baudrate as 9600 and set its Analog input type as "T/C K-Type" (Thermo-couple K-type). If you are using a different sensor (not T/C K-type), then set it as your type and modify the code in the "wpdmo78.pia" to fit the correct type.

Step 2:

Then connect the PC and WP-8xx7 and M-7011D as the above figure.

Step 3:

Download the "wpdmo78.pia" to the WP-8xx7 controller.

If you sre not familiar with ISaGRAF, please refer to the Chapter 9.5 of the "ISaGRAF User 's Manual" to restore the "wpdmo78.pia" to your PC / ISaGRAF. Then refer to the Chapter 2.1.5 to download this "wpdmo78.pia" to your WP-8xx7 (Please download it by Ethernet).

Note: The IP of PC and IP of WP-8xx7 must be in the same IP domain to communicate each other well. For ex., PC (IP = 192.168.1.3, mask = 255.255.255.0) can communicate with the WP-8xx7 (IP = 192.168.1.181, mask = 255.255.255.0) well . However PC (IP = 192.168.100.3, mask = 255.255.255.0) CAN NOT communicate with WP-8xx7 (IP = 192.168.1.181, mask = 55.255.255.0).

Step 4:

Open a command prompt window on PC. Then run "PC_wpdmo78.exe" to communicate with the WP-8xx7. You will see the below figure if it is connected well.

For ex., if the IP of the WP-8xx7 controller is 192.168.1.181, then enter the following command. PC_wpdmo78 192.168.1.181

C	a Tcp2 - PC_wpdmo78 192.168.1.181				
Þ	:\Temp\PC_wpdmo78\Release\PC_wpdmo78 192.168.1.181				
P	Press Ctrl+C to quit				
t	try to connect 192.168.1.181 connectted !				
l	M-7011D=1 A/I= 20.60 long_VAL= 7, float_VAL= 456.098 D/I=0]			

You may see the ISaGRAF debugger windows and found the long_VAL is increasing 1 per second. And if modify the float_VAL to a different value, the assocate value in the PC is changed.

Sagraf - WPDMO78:LIST1 - List of variables					
<u>File Edit Options H</u> elp					
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Name	Value	Comment			
AI_1	2070	Thermo-couple input of M-7011D, nettwork addr.=1			
DI_1	FALSE	D/l of M-7011D, network addr. = 101 (Hex=65)			
OK1	TRUE	comm. state of M-7011D, network addr. = 102 (Hex=66)			
DO_1	TRUE	D/O of M 71011D			
DO_2	TRUE	D/O o Write integer/real variable	×		
Long_VAL	310	netwo			
Float_VAL	456.098	netwo variable Float VAI			
year1	2010	randolo riod_ rite			
month1	1	Enter new value: 456 098			
day1	7		- 1		
hour1	19				
minute1	20	Write Lock Linlock Cancel			
second1	38		_		
<end list="" of=""></end>					