WFM-R14

Quick Start

Sep. 2015 Version 1.0

「 WFM-R14 」 Package Checklist



The package includes the following items:

- One WFM-R14 module
- One Quick Start
- One software utility CD
- One screw driver
- One RS-232 cable (CA-0910)
- One Antenna 2.4GHz - 5 dBi (ANT-124-05)

Note:

If any of these items are missed or damaged, contact the local distributors for more information. Save the shipping materials and cartons in case you want to ship in the future.

● Appearance and pin assignments

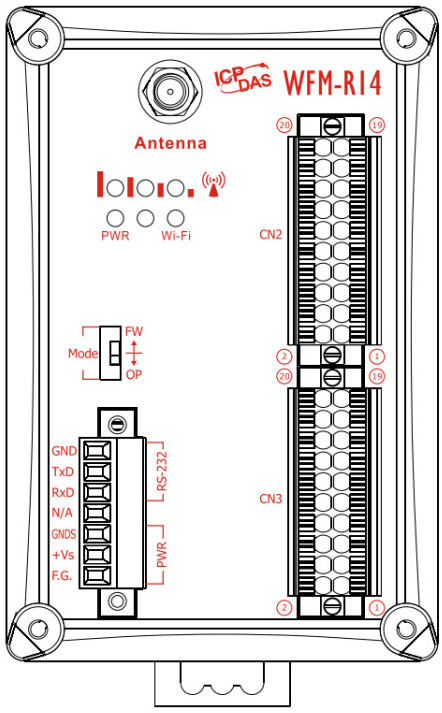


Figure 1: Appearance

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Pin Assignment			CN2		Pin Assignment	
	NO3	20		19	NO0	
	NC3	18		17	NC0	
	COM3	16		15	COM0	
	NO4	14		13	NO1	
Form C	NC4	12		11	NC1	Form C
	COM4	10		9	COM1	
	NO5	8		7	NO2	
	NC5	6		5	NC2	
	COM5	4		3	COM2	
Form A	COM12	2		1	NO12	Form A

Pin Assignment			CN3		Pin Assignment	
	NO9	20		19	NO6	
	NC9	18		17	NC6	
	COM9	16		15	COM6	
	NO10	14		13	NO7	
Form C	NC10	12		11	NC7	Form C
	COM10	10		9	COM7	
	NO11	8		7	NO8	
	NC11	6		5	NC8	
	COM11	4		3	COM8	
Form A	COM13	2		1	NO13	Form A

Figure 2: I/O Pin Assignment

Table 1: Power/Signal Connector

Power/Signal connector		
Pin Assignment	**Description**	
GND	RS-232	GND
RxD		RxD
TxD		TxD
N/A	Not used	
GNDS	Power GND	
+Vs	+10 ~ +30 VDC	
F.G	Frame Ground	

Table 2: Operating Mode Selector Switch

Operating Mode Selector Switch		
Mode	**Jumper Position**	**Description**
FW		Firmware update mode
OP		Firmware operation mode

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● Hardware Connection

Power and Serial port connection

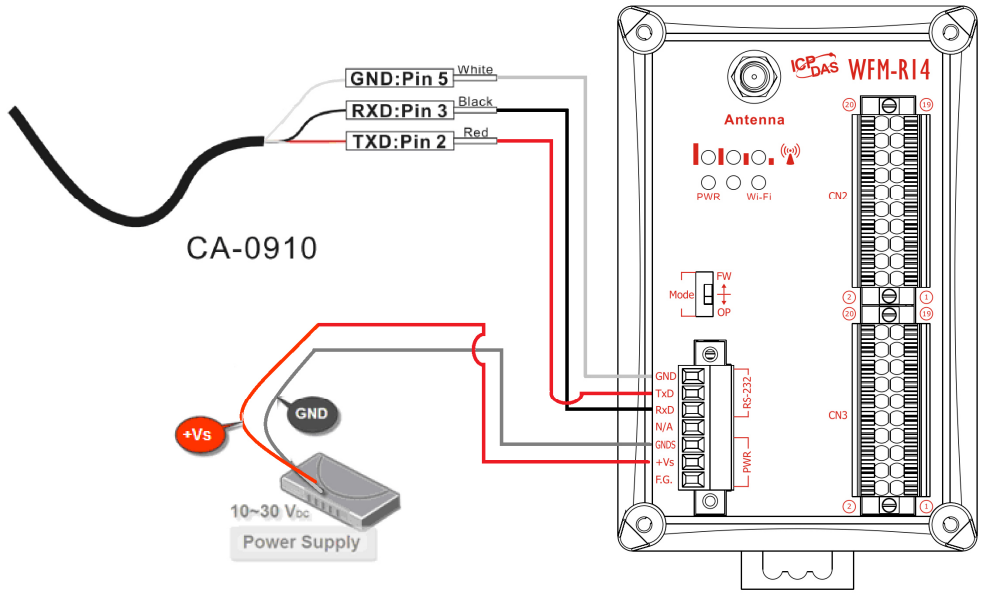


Figure 4**:** Power and Serial port wire connection

I/O connection

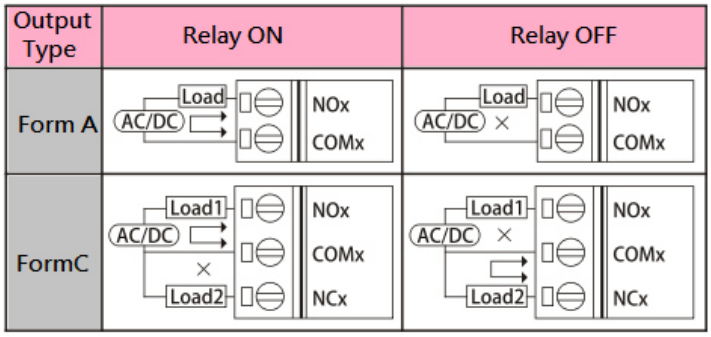


Figure 5**:** Relay wire connection

● Installation

Before use, associated hardware configuration, the steps described as follows：

Step 1: Checking the WFM series firmware operation mode

It needs to set the DIP switch to the "OP" position (operation mode), as resetting the power, WFM series will be in the operation mode.

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Step 2: Serial port connection

WFM series supports RS-232 serial communication. The circuit configuration is as shown in Figure 4.

If you do not need to configure parameters, this step can be omitted.

Step 3: Power connection

Connect the power supply to WFM series' power terminator, as shown in Figure 4.

WFM series connection setting

WFM Series Wireless Network Configuration

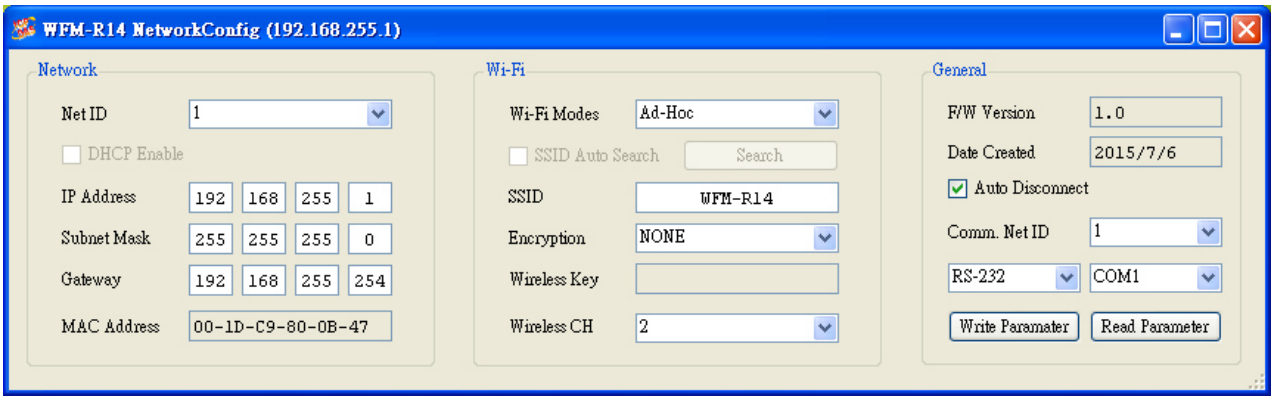


Figure 6: Wi-Fi Configuration

01、Net ID ：The Unit Identifier in Modbus TCP/IP application data unit. This case is set as "1".
02、IP Address: WFM series' IP address. Here set to "192.168.255.1".
03、Subnet Mask ：Net Mask settings. Here set to "255. 255. 255.0".
04、Gateway ：Gateway settings. Here set to "192.168.255.254".
05、Wi-Fi Mode ：Wireless network connection mode settings. Here set to "Ad-Hoc" mode. (If select the "AP" mode, wireless AP devices is needed.)
06、SSID ：Service set identifier. Here set to "WFM-R14".
07、Encryption : Encryption mode settings. Here set "NONE" (without encryption).

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08、Wireless Key ：Wireless encryption Key. Here does not have the setting.
09、Wireless CH ：Wi-Fi connection channel settings. Here set to "2".
10、Upload parameters : After completing the settings above, select the "RS-232" interface, communication "Net ID" and "COM Num". Press "Write Parameter" button to upload the parameters.

PC Wireless Network Configuration and Connection

01、TCP/IP Setting ：

a. Entry the **IP address** as "192.168.255.x", where "x" is a number between 1 and 254 **except 1**, **Subnet mask** as "255.255.255. 0". Finally, press "OK" button.

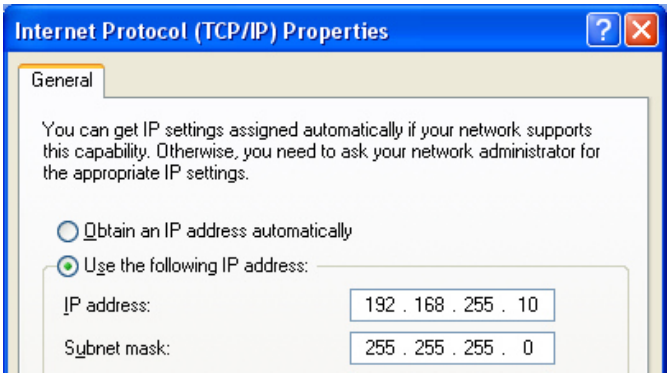


Figure 7**:** IP address configuration interface

02、Wireless network connection ：

a. View available wireless networks and you can see the "WFM-R14" wireless network in the list.
b. Select the " WFM-R14" and press the "Connect" button.
c. After waiting for a while, there will appear connection success screen.

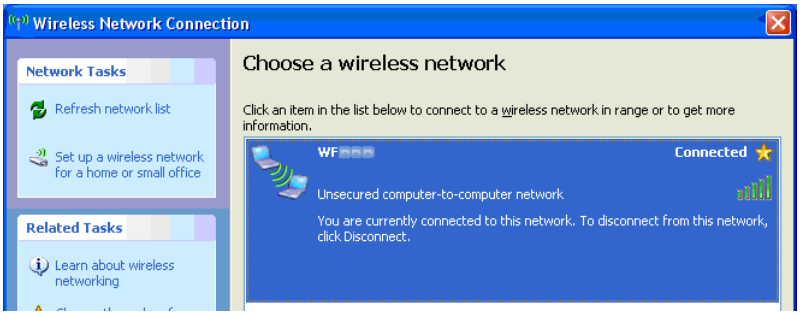


Figure8**:** Connection successful interface

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Access I/O data

01、Connection with Modbus TCP utility

a. Open Modbus TCP utility and key in the IP address as "192.168.255.1", Port as "502". Finally, click the "Connect" button.

b. If the network settings are correct, this will immediately establish a connection.

c. Use the function code "0x01", and set the Reference Number as "0x00", Bit Count as "0x0E" to get the 14 CHs DO value.

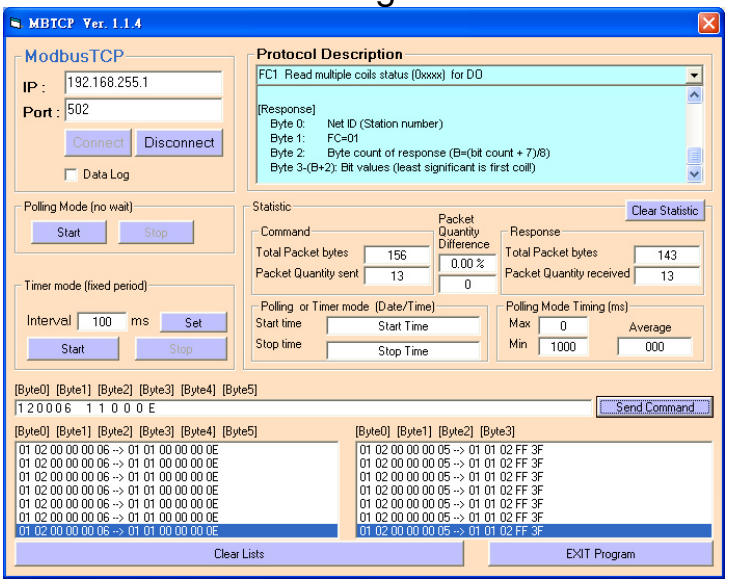


Figure 9**:** Read multiple coils status for DO

d. Use the function code "0x0F", and set the Reference Number as "0x00", Bit Count as "0x0E", Byte Count as "0x02" to force multiple coils for 14 CHs DO.

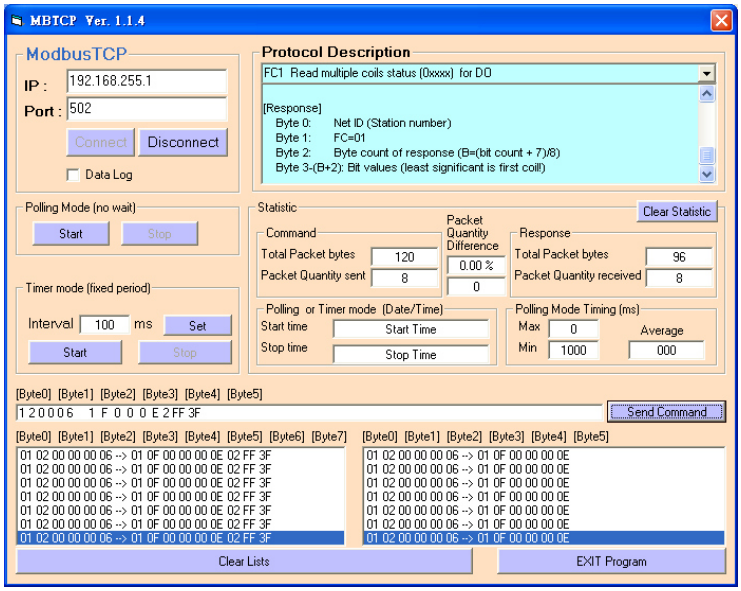


Figure 10**:** Force multiple coils for DO

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WFM-R14 I/O Address Mapping

Table 1: (0xxxx) DO address

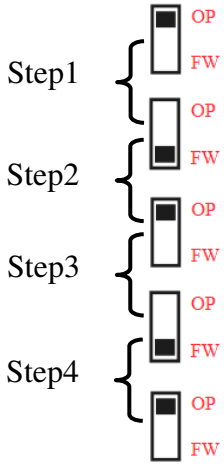
Begin Address	Points	Descriptions	Range	Access Type
00001 (0x00)	1~14	Digital Output	0=OFF, 1=ON	R/W

Table 2: (4xxxx) AO address

Begin Address	Points	Descriptions	Range	Access Type
40248 (0xF7)	1	Reset System	1= Reset System 247= Restore to Factory Default Settings	W

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Troubleshooting

Item	Problem Description	Solution
1	Power Failure (PWR LED Off)	1. Please return to the ICP DAS for inspection and repair
2	WLAN connection can not be established	1. Make sure that the service set identifier device (SSID) settings are the same. 2. Make sure Wi-Fi transmission Channel settings are the same. 3. Make sure encryption is set, encryption keys are the same way 4. Make sure antenna is connected 5. Please confirm whether there are barriers on the scene. That could result in poor signal quality.
3	TCP connection can not be established	1. Make sure WLAN connection is established successfully 2. Make sure the network configuration is good (TCP / IP Port, Local IP, Net Mask)
4	How to restore factory default  	1. Power on the WFM series I/O module 2. Change the Dip-Switch position of the WFM series and to complete the following steps in 5 seconds. Step1. From “OP” to “FW” position. Step2. From “FW” to “OP” position. Step3. From “OP” to “FW” position. Step4. From “FW” to “OP” position. 3. When the correct implementation of the above steps, the Signal Strength LEDs and PWR/Wi-Fi LEDS of the WFM series should be turn on, and that should be turn off after 500 ms later. 4. Reset the power the WFM series would back to factory defaults.

● Technical Support

If you have problems about using the WFM series I/O module, please contact ICP DAS Product Support.

Email: service@icpdas.com

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