

# **Quick Start**

#### Nov. 2013 Version 1.0

### 「WF-2017」Package Checklist

The package includes the following items:

- One WF-2017 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

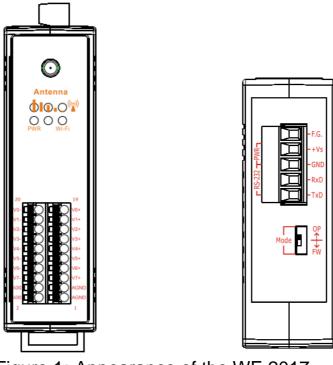


Figure 1: Appearance of the WF-2017

Pin Assignment N	Terminal No.		Pin Assignment Name		
V0-/V8+	20			19	V0+
V1-/V9+	18			17	V1+
V2-/V10+	16			15	V2+
V3-/V11+	14			13	V3+
V4-/V12+	12			11	V4+
V5-/V13+	10			9	V5+
V6-/V14+	8			7	V6+
V7-/V15+	6			5	V7+
AGND	4			3	AGND
AGND	2			1	AGND

Figure 2: I/O Connector of WF-2017

#### Table 1: Power/Signal Connector

Power/Signal connector				
Pin Assignment	Description			
F.G	Frame Ground			
+Vs	+10 ~ +30 VDC			
GND	Power / RS-232 GND			
RxD	RS-232 RxD			
TxD	RS-232 TxD			

#### **Operating Mode Selector Switch**

*FW mode:* Firmware update mode

OP mode: Firmware operation mode

## Hardware Connection

#### Power and Serial port connection

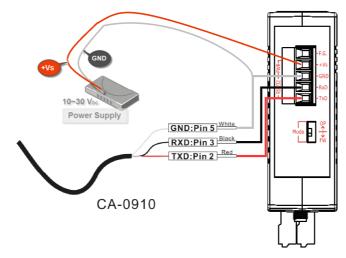


Figure 4: Power and Serial port wire connection

### I/O connection

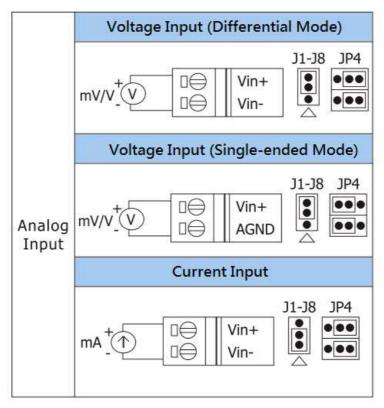


Figure 5: Wire connections

## • Installation

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

#### Step 1: Checking the WF-2000 series firmware operation mode

It needs to set the DIP switch to the "OP" position (operation mode), as resetting the power, WF-2000 series will be in the operation mode.

#### **Step 2: Serial port connection**

WF-2000 series supports RS-232 serial communication. The circuit configuration is as shown in Figure 4.

If you do not need parameter setting, this step can be omitted.

#### **Step 3: Power connection**

Connect the power supply to WF-2000 series' power terminator, as shown in Figure 4.

### WF-2000 series connection setting

#### **WF-2000 Series Wireless Network Configuration**

letwork					Wi-Fi			General	
Net ID	1			×	Wi-Fi Modes	Ad-Hoc	>	F/W Version	1.0
DHCF Enab	le				🛄 SSID Auto Se	such Se	arch	Date Created	2013/11/12
IP Address	192	168	255	1	SSID	WF-20	17	📝 Auto Disconne	ct
Subnet Mask	255	255	255	0	Encryption	NONE	×	Comm. Net ID	1 🔹
Gateway	192	168	255	254	Wireless Key			RS-232 -	СОМ1 -
MAC Address	00-1	D-C9-	01-99-	-99	Wireless CH	2	•	Write Paramater	Read Parameter

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: WF-2000 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 "WF-2017".
- 07 Encryption : Encryption mode settings. Here set "NONE" (without encryption).
- 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 Vpload 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.

Internet Protocol (TCP/IP) Properties 🛛 🛛 🔀					
General					
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.					
O Obtain an IP address automatically					
O Use the following IP address:					
IP address:	192 . 168 . 255 . 10				
Subnet mask: 255 . 255 . 0					
Default gateway:					

Figure 7: IP address configuration interface

02 • Wireless network connection :

- a. View available wireless networks and you can see the "WF-2017" wireless network in the list.
- b. Select the "WF-2017" and press the "Connect" button.
- c. After waiting for a while, there will appear connection success screen.

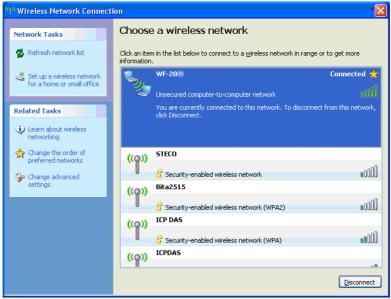


Figure8: Connection successful interface

#### 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, press the "Connect" button.
- b. If the network settings are correct, this will immediately establish a connection.
- c. Use the function code "0x04", and set the Reference Number as "0x00", Word Count as "0x11" to get the AI value.

MBTCP Ver. 1.1.4					
- ModbusTCP	Protocol Description				
ID 192,168,255,1	FC4 Read multiple input registers (3xxxx) f	or Al 👻			
IF .	[Prefixed 6 bytes of Modbus/TCP protocol				
Port : 502	Byte 0: Transaction identifier - copied b Byte 1: Transaction identifier - copied b				
Connect Disconnect	Byte 2: Protocol identifier=0	y conversion accounty of			
	Byte 3: Protocol identifier=0 Byte 4: Length field (upper byte)=0				
🗖 Data Log	Byte 4. Length field (apper byte)-e				
Polling Mode (no wait)	Statistic	Clear Statistic			
Start Stop	Command Quan				
	Total Packet bytes 348	I otal Packet hytes 1000			
	Packet Quantity sent 29	Packet Quantity received 29			
Timer mode (fixed period)					
Interval 100 ms Set	Polling or Timer mode (Date/Time) Start time Start Time	Polling Mode Timing (ms)			
Start Stop	Chan time	- Min 1000 Average			
StartStop	Stop Time				
[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byt	e51				
120006 1 4 0 0 0 11	co1	Send Command			
[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byt	e5] [Byte0] [Byte1] [Byte2	2] [Byte3]			
01 02 00 00 00 06> 01 04 00 00 00 11		04 00 04 00 04 00 04 00 04 00 04 00			
01 02 00 00 00 06 -> 01 04 00 00 00 11 01 02 00 00 00 06 -> 01 04 00 00 00 11		04 00 04 00 05 00 04 00 05 00 04 00 01			
01 02 00 00 00 06> 01 04 00 00 00 11	01 02 00 00 00 25>	01 02 00 00 00 25> 01 04 22 00 04 00 04 00 04 00 04 00			
01 02 00 00 00 06 -> 01 04 00 00 00 11		05 00 04 00 05 00 04 00 04 00 04 00 04 00 04 00 04 00 04 00 04 00 04 00 =			
		01			
Clear	Lists	EXIT Program			

Figure 9: Analog Input reading screen

### WF-2017 AI Address Mapping

Table 2: (3xxxx) AI address

Begin Address	Points	Descriptions	Range	Access Type
30001	0~15	Analog Input	-32768 ~ +32767	R
(0x0)	0 10			
20015			0 ~ 1	
30017	1	AI Wire Select	0 => Differential	R
(0x10)			1 => Single-Ended	

Troubleshooting					
ltem	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	<ol> <li>Make sure that the service set identifier device (SSID) settings are the same.</li> <li>Make sure Wi-Fi transmission Channel settings are the same.</li> <li>Make sure encryption is set, encryption keys are the same way</li> <li>Make sure antenna is connected</li> <li>Please confirm whether there are barriers on the scene. That could result in poor signal quality.</li> </ol>			
3	TCP connection can not be established	<ol> <li>Make sure WLAN connection is established successfully</li> <li>Make sure the network configuration is good (TCP / IP Port, Local IP, Net Mask)</li> </ol>			
4	How to restore factory default	<ol> <li>Power on the WF-2000 series I/O module</li> <li>Change the Dip-Switch position of the WF-2000 series and to complete the following steps in 5 seconds.</li> <li>Step1. From "OP" to "FW" position.</li> <li>Step2. From "FW" to "OP" position.</li> <li>Step3. From "OP" to "FW" position.</li> <li>Step4. From "FW" to "OP" position.</li> <li>When the correct implementation of the above steps, the Signal Strength LEDs and PWR/Wi-Fi LEDS of the WF-2000 series should be turn on, and that should be turn off after 500 ms later.</li> <li>Reset the power the WF-2000 series would back to factory defaults.</li> </ol>			

## • Technical Support

If you have problems about using the WF-2000 series I/O module, please contact ICP DAS Product Support.

Email: service@icpdas.com