# ARIO Utility User's Manual RS-485 Remote I/O Configuration Utility

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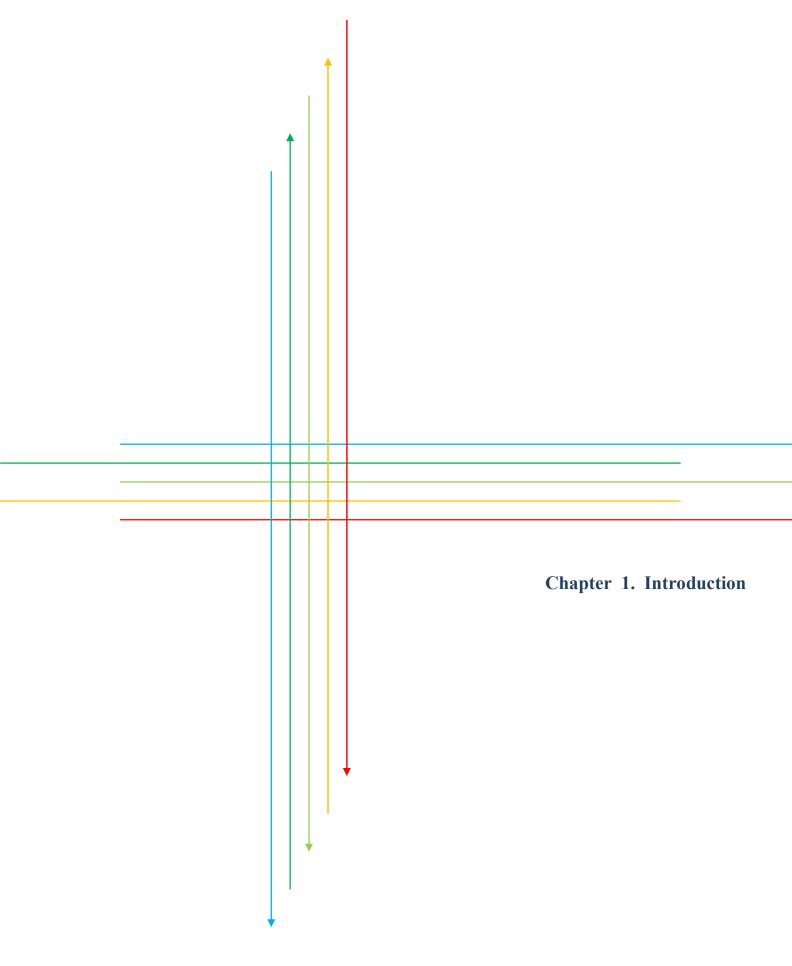
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# 1.1 Utility Overview

Welcome to use Wolf series module configuration utility. This utility is provided for Wolf series remote I/O module using RS-485 to configure the I/O configuration. Wolf series remote I/O module provides 7 kinds of control mode: analog input, output, analog input/output, digital input, output, digital input/output and relay etc. The protocol used in-between host and modules is Modbus/RTU. A great variety of baud rates (1200, 2400, 4800, 9600, 19.2k, 38.4k, 57.6k and 115.2k) are also available for user to select appropriate transmission rate.

	File He	lp			
	Start Ad	Idress 1	End Address 247 🜲	Total Device Number 0	
COM COM15	~		erial Dat Type	Description	
Baud Rate	57600 🗌 3	8400 🗌 19200			
	AROO 2 Basic Configuration		Host Watchdog Module Error Status		
		Modbus R TU 🗸 CR	nware Version 1.7 C 5C02		
FIOCOCOI	Address Baud Rate	1 *	DI Configuration		
	Serial Data Format	DI Value DI Latch DI Counter Current DI Value			
	Delay Time	CH0: OFF CH8: OFF		DO Configuration – 🗆 X	
Read Timeout		CH1: OFF CH9: OFF	DO Value Power On Value Safe Value		
OK		CH2: ON CH10: OFF	Current DO Value		
		CH3: OFF CH11: OFF	CH0: OFF CH8: OFF CH1: OFF CH9: OFF	AI CIC	
	Set Module Confi	CH4: OFF CH12: OFF	CH2: OFF CH10: OFF	✓ CH:00 7FFF[10]Y [Upper Limit] [0106] +/- 10 ∀	
_	Save Configuratio	CH5: OFF CH13: OFF	CH3: OFF CH11: OFF	☑ CH.01 7FFF[10]V [Upper Limit] [0106] +/- 10 V	
	save Comiguan	CH6: OFF CH14: OFF	CH4: OFF CH12: ON	✓ CH:02 7FFF[10]Y [Upper Limit] [0106] +/- 10 V ∨	
		CH7: OFF CH15: OFF	CH5: OFF CH13: ON	CH:03 7FFF[10]7 [Upper Limit] [0106] +/-10 ∀	
			CH6: OFF CH14: ON		
			CH7: OFF CH15: ON	✓ CH:06 7FFF[10]∀ [Upper Limit] [0106] +/- 10 ∀ ∨	
				✓ CH:07 7FFF[10]∀ [Upper Limit] [0106] +/- 10 ∀ ∨	
				Set As CH:00	
					Egit
				[2016/3/28 下午 05:22:30]Success==>Set Channel Enabled	

#### **1.2 Power Requirement**

In addition to prepare Wolf series module, you need to prepare a DC power supply range from +10 to +60V for module before using this utility.

#### 1.3 RS-485 Network Connections

This utility uses RS-485 as network connection. If your PC is not equipped the RS-485 communication port, you need a USB to RS-485 converter or RS-232 to RS-485 converter. Please refer to module user manual for more details about building the system architecture.

## 1.4 Setup and Use

#### 1.4.1 Power Supply and RS-485 Network Connections

When you have the Wolf series module, power supply, and RS-485 communication port ready. Please following the instruction of module user's manual to connect power supply and network. After that, you can start to use this utility to configure and test the functionality of module.

#### 1.4.2 Module Address Setup and Default Communication Configuration

After connecting the power supply and network, the first step is to setup module address for each module. Please note that the address of connected module on the same RS-485 port is not replicable. Please refer to chapter 2.1.10 of module manual for setup procedures. The factory default baud rate setting of module is 9600bps, and the default parity, data bits, and stop bit format is N, 8, 1. The baud rate range is from 1200bps to 115.2Kbps. The parity, data bits, and stop bit format is N, 8, 1, N, 8, 2, E, 8, 1, or O, 8, 1. If you forgot the configuration that you have configured, you can revert to factor default setting by following the instruction of module manual. Please refer to chapter 2.1.11 of module manual for operating procedures.

#### 1.4.3 Setup Host PC Communication Port

Then run this utility on PC workstation, the following main screen will appear:

Tool button area ───►	File Help	s 1 🔹	End A	ddress 247	) (°)		Te	otal Device Number	0
Module list	Module Name	12022	Baud Rate	Serial Dat		Description			

This utility will get all usable COM port, please click com port setting to

select a correct COM port:

	File Help			
Click	Start Address	End Address 247 💼	Total Dev	ice Number 0
	Module Name Address B	aud Rate Serial Dat Type Description		
Select 0	COM port	☑ 9600	38400 □ 19200 2400 □ 1200 Ξ,8,1 □ 0,8,1	Cancel

#### 1.4.4 Search Module

After the module has been connected and the COM port has been configured, you might use following default search condition to search module (If you forgot the module setting, you can select all condition, but it will extend the search time) :

#### 1. Communication parameter

	COM COM15	~			
	Baud Rate	57600	<mark>□ 38400</mark>	☐ 19200	
Select baud	🗕 🗹 9600	4800	2400	1200	
rate	Serial Data F	ormat			
	✓ N,8,1	□ N,8,2	E,8,1	0,8,1	
Select parity setting	Protocol	RTU			
	Read Timeou 100 OK	it 主 ms			Cancel

## 2. Address Range

Select address range (If you forgot module setting, you can choose 1 to 247,

but it will extend the search time).

	File Help				
Select module			👬 💥 🙆		
address range	Start Address	s 1 🔹 End	Address 247 🜻		Total Device Number 0
	•/	**********	***************************************		
	Module Name	Address Baud Rate	Serial Dat Type	Description	
Start search					

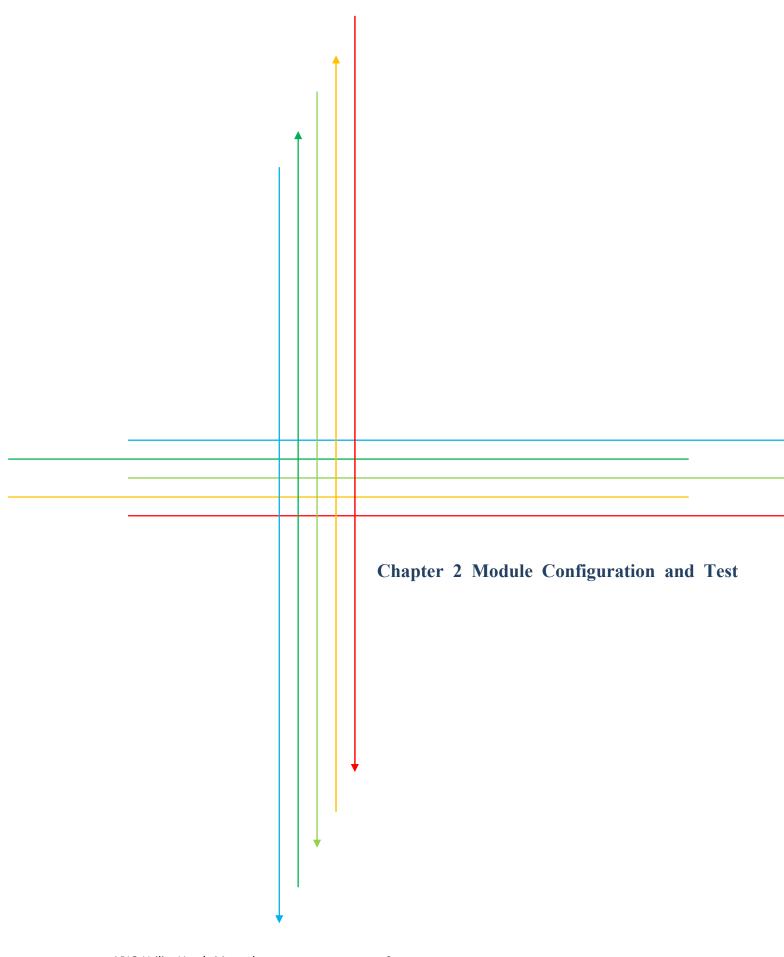
The result of search module is as below:

op search _	File Help			*		
	Start Addres	12	-	ddress 241		Total Device Number 1
	Module Name W-M1B103	Address 2[02h]	Baud Rate 9600	Serial Dat N,8,1	Type Remote	Description [Modbus R TU]8-channel Universal Analog Input Module
dule list						
	COM:16   Serial I	Data Forma	t [N,8,1]   Add	dress:13[0Dh]	Baud Rate	:9600

#### 1.4.5 Guideline for Failure to Find Module

If there are any modules that are connected on the same RS-485 port and are unable to be found, please examine the following case:

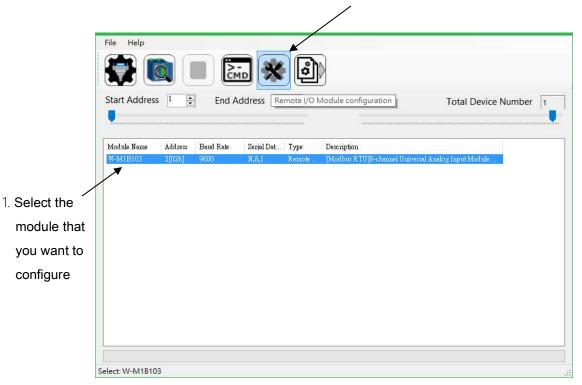
- 1. Please check if module is connected on the same RS-485 port, please check the cable if it is not connected.
- 2. Whether the cable is connected correctly? Whether the wire is broken or not?
- 3. Whether the connection distance is too long (Which is also related to cable characteristics of RS-485) or excessive module number. Please try to decrease the baud rate or add a repeater. And you can only connect maximum of 32 modules in the same segment, you need to use repeater if module number exceeds.
- 4. Communication configuration might not include setting of partial modules. Please try to select all configuration and search module again, although utility might spend a lot of time to search, please be patient and wait for a while.
- 5. If none of above is the correct case, please initialize the module to factory default, and try to search it again.
- 6. If problem still cannot be resolved, it could be malfunction of module. Please follow the instruction of module user manual.



## 2.1 Module Configuration

In the list of modules, click the module that you are going to configure, and then

click the "Remote I/O Module Configuration" button to configure module.



2. Click "Remote I/O Module Configuration" button

#### 2.1.1 Basic Configuration

After entering the module configuration window, you can see there are 4 tab pages of configurable configuration. They will be further explained in the following section. First, let's see the basic configuration:

	Basic Configuration	Specific Configuration	n IO Setting Host Watch	dog Module Error Status	
	Module Name	W-M1B103	Firmware Version	1.7	
	Protocol	Modbus R TU	CRC	5C02	
	Address	1	<b>A</b>		
	Baud Rate	9600	~		
	Serial Data Format	N,8,1-None Parity	~		
	Delay Time	0	ms		
After change is					
done, click this					
button to apply					
new setting.	X Set Module Confi	guration			
	Save Configuration	on File Loa	Configuration File		Exit

**※** After setting is done in this tab, user must power off and then power on

module for taking effect of new configuration.

## 2.1.2 Specific Configuration

Each module has some specific parameter setting, please refer to module manual

for more details.

Digital Input Module: Invert DI State

	Basic Configuration Specific Configuration IO Setting Host Watchdog
	Invert DI State
After change is	
done, click this	
button to apply	Set Module Configuration
new setting.	Exit

Digital Output Module: Invert DO State

	Basic Configuration Specific Configuration IO Setting Host Watchdog	
	□ Invert DO State	
After change is		
done, click this	Set Module Configuration	
button to apply		Exit
new setting.		.:i

Analog Input/Output Module: Set the data format of module to be 2's complement hexadecimal or engineering format.

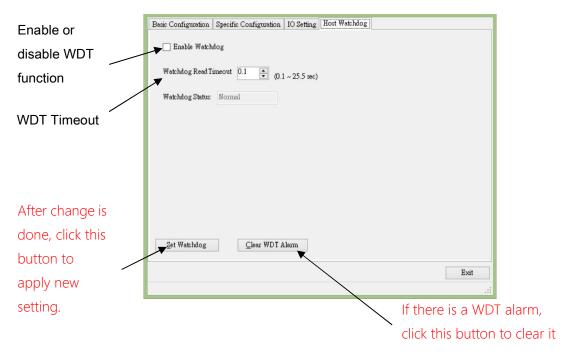
	Basic Configuration Specific Configuration IO Setting Host Watchdog
	Data Format       2's Complement Format       Pagineering Format
After change is	
done, click this	Set Module Configuration
button to apply	Exit
new setting.	É.

#### 2.1.3 Watchdog

Host watchdog is software monitoring the operation status of system, its purpose is to provide immediate counter-measure when erroneous network,

communication or breakdown occur. Once time-out occurs, the module will reset

all outputs to configured SAFE mode.



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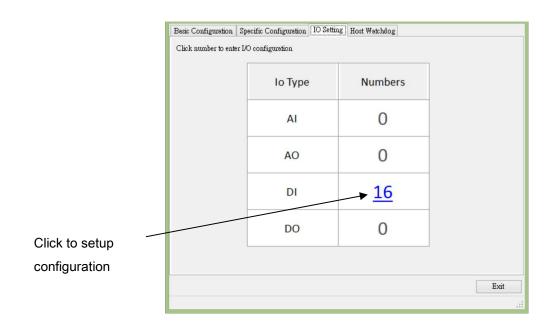
#### 2.1.4 Module Error Status

Display EEPROM status and the communication status between master board and slave board. The module error status indicates if any error occurs.

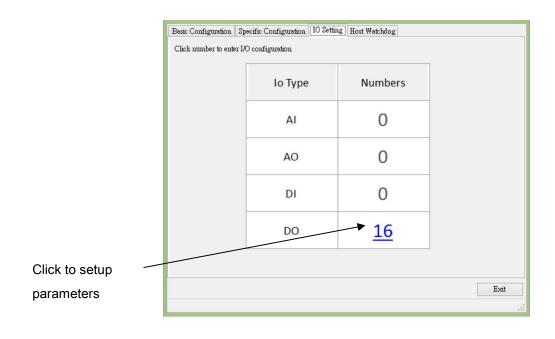
asic Configuration   S	pecific Configuration			
Module Error Status	Normal/Abnormal Normal	Sta	tus	
EEPROM	Normal	No	Error	
	Normal		Error	
Master/Slave	Normar			
Save Configuration		onfiguratio		Exit

## 2.2 Module IO Setting

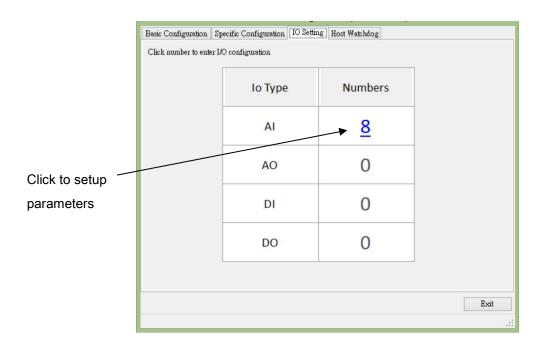
When module has Digital Input channels, DI will show numbers, and it can be clicked.



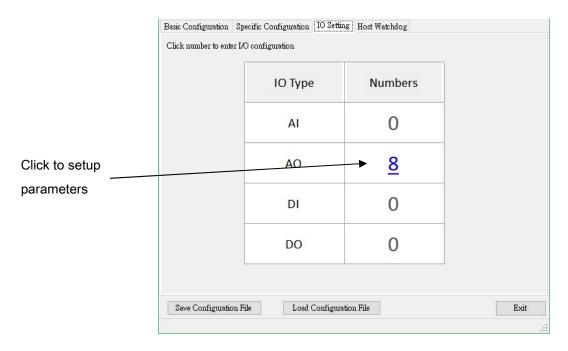
When module has Digital Output channels, DO will show numbers, and it can be clicked.



When module has Analog Input channels, AI will show numbers, and it can be clicked.



When module has Analog Output channels, AO will show numbers, and it can be clicked.



## 2.2.1 Analog Input channel setting and test

After entering the AI configuration window, you can setup AI channel configuration and Temperature/CJC (Cold Junction Compensation) configuration:

	AI CJC	:				
	CH:00	0000 [+000.00000]	[0106] +/- 10 ₹	~		
	CH:01	0000 [+000.00000]	[0106] +/- 10 ₹	~		
	CH:02	0000 [+000.00000]	[0106] +/- 10 ¥	~		
	CH:03	5000 [+000.00000]	[0106] +/- 10 ₹	~		
	CH:04	0000 [+000.00000]	[0106] +/- 10 ₹	~		
	CH:05	0000 [+000.00000]	[0106] +/- 10 ¥	~		
Al reading	CH:06	0000 [+000.00000]	[0106] +/- 10 ¥	~		
Arreading	CH:07	0000 [1000.00000]	[0106] +/- 10 ₹	~		
	/					
Channel Type						
Code	Set As CH 00					
Coue						
						Exit
	[2016/3/28	下午 05:21:11]Succ	ess==>Get All Ch	annel Enabled		

	AI CJC			
	CH:00	7FFF[10]V [Upper Limit]	[0106] +/- 10 V 🗸 🗸	
	CH:01	7FFF[10]V [Upper Limit]	[0106] +/- 10 V 🗸 🗸	
	CH:02	7FFF[10]V [Upper Limit]	[0106] +/- 10 V 🗸 🗸	
	CH:03	7FFF[10]V [Upper Limit]	[0106] +/- 10 V 🗸 🗸	
	CH:04	7FFF[10]V [Upper Limit]	[0106] +/- 10 V 🗸 🗸	
	CH:05	7FFF[10]V [Upper Limit]	[0106] +/- 10 V 🗸 🗸	
	CH:06	7FFF[10]V [Upper Limit]	[0106] +/- 10 V 🗸 🗸	
	[CH:07]	7FFF[10]V [Upper Limit]	[0106] +/- 10 V 🗸 🗸	
Set channel type	<b>a</b>			
and of all abannal an	Set As CH	:00		
code of all channel as				Exit
channel 0	[2016/3/28	下午 05:22:30]Success==	=>Set Channel Enabled	
	Harrison and Annual			

## **Temperature/CJC Configuration:**

			Temperature Offset (	°C) CJ0	C Offset (°C)	✓		Temperature Offset (°C)	CJC Offset (°C)
CH:00	7FFF[10]V [	Exceed]	0.00		0.00	CH:08	7FFF[10]V [Exceed]	0.00	0.00
CH:01	7FFF[10]V [	Exceed]	0.00		0.00	CH:09	7FFF[10]V [Exceed]	0.00	0.00
CH:02	7FFF[10]V [	Exceed]	0.00		0.00	CH:10	7FFF[10]V [Exceed]	0.00	0.00
CH:03	7FFF[10]V [	Exceed]	0.00		0.00	CH:11	7FFF[10]V [Exceed]	0.00	0.00
CH:04	7FFF[10]V [	Exceed]	0.00		0.00	CH:12	7FFF[10]V [Exceed]	0.00	0.00
CH:05	7FFF[10]V [	Exceed]	0.00		0.00	CH:13	7FFF[10]V [Exceed]	0.00	0.00
CH:06	7FFF[10]V [	Exceed]	0.00		0.00	CH:14	7FFF[10]V [Exceed]	0.00	0.00
CH:07	7FFF[10]V [	Exceed]	0.00		0.00	CH:15	7FFF[10]V [Exceed]	0.00	0.00
Enable CJC CJC Total Offset 0.00 CJC Value 24.34 CJC Value (Slave Board) 24.76 CJC Value 24.34 CJC Value (Slave Board) 24.76 CJC Value 24.34 CJC VALUE 24.34 CJ									
					<				E>

Enable CJC offset function.

Current CJC temperature

TC temperature reading will

be adjusted by CJC offset

# 2.2.2 Analog Output Channel

## AO:

						AO output value is displayed in
					/	hexadecimal format or decimal format
	AO	AO Power On Value	AO Safe Value		-	
				Hexadecimal	OutputAll	
			Settling Time	Output Value	1	Read Back Value
Click to output	CH:00	[1101] 0 ~ 10 V 🔍		0.000	1.00	0000 [0.000] Y
	CH:01	[1101] 0 ~ 10 V ~	, 0.00	0.000	Output	V [0000 0000] V
value	CH:02	[1101] 0 ~ 10 V 🔍	, 0.00	0.000	Output	0000 [0.000] V
	CH:03	[1101] 0 ~ 10 V 🕓	, 0.00	0.000	Output	V [0000 [0.000] V
	CH:04	[1101] 0 ~ 10 ¥ ~	, 0.00	0.000	Output	0000 [0.000] ¥
	CH:05	[1101] 0 ~ 10 V 📃 🗸	, 0.00	0.000	Output	V [000.0] V
Set channel	CH:06	[1101] 0 ~ 10 V 👘 🗸	, 0.00	0.000	Output	V [0000 [0.000] W
oot onannoi	CH:07	[1101] 0 ~ 10 ¥ 🔍	, 0.00	0.000	Output	0000 [0.000] V
type code of						
all channel						
	Set à	s CH:00				
as channel 0	DOLA	0.011.00				
						Exit
						.::

AO Power on Value:

AO	AO Power On Value	AO Safe Value		
			Hexadecimal	
		Settling Time		
CH:00	[1101] 0 ~ 10 ₹	0.00	0.000	
CH:01	[1101] 0 ~ 10 V	0.00	0.000	]
CH:02	[1101] 0 ~ 10 V	0.00	0.000	
CH:03	[1101] 0 ~ 10 ₹	0.00	0.000	
CH:04	[1101] 0 ~ 10 V	0.00	0.000	3
CH:05	[1101] 0 ~ 10 V	0.00	0.000	
CH:06	[1101] 0 ~ 10 V	0.00	0.000	9
CH:07	[1101] 0 ~ 10 V	0.00	0.000	8
<b>G</b> 1 A	s CH:00			
Set A	SCH:00			

## AO Safe Value:

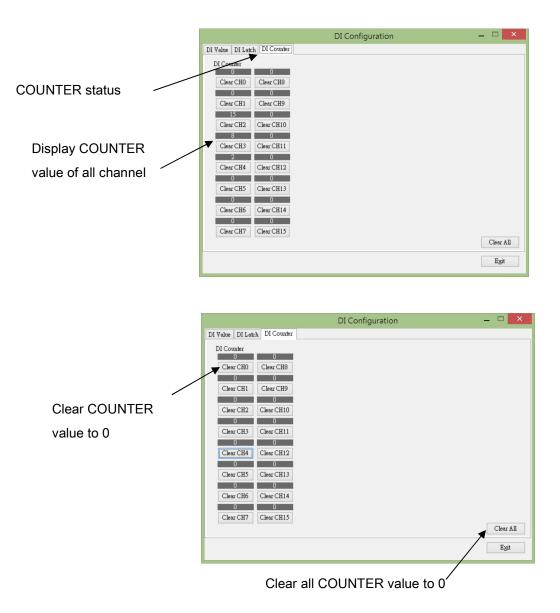
AO	AO Power On Value		AO Safe V	alue		
					Hexade	cimal
			Settling		Output Val	
CH:00	[1101] 0 ~ 10 ₹	~	0.00	*	0.000	•
CH:01	[1101] 0 ~ 10 V	×	0.00	*	0.000	-
CH:02	[1101] 0 ~ 10 ₹	~	0.00	*	0.000	<b>•</b>
CH:03	[1101] 0 ~ 10 ₹	~	0.00	*	0.000	-
CH:04	[1101] 0 ~ 10 ₹	~	0.00	*	0.000	<b>•</b>
CH:05	[1101] 0 ~ 10 V	$\sim$	0.00	*	0.000	-
CH:06	[1101] 0 ~ 10 ₹	~	0.00	*	0.000	<b>•</b>
CH:07	[1101] 0 ~ 10 V	×	0.00	*	0.000	<b></b>
Sat 4	s CH:00					
Dern	301.00					

#### 2.2.3 Digital Input Channel Test

After entering digital input configuration, you can test DI on/off status, latch

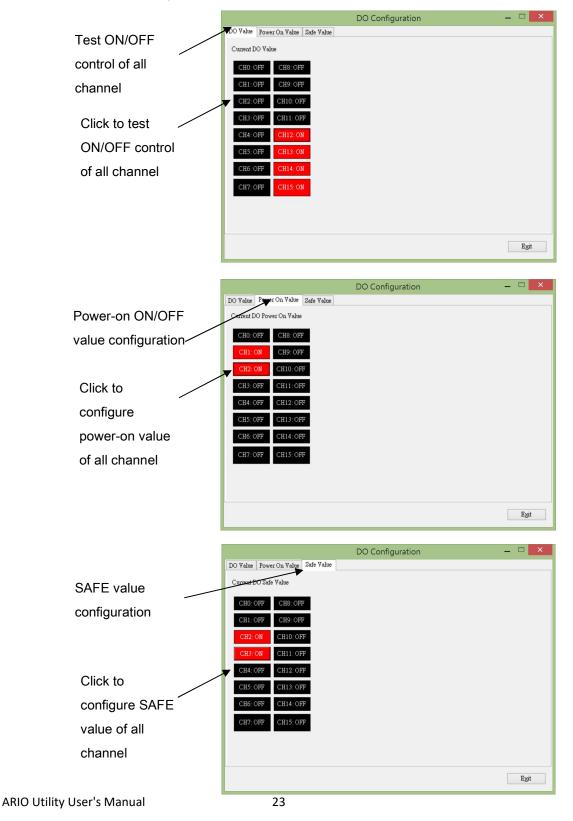
status, and counter function.





#### 2.2.4 Digital Output Channel Configuration

After entering DO (digital output) configuration, you can test DO on/off, and configure power on value and safe value (which takes effect when host watchdog timeout has occurred).



## **2.3 Safe/Load Module Configuration File**

Module configuration can be save to file for backup or template file. The template

file also can be loaded into module for quick setup module configuration. The

operating steps are as follows:

In IO Setting tab page, you can see [Save Configuration File] and [Load

Configuration File] button:

Save configuration to file for backup or template file:

Click the [Save Configuration File] button.

Іо Туре	Numbers	
AI	<u>8</u>	
AO	0	
DI	0	
DO	0	
		_

It will pop up a window for type in file description to describe data for

management ° Please click [Ok] to continue or [Cancel] to cancel this operation.

Sav	e Firmware Configuration 💦 🛛 🗙	
Module Name	W-M1B103	
Date Time	04/22/2016 17:29:46	
Desciption:		
Test01	~	
Ok	Cancel	]
	.:	

After clicking the [Ok] button, it will pop up a save file dialog to prompt the user to select a location for saving a file, please specifies a file name and select a location to safe file.



Load a template file into module:

In IO Setting tab page, click the [Load Configuration File] button.

Іо Туре	Numbers	
AI	<u>8</u>	
AO	0	
DI	0	
DO	0	
DO	0	

It will pop up an open file dialog to prompt the user to open a file, please select file and click open to load the file.

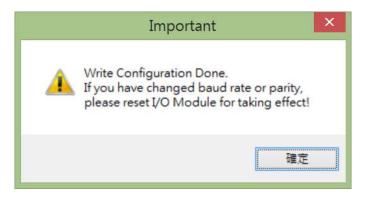
🔄 🏵 – 🕇 🚺	▶ 本機 ▶ 文件 ▶ ∨ Ů	搜尋 文件	P
組合管理 ▼ 新	増資料夾		0
☆ 我的最愛	<b>^</b> 名稱 <sup>^</sup>	修改日期	類型
1000 C 1 1 1 1 1 1 1 1	My Music	2015/11/19下午1	福興
🜏 家用群組	🍌 My PageManager	2016/1/29 上午 10:	福業
	My Pictures	2015/11/19下午1	福興
🌉 本機	My Videos	2015/11/19下午1	福新
🚺 下載	🎍 Visual Studio 2013	2016/3/14 上午 11:	福昇
📗 文件	📕 WeChat Files	2016/4/18 上午 09:	福業
▶ 音樂	Zoom	2016/3/1 上午 11:33	檔署
真面	🛗 我的圖形	2016/1/29下午 04:	檔案
▶ 圖片 ▶ 影片 ▲ Acer (C:) → DATA (D:)	o desktop.ini	2016/4/18 上午 09:	481 481
	v «		
	檔案名稱(N): V	INI files (*.ini)	~
		開啟(O) 取消	

After loading file and before loading configuration to module, it will pop up a warning window, indicating notes for attention and the contents of configuration file , Click [ok] button to continue or [Cancel] to cancel this operation.

Load Module Confi	guration ×
Warning! This process will take effect immediately ex It is highly recommended that process is do	
Please make sure configuration file is corre	ct:
[INFO] ModuleName = W-M1B103 FirmwareVersion = 1.1 AppVersion = 0.3	^
[COMMENT] DataTime = 04/22/2016 16:19:22 Description = A001	
[CONFIGURATION] BaudRate = BR9600 ParitySets = N81	
WdtEnabled = False WdtTimer = 0 DelayTime = 0 DataFormat = TwosComplement	
ChannelEnabled = 10000001	~
OK	Cancel

\* If the communication configuration has been changed, you must restart the

I/O module for loading new configuration correctly.



## 2.4 Batch Load Module Configuration

Module configuration can also be loaded into more than one module using batch

load module configuration. The operating steps are as follows:

	Click "Batch Load	d Module Configuration" button
	,	
File Help		
	*	
Start Address	ess 247 🛟	Total Device Number 1

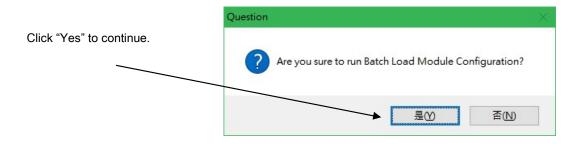
1. First, choose one of the source type that you want to use for setup

other modules. 2. If you choose "Module", then choose the right module by "Address" Southe Type Select one of the following options to load configuration to other modules Module W-M1B103 \* Address 📘 Enter Module Configuration ~ O Configuration File Destination Load configuration to following modules Select Module Name Serial Dat... Type Address Baud Rate Description Status □ 0 ☑ 1 ☑ 2 9600 N,8,1 W-M1B103 [Modbus RTU]8-channel Universal Analog Input Mod Remote W-M1B103 2[02h] 9600 N,8,1 Remote ... [Modbus RTU]8-channel Universal Analog Input Mod.. W-M1B103 3[03h] 9600 N.8.1 Remote ... [Modbus RTU]8-channel Universal Analog Input Mod... OK Exit 3. Select target module that you want to setup 4. Click Ok to apply changes 1. If you choose "Configuration File", then click the button to select the source configuration

	lype ne of the following	roptions to los	d configuration	to other module:	s				
⊖ Mod		W-M1B103 Address 1 Configuration							
• Con	figuration File	C.\103_1.7_20160919.imi							
Destinati	on								
	nfiguration to follo	owing modules	3						
Select 0 1 2	Module Name W-M1B103 W-M1B103 W-M1B103	Address 1[01h] 2[02h] 3[03h]	Baud Rate 9600 9600 9600	Serial Dat N,8,1 N,8,1 N,8,1	Type Remote Remote Remote	Description [Modbus R TU]3-channel Universal Analog Input Mod [Modbus R TU]3-channel Universal Analog Input Mod [Modbus R TU]3-channel Universal Analog Input Mod	Statu		
1	١								
/									

2. Select target module that you want to setup

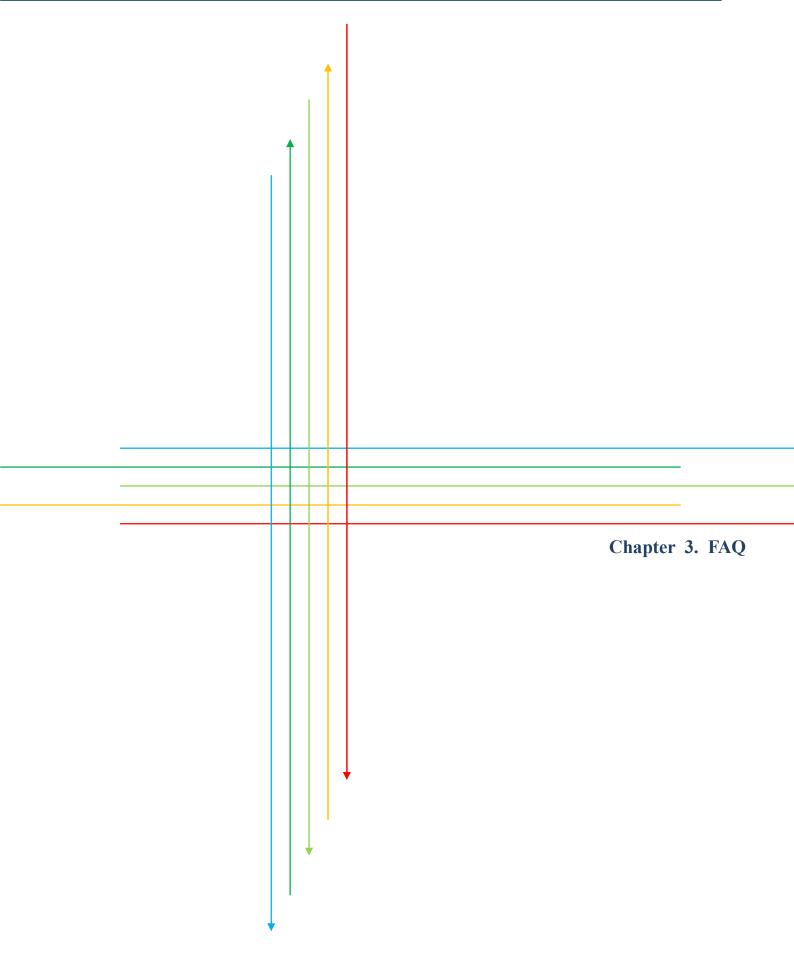
3. Click "Ok" to apply changes



Source T Select on		ng options to loa	d configuration	o other modules				
<ul> <li>Module</li> <li>Configuration File</li> </ul>		W-M1B103		Address	Enter Module Configuration			
Destinati .oad.cor		llowing modules						
Select	Module Nam	e Address	Baud Rate	Serial Dat	Туре	Description	1	Status
口 0 1 1 2	W-M1B103 W-M1B103 W-M1B103	1[01h] 2[02h] 3[03h]	9600 9600 9600	N,8,1 N,8,1 N,8,1	Remote Remote Remote	[Modbus F	(TU]8-channel Universal Analog Input Mod (TU]8-channel Universal Analog Input Mod (TU]8-channel Universal Analog Input Mod	Done Done
			Imp	Write Configuration Done. If you have changed baud rate or parity, please reset I/O Module for taking effect!				
				pieas	e reset I/O	Module f		

% If the communication configuration has been changed, you must restart the I/O

module for loading new configuration correctly.



If you have difficulty in using Wolf Series module, please look up the related information in this manual. Shall you have any unsolved issues, comment or suggestion, please visit our website and contact us. With the greatest enthusiasm and endeavor, we will be always ready to serve you.

Email: service@advanio.com.tw

Website: http://www.advanio.com.tw

#### **3.1** Communication

If you failed in communicating with the module, please proceed with the following steps:

Step 1:

Confirm the power supply voltage range is set at +10 to +60V DC, otherwise, make sure the power LED indicators on the module is normal.

Step 2:

Upon receiving the command, the Power LED will flash once. Follow this

procedure to check if the module receives command from the host.

Step 3:

Under permissive conditions, other equipment may also be used to detect whether the host PC can be communicate with a normal communication protocol which based on RS485 communication network equipment.

Step 4:

If the host is a PC with Windows Operation System installed, user can execute Utility software to check the availability of I/O module. (Please

download the software via Advanio official site.

(http://www.advanio.com.tw).

Step 5:

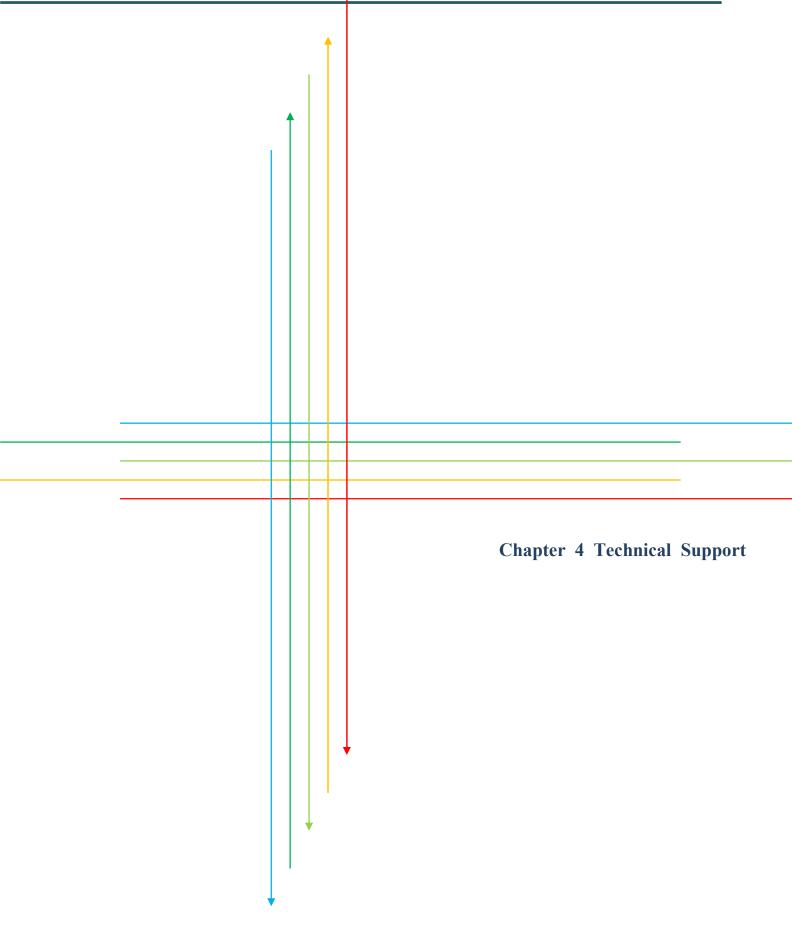
Setup the module into INIT mode, and have it communicate with the following parameters: serial transmission rate is 9600bps, no parity bit and the communication protocol is Modbus. (Confirm your Address setting)

## 3.2 Read data

If data collected from I/O module are abnormal, perform the following steps to check it:

Abnormal data read may be resulted from the abnormal parameter storage in Memory, please use Utility software to check it or reset it to INIT mode.

Please refer to 2.1.11 (Factory Reset) to solve I/O module abnormality.



If any problem encountered during the application, please look up the user manual or contact us via company official website. We will be at your service.

Email: service@advanio.com.tw

Website: <u>http://www.advanio.com.tw</u>

Before Contacting our Technical Support, please prepare information as follows:

- 1. Serial number can be found on the bar code labeled on the cover of module.
- 2. Firmware version: For more details, please refer to MODBUS command about read firmware version command.
- 3. Host configuration (type and operating system).
- 4. If the problem is repeated, please provide full problem description and related applications.
- For particular error messages display, please provide full content in Dialog Box including title and original text.
- 6. Any problem with program and hardware device concerned, please fully describe the details.
- 7. Your comments and suggestions will be highly appreciated.

You will have your feedback via Email within 2 working days.